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The evolution of architecture faculty organizational culture at the University of Michigan

Linda Mills

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The Evolution of Architecture Faculty Organizational Culture at the University of
Michigan

by
Linda Mills

Dissertation

Eastern Michigan University
Submitted to the Department of Leadership and Counseling
Eastern Michigan University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY
Educational Leadership

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Ypsilanti, Michigan

Dedication

This research is dedicated to all of the non-academic staff at the University of Michigan, at-will employees, who are working to support the work of faculty who operate with different norms, values and operating paradigms, protected by tenure, and unaware of the cognitive dissonance that exists between their operating worlds and ours. Increasing cultural competency through researching, documenting, tracing the origins and motivations for the cultural differences operating within the University of Michigan might help the faculty and staff to work together more productively and enjoyably.

Acknowledgments

The many years of working on this research project was made possible by the forbearance and support of many people. The faculty of Eastern Michigan University's Educational Leadership program were exceptional in their willingness to advise, support and direct my efforts. My dissertation committee chair, Dr. Ronald Flowers, spent many hours pushing me to consider concepts and findings from other vantage points. My two original EMU mentors Dr. Jaclynn Tracy and Dr. Eboni Zamani-Gallaher gave freely of their time and their feedback gave me the confidence to succeed. The dissertation committee was wonderful in accepting the burden of reading a 600+ page dissertation and providing feedback. I thank them.

One of the motivations for completing this project was to develop an understanding of the behaviors and choices of the people I work most closely with at the U-M. The leadership and my colleagues at the University of Michigan were wonderfully supportive throughout this process and seemed to share in the wonder of some of the materials and information uncovered about the evolution of the college that lay buried within the U-M archives. I have to give special thanks to Dean Robert Beckley and Dean Monica Ponce de Leon for their support for this project. They understood that by supporting the development of a staff member, not just the faculty and students, they were signaling to the administrative team that they believed in their value to the organization. I thank them.

The faculty and academic leadership of Taubman College were wonderfully willing and supportive as well, providing me with hours of their time, insights, and feedback on the intricacies of architecture culture. Their trust and openness made this project more enjoyable than I expected. I thank them.

In addition, colleagues Sandra Patton, and Amber LaCroix provided much support. It was helpful to discuss certain aspects of the projects with staff members who also worked within the Taubman College, and sometimes struggled with the operating paradigms used by architecture faculty members that were initially so foreign to each of us when we joined the College administrative team. I thank them.

Part of the motivation for this project was to make my parents proud. Unfortunately, they both passed away before this project was complete.

Most importantly, I need to acknowledge the sacrifices that my family has made while I researched, wrote, and edited this work. My children, Meghan, Sarah, and Andrew, along with their partners, and my grandchildren, Jacob, Charlie, and Paige, were patient with me as well as encouraging – part of the motivation of finishing this was to show them it can be done while working full-time. My husband, Douglas, took on the lion's share of our other responsibilities, all the while providing emotional support and sitting through hours of my discussing the process, my findings and the project. His love and support has made this project possible. I thank my family.

Abstract

Understanding and navigating the multiple academic disciplines and administrative subcultures, which operate within higher education institutions, is challenging for both internal and external stakeholders who may be unfamiliar with the disparate normative, regulative, and cultural cognitive systems that guide social behavior of each area. Higher education leaders need to understand the cultures operating within the organizational groups and subgroups in order to coordinate, integrate, and foster collaboration toward organizational and institutional goal attainment activities. This case study, which focused on the emergence and evolution of the organizational culture of the architecture faculty at the University of Michigan, provides insights into this particular organizational unit as well as a conceptual framework and research process from which to examine other faculty subcultures. Findings included explication of historical, societal and technological influences; the sociocultural, norms, roles and structural elements developed by the organizational members to structure their social behavior; a list of norms, roles and statuses used by members; as well as an explication of leadership actions that were accepted or rejected by faculty members as the organizational culture developed.

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Chapter 1: Introduction and Background

Understanding and navigating the multiple academic disciplines and administrative subcultures, which operate within the loosely-coupled and vertically integrated operating silos found in modern-day higher education institutional structures (Cohen & March, 1986; Weick, 1976; Mintzberg, 1979), is challenging for both internal and external stakeholders who may be unfamiliar with the disparate normative, regulative and cultural cognitive systems that guide social behavior of each area (Clark, 1963; Schein, 2004; Scott, 2008). Higher education leaders need to understand the cultures operating within the organizational groups and subgroups in order to coordinate, integrate, and foster collaboration toward organizational and institutional goal attainment activities (Schein, 1991). Although research exists on some of the disciplinary subcultures operating within higher education environments, internal and external stakeholders of academic architecture environments have no scholarly literature sources to reference when seeking to understand the unique cultural attributes of this subculture.

The scholarly literature on higher education suggests that most faculty members in American higher education institutions share values of academic freedom, individual autonomy, collegial governance, and truth seeking. It also suggests that the culture of the professoriate is not singular but rather differentiated by both discipline and type of institution (Becher, 1981, 1987; Kuh & Whitt, 1988; Clark, 1989). The elements which distinguish the academic disciplines and the faculty cultures which have formed within them are epistemological, philosophical, and cultural (Lamont, 2009). Discipline-based differences in values, behaviors, and expectations have been observed in dimensions of professionalism

such as work patterns, identification, image, authority, career, and association. (Clark, 1987; Lamont, 2009).

Cultural studies of faculty members in engineering (Tener, 2013), medicine (Pololi, Kern, Carr, Conrad, Knight, 2009), nursing (Hawks, 1999), and other academic disciplines have provided insights into the norms, value, and beliefs of those faculty communities, yet a study on architecture faculty culture is missing from the literature. This study sought to understand the internal cultural and socio-structural system constructed and used by the architecture faculty and leadership at the Taubman College of Architecture and Urban Planning at the University of Michigan in order to aid internal and external stakeholders in understanding this unique academic culture. As Becher (1981) has explained, in order to understand what an academic disciplinary culture comprises, an ethnographic and philosophical approach toward the discovery of values, codes of conduct, and distinctive intellectual tasks is useful in helping stakeholders to grasp the cultural attributes, identities, and images guiding faculty activities and the choices made by their chosen leaders.

Purpose of the Study

The purpose of this study is the explication of the development and establishment of the unique norms, values, beliefs, and underlying assumptions that have resulted in the emergence of the architecture faculty culture and leadership actions used at the University of Michigan, in order to understand how its members engage with both external and internal stakeholders. Using a cultural approach to develop understanding, according to Dill (1982), through researching and appreciating unique academic cultures improves the capacity of stakeholders to comprehend their complex environments. Similarly, Maasen (1996) has described the purpose of organizational culture studies on higher education environments as

the search for clarification and understanding of the non-rational or symbolic aspects of university social behavior. Researchers choosing to study organizations by way of a cultural perspective, according to Kuh and Whitt (1988), are seeking information on the constructed reality definitions from organizational members, rather than focusing on markers of organizational rationality. While explicating the attributes of this community and the leadership actions, which influenced its emergence, three key theoretical frames were used. These included Allaire and Firsirotu's (1984) cultural studies conceptual framework, architectural theorist Frampton's (1989) typology, topography, and tectonics approach, and Vogler and Vittori's (2006) *genius loci* concept. These theories helped to guide the data collection and analysis efforts, aided in the revelation of internal and external perspectives on the organizational culture, constructed organizational identities and images that have formed the unique attributions of an academic architecture organization

Situating the study. Several authors have described institutional, disciplinary, and departmental influences on attributes found within academic disciplines organizational culture. A brief review of their work helps to situate the complexity of understanding the initiation, development, and emergence of independent disciplinary cultures in higher education institutions. Austin (1996) declares "disciplinary culture links faculty in similar fields across institutions; the institutional culture links faculty across disciplines within a single institution; and the departmental culture results from the interaction of disciplinary and institutional norms and values at a particular location" (p. 58).

Institutional influences. Situating a study of organizational culture within its institutional context, according to Kuh and Whitt (1988), is important because culture is both a process and a product, which shapes and is shaped by, exchanges between internal and

external stakeholders. They note that all faculty members in higher education institutions are influenced by at least four interdependent cultures according to Kuh and Whitt (1988) this includes “the culture of the discipline, the culture of the academic profession, the culture of the institution and the culture of the national system of higher education” (p.6). At the institutional level, “Academic institutions may best be understood as value-rational organizations grounded in strong cultures described as ideologies and belief systems” (Dill, 1982, p.303). Kuh and Whitt (1988) note that the influence of subcultures on group behaviors is mediated by the institutional contexts in which they are situated. Similarly, Austin (1996) has reported, “Although the disciplinary cultures are very strong, institutional cultures affect their strength and moderate the extent of their impact on faculty members” (p. 50). Because the focus of this study was an architecture school, the institutional influences provided by the profession of architecture on the development of the organizational culture added complexity to understanding the organizational culture.

This study included a review of the historical antecedents in higher education, architecture education, the profession of architecture, and the University of Michigan, to the emergence of the current architecture culture. Thornton, Jones, and Kury (2005) note that “Institutional entrepreneurs, structural overlap, and historical event sequencing are the motors of institutional and organizational change” (p. 11)... Piotrowski and Robinson (2001) note that as a professional discipline, the educational environment and the professional architecture environment, support and legitimize the knowledge creation and dissemination activities of the other.

Academic disciplines. Research universities are complex social organizations with distinctive cultures and subcultures, and Sporn (1996) has suggested that developing an

understanding of university cultures aids educational leaders by making the social actions of community members more comprehensible. For academics, the disciplinary culture influences professional identity; work content; dissemination of new knowledge through publications and exhibitions; collegial and student interactions; criteria for promotion, tenure; and other measures of success as well as other elements of professional life (Austin, 1994; Kuh & Whitt, 1988).

A critical evolutionary step in the development of higher education institutions, which occurred in response to societal desires for an expanded institutional mission, shifted the institutional missions from a singular focus on knowledge dissemination to include knowledge discovery and creation (Geiger, 1986, 1990, 2011). The emergence of distinct academic disciplines and the cultures that have formed around them has been attributed to:

- the growth of knowledge and expansion of the research mission of the university and creation of graduate programs (Geiger, 1986; Veysey, 1965; Clark, 1987);
- the social-political environment of the United States during the late 1800's, which embedded academic freedom as a value within higher education institutions (Abbott, 2001);
- provision and regulation of legitimacy for the professions (Blankenship, 1977; Clark, 1987); and
- emergence of research universities with institutional visions that created an academic identity for faculty members predicated on disciplinary excellence in research and scholarship and relied upon peers as the primary reference groups (Clark, 1987).

Understanding these developments as part of the heritage of modern collegiate architecture programs helps to contextualize possible findings related to fundamental assumptions embedded therein.

Studying architecture as a unique cultural entity is supported by the work of earlier scholars including Abbott (2001), Austin (1990), and Bowen and Schuster (1986). The disciplinary cultures exhibit distinct norms, values, practices, beliefs, and assumptions that guide group behaviors (Austin, 1990). Similarly, Bowen and Schuster (1986) found that faculty members in different disciplines exhibited different attitudes, values, and personal characteristics and that these differences held across institutional type. Sociological studies of higher education as an institution have reported the emergence and existence of multiple disciplinary cultures, within which architecture culture is one example (Abbott, 2001). Becher (1981) proposes that, “disciplines are cultural phenomena; they are embodied in collections of like-minded people, each with their own codes of conduct, sets of values, and distinctive intellectual tasks” (p. 109).

The emergence of the distinct disciplines and their cultures in American higher education institutions occurred in the late 1800’s according to Abbott (2001) but did not result in the severing of intellectual or social ties within the academy and across the disciplines. Instead, this allowed for the evident differentiation in the normative-value systems of the various subcultures (Bolton & Kammeyer, 1972). The academic disciplines can be conceptualized as organizational subcultures, which have been described as subgroups of a parent group, with members who interact regularly, perceive themselves as distinct, share a commonly defined set of problems, and act based on collective understandings, which is unique to their group (Kuh & Whitt, 1988; Van Maanen & Barley, 1985

According to Clark (1987), the overlapping and shared intellectual and social frames between disciplines operate as internal connecting forces across the modern research university, “letters and science disciplines serve as academic links to professional fields” (p.7). The porosity of influence and linkages also includes external connecting forces as well “the scholarly and professional societies nurture, protect, and maintain the strength of the disciplinary cultures” (Austin, 1996, p. 50). Piotrowski and Robinson (2001) have documented the multiple disciplines whose theoretical frames are incorporated within architecture knowledge as spanning from hard to soft sciences and fine arts and enrich its culture.

Academic units. From an institutional structure perspective, Hearn (2007) describes academic units as the foundational organizational unit in United States colleges and universities, a place where the curriculum; degree programs; research initiatives; and faculty norms, values, and careers are shaped. As organizational units, Hearn (2007) wrote, “Departments are largely professional in composition, exhibit fluid participation in governance and leadership activities, and rely on changing, adaptive team configurations” (p. 258). Noting the influence that institutional structures have on bounding culture, Clark (1978) describes academic departments as having “self-evident primacy in a front line task, each possesses the authority of its own field, and each takes its behavioral cues from peers, departmental and individual, located elsewhere in the country and the world” (p. 381). Of equal importance in some disciplines is, the maintenance of professional networks by way of conference presentations, symposia, visits, competitions, exhibitions, and other social means.

At the academic department level, Becher (1981) and Becher and Trowler (2001) studied the disciplinary cultures that have formed in university environments, noting that

ideologically differentiated and specific value sets were in operation. Disciplinary and institutionally based differentiation in culture can be seen in the various dimensions of professionalism, ideology, epistemology, and ontology accepted as norms in each area (Clark, 1987). Sporn (1996) sees these ideological variances enacted in the environment: “These shared assumptions and understandings lie beneath the conscious level of individuals. They are identified through stories, special language, and norms that emerge from individual and organizations behavior” (p. 45). Becher (1987) notes that intellectual task variations, such as the nature of knowledge, the research that is undertaken, and the evaluative methods employed, are indicators of disciplinary culture differences that researchers can observe or uncover: “In its very nature, being a member of a disciplinary community involves a sense of identity and personal commitment, a way of being in the world, a matter of taking on a cultural frame” (Becher & Trowler, 2001, p. 47). Clark (1987) explains that from the faculty perspective, the academic discipline represents their primary unit of membership and identification and writes that “once internalized, a subject becomes an inner faith” (Clark, 1985, p. 41) and the locus of the professional identity (Austin, 1996; Clark, 1987). Research on the impact of disciplines on culture development by Clark (1987), Kuh and Whitt (1988), Austin (1996), Becher (1981), and Becher and Trowler (2001) has helped to describe the socialization patterns that these organizational units use to indoctrinate new members. Disciplinary cultures are often the primary locus of the faculty identity at research universities according to Clark (1963, 1987) and as such exert strong cultural forces. Socialization into the culture typically occurs in graduate school where the norms, values, beliefs, assumptions, and behavior patterns of their particular disciplines; the department structure; scholarly, and professional societies affiliate; and definitions of work content,

volume, interactions with colleagues, and students, and other applicable success measures are conferred (Austin, 1996; Becher, 1984). Becher and Trowler (2001) have expanded on Geertz (1983), discussions of disciplinary socialization processes when writing of the distinctive training, initiation, and socialization of new members of disciplines: “In its very nature, being a member of a disciplinary community involves a sense of identity and personal commitment, a way of being in the world, a matter of taking on a cultural frame that defines a great part of one’s life” (p. 47). The ways in which new entrants learn the cultural markers of their adopted academic discipline is, according to Dutton (1991), through a hidden curriculum. Dutton (1991) has reported finding evidence of a hidden curriculum operating in academic departments, which helps to inculcate non-cognitive elements such as values, tastes, and beliefs in new entrants to the disciplines. Webster (2005) asserts that accepting that disciplines are social constructs and that the educational process embodies acculturating novices into the current knowledge base of cognitive and affective domains, leads to understanding that the operating culture involves equal parts analysis of the how and the why of discipline-specific pedagogies.

Architecture disciplinary culture. Architecture schools and the cultures that have developed within them are particularly challenging for internal and external stakeholders to comprehend. This is in part because the multidisciplinary nature of the architecture curriculum and research activities requires a faculty cohort that can support a breadth of topics, which Robinson (2001) has characterized as spanning from the hard sciences to fine arts and social behavior see Figure 1.

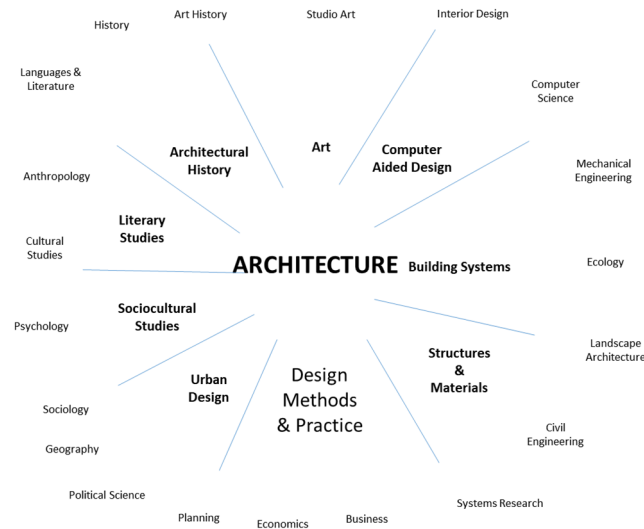


Figure 1. Multidisciplinary nature of architecture (adapted from Piotrowski and Robinson, 2001).

The disciplinary knowledge, required by accrediting bodies, necessitate, the inclusion of faculty members who come from these ideologically diverse backgrounds (Veazey, 2015). Weatherhead (1941) and Ockman (2012) have documented the breadth of required knowledge that coalesced in American schools of architecture as having been derived from European origins, which included the technical studies emphases of the German schools, aesthetics emphases from the Beaux-Arts schools in France, and social studies focus from British schools. The organizational structure that American schools chose was more democratic than the hierarchical, and patronage-based European models that preceded them (Abbott, 2001). This was initially achieved, in part, by separating the apprenticeship/practical experience and professional experience components from the educational components housed within the American schools.

The development of a distinct architecture faculty culture within the University of Michigan began with the first course offerings in 1876. Interest in the pursuit of architectural knowledge, spurred in part by social and political forces of the time, provided a catalyst for

the regental approval of the development of a degree program within the College of Engineering and eventually the creation of an organizationally distinct College of Architecture in 1931, according to Bartlett (1995). The college currently offers degree programs, which span from undergraduate to post-professional and doctoral degrees in architecture, urban design, and urban planning.

In studying disciplinary cultures, such as architecture, which prepares graduates for professional practice, Kuh and Whitt (1988) note that disciplinary cultures tend to reflect the norms and assumptions of the occupational areas for which the academic discipline prepares its graduates as well as those of the graduate education experiences of the faculty members who are community members. An additional factor that makes architecture culture in the academy distinct, Larson (1993) writes, is that “the autonomous discourse of a profession - the knowledge and justifications it produces by and for itself--- is articulated, transmitted, and above all received in schools. This is so in architecture, even though the pivotal place of built exemplars in architectural discourse gives [professional architectural] practice inescapable primacy” (p. 11) and reinforces the relationship between the academy and the profession. As such, the influences that practicing architects, professional societies, and accrediting bodies have had on the emergence, sustainability, and evolution of the discipline and the actions of its leaders, are reflected in its organizational culture, organizational image, and organizational identity (Ockman, 2012) and reviewed within this study.

Significance of the Study

The explication of the cultural norms of the academic architecture community in a research university and their influence on leadership decision-making may provide a basis from which its stakeholders can better understand the needs, behaviors, motivations, and

influences upon this and other academic disciplines. Although research exists on some of the disciplinary subcultures operating within higher education environments, such as engineering (Tener, 2013), medicine (Pololi, et. al, 2009), and nursing (Hawks, 1999), internal and external stakeholders of academic architecture environments have no scholarly literature sources to reference when seeking to understand the unique cultural attributes of this subculture. Uncovering the underlying motivation in leadership decision making and its acceptance or rejection by the faculty within the context of a professional program in a research-intensive university may help future educational administrators in their leadership functions. Because studies of culture are context bound, the meanings and behaviors discovered in this study of architecture faculty culture may not be identical to those that might be seen in other institutions. They may however provide a basis of comparison for those studying other academic disciplines or at other schools of architecture.

Educational administrators who navigate the multiple cultures and subcultures found in higher education institutions seeking ways to advance institutional missions are disadvantaged by the limited research explicating the disciplinary cultures. Tierney (1988) encourages improving cultural awareness among higher education administration noting that doing so can aid in achieving organizational goals, provide better organizational analysis, explain differences among organizational groups, and unify personnel: “Administrators and researchers should analyze culture in their own organizations to reduce conflict and to promote sharing of goals” (p. 1).

Schein (2010) and Diamond (1991) have each posited that clarifying cultural variances increase the possibility of cross-cultural communication, cooperation, and collaboration, which is a current goal of higher education institutions (Lattuca, 2002). Austin

(1990) writes that a lack of cross-disciplinary understanding and appreciation, breeds disregard, underestimation, and inappropriate conclusions. Beliefs, assumptions, and values form the foundation for the culture that once established tend to be enduring, changing slowly over time, or in response to a significant event, challenge, or crisis according to Peterson and Spencer (1990).

The outcomes of this study may provide a basis from which stakeholders might better understand academic architects, and their leader's decision-making paradigms, which evolved in American higher education institutions.

Research Questions

The goal of this study was to explicate the norms, values, and operating paradigms of the architecture faculty and leaders of the University of Michigan Taubman College of Architecture and Urban Planning to aid future internal and external stakeholders. In order to develop a deep and rich understanding of the actions of the architecture faculty community and its leadership, I chose to frame questions that would give me a holistic view of the development and emergence of the unique cultural attributes used to guide behaviors and decision-making of the members and leaders of the architecture faculty at the University of Michigan (U-M).

- What were the historical, societal, and contingent influences on the emergence of architecture education culture at U-M?
- What institutional influences played a role in the emergence of the faculty culture at U-M in the College of Architecture?
- What norms, values, ideologies, strategies, structures, and other behaviors are components of the organizational culture within the U-M Taubman College?

- What was the source of the norms values, ideologies, strategies, structures, and other behaviors used by academic architects at the University of Michigan Taubman College?
- What leadership actions, meant to aid the organization in attaining its goals were influential and which were ignored or rejected by the faculty and other stakeholders and why?

Given the differences in structure, resources, and mission that might be found in academic architecture communities and in other academic disciplines, the data and the findings, which arose from this research, may not be generalizable to other schools, colleges or academic units. I believe that the combined conceptual framework used in this study may be useful to researchers studying other organizational cultures with appropriate environment based modifications. The use of this framework might enable external stakeholders such as administrative staff working in unfamiliar culture communities to develop an understanding of their academic community counterparts.

As Gumport (2008) has described, determining the questions, approaches, parameters, and momentum of particular research questions reflect human interests and the social context in which researchers reside. My professional residence is in the administrative side of a college where architecture is the dominant program in terms of size, influence, and resources. By examining how architecture education emerged and academic architecture communities are constituted and acculturated, the findings may make it easier to provide appropriately aligned administrative support and development activities in the future.

Chapter Organization

This dissertation contains six chapters. Chapter 1 introduces the research topic and research questions. Chapter 2 describes the research methodology, including the author as researcher, research design, and research tradition. Chapter 3 presents the combined conceptual frameworks used for this study, derived from the fields of architecture and organizational theory. Chapter 4 provides historical context on the evolution of architecture as an academic discipline. Chapter 5 is subdivided into the three organizational development phases that the architecture faculty culture has experienced. Part 1 focuses on the foundational phase of the development of architecture as an academic endeavor at the University of Michigan. Part 2 focuses on the organization's transitional phase, and Part 3 focuses on the maturity phase. Chapter 6 provides a summary of the findings related to each of the research questions and suggests future research opportunities.

Chapter 2: Research Methodology

This chapter outlines the research methods used for this study including the author as researcher, the research tradition, and research design. The research methodology used for this study of architecture faculty culture and leadership actions used a qualitative research paradigm.

Self as Researcher

I chose to research the collegiate architecture community at the University of Michigan, and the actions of its leadership, in order to become a more effective administrator. I have worked as an administrator at the University of Michigan for more than 25 years in several different departments. Supporting the administrative functions of the College of Architecture and Urban Planning has been a significant challenge, in part because the cultures and subcultures have different norms, values, and worldviews than the business culture where I was professionally trained. My administrative leadership orientation aligns with the values embedded in servant leadership as described by Spears (2010). This study was a way to enhance my understanding of academic architecture community, better support the leadership strategic initiatives, and align administrative actions to support the goals of the organization.

As an administrator whose professional orientation was formed while in business school, I experienced cognitive dissonance when joining the architecture school. The norms, values, and operating expectations that formed the basis of my professional training were at variance with those in use by the faculty and students at the College of Architecture and Urban Planning. My business school training taught me to value a technical-rational ideology where measurable efficiencies and returns on investment were quantifiable, sequentially

planned, and measured repeatedly for refinement. My experience in the architecture environment has exposed me to an environment that values multiple orientations to quality measures, has an expanded definition of research beyond the boundaries of the scientific methods that they have labeled as creative practice. A desire to understand these conflicting ways of knowing, assessing, and evaluating courses of action, provided the impetus for this research.

As new administrative staff members are hired to support the mission of the college, in my role as senior administrative staff member, I have incorporated into their new employee orientation anecdotal insights about the architecture culture. Additionally, I have been invited many times to advocate for the arts-based academic units in meetings with central campus representatives, helping other administrators understand, for example, that research can take a number of forms of critical exploration. Having worked in this academic unit gives me first-hand knowledge of just how different the norms, values, language and operating paradigms of this community appear to outsiders.

Mills (1959), sociological imagination treatise challenges researchers to perform social study research on the intersections of biography, history, and society. He encourages researchers to use interdisciplinary approaches to research rather than being bounded by a single theory. This approach to developing an understanding of the architecture faculty culture aligns with my worldview. I believe that investigating the historical antecedents of the collegiate architecture culture, individual motivators and agency, and institutional supports and possible gaps for supporting the activities of the collegiate architecture community members will help to illuminate the basis for the construction of their operating environments. Additionally, using the reciprocal actions of each of those factors on each

other and on the relationship between leadership actions, the culture, the existing community, the history, and the context of the institution, as Smith (1985) has suggested, allowed an analysis of the event, actors, and outcomes in ways not found in the scholarly literature.

As a non-academic staff member of the Taubman College, who reports directly to the dean of the college, I acknowledge that the faculty members of the college may have been skeptical about my motivations and the uses of any data that might be collected while attempting to discover the norms, values, language, and other elements of the collegiate architecture community's operating paradigms. I believe that I reduced their skepticism by being clear about my intentions, the planned sources of data, ethical uses of data, and by employing appropriate research methods.

Research Tradition

The choice of the qualitative paradigm for this study was based on its emphasis on examining the qualities of entities, including the processes, and meanings assigned by social groups to events, artifacts, and interactions. The qualitative research paradigm allows researchers to gather and develop an in-depth understanding of human behaviors and the impetus for that behavior. The qualitative methods investigate the why and how of decision-making. Qualitative research processes are iterative, encouraging the researcher to consider observed phenomena from multiple vantage points and with multiple sources of data.

Qualitative research can take advantage of several different paradigms that allow the research to consider which ontology, epistemology, methodology, and products are best suited for discovering the knowledge sought. Selecting a qualitative constructivist/interpretive paradigm for this research study was informed in part by Hatch (2002), who describes the paradigm in terms of its ontology, epistemology, methodology, and

products. Crotty (1998) describes the interpretivist paradigm as one that recognizes that humans construct and assign meanings in unique, context dependent ways that are frames by their experiences as they try to make sense of the world around them. Since the goal of this study is to understand how leadership actions influence and have influenced the construction of collegiate architecture culture, this paradigm seems appropriate.

Hatch (2002) describes several advantages inherent in the qualitative research paradigm that are particularly relevant to studies in educational institutions. These include, using natural settings; having the ability to gather participant perspectives; allowing the research subjects to function as data gathering instruments; supporting extended firsthand engagement; making meaning a central component of the study; striving for wholeness and complexity, and seeking subjectivity; allowing the research design to emerge over the course of the study; using inductive data analysis methods; and employing reflexivity about the process, the data, and the analyses performed. All of these forms and modes of data gathering were used in the conduct of this study, which included observation, interviews, document review and analysis, reflective content review, and use of external sources for context construction.

This qualitative research project employed a constructivist paradigm for developing my knowledge and understanding of the workings of the academic architecture environment at the University of Michigan. The constructivist paradigm, according to Hatch (2002), places emphasis on the social construction of realities, rather than an absolute reality. It uses an epistemology that accepts that knowledge is socially constructed and not absolute. My use of naturalistic collection methodologies for this case study included gathering rich narratives was particularly appropriate for exploring the cultural elements of an academic discipline

(Lincoln & Guba, 1985). Further, Denzin and Lincoln (2003) note that qualitative researchers stress the social construction of reality, the existence of an intimacy of relationship between the research and the objects of the study, and any situational constraints that may shape the inquiry. They contrast this description of qualitative research with an emphasis on the causal relationship between variables rather than processes undertaken in quantitative research.

Hatch (2002) explains that elements of knowing are often shared across social groups but that multiple unique realities exist because they are constructed by individuals with unique experiences who form unique viewpoints. Constructivism as a way of understanding collegiate architecture culture seems particularly appropriate because of the group's inclusion of a variety of subdisciplines from building technology developers to material designers who all contribute their unique perspectives to construct the operating culture of a college of architecture.

Constructing an understanding of the norms, values, and operating paradigms at work in a collegiate architecture culture required my engagement with the community members in an iterative process that consisted of gathering descriptions, asking questions about my observations, and then refining my understanding to co-create the product of this research project. In constructivist studies, researchers and the participants co-construct understandings as questions are answered and points are clarified, which Hatch (2002) notes makes it impossible for the researcher to be entirely distant and objective: "It is through mutual engagement that researchers and respondents construct the subjective reality that is under investigation" (p. 15). The constructivist epistemology according to Hatch (2002) is based on an assertion that knowledge is constructed symbolically, creating understandings of the world that are based on our social conventions.

The methodology used in qualitative research in a constructivist paradigm is immersion into the natural setting being studied in order to make sense of others worlds. My role as senior administrator allowed me to experience a degree of immersion in the environment, although not total immersion. This allowed me to develop a thickened and rich description of leadership and community actions through observation, review artifacts, and glean through subtle clues many aspects of the enacted social behaviors. Hatch (2002,) believes that “Hermeneutic principles are used to guide researcher’s interpretive co-constructions of participant’s perspectives” (p. 15). In the case of this study, the ability to observe members of the architecture community was enhanced by my employment at the college and access to the working environments in the studios, offices, labs, and shops as well as the social spaces including hallways, lounges, lecture hall, and galleries.

The products of constructivist paradigm research according to Hatch (2002) are often case studies or rich narratives that describe the interpretations of the social behavior that were co-constructed between the researcher and the participants. This paradigm supported the use of the Taubman College of Architecture and Urban Planning as the case study and the creation of rich narrative about the culture that benefited from co-construction of knowledge from community members that may benefit future educational administrators as the conceptualize supporting unique disciplinary groups.

The use of the qualitative research paradigm enabled the observation of collegiate architecture community members in their natural setting, such as in classrooms, studios, labs, exhibits, and lectures, and supported the use of participant perspectives on the activities, actions, and behaviors as data elements. Because qualitative research conceptualizes social settings as unique, complex and dynamically evolving, the observation of the system could

be viewed in its entirety. Qualitative data includes thick rich descriptions; objects; and images, which the act of reducing to numerical form might have caused a loss or distortion of the essence of the meaning they can convey about the observed phenomena. Qualitative research is subjective rather than objective and seeks an understanding of both the inner states of the human experience as the outer expressions of that activity. This allowed me to focus on understanding the social guideposts that reinforce or repress social behaviors in unspoken ways as well as observing how those choices are made. The focus of this study was the Taubman College architecture faculty community as its members enacted its culture. The locus of the study is the University of Michigan.

Research Methodology

Seeking to discover and describe the cultural elements, which form the social guideposts, which collegiate architecture community members use in the development of their unique culture, the symbolic interactionist research methodology selected was an ethnographic case study. The use of a symbolic interactionist lens, which Blumer (1969) has described, as a conceptual tool for systematically exploring and developing understandings of observed phenomena, was a key component of this project. Three components of symbolic interactionism were helpful throughout this study including:

a) human beings act toward things on the basis of the meaning that the thing have for them; b) the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows; and c) these meanings are handled in, and sometimes modified through, an interpretive process used by individuals in dealing with the things they encounter. (Blumer, 1969, Hatch, 2002, p. 9)

This case study used a qualitative methodology that was reliant upon a social constructivist paradigm and incorporated the search for both historical antecedents and modern day elements of the cultural cognitive structure that the leadership and community members use as they enact their daily and ceremonial social actions.

Case study methodology. The case study methodology allowed this research project to be conducted within a “bounded system”, which aligned with the project plan for this. Stake (2003) finds that boundedness and behavior patterns are useful concepts for defining a study. Writing that researchers undertake “intrinsic” case studies when they want to gain a better understanding of a particular case, not because it necessarily represents other cases “but because, in all its particularity and ordinariness, this case itself is of interest” (p. 136). Merriam (1988) suggests that case studies of clearly bounded phenomena in education may include an institution or a social group, and that contextualizing these studies with historical antecedents allows discovery of evolution of those elements into modern environments.

Research Design

The research design for this study included a description and justification for selecting Taubman College as the unit of analysis; discussion of the data needed to support the goals of the study; research instrumentation; considerations of the moral, ethical, and legal issues that may arise over the course of the study; presentation of validity and reliability measures; and analytical methods.

The unit of analysis for this study was a single academic discipline, within the Taubman College of Architecture and Urban Planning, at the University of Michigan. Selection criteria recommended by qualitative researchers for studies that focus on attributes of organizational culture include assuring that the researcher has access to the possible data

sources and that the selected site is representative of the knowledge sought within the research project. Stake (2003) writes that the selection of the organization for study in qualitative research requires formal sampling, and must adequately represent the population: “The phenomenon of interest observable in the case represents the phenomenon writ large” (p. 152). Selection of Taubman College as the organization studied for this project aligned with the goals of this project. Discovery of the unique cultural manifestations and organizational structures that guides member behavior in collegiate architecture organizations, in order to explicate their cultural attributes, using the Taubman College of Architecture and Urban Planning as the organization studied, met these criteria because it included a significant presence of architecture educators, researchers and students, and as an employee of the organization, I have access to the facilities, documents, artifacts and community members.

The University of Michigan, founded in 1817, and currently located in Ann Arbor, Michigan, is one of the oldest public universities in the nation. The architecture program at Michigan has been taught for over 100 years and is consistently ranked by Design Intelligence as one of the top graduate programs in the country. As such, the college benchmarks its activities and successes and competes for students and faculty with the premier programs nationally and internationally. With more than \$75 million in endowment; 7,000 living alumni; an annual operating budget of \$24 million; and 110 faculty, 46 staff members, 700 students, operating in multiple locations, studying this academic program culture, at this time in its history provides a unique opportunity for observing the intersections of structural, functional, and social aspects of a professional school of architecture.

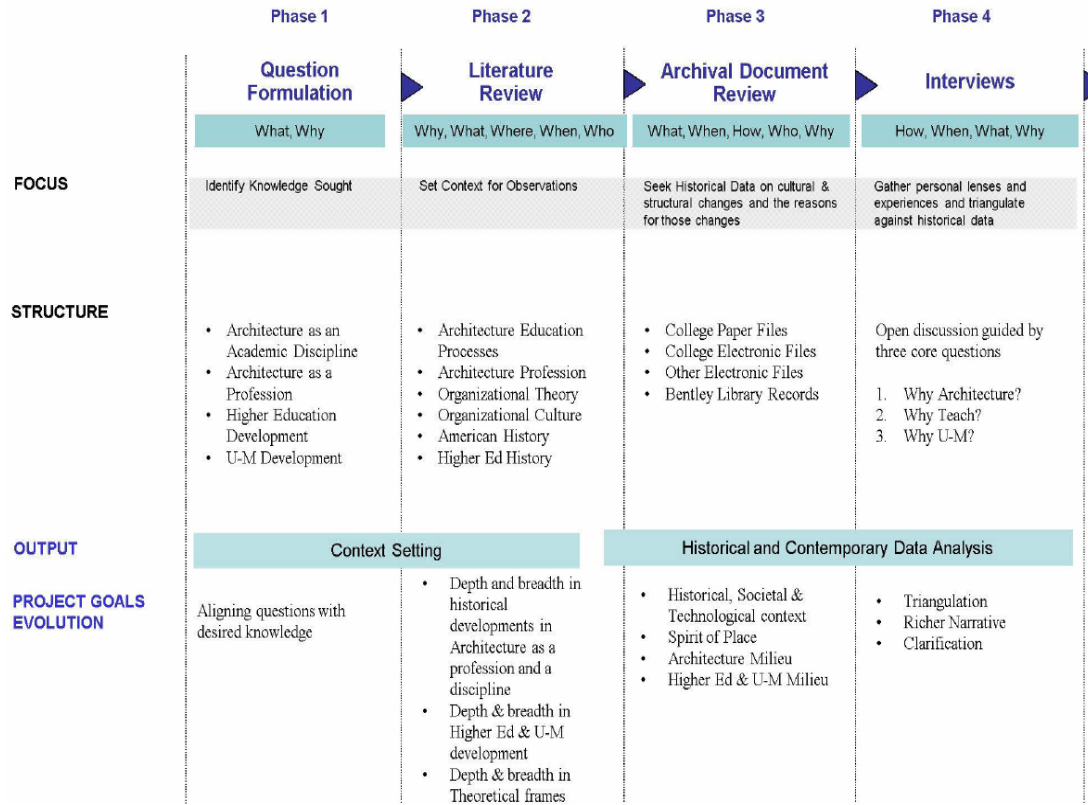


Figure 2: Overview of research process

Taubman College was an ideal location to study academic architecture culture in a research-intensive university, and the resulting administrative support needs, because it is small enough to be a manageable study but large enough to provide a level of complexity, which was beneficial to the effort. Using the architecture program as the locus of a study of operating needs dependent upon discipline-based norms is particularly interesting because of the multi-disciplinary and inter-disciplinary nature of architecture education. Studying the normative values, language, symbols, expectations, and goals of such a program may provide insights applicable to administrative support initiatives in the related academic departments at the University of Michigan.

The processes used for the collection of data for this research project were segmented into four primary phases, and each phase was defined by its focus, structure, intended output,

and alignment with the overall project goal of increasing understanding of the academic architecture culture and leadership actions. Figure 2, presents an overview of the research process.

The first phase of this research project was focused on determining the “what” and “why” of the research project. This phase brought to light the need to approach the research question in the context of the operational environment, specifically the intersection of evolution of architecture as an academic discipline, architecture as a profession, higher education as a site of professional training, and the development of the University of Michigan. Data collection included review of architecture related websites for both professional and academic architects, review of promotional materials for both groups and information from accrediting and licensing organizations.

The second phase of this research project was primarily a literature review, intended to develop a foundation for conceptualizing and interpreting the data collected in the subsequent phases. Questions asked in this phase were “why”, “what”, “where”, “when”, and “who” influenced the processes used in architecture education, the architecture profession, American history, and higher education history in the context of general organizational theory and organizational culture theories. The data sources for these activities are listed in the bibliography.

The research activities employed in the third phase, consisted of archival document reviews, and sought data on sociocultural and socio-structural environment as well as the genius loci, societal, technological, and leadership actions that may have had a role in developing the organizational culture that exists among the architecture faculty at the University of Michigan (U-M). Data sources for these activities were found among college

governance documents; personal correspondence of the former deans, directors, department, and program chair; the proceeding of the U-M Board of Regents, and the U-M president.

Activities during the fourth phase of this research project included interviewing emeritus, current architecture faculty members. Twenty-eight participants were asked three primary questions and encouraged to share other information they thought might be of interest to developing an understanding of academic architecture culture at the U-M. The three core questions were (a) Why did you choose a career in architecture? (b) Why did you choose to become an architecture faculty member?; and (c) Why did you choose to become an architecture faculty member at the University of Michigan? The faculty members were selected based to provide information across a range of teaching experience and areas of interest within the faculty.

Three historians were invited, only one participated in an interview. Eight faculty members who work with technology, one whose focus is on building technologies, four who for focus on the development of architecture technologies for building and design, and three who focus on the use of technology in design, were interviewed. Four faculty members who focus on history and theory were invited to discuss architecture culture and two provided an interview. The remaining faculty members interviewed were designers. In selecting faculty members for interview, demographic representation across gender, ethnicity, and rank were factors considered. The majority of the interviews were conducted during the spring and summer of 2016. Spring and summer term was chosen as a time-period for the interviews because architecture faculty had either no teaching assignments or reduced teaching assignments, allowing greater availability in scheduling meetings. However, many architecture faculty members leave campus during the spring and summer terms to engage in

professional practice opportunities in other parts of the world, reducing their availability.

Four faculty members invited to interview chose to schedule meetings either prior to leaving campus in the spring or after returning in the fall term.

Table 1
Demographic Overview of Faculty Interviewed

Gender	Total	Ethnicity	Rank
Female	11 invited 7 completed	Asian 1 (2 declined) White 6 (2 unable)	Assistant 3 Associate 1 Professor 2 Lecturer 1
Male	17 invited/ completed	African American 3 White 14	Assistant 4 Associate 4 Professor 6 Emeritus 2 Prof of Practice1

Data collection and analysis. The data needed for a study of collegiate architecture culture were those data elements that help to describe, define, or frame how it is that members of this social group structure and conceptualize their world, socialize new entrants, reward and exclude members, and interact with internal and external forces seeking to exert influence with or upon the social group.

According to Hatch (2002), the principal data used in qualitative research includes field notes from participant observations, transcripts and notes from interviews and focus groups, and “unobtrusive data such as artifacts from the research site or records related to the social phenomena under investigation” (p. 7). Suggestions from the literature on types of data and themes for cultural studies include cultural manifestations whether material or ideational (Martin, 2002). Manning (2000) notes that the explication of the unique aspects of organizational cultures can be achieved through anthropological approaches to the discovery of constructed social environments by way of interviews, document analysis, ethnographic

studies, and attention to physical artifacts. Because cultural research typically involves three kinds of data collection including observation, interviews, and artifact/document analysis, the project started with a review of historical texts and scholarly works on the development of architecture education historically and specifically at the collegiate level in the United States to provide a foundation in the cultural antecedents. Subsequent data collection included iterative observation and interview phases as well as document and artifact collection and analysis.

The goals of phases one and two were the creation of a foundation of understanding of the unique attributes of the institutions influencing the culture of academic architects. The goals of phases three and four were the collection, verification, and analysis of documents, artifacts, and impressions of observations of the norms, values, and operating paradigms in use by the academic architects through the organizations evolution. The use of documents from multiple sources and viewpoints were used to provide greater legitimacy to the results of the analysis and to deepen the understanding of actions taken (or not taken) by organizational members and their leadership. For example, reports of actions taken by faculty covered by campus new media were triangulated against reports found in the college archives and U-M regent's proceedings to gain a more holistic perspective on what appear to have been pivotal moments in the evolution of the organization's culture especially in the context of membership relationships to leadership action.

Other pivotal moments that were analyzed by way of triangulation against multiple sources included the development of criteria for accreditation of architecture programs and their application to the program at the University of Michigan. Sources included the Association of Collegiate Schools of Architecture; the college archives reports from the

faculty and leadership, and college archives reports that included documentation provided to and from visiting committees evaluating the faculty and their production. Peer-reviewed articles and publications on the evolution of architecture education, some of which focused on the U-M influence, on American architecture education were integrated into the analysis of this program as well.

Behavioral artifacts or observable examples of organizational cultural phenomenon, according to Trice and Beyer (1984), include group rites, rituals, habits, and ceremonies. Physical artifacts of culture such as symbols, documents, architecture, and dress may also be representative aspects of culture (Bess & Dee, 2008). Kuh and Whitt (1988) suggest researchers seek to observe regularized behaviors, norms, and dominant espoused values, seeking information on the organization's philosophy of action, rules, climate, and interactions with outsiders. The project plan included attendance at ceremonial and daily events to observe behaviors, dress, interactions, and artifacts. Attendance at multiple events over the course of the research project added depth to understanding the cultural and structural norms guiding behavior. For example, attendance at the executive committee (EC) meetings during the promotion and tenure review time of year occurred after having read promotion and tenure reports in the archives. The observation of the EC meetings allowed insight into maintenance of the structural components the faculty had developed for promotion and tenure as well as an opportunity to hear the EC members debating the qualities they valued in the candidate and the validity of the external reviewers feedback. These observations could then be triangulated against the written reports from the promotion and tenure committees. The research findings include multiple quotes from these reports,

which were used to document values, norms, and operating paradigms in use by the architecture faculty.

Genzuk (1999) describes the three kinds of data that ethnographic methods of research produce: quotations, descriptions, and excerpt of documents. Each of these was used in the narrative documents produced for this study. The narrative document produced includes charts, diagrams and other artifacts that helped to tell the story of the leadership actions and academic architecture community that was reported in the archives. This research study was conceptualized with a focus on the activities of the collegiate architecture community at the University of Michigan. From the earliest stages of this project, document, and artifact analysis techniques were used to form initial concepts, thematic coding, and preliminary analysis, aided by qualitative software tools such as NVivo and the creation of spreadsheets and other diagrams seeking insight into observations of community members during daily and ritual events.

The U-M archives provided a source for the history of the college. McCulloch (2004) has written, “Archives are the running record of society” (p. 51). Archival documents included notes from the dean’s correspondence files, faculty meetings, and faculty presentations, as well as faculty annual reports and grant applications, exhibit reports, lecture transcripts, and videos. The examination of these archival documents was key to reviewing the history of the college. A majority of the documents reviewed was leadership-centric, provided by the deans and chairs, or were records of meetings led by deans or chairs. Because these were a primary source for understanding the historical development of the culture, there is a potential that the information presented might have been biased toward the record-creators view of happenings and that other participants may have had a different

interpretation of the reported events. Wherever possible, information on actions and activities was verified through interviewing current and recently retired faculty and newspaper accounts or peer-reviewed works found in architecture journals.

Using the researcher as the instrument of data collection was logical because the human ability to participate in social actions are the same abilities that allow qualitative researchers to make sense of the behaviors they observed among the social groups being studied according to Hatch (2002).

Other methods of acquiring thick and rich descriptions of collegiate architecture culture were incorporated when gaps in the analysis revealed the need, for example interviews with purposefully selected community members. As an exploratory, largely descriptive, constructivist ethnographic study, a loosely organized set of initial questions guided the earliest stages of this research, including asking what, how, where, and which experiences formed the basis of collegiate architecture culture. As the research progressed the instrumentation evolved to become more confirmatory as Miles, Huberman and Saldana (2013) have described.

I used a sequential and thematic review of historical documents, scholarly works, reports, newspaper articles, journal and magazine publications, and other relevant materials that helped to describe the emergence of architecture education at the collegiate level and its inclusion at the University of Michigan. Specifically, I searched the college and university archives, as well as records stored in the archives of former faculty and leadership of the college. Thematic searches of other documentary sources that helped to describe the emergence of architecture as an academic discipline, provided information on its inclusion in higher education institutions, and the relationships which are maintained with the profession

and other schools of architecture internationally. These searches were compared against those found in the college archives to search for confirming or disconfirming evidence of analyses conducted.

The purpose of the inclusion of archival reviews was to add historical context to the exploration, and to provide a foundation from which to develop a deeper understanding of observed behaviors. Accessing contemporary information about the college through a review of local and electronic information sources seeking indicators of any of the elements of organizational structure or culture as described by Allaire and Firsirotu (1984) provided data that was helpful throughout the research process. This type of data included *College Rules*, organization charts, committee notes, dean's message, commencement addresses, faculty exhibition prospectuses, course syllabi, and architecture websites for faculty, students, and practitioners.

Accessing and observing the artifacts of collegiate architecture culture was both easy and challenging. The ability to access some artifacts was dependent on their size and proximity. Because the outputs of a design architect are the built environment, there were cases where observations were made through photographs. Attending faculty exhibits, book launches, lectures, conferences, and symposia as well as watching taped versions of events and viewing publications was a helpful way of observing both artifacts and interactions.

Observing collegiate architecture culture in action required a focused plan that included both specific ceremonial events and the quieter and less obvious moments of academic year as components of the fieldwork. I developed an organized agenda to approach observation and interviews striving to remain focused on the purpose of the research being conducted. Events observed included public lectures, meetings, public reviews, ceremonial

events including recruiting events, new student orientation, convocation, welcome picnic, graduation, and other small social events such as exhibition openings and lunch in the faculty/staff lounge.

Constructivist approaches allowed themes to emerge throughout the process, and re-visiting findings and gaps through constant comparison techniques to understand the prevalence and effect of any observed behaviors allowed these activities to enrich the study. Themes emerging during participant observation were triangulated against *College Rules*, college promotional and reporting materials, and promotional materials available from peer schools.

In quantitative research, the research instrument is used as a means to objectify and measure a variable or phenomenon, but in qualitative research, with the researcher as the research instrument all evidence collected is subjective, and influenced by the researcher (Xu & Storr, 2012). Because this study used a qualitative paradigm, I acted as the research instrument. As such, it was important to include activities that include intentional reflection on how I have conducted ethnographic fieldwork, especially while conducting interviews and making observations of community member's actions. Attention was paid to the quality of my field notes because they are entirely dependent on my skill development as the researcher as a research instrument (Emerson, Fretz & Shaw, 2011). For example, during interviews, I recorded participants, and after transcription, I provided the transcription to the participants for verification and clarification. Only one participant chose to edit the transcript for grammar and punctuation, not content. Three participants chose not to be recorded; my notes from these three interviews are less insightful. Two of the three who declined to be recorded provided examples of written works or notes from faculty meetings, to help me clarify their

impressions of the culture. For the third interviewee who did not want to be recorded, I used other sources such as documents he had written about changes in the college.

In addition, intentional reflection on how decisions were made about my interpretations of the data collected, recognized that human consciousness influences both data gathering and data generation activities (Martin, 2002). Intentional reflection was required when one interviewee, who had chosen not to be recorded, shared opinions about the leadership actions of a former dean that were in conflict with my evaluation of the efficacy of the deans actions. This was a moment when it was necessary to step back from the data and seek clarity about the cultural constructs that made their assessment of the leadership actions different than mine had been.

Genzuk (1999) suggests that the ethnographic researcher must be descriptive in taking field notes; “gather a variety of information from different perspectives, cross-validate and triangulate by gathering different kinds of data; use quotations; represent program participants in their own terms; capture participants' views of their own experiences in their own words, select key informants wisely, and use them carefully and draw on the wisdom of their informed perspectives, but keep in mind that their perspectives are limited and be aware of and sensitive to the different stages of fieldwork” (p.9). While interviewing current faculty members, I was careful to maintain focus on the sociocultural and socio-structural characteristics of the college operating environment and their perspectives on how organizational members came to be there and shape its form. This allowed the individual faculty to reflect on their experiences at the college as well as those that led them to this career choice. Several faculty members remarked that they appreciated the opportunity to

step back from their current projects and re-engage with the original motivation for becoming an architect and an academic.

Ethics, morality, and legality have been variously defined by professional societies and institutions to assure the proper conduct, collection, analysis, and dissemination of research. In educational settings, adherence to these codes is fundamental to maintaining the public trust and access to research subjects and funding. This study adhered to the ethical codes as defined by the American Sociological Association (ASA), incorporated the guidelines, and structures, required by the institutions studied, and sponsoring the research, and reflected the professional standards expected of the College of Education at Eastern Michigan University. In qualitative studies, the researcher is the research instrument, and, as such, must be careful to mitigate risks of ethnographic research.

It has been written that ethics are a matter of knowing and morals are a matter of doing (Pitak-Arnop, Dhanuthai, Hemprich, & Pausch, 2012). Developing and conceptualizing a study of collegiate architecture culture has been predicated on the application of the appropriate moral, legal, and ethical guidance available to educational researchers, university administrators, and professionals. The principles for ethical conduct as defined by the American Sociological Associations Code of Ethics include professional competence, integrity, professional and scientific responsibility, respect, social responsibility. Adherence to these principles in the conduct of my research has been an integral part of the planning for data collection, potential participant engagement, data analysis phases, and the possible dissemination of any findings from this research project.

Grounding for the professional competence dimension began with my educational training and professional administrative experience and included conducting proper literature

reviews of all relevant topics, offered through both Eastern Michigan University and the University of Michigan on the proper and ethical conduct of research, including training on human subject protocols.

Integrity, as well as professional and social responsibility, was addressed in the planned methods of conducting this research. The research plan included open and honest communication with prospective and selected participants about the intent of the research and the provision of safeguards to participants (e.g., anonymity for individuals or informed consent where applicable and of institutions). Participants were informed that either the data obtained in face-to-face settings or through document content analysis would be analyzed and presented fairly and accurately. Participants were asked to review data recorded from interview transcriptions for accuracy. The research plan did include informing participants of the researcher's professional and educational roles and goals, the subject of the study and its intended dissemination. The research plan did not knowingly jeopardize the personal or professional welfare of the participants or the researcher. The American Sociological Association recommended explicit disclosure of benefits that may accrue to the participants of this study; this did include an opportunity to reflect upon observations taken or not taken by community members and whether they aligned with participant values, goals, and aspirations (Miles, Huberman, & Saldana, 2013).

The conceptualized research plan was respectful of social as well as the demographic dimensions of research. The plan used for developing the potential target population did not discriminate on gender, racial, religion, nationality, sexual orientation, health status, parental status, or age variables.

As an administrator, the oversight and application of moral, legal, and ethical guidance, as defined by our professional associations, sponsoring bodies, and research administration bodies, is one of core responsibilities. Because of my position as a senior university administrator, developing this research topic, considering the possible data sources, the analysis process and methods as well as the audience for any findings was done with moral, legal, and ethical codes as a foundation and a desire to avoid or mitigate any potential conflicts of interests.

Establishing the validity and reliability of the data and findings while undertaking a qualitative constructivist ethnographic study of collegiate architecture culture at the University of Michigan was predicated on the consistency, and credibility of the processes used in the gathering, coding, and comparison phases; analyses and findings that were confirmable; and the applicability or transferability of the findings to similar environments (Lincoln & Guba, 1985). This study did draw data from a number of secondary data sources including documentary sources such as historical works on architecture education, faculty development, and institutional histories, using a constant comparison method searching for categories and conceptual links that supported the emergence or maintenance of sociocultural and structural elements of collegiate architecture. In addition, observation of architecture community members at daily as well as ritualized recurring events such as studio reviews, midterm critiques, end of term critiques, accreditation readiness events, faculty meetings, lectures, exhibits, and other relevant observational opportunities. Further, as suggested by Martin (2002), simultaneously seeking three possible perspectives within the data collection and findings to improve validity and reliability; include an integration perspective, a differentiation perspective, and a fragmentation perspective. Martin (2002) explains that

qualitative sociological studies, which use these three perspectives simultaneously, may bring to light elements of consensus, conflict, and ambiguity within cultural studies.

Conceptually, the qualitative paradigm use of “dependability” corresponds to the quantitative notion of “reliability” according to Golafshani (2003). To achieve dependable findings, it was important to be vigilant about consistency of collection and documentation methods, analytical methods, and framing and focusing the project. Lincoln and Guba (1985) have written that validity cannot exist without reliability, so demonstrating that a study was reliable proves that it is valid. Miles, Huberman, and Saldana (2013), caution that forms of analytic bias can weaken or invalidate findings including holistic fallacy and going native. Avoiding holistic fallacy was accomplished in this study by clarifying in the findings that the operating environment of academics, about which this study is focused, is not always fully patterned nor is it always fully congruent. The possibility of introducing bias by “going native” on this study, losing perspective, and wholly adopting the participant’s perceptions was avoided by means of triangulations of findings against other data sources as well as never becoming an architecture faculty member. The purpose of corroboration was not to confirm whether people’s perceptions were accurate or true reflections of a situation but rather to ensure that the research findings accurately reflect people’s perceptions, whatever they may be. The purpose of corroboration was to help increase an understanding of the probability that their findings are credible or worthy of consideration by others (Stainback & Stainback, 1988).

Golafshani (2003) notes that some researchers have developed their own paradigms for validity in qualitative research such as quality, rigor, and trustworthiness. The bottom line being whether or not the readers ability to trust and believe that the findings are plausible and

that the analysis performed provided sufficient depth to be generalizable to other similar environments. Because the applicability of results from this study to other environments would be contingent on specific operating environment variables, it was important to provide enough context for the reader. For example, clarifying that the locus of the study is collegiate architecture culture and the focus of the study was an architecture school that operates within a research I university.

Miles et al., (2013) have suggested that data quality can be verified in a number of ways. These include making sure that research data is representative of the focus of the study; triangulating across multiple sources; weighting the evidence; reviewing the meaning of outlier data; using the extreme cases; following up on any surprises uncovered in the data or analysis; looking for dis-confirming evidence, checking for other explanations for the observed situations, and incorporating participant feedback in the processes. Triangulation and participant feedback were key elements of this research design used to increase the clarity of findings, corroborate its accuracy in explicating leadership and community member actions.

Creswell and Miller (2000) have suggested that within the researcher's perception of validity, the existence of personal paradigms can also be a source of bias. This suggests that the researcher presuppose an outcome of the data collection and analysis and ends the study once they have verified that supposition, as in hypothesis testing. Denzin and Lincoln (2003) assert that minimizing research bias and increasing researcher truthfulness is the goal of establishing a means to assure the quality of research. Using the constant comparative technique, as well as triangulating data findings and analysis against multiple sources, was helpful in guarding against potential researcher bias.

Possible analysis strains from these somewhat opposing tensions might have emerged as the volume of data collected, coded, and analyzed grew. Because the research plan for this study was reliant upon documents and artifacts as initial data sources, a review of the depth and breadth of sources provided a method to assure proper weighting as well as the opportunity to consider and plan for the exploration of outlier data.

Assuring that the data collected represented the collegiate architecture community activities at the University of Michigan was dependent on access to community events as well as documentary and archival data. Accessing representative data for this study was supported by its situation within a public university. Errors that occurred in the coding and characterization of data elements and emerging themes in the early phases of the study, but these were corrected by consistent alignment with the conceptual framework, the research questions, and attention to detail.

Using triangulation as a strategy for increasing the validity and reliability of qualitative research studies, Golafshani (2003) has written is typical. Where triangulation in quantitative research is used to verify or disconfirm a hypothesis, a qualitative research triangulation that results in an exceptional finding are used to modify theories and are considered fruitful. In a constructivist paradigm, such as the one planned for this study, the ability to validate findings is increased as more data is included in the analysis. Using triangulation as a strategy to improve the quality has been defined as “a validity procedure where researchers search for convergence among multiple sources of information to form themes or categories in a study” (Creswell & Miller, 2000, p. 126).

The ultimate goal of reviewing the data sources was to construct a theory of collegiate architecture culture as it is enacted at the University of Michigan. As Miles et al., (2013) has

written, the objectivity/confirmability of the work, reliability/dependability/auditability, internal validity/credibility/authenticity, external validity/transferability/fittingness, and utilization/application/action orientation are all used to evaluate the quality of the research. All of these measures refer to the validity and reliability of the researcher's procedures in constructing an appropriate conceptual framework, data collection and analysis, transparency in reporting the context, the data and connecting data to findings, clarity in communicating the research means and modes, and thoroughness of each of these steps. Using constructivist methodology of data collection, coding, and analysis from appropriate sources, across appropriate populations, and triangulating data and results should improve the transferability, applicability, credibility, objectivity, and dependability of the study.

The research plan sought to identify variables or core categories that were central to the understanding of collegiate architecture culture. Operationalizing the concept of organizational culture began with reviewing descriptions provided by Martin (2002), Schein (1985), and Ouchi (1981), who focus on organizational elements that are shared and embraced by most members and produce clear and consistent interpretations of cultural manifestations whether ideational or material.

The data collection efforts included seeking information relevant to the internal cultural and socio-structural systems, which legitimate and support one another, as well as the influences of the external environment including the ambient society, history and contingency factors, and the influence of the higher education industry and the architecture industry. The analysis sought to situate findings within their temporal frame and identify initiation, development, and sustained adoption of cultural attributes and paradigms.

As Clark (1972) suggests, examining organizational sagas, heroes, symbols, and rituals both past and present, seeking to understand how and why participants value material and ideational attributes associated with their community, was integral to the analysis phase of this study. The value in reviewing an institutional or organizational history or saga when researching its culture, according to Clark (1972), is in uncovering the defining elements that have been codified as unique or distinguishing elements. According to Clark (1972), organizational heroes are role models, and critical decision-makers who have played a central role in the development of the organization. Symbols are the metaphors institutions use to make explicit cultural values and beliefs that are normally implicit, and rituals are culture in action. Selznick (1948) suggests that the evolution in the socio structural system and the organizational participants is also an indicator of the organizational culture.

Using documents, observations, and interviews as data sources to study the collegiate architecture culture at the Taubman College of Architecture and Urban Planning, the codes, concepts, and categories or groups of categories, which appear as important to the community members, were collected and analyzed to facilitate a better understanding of the culture. The analysis of the data involved interpretation of the meanings and functions of human actions, was mostly accomplished with the support of text, with quantification and statistical analysis providing supporting or confirming pieces of the story (Genzuk, 1999), and supported by the use of the conceptual frame developed for this study.

The conceptual frame used for data collection and analysis combined concepts from both organizational theory and architecture theory so that a deeper understanding of the underlying motivations catalyzing the actions of leaders and members could be gained.

Chapter 3: Review of the Literature

The goal of this study was to investigate leadership and community member actions to better understand both the origins and the evolution of collegiate architecture academic culture as it is enacted in a modern research-intensive university. Existing research provides insight into the operating norms of some disciplinary subcultures within higher education environments, including engineering (Tener, 2013), medicine (Pololi, et. al. 2009), and nursing (Hawks, 1999). However, internal and external stakeholders of academic architecture environments had no scholarly literature sources to reference when seeking to understand the unique cultural attributes of this subculture. Deepening my understanding of how leaders of architecture education conceptualize and value cultural and structural attributes of their environment and provide meaning for the core community members may allow me to support my organization more effectively. In pursuit of this knowledge, I have completed a case study focused on the leadership actions and community responses of the Taubman College of Architecture and Urban Planning at the University of Michigan. In an effort to understand and make more comprehensible the activities, values, behaviors, choices, rhetoric, and rituals of the academic architecture community, for non-community members, I explored its creation, development, and modern-day enactment. This study relied upon theories of organizational leadership and culture, architecture education, and professionalization as a framework for discovery, analysis, and reporting of findings. This chapter summarizes the scholarly literature relevant to the theoretical literature as well as a brief overview of the literature relevant to collegiate architecture education. .

Organizational Culture

The goal of this study was to produce a holistic portrait of the collegiate academic architecture community and its leadership at the University of Michigan. The research examined a wide range of cultural manifestations including sagas and rituals; dress; physical arrangements; formal and informal policies; inter-, intra-, and extra-institutional influences; seeking evidence of sociocultural and socio-structural markers. In addition, norms, status, and role attributes and individual member characteristics were sought in order to formulate a holistic picture of the enacted environment at Taubman College of Architecture and Urban Planning.

The literature and theories that are relevant to defining institutions, organizations, and concepts that help to define organizational culture provided a framework for conceptualizing this study. This study sought to uncover the “how” and “why” of organizational group actions that formed the basis of the organizational culture and, as such, a constructivist paradigm, utilizing naturalistic inquiry methods seems best aligned with these goals. Researchers who use a social constructivist paradigm seek to capture the unique aspects of each organizational entity by way of qualitative naturalistic inquiry, believing that culture cannot be controlled and tested. Bess and Dee (2012) describe, “Such researchers believe that it is necessary to study culture from the perspectives and voices of the participants in order to appreciate fully the meanings of their behaviors, interactions, and sentiments” (p. 364). Much of the research on organizations builds upon the idea that culture is a relational (social) construct formed in interactions with others (Schein, 1985).

Examples of scholarly works on organizational culture using a social constructivist perspective include Allaire and Firsirotu (1984) and Hatch (1993), who take an interrelated

functional structural and social constructivist approach to understand the culture. Similarly, Kuh and Whitt (1988) assume the viewpoint that culture is both a process and a product. They see culture as both being shaped by and shaping the exchanges that occur between an organization's internal and external stakeholders. They note that the institutional form and environment within which an organizational culture exists play an important role in the formation, evolution, and maintenance of the cultural group. The functionalist perspective used by Parsons (1956) and Schein (1985) examines the elements of a culture that ensure or threaten survival and how organizational members choose among alternatives for group action to ensure organizational survival. The conceptual framework used in this research combines these approaches by integrating architectural theorists and organizational theorist's works.

Sociological and anthropological theories have provided the intellectual basis for the development and application of organizational theories used by researchers seeking to discover, analyze, and understand group behaviors occurring in organizational settings (Kuh & Whitt, 1988). Researchers studying higher education organizations, including Birnbaum (1977), Blau (1973), Clark (1963, 1971), Parsons (1971), Tierney (1988), and Zucker, (1977), find that this body of literature is helpful in understanding these unique organizational environments.

The strengths of discovering or examining culture through an anthropological perspective according to Manning (2000) include developing an understanding of how organizational members make meaning and why certain behaviors, actions, and traditions become manifestations of the organization's culture. The anthropological approach allows the researcher to examine the "why" and "how" of connections and conflicts between members

and external influences, and it helps to describe the importance and centrality of rituals, traditions, and artifacts used by group members in maintaining and transmitting cultural norms, values, ideology, and operating paradigms. Anthropological approaches allow researchers to study more than the structures, numbers, and forms that may be used to describe an organization by exploring the human relations, sense making, and identity/image construction activities specific to the community.

There are several weaknesses of the anthropological approaches to studying higher education cultures. Reliance on a few informants to provide a view of the culture may lead to an incomplete picture of a community with possible skewing toward homogeneity or discord depending on the informants' perspective, sense-making actions, and experiences within the organization. Plans to mitigate these possible negatives would include sample population checking to assure appropriate representation of groups and positions.

Further, the assertion that anthropologically informed research is ahistorical because the analysis of findings describes organizational members at a fixed point in time, thus limiting the generalizability to organizations existing in other time periods has been made as has the challenges of removing researcher bias in anthropologically based research studies as a weakness of this method. Strategies to mitigate the weaknesses of anthropological approaches may include triangulation of research findings against other sources, declaration of researcher viewpoint to clarify the context of findings, and the inclusion of multiple theoretical viewpoints, as suggested by Martin (2002). Additional weaknesses noted by previous researchers include the possibility that the findings from an anthropological perspective may present the cultural operating environment observed by the researcher in an insular manner, which has excluded considerations of the external environmental condition,

and anthropological approaches are usually employed in smaller sample group studies limiting the generalizability of any findings.

To mitigate against some of these potential weaknesses, the conceptual framework used for this study combines the work of organizational culture theorists Allaire and Firsirotu (1984) with that of architectural theorists Frampton (1989) and Vogler and Vittori (2006).

Allaire and Firsirotu (1984) have developed an organizational culture conceptual framework that considers the interplay between the cultural system, the socio-structural systems, the history, ambient society, and external contingencies that legitimate and support a community as well as the aspirations, experiences, and characteristics of its leadership. The cultural system includes the myths, values, and ideologies present within the organization. The socio-structural system includes the structures, strategies, policies, and processes used by the community. The organization's history provides the basis for its genesis, its transformations, and the basic assumptions that underlie the community's image and identity. The ambient society in which the community exists provides information relevant to the external cultural, social, political and judicial systems which influence the current community and the external contingencies embody the technologies, economics, competition, and regulations which may characterize the organization and the industry in which it functions (Allaire & Firsirotu, 1984). This framework, presented below as Figure 3, places the individual actor as a unique component of the organizational milieu, recognizing that their attributes, experiences, education, and aspirations interact with the organization, intertwine, and influence the culture and goals of the organization. In this context, each leader's attributes, experiences, and aspirations are examined for influences upon the organizational culture.

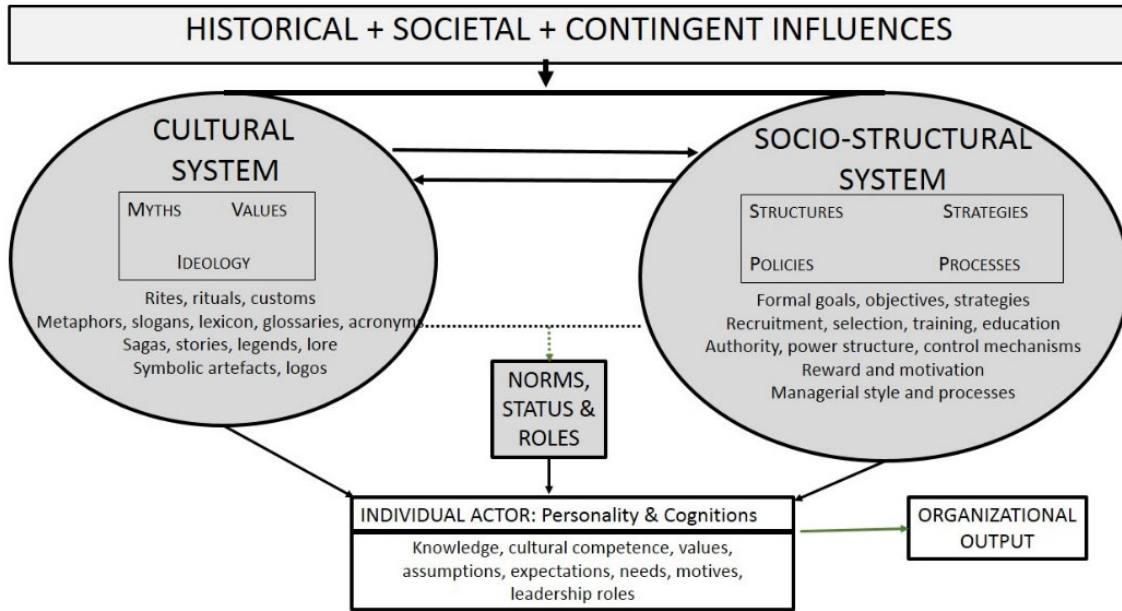


Figure 3. Conceptual framework (adapted from Allaire and Firsirotu, 1984)

There are multiple definitions of organizational culture in the scholarly literature. Those suggested by Schein (1992) point to behaviors, values, beliefs, meanings, expectations, assumptions, and normalized standards that are selected and enacted by group members to guide action, sense making, and meaning in and among group members. Geertz (1973), definition proposes that culture exists as a web of connectedness existing between and across members. Parker (2000) notes that culture is both a noun and a verb, which as a verb denotes the filter people, use to take action. Schein (1984) defined organizational culture as involving a group of people with a common history who, function by means of a dynamic process of learning, transmission, and evolution of the basic assumptions that members of a group have invented, discovered, or developed in order to cope with external adaptation and internal integration. These basic assumptions act as the organizational glue that underlies all actions, leads group members to an appropriate group supporting decisions and provides guidance for future choices. Bess and Dee (2008) define culture as comprising a

group's philosophy, ideology, values, attitudes, expectations, and assumptions. Sporn (1996) has found examples of ideological variances enacted in culturally bounded environments: "These shared assumptions and understandings lie beneath the conscious level of individuals. They generally are identified through stories, special language, and norms that emerge from individual and organizations behavior" (p. 45).

The purpose of an organizational culture, according to Kuh and Whitt (1988), is to convey identity, facilitate commitment to an entity, and enhance the stability of a group's social system as well as providing a sense-making device for members. Schein (1992) sees the purpose of the development of an organizational culture as the social means that members select to ensure group survival through adaptation to external forces; integration of expectations, norms, and values; socialization of members, and transmission of the groups operating paradigms through new member education. Explications of organizational cultures include investigations on culture formation as an interplay between the internal and external environments; institutional factors; historical influences; founders; ideologies; and support from external constituents such as alumni, philanthropic sponsors, and research funders; core faculty groups, including senior faculty and administrators; the social environment and subcultures within the organization; cultural artifacts; distinctive themes that reflect core values, and ethos; and the contributions of individual actors such as charismatic presidents and deans, according to Kuh and Whitt (1988). They note that all faculty members in higher education institutions are influenced by at least four interdependent cultures: "the culture of the discipline, the culture of the academic profession, the culture of the institution and the culture of the national system of higher education" (p. 6).

Allaire and Firsirotu (1984) have posited that organizational cultures emerge, as a convergence of the societal, historical, and contingent influences to create cultural systems and socio-structural systems that legitimate and support one another. As depicted in Figure 3 above, influences on the creation and continuation of organizational culture can include the organizational history; the society in which it operates, including the cultural, social, political, and judicial systems; and contingency factors such as technologies, economics, competition, and regulations that are characteristic of the organizational field. The cultural system of an organizational culture includes the myths, values, and ideology of the organizational culture and the socio-structural system is comprised of the structures, policies, processes, and strategies of the organization. The cultural system and the socio-structural system serve to support, legitimate the culture, and form the basis for the creation of norms, roles, and the status of an individual within the organizational culture according to Allaire and Firsirotu (1984).

Organizational image and identity theories. Understanding the role that organizational identity may play in the formation, enactment, and maintenance of an organizational culture and its impact on organizational identity is supported by the work of Albert and Whetten (1985); Gioia, Schultz, and Corley (2000); Scott and Lane (2000), and others. Albert and Whetten (1985) have defined organizational identity as that which is core, distinctive, and enduring about the organization. Scott and Lane (2000) describe organizational identity as emerging from complex, dynamic, and reciprocal sense-making interactions among organizational stakeholders. Gioia, et al., (2000), prefer a view that evaluates an organizations identity in terms of its “adaptive instability” as it engages its externally defined image. The image and identity of a school or college, situated in a

research-intensive university, may become important benchmarks for leaders and organizational members to use as they weigh tactical and strategic decision for the organization's survival and measure the relative success of those actions.

The entwined constructs of organizational image and identity and their role in organizational culture activities have been explored by Gioia, et al., (2000). They defined identity questions as answering questions about the nature of the existing organization and its future aspirations. In contrast, they define image questions as focused on external perceptions of the organization. Gioia, et al., (2000), note that discrepancies between the two visions of the organization are evaluated and decisions about whether or not to respond to the discrepancies demonstrate the interdependence of the two concepts. This study used a constructivist paradigm, relying on the voices of the organizational community, to provide insights into the manifestations of culture within the organization.

The purpose for the development and emergence of these theoretical works on organizational culture has been to aid internal and external stakeholders in making sense of the behaviors exhibited by group members, as well as understanding the groups socially constructed self-image and organizational identity (Bess & Dee, 2008, 2012). A review of leadership actions in the context of an architecture program benefits from the use of the cultural lens. According, to Manning (2013), “using a cultural lens, organizational members sought to understand the ways that different perspectives impact day-to-day and long-range operations. Using a cultural perspective, faculty, administrators, students and other stakeholders in higher education can achieve a richer, more complex understanding of organizations” (p. 90). Using the concepts and theories included in organizational studies were useful during the discovery, analysis, and presentation of findings of the organizational

culture at the University of Michigan's Taubman College of Architecture and Urban Planning.

Leadership influence on organizational culture. Multiple theoretical models exist in the literature to explain leadership and the reciprocal influences of leaders on culture and culture on leaders. For example, Schein (2010) describes how leadership and culture are intertwined:

Leadership is originally the source of the beliefs and values that get a group moving in dealing with its internal and external problems. If what leaders propose works, and continues to work, what once was only the leader's assumptions gradually become to be shared assumptions. (p. 32)

Further, Schein (1983) theorizes that the founder's actions create a roadmap for the development of culture within an organization:

Founders often start with a 'theory' of how to succeed and have a cultural 'paradigm' in their heads, based on their own prior experience in the culture.... the evolution of the culture is a multi-staff process reflecting the several stages of group formation. The ultimate organizational culture will always reflect the complex interaction between the assumptions and theories, which founders bring to the group initially, and what the group learns subsequently from its own experiences. (p. 9)

Schein (1983) notes that the external and internal problems that groups navigate are intertwined. As external problems exert influence on leaders and group members, internal means of adapting to those influences are triggered. Schein (1983) proposes that founders establish and leaders follow the roadmap that establishes culture on the following measures:

- organizational member's beliefs around its relationship to the environment,

- organizational member's interpretations of the nature of reality and truth,
- organizational member's beliefs about human nature,
- organizational member's beliefs about the nature of human activity.

Schein (1983) proposes that founders establish a culture, embed, and transmit it by way of both sociocultural and socio-structural means. This may include formal statements of organizational philosophy, such as mission statements and other materials; the design of physical spaces; role modeling; reward systems; organizational structure; measurement, and attention systems; and ways that new members are managed.

Schein (1983) describes founder's emotional orientations are often focused on creating and building, desire for autonomy, risk-takers, loyal to local, and achievement oriented. He notes that the founder's analytical orientation is often holistic, long-ranged, and reliant in personal intuition. Their interpersonal orientation includes seeing individuals as individuals, valuing family ties, and acting in an autocratic manner with high involvement in most aspects of the organization. The structural components of founder's orientation according to Schein (1983) include an understanding that they are responsible for the risks, have the privileges of being the founder, have the support of any surrounding super-structure (e.g., family or university institution), are highly visible, get close scrutiny for actions, and hold their position in the organization by virtue of being the founder.

Organizational Types

Context for understanding some of the organizational attributes that emerged and then receded or became organizational norms was aided by the work of Peterson and White (1988) depicted in figure 4. They have described organizational types as being defined by four attributes: the style of leadership used, management, success measures, and the

organizational glue. They suggest that types can be organized along two perpendicular continua that range from flexible to stable and from short-term internal focus to external long-term focus.

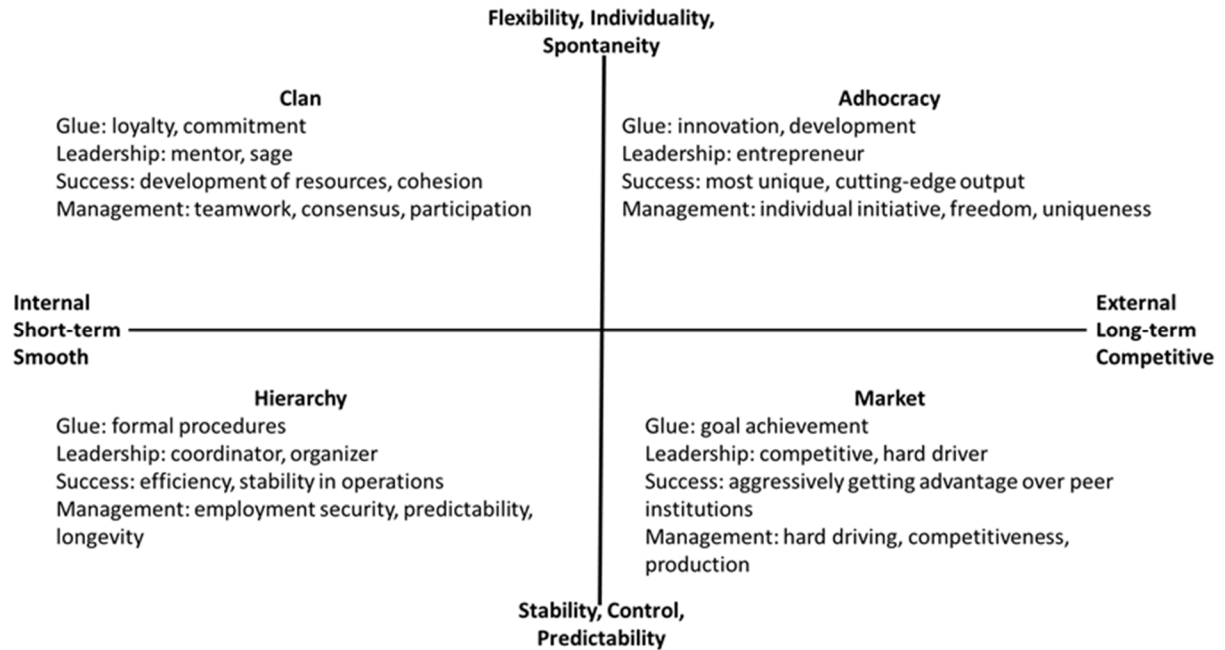


Figure 4. Organizational types (adapted from Peterson and White, 1988).

Architectural Theories

Frampton (1989) provides a conceptual framework for understanding architecture as a product and process intertwining culture and the built environment. His theoretical reflections contextualize the work, and the autonomy and normative approach to creative work in architecture as being bounded by its typology, topography, and tectonics. Frampton (1989) describes architecture as both a form of cultural discourse and a frame for life. Frampton describes typology as indicative of institutional forces that constrain or elevate a project, topography as the contextual situation of project within its environment, and tectonics as a mode of construction for a project. Frampton (1989) describes architects as

simultaneously juggling and juxtaposing the three context and influences as they ideate their processes and projects. These frames aid in understanding the socio-structural and cultural constructs used in the development and evolution of the architecture faculty culture.

Similarly, Vogler and Vittori (2006) provided a conceptual framework for understanding the *genius loci* or spirit of place from an architectural perspective. They describe the terms usage in roman mythology as a protective spirit of place: “Human culture is very strongly linked to places” (p. 7). They note that the architect must consider a multitude of phenomena to create architecture with meaning. Architecture with *genius loci* “can neither be only an aesthetical exercise nor a technological construction” (p.9). They remark that architects visit exemplars and study them personally, despite having access to the scientific investigations of these places, to experience the *genius loci*. They note that the derivation of *genius loci* occurs in symbiotic relationship with human culture and geologic or topographic characteristics of the place in which it is situated. The *genius loci* of a place of worship are different from that of a school, a park, a library, a home, or a shopping mall, and there is intentionality from the architect in the design of those structures. The resulting *genius loci* affect our behavior. The reciprocity inherent in the intent and influence of the *genius loci* is according to Vogler and Vittori (2006) an intended architectural outcome. The conceptual frameworks of these three theorists are depicted in figure 5.

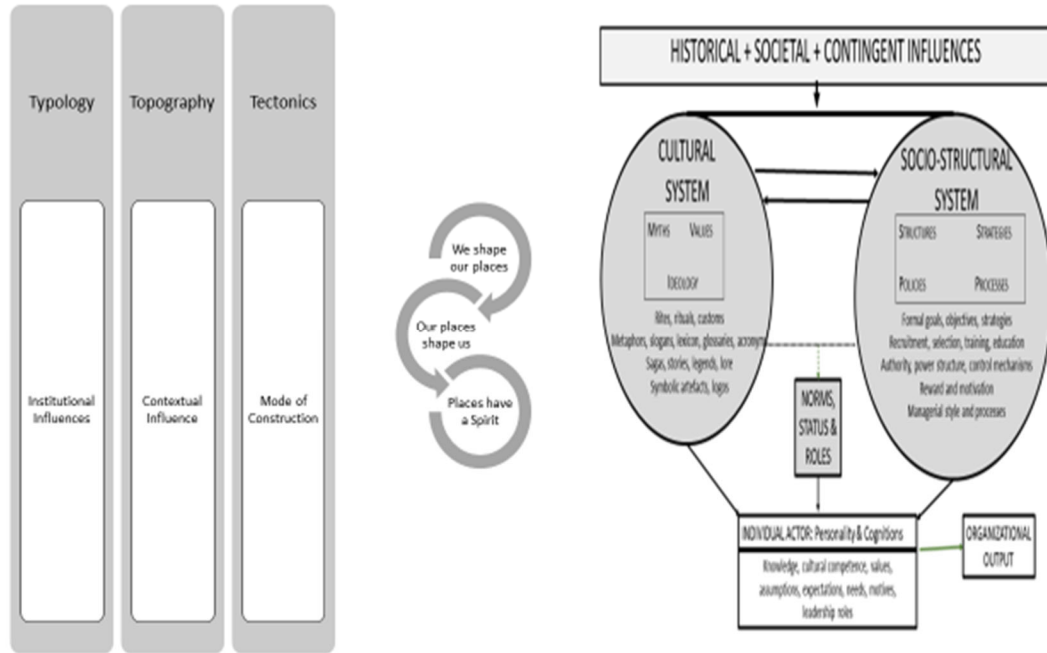


Figure 5. Conceptual frameworks (adapted from Frampton, 1989, Vogler & Vittori, 2006, Allaire & Firsirotu, 1984)

The three theoretical frames were used in combination, because they provided an opportunity to consider holistically the influential actions and strategies used by the nine leaders who guided the development of architecture education from 1876 through 2016, through three developmental stages (Lippitt & Schmidt, 1967) and multiple organizational types (Peterson & White, 1988). A graphical depiction of how these three theoretical frames were combined is provided in figure 6.

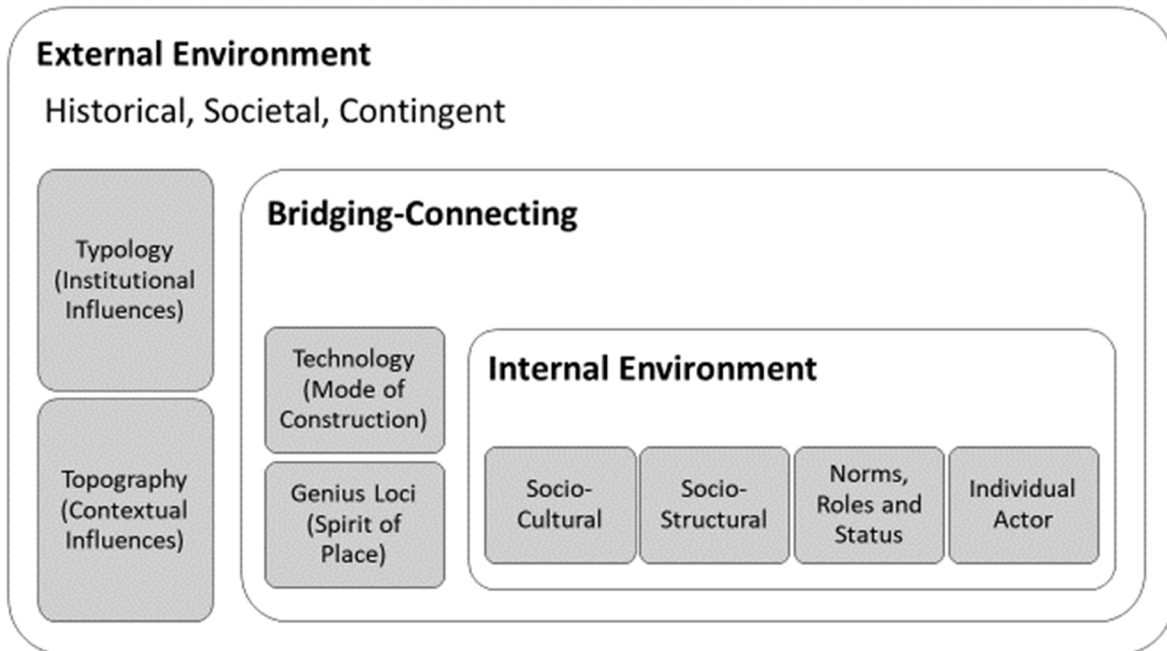


Figure 6. Study conceptual framework, (adapted from Frampton, 1989; Vogler & Vittori, 2006; Allaire & Firsirotu, 1984)

Collegiate Architecture Education

The evolution of architecture education culture from the time of Vitruvius to modern day has been influenced by four shifting factors; these include pedagogical, technological, and ideological shifts as well as changes in sponsorship. The literature provides a conceptual foundation for a complex curriculum that combines elements specific to architecture and incorporates elements from many other academic disciplines and, as a professional discipline, a responsibility that is shared between the academy and the profession for holistic education of professional architects. Because architects perceive themselves as culture producers, reflectors and consumers (Findley, 2005), the design of an educational program for architects, had historically sought to address the needs of its external stakeholders. “by virtue of its patronage and resource requirements, is intimately entangled with political, economic, social and cultural power structures and their widespread strategies for encoding

that power onto physical space at multiple scales” (p. xii). Pedagogical evolutions in architecture education have reflected the image and identity shifts of the professions, which evolved from self-conceptions as laborers, craftsmen, artisans, and scholar/theoreticians according to Woods (1999). Content and methodology developments are evident in the progression from the self-taught sole practitioner, the master-craftsmen in small workshops and studios, and the traveling artisan guilds and articulated apprenticeships, which later evolved to university-based theoreticians who speculated on the social factors influencing and influenced by architecture, to its current pluralistic state embodying craft, artistic, and theoretical elements (Ockman, 2012). Burnham (1988) suggests that the structure of architecture education is partially based on the pursuit of professional status.

Relying upon the Vitruvian principles, *Firmitas*, *Utilitas*, and *Venustas*, to provide a foundation for architecture education content, practitioners and educators have incorporated the scholarship of a broad group of related academic disciplines within the core teaching and learning expectations of their own discipline (Findley, 2005). The emphasis of any one of these components over others can influence the culture and environment of an architecture school (Weatherhead, 1941). Furthermore, “Architecture as a field of knowledge and as a practice is broad in its scope and range of methods, both practical and theoretical. Because of this, it has been called a weak discipline; it depends on and integrates many different kinds of knowing” (Troiani, et al., 2013). It has also been described as a weak profession because its claim to autonomy is questionable: “The discipline of architecture has, for most of its history, been at the service of those in power. Indeed, it might even be argued that it was invented by those in power” (Findley, 2005, p. xi). The result of both the need to provide service to those in power and to address complex social, political, human and economic factors in the design

and delivery of the built environment has meant that the education of architects is reliant upon weaving a multiplicity of disciplines into its educational profile (Findley, 2005).

Therefore, conceptually, architecture education must include a multiplicity of knowledge elements that incorporate the humanities, the arts, and the technological fields as well as encompassing both basic and applied research.

Conceptually, the curriculum and methodology used in the United States for collegiate architecture education originated from European models and evolved to meet American needs, goals, and aspirations (Weatherhead, 1941). This evolution has been influenced by American economic, political, and social factors that influence the higher education industry as well as the architecture profession, and the emergence of new technologies for design and construction (Ockman, 2014). Collegiate training for architects was first supported by the American Institute of Architects (AIA) in the late 1860's. The AIA did not define in its proposal whether the curricular content or methodology should follow a particular European model, and the early American universities chose different paths. As a result, American models of architecture education evolved in both form and content from the European models. The American model differentiated from European models in three key dimensions: aesthetics versus technology in the curriculum; the transmission of basic architecture knowledge versus practical knowledge; and the responsibility of the schools versus the profession to engage in basic and applied research.

Some schools initiated architecture education within existing engineering programs and others chose existing art programs. Massachusetts Institute of Technology and Columbia University initially adopted the French Beaux-Arts ideology as the foundation of their programs. Other institutions, such as the program at the University of Illinois chose to model

the German technical school format, with the more mimetic British approach selected by like Harvard University and Cornell University who drew upon local architects for instruction, thus keeping the school in touch with the ideals of the community (Weatherhead, 1941). At least one early school, the Tuskegee Institute, chose to include practical training in its curriculum.

An early challenge for the creations of American models in university settings was their placement within the university institutional structures and alignment with dominant engineering or art educational paradigms. The Association of Collegiate Schools of Architecture (2015) explains that architecture education requires a more multi-disciplinary orientation:

As a professional discipline, architecture spans both the arts and the sciences.

Students must have an understanding of the arts and humanities, as well as a basic technical understanding of structures and construction. Skills in communication, both visual and verbal, are essential. While knowledge and skills must be developed, design is ultimately a process of critical thinking, analysis, and creative activity. The best way to face the global challenges of the 21st century is with a well-rounded education that establishes a foundation for lifelong learning.

The scholarly literature on the development of the disciplines of architecture in the United States describes the challenge of fitting a school of architecture into a research-intensive university. Technological influences on architecture educational culture have arisen from evolving design, materials, and construction methodologies. As available building materials and methods evolved from a stone-age craft, through wood and timber construction, to steel and glass skyscrapers, to concrete and digitally fabricated building

skins, educators and students moved through cultural forms that supported the crafts, to the scientist, and to the scholars and the artists. Material and methodologies combined with ideologies about architecture education to influence the cultural forms appropriate to each era. Schools that may have originally used only mimetic techniques reliant on exemplars moved to experimental investigations of materials and methods and the expansion of scholarship of related disciplines to visualize, manipulate and virtually construct the built environment (Ockman, 2012), especially after federal funding became available post World War II for projects related to architecture faculty interests.

The role that the schools were asked to assume in the education of architects was expanded in the late 1940's at the urging of the Association of Collegiate Schools of Architecture to include basic and applied research. Concern that the American schools of architecture were too mimetic and reifying aesthetic over scholarly contributions to the field, Bannister (1947) wrote, "It is ironic that those great architect-scientists, Perrault's, Wren and Herrera, should be revered today not for their greatest contribution to modern architectural philosophy, but solely for their aesthetic triumphs" (p. 9). The justification for such an expansion was posed as foundational to good teaching, but the timing of the message, coming just after the end of World War II, may have been indicative of other forces acting upon the academy and the profession. A 1947 survey of 60 schools of architecture, conducted by the ACSA, revealed architectural research within the schools was undefined, under-resourced and a low priority. These results were not surprising: "First, the schools reflect the profession, and the profession has cared little and done less for research...our schools do not today have the facilities demanded by a research program" (Bannister, 1947, p. 35). The survey participants expressed confusion over the definition of architectural research, sought

clarity over whether the process and practice of design should be included or if there was to be a differentiation between the basic and applied research. Bannister (1947) explained:

To the architect, psychological optics, the crystallization of cement, the mass reactions of crowds would be subjects for basic fundamental research. For him, applied research could be symbolized in the study of the manufacture of a building material, the development of a new structural system, the achievement of a novel pigment, or the distinction of the emotional effect of a particular mass, volume, or texture. Design in contrast to research is the particular optimum integration of the demands of function, structure, and aesthetic expressiveness. Design draws on and is based on the principles, resources, and techniques derived from research. But design is the solution to specific real problems. It is, of course, true that in the process of design the designer may make observations that in turn, he may formulate into a hitherto overlooked principle. To that degree, he takes part in research and provides his profession with new tools with which to work (pp. 36-37).

The results of this survey caused the ACSA to call upon the schools to initiate programming to support architecture research as a component of their missions in order to enhance credibility, legitimacy and to leverage the research being done in companion schools such as engineering.

Today, as never before, we endeavor to apply the rigorous discipline of logic to our work, whether it be in planning, structural or aesthetic design. Yet what can we answer to the eager student that asks, why? What do we know exactly about the maximum rate of flow of people through a restricted portal office? How can we build a roof that will remain watertight? What precisely is the effect psychologically of this

or that interior form? If there are answers to such questions or even contingent answers, we should be able to state them in so many words, in language even our students can understand. We should be able to cite fundamental studies, not just private hypotheses. (Bannister, 1947, p. 36).

Debating whether architectural research should be the province of the schools or the profession, Bannister (1947) asserted,

If we can take leadership, and at one time build a body of techniques that will ensure confidence, respect, and recognition from all those who want to build, we will gain professional security we do not enjoy today...the schools have everything to gain from active participation in such a program. It will infuse an atmosphere of vigor and intensity that makes learning an exciting adventure. It will promote a closer relationship with the profession, and in turn, win for the schools a more intelligent support from alumni than that based on nostalgia...it will certainly be true that our teaching will, at last, have a firm grounding in verifiable principles. (p. 38).

Many collegiate architecture schools, including the University of Michigan, embraced the call for greater engagement in research, shifting intellectual as well as human and physical resources to support these efforts and changing the conceptual framework for the education of architects.

Shared responsibility and service. The current model for architecture education is conceptualized as a shared responsibility between the schools, the profession, the accrediting body, and the licensing body. The American Institute of Architects (AIA), established in 1857, as a professional association, first supported university participation in the education of architects in the late 1860's. The Association of Collegiate Schools of Architecture (ACSA)

was established in 1912 “to advance the quality of architectural education” after members attending an AIA convention noted that heads of most schools of architecture do not attend AIA meetings. They perceived the need to discuss and provide mutual aid in solving the problems common to collegiate schools of architecture (Cornell University Alumni News, 1913). The National Council of Architectural Registration Boards (NCARB) was established in 1919 by the membership of the AIA, to coordinate the efforts of state and regional licensing boards, foster uniformity in licensing and practice laws, examinations methods, scope and content and to facilitate communication across boards. The National Architecture Accrediting Board (NAAB) was established in 1932 by agreement of the ACSA, AIA, and NCARB, which gave it authority to accredit schools of architecture nationally. The NAAB (2016) has posted a mission statement on their website, “The NAAB develops and maintains a system of accreditation in professional architecture education that is responsive to the needs of society and allows institutions with varying resources and circumstances to evolve according to their individual needs”.

The NAAB website lists six values that serve as a guide to the NAAB, shared responsibility, best practices, program accountability, preparing graduates for practice, constant conditions for diverse contexts, and continuous improvement through regular review. The responsibility value statement for the education of an architect is described as a being shared by the academy and the profession in trust for the broader society and the public good. This statement articulates a boundary spanning relationship pattern that conceptually requires collegiate sites of architecture education to consider the profession as an external stakeholder and partner in the educational process.

It is noteworthy that Vitruvius writings outline, largely, the content categories for the collegiate education of American architects today. The National Architecture Accrediting Board (NAAB) requires that accredited schools and colleges provide education on four core elements, which are very similar to those presented by Vitruvius and include. These elements require that students

- are competent in a range of professional skills;
- understand architecture's historical, sociocultural, and environmental context;
- are able to solve architectural design problems including technical system integration and health and safety requirements; and
- comprehend an architect's roles and responsibility in society (NAAB, 2015).

The complexity of designing, coordinating and maintaining a robust educational system that supports both the goals of the academy in teaching, research, and service and the needs of the profession of architecture with its evolving clientele will be considered while researching the culture of collegiate schools of architecture.

Professionalization and architecture education. The goal of architecture education is the preparation of graduates prepared to assume internships in professional firms (ACSA, 2015) as well as future faculty and informed consumers of architecture. Universities seek appropriate faculty members to provide the depth and breadth of educational experiences required for such preparation as well as members who will assume responsibilities for applied and basic research and service oversight. This combined goal set means that the outputs of architecture education will include professionals. Cuff (1991), Gutman (1988), Larson (2013), and Upton (2012) have each written about the impact of professionalism and professionalization on the architect, and the influence that the education and culture of

collegiate architecture communities has on the profession. Blankenship (1977) suggests that a profession can be understood as a social object: “that is, its reality is constructed through the act of creating it symbolically and subsequently treating the symbolic organization as a determinant of further activities... a major social component of a profession is the development and support of the social roles of colleague and non-colleague” (p. 10).

Wilensky (1964) categorized architecture as a profession based on its having achieved full-time status as an occupation in the 18th century, establishing schools beginning in 1847; a national professional association in 1857; the first state licensing laws in 1897, and a formal code of ethics in 1909. Blankenship (1977) suggests that organizational researchers view professional membership and organizational membership as parallel social processes that are continuous, overlapping, and sometimes complementary and sometimes in conflict:

A professional works within two institutions, the profession, and the firm. His socialization into the complex role he will enact must begin long before he joins the firm - in professional school,... the professional community influences the organizational setting and directs the professional worker into lines of activity that must be supported by organizational resources. (p. 38-39).

Key characteristics of professions appearing in the literature have included both attitudinal and structural qualities, which together describe a mode of doing work that is highly attractive to a wide range of occupations. Attitudinal qualities include having colleagues as a major reference group; public service values; self-regulation principle; a sense of calling; autonomy; and rewards justification. Structural qualities have included full-time occupation requiring specialized knowledge; oversight for training schools; professional associations; licensing, or certification; community recognition; and a code of ethics

(Blankenship, 1977). In reviewing characteristics of professionalization movements in occupations, Blankenship (1977) notes that power struggles; status strivings; segments within professions; desires for autonomy, technology, competition; personal gain, and service themes were noted in the scholarly literature.

Viewing organizations in which professionals tend to cluster, Bucher and Stelling (1977) provide observations on typical social behaviors that might be observed including role-creation and negotiation, spontaneous internal differentiation, competition and conflict for resources, integration through a politicized process, and shifts in the locus of power. Specific to an academic department, Bucher and Stelling (1977) found that role-creation and negotiation might occur in the attraction, selection, and attrition of faculty members who have distinct interests, despite the needs of the academic unit. Faculty members who evolve new research and teaching profiles may be observable examples of spontaneous internal differentiation leading to competition and conflict over resources. Asserting influence through political processes and shifting power locus may be observable behaviors among faculty members depending on rank, subdiscipline, or engagement levels with academic administrators. Each of these possible content themes may provide fruitful areas of exploration while discovering and analyzing the collegiate architecture community at the University of Michigan.

Taken in combination, concepts relevant to institutions, organizations, architecture education, and professionalization and simultaneously seeking examples of integration, differentiation, and fragmentation within the qualitative constructivist study of the college architecture community may help to provide a holistic view of the culture and leadership there enacted. Organizational theories were helpful in uncovering the internally enacted

forces supportive or in opposition of change efforts and concepts relevant to architecture education provided a foundation for understanding the relationship with the profession, the other disciplines, and the why and how of pedagogical and ideological constructs specific to this culture.

Chapter 4: A Brief History of Architecture Education

Seeking to identify patterns that have been learned, shared, and passed through generations of architects to modern times, which form the basis of modern day organizational culture at the University of Michigan and the leaders who helped to define the discipline of architecture, this project began by researching its historical antecedents. The process of developing an understanding of collegiate architecture culture included discovery of how architecture education, the profession of architecture, and practicing professionals who led the earliest efforts to have architecture education added to the American higher education curriculum, have interacted and continue to influence the evolution of academic architecture culture.

This project was not intended as a study of the body of knowledge that architects must learn. However, in order to understand the behaviors, norms, and values that architecture educators enact in academic environments and within which socialization occurs, a review of the development of architecture as an evolving body of knowledge, profession, and educational paradigms included a review of the societal forces, which shaped the collegiate architecture culture at the University of Michigan. Among the most prevalent of themes identified during the review of the historical basis for modern day architecture education was the porous relationship of the academy with the profession of architecture. Chewning (1986) described, “Architecture education be seen as a series of experiences in which formal collegiate training is never isolated from the business of the profession and the interest of practicing professionals” (p. 2). Other themes, which emerged, included; the role of leaders; content development; the primacy of design as a value; innovation; an image of the architect as creative individual or genius; a firmly established philosophy that architecture

makes the built environment a better place; and a number of ideologies operating in contest toward achieving the philosophical goal.

Some architecture scholars conceptualize architecture as a curriculum divided into the three branches originally described by Vitruvius. These include aesthetics, structure and functionality, and technology. The practice of conceiving of architectural forms and the ways in which those forms are realized has evolved as new materials and building methods have emerged. Larson (1993) finds that the telos of architecture in the academic world is in part an understanding of the subordination of technology to design. One of the earliest themes to emerge in the study of the historical development of architecture education in the United States was the primacy of design.

The purposes of the products of architecture have ranged from shelter to monument, from defense to celebration, from small and local to international and extraterrestrial. The education of architects has evolved as well, from informal to formal, from rigid and classical to flexible and experimental. Architectural styles have changed as the zeitgeist of the times has changed, as has the teaching methodology, which has moved from manual labor to theoretical to a hybrid of both (Woods, 1999; Kostof, 1977). The culture of architecture education has changed from servitude to voluntary, from replicating to collaborating (Woods, 1999). Larson (1993) has written that in capitalist societies Architecture emerged as a profession that possesses artistic, technical, and social dimensions, each of which are emphasized differently depending upon the zeitgeist of the era. Larson (1993) describes architecture as a socially constructed activity, negotiated through regional and societal conditions, with a reciprocal influence of the architect on society and society on the architect.

Researching the historical antecedents to collegiate architecture education and leadership that emerged at Taubman College included reviewing the development of the body of architecture knowledge, the development of its pedagogy, the influences of the architecture profession, and the context of the development of American universities and the University of Michigan. Placing the development of the collegiate architecture culture within the context of university culture development is important because, as Museus (2007) has explained “the cultures of a college or university campus evolve over time as a result of a confluence of historical events and figures, as well as external environments and forces” (p. 39). In a context, which is specific to architecture profession and the influence of the collegiate environment on that education Ockman (2012) has written that:

Architecture school remains the crucial site where the discourse of architecture is formulated and disseminated. More than the sum of its curricular components, it is the place where students become conscious of themselves as members of a preexisting community of professionals and intellectuals, where they begin to sort out the manifold identities available to them, and where the future of the field of architecture, in all its disciplinary and professional cognates, is collectively constituted. (p. 32)

Situating this project in the context of the environment in which the behaviors occur in order to discover values, norms, and operating paradigms as well as understanding the evolution of leadership choices that formed the basis of the emergent culture seems to align with Rapoport’s (2003) approach to cultural research. Similarly, Gregotti (1996) wrote, “The real possibility to use the lessons of history lies in the realization of the essence in which we operate, and, through it, primarily of what we consider to be the directions of possible

transformation for architectural design; it thus consists in the capacity to critique our intentions". (p. 138). Additionally, it was important that the research on architecture education leadership and culture be developed with an understanding that modern-day collegiate architecture culture includes protocols and paradigms that arose from academic, scholarly, experimental, practical, professional, and other influences. Documents and artifacts which assisted with developing a basis of understanding for how the knowledge set for architecture was created and recorded for dissemination date from Greek and Roman times. A gap in the available information on architecture and architecture education between the fall of the Roman Empire and the middle ages has been attributed to the political upheaval of those years, a decline in an educated populace and the religious influences of the era (Weatherhead, 1941).

The protection of the remaining artifacts by religious groups and their rediscovery in monasteries nearly 1,500 years later allows some window into the knowledge the ancient architects had developed and were attempting to catalog. Understanding the historical context that lays the foundation for the development of a profession of architecture and its culture. Kostof (1977) reminds that only a fraction of the built environment has been overseen by professional architects. Their services are most often from clients with specific and special needs who could afford to pay for the services. The result was a differentiated social standing, between the wealthy and laborer class. Politicus (259E) described the relationship of architects to their clients:

Traditionally, therefore, architects have been associated with the rich and powerful.

Their services were required by the state and the church, the wealthier classes, administrative bodies, and affluent business concerns such as guilds and corporations.

This association did not always assure the architects a favored standing in the social hierarchy, but it sufficed, at the very least, to set them apart from the laboring classes. They were not workmen but rulers of workmen, as Plato puts it; they contributed knowledge, not craftsmanship. (p. 3)

Education of Architects

From the classical period, through the renaissance, the enlightenment, the industrial revolution, the progressive era, extending through modernity and the postmodern periods, the education of architects has been comprised of both technical and artistic components, has served humans in their need for shelter, and sought ways to improve the built environment and human condition (Robinson, 2001). The application of architecture-related knowledge is the enactment of culture and the record of its user's aspirations as well as needs and desires (Harvey, 1990). Current architecture education at accredited collegiate institutions in America includes culture, artistry, technical and mechanical components (Robinson, 2001). The Association of Collegiate Schools of Architecture (ACSA, 2015) describes architecture education:

As a professional discipline, architecture spans both the arts and the sciences.

Students must have an understanding of the arts and humanities, as well as a basic technical understanding of structures and construction. Skills in communication, both visual and verbal, are essential. While knowledge and skills must be developed, design is ultimately a process of critical thinking, analysis, and creative activity.

Current U.S. architecture education methodologies appear to have been built upon traditions that emerged in Ancient Greece and Rome, was modified in Britain, Germany, and France, and imported to the United States (Weatherhead, 1941; Cuff, 1984). Authors who

have written on the evolution of American architecture education have included Burnham (1984) and Ockman (2014). The history of the education of architects is tied, according to Larson (2013), to the development of architecture as a profession as well as the development of higher education programming for the professions. Burnham (1984) believes that architects see themselves as professionals in service to society:

The structure of architectural education is in part based on the ideal of profession. Society's purpose for professions...is to deal with the relentless growth of knowledge. As knowledge increases, so does relative ignorance. The potency of knowledge increases, and so does its potential use for good or evil. Society grants professionals a privileged status in exchange for an ethical commitment. (p. 54).

Architecture's progression from status as an occupation to one of profession in the United States accelerated when there was a significant need after the Civil War to be able to distinguish between those who were qualified and those who were not, in order to support the creation of large-scale public works, transportation, and mass housing projects (Cuff, 1987). Weatherhead (1941) noted that during the post-Civil War period, increasing demand for buildings, lack of structural engineering codes, and graft and corruption in the building industry created conditions that put the public at risk. Frequent building failures were undermining public confidence in the profession of architecture as well as other building trades. In order to improve the public perception of the legitimacy of the qualified architect to bridge the gap between client and tradesmen, the definition of professional competence and licensure and control over who might claim to be an architect became a priority to several New York based practitioners. They worked to establish the first American professional architecture society and generate the criteria for certification, education and associated

frameworks for future architects. This was a significant shift in the image of the architect, which had since ancient times, never imposed specific statutory educational requirements upon its membership. The creation of the first licensure requirements in Illinois in 1897, included an embedded educational component, which helped to reassure the public of the architect's quantifiable measurable skills in modern times (ACSA, 2015).

Even though the history of architecture begins before recorded history with prehistoric structural elements such as the monoliths and stone circles at Stonehenge, the development of a written body of knowledge which could be transmitted indirectly to interested parties did not emerge until much later. An example of one of the earliest written records of the development of architects and architecture education was located in ancient Greece, where the master carpenters, temple designer, building artisan, and shipwrights were all called *architekton*. Woods (1999) has described the earliest recorded status of the architect in society, writing that Cicero referred to the Emperor Hadrian as having dabbled in architecture but this was not the proper role of a Roman aristocrat: "Former slaves, released from imperial service, became architects" (Woods, 1999, p. 5).

Overview of the Classical Influences on the Development of Architecture Education

Tracing the activities that led to the American university, dominated educational model begins with an understanding of the development of the architecture profession and the transmission of architectural knowledge. The current state of American professional education of architect has been characterized by Stevens (2014) as university-dominated, British systems as practice dominated, and the French and German systems as state dominated. Anderson (1999) saw early architectural training in France as academy based

after the French revolution, poly-technical schools as the predominant model in Germany, and the establishment of professional associations in England arising before the advent of university-based opportunities in America emerged.

The historical development of the profession of architecture and the transmission of architecture knowledge followed many of the same patterns seen in other professions. The earliest humans used trial and error to discover the best ways to solve a problem. When the problem was solved, they told others, and soon groups of others wanted to know the solutions so arrangements for sharing information arose, sometimes with a financial or economic component like bartering and sometimes with an educational component as is found in the master and apprenticeship relationships (Vitruvius, 27 BC; Kostof, 1977, 1989). In some ancient cases, such as the Roman architect Vitruvius' experience, access to architectural training came by way of military mechanical engineering careers. In other cases, the architects training was associated with the priesthood or were trained mathematicians, such as Archimedes, physicists, which was the case of the sixth century creators of the Hagia Sophia in Istanbul, Anthemius, and Isidore.

In architecture and the related construction and building sciences, as technology and science knowledge increased, new materials, techniques, and organizing modes for knowledge transfer were implemented. The growing body of knowledge necessitated documentation of processes, styles, influences, and considerations. The oldest remaining book on architecture was written after 27 B.C. by Vitruvius. He begins to categorize and record the methods, geography, sociology, and religious influences on building for human habitation, celebration, public purposes, and commerce. This and subsequent treatises on architectural knowledge which have been preserved since ancient times, as well as the

biographies of their authors, form a foundation of the development and transmission of architectural knowledge and education.

Significantly, the creation of these books, while documenting the progress of architecture knowledge, did not necessarily disseminate that knowledge widely. Larson (2012) describes the monopoly that the elites, throughout time, have had on the transmission of knowledge, especially in ancient times through the Renaissance, when reading and writing skills of the populace were limited. She notes that the converse was true as well during these periods as seen in the dependency that those with special knowledge had on the elites for their existence. Larson (1993) described architects as the first artists to position themselves near to the ruling class, into a social class that was not accessible to the craftsmen: “Training in the skills and the discourse of architectural design increasingly became the hallmark of the architects for the elite and, later on the central element of professionalization” (p. 4).

The transmission of structural building knowledge and then architectural knowledge, it has been speculated, began in pre-historic times when the search and development of habitation was the initial impetus for shelter construction (Fletcher, 1896). Ornamentation and comfort factors, celebrations of life, and reverence for deities propelled the development of structures beyond rudimentary stages and forward into what has been described by western scholars as the ancient period (Fletcher, 1896). The evolution of architectural materials, technologies, and applications was driven, according to Fletcher (1896), by local geography, climate, and social factors. Ancient examples in advancing architectural knowledge include Imhotep’s choice of stone as the building material for the great pyramids over the more traditional handmade bricks and timber and Daedalus development of form and ‘contraptions’ such as labyrinths and statuary (Kostof, 1977). Ancient Greek architects

are largely unrecorded in historical documents with the credit for building design and construction largely being awarded to rulers who claimed divine inspiration for their designs.

The education of architects in Ancient Egypt followed a slightly different path than that of Ancient Greece. In Ancient Egypt, Kostof (1977) found that the education of architects was more closely aligned with the priestly class and similar to religious service, architecture was a calling. Trade secrets were shared among family members to assure an architecture lineage: “Sons of architects learned the recondite language from their fathers and taught it to their own sons. A professional dynasty, if not perhaps strictly lineal, could thus be traced among the practitioners of architecture, much like the recorded order of royal dynasties” (p. 6). Kostof (1977) found recorded history of 25 generations of architects starting with Khnumibre, Imhotep's father.

Ancient Egyptian architects, especially those affiliated with public works, received more recognition than those practicing in Greece. An archive of working drawings and detailed programs was maintained for public works and official institutions such as law courts and palaces so that the state architect might consult them when maintaining or replacing existing structures. This was the time when architecture had its own deity the goddess Seshat, who was known as the “Lady of the builders, of writing, and of the House of Books, (Kostof, 1977, p. 5). Kostof (1977) writes that Seshat was sometimes replaced by the God of science Thot or the god of crafts Ptah, resulting in “a constellation that neatly scans the total scope of architecture from pure theory on the one hand to the practical knowhow of construction on the other” (p. 5-6). Ancient Egyptian architects were allowed great privilege, including access to religious texts, association with priests and kings as well as access to the power and authority for the design and construction of great works. Kostof (1977) reports an

expanded definition of the term architect as an overseer of works. This definition recognized the project management and administrative roles that royal architects held in the period: “In a culture such as Egypt where the building of monuments had an extraordinary social and economic impact, the post of chief state architect clearly belonged at the very peak of the governing hierarchy” (p. 6).

Understanding the aspects of architectural education in Ancient Greece is hampered by the lack of architectural drawings from the period for study (Kostof, 1977). Some scholars have advanced the theory that Greek architects were craftsmen rather than designers: “According to this view, both the form and the construction of a Greek temple were traditional enough to allow the architect to settle issues on the site as the building went up” (Kostof, 1977, p. 12). Kostof (1977) finds it unlikely that no drawings or designs were ever made for the development of Greek architecture. He reports that secondary documents such as stone tablets installed at the foot of certain buildings records model making for certain building sections and features and references made by Vitruvius to Greek architecture precedent.

Kostof (1977) finds little evidence of a specific education for Greek architects but does report that the occupation was generally considered among the upper classes. He notes that in a number of recorded cases the architect was inspired by a family member who was a practicing architect, to pursue the field, and that aspiring Greek architects of that time would begin in one of the arts or building crafts and may have received recognition for skill or invention before acceptance and commissions would followed. Kostof (1977) asserts the expectation that education would have included experiences with private tutors, internship in

professional schools such as the one in Sparta run by Theodoros of Samos during the sixth century B.C., and internships in private ateliers.

Similar to that of many of the other “making” professions, the earliest pathways to an architecture career involved internships with masters. Macdonald (1977) found that in the classical Roman period there were three avenues to professional architecture status; liberal arts training followed by an internship with a master, military training building city fortifications and similar structures, or by rising through the ranks of imperial civil service. In cases where apprenticeships were integral to the training, a master who had formed a studio would provide work for groups of apprentices, who were at varying degrees of skill development, in a knowledge transfer process that would impart the collective knowledge of the craft developed in the profession as the master then knew it. The master would be able to attract large numbers of apprentices if he and his studio had a strong reputation, a number of regular patrons, and a resulting ability to insure a steady stream of work for the apprentices (Palladio, 1570). Often the apprentices either had to pay to join the studio or indenture themselves to the studio for a number of years producing work for patrons to compensate the studio for both the training and the access to the network of patrons. Once an apprenticeship was complete, the highly skilled craftsman may launch their own studio, attract apprentices to assist with the work, and perpetuate the knowledge transfer process. Architects from classical periods through modern times describe these experiences in their letters and autobiographies including Alberti in the 1400’s, Palladio in the 1500’s, and even Mies van der Rohe in the 1930’s.

Vitruvius' influence. The oldest surviving examples of texts intended to support the education of architects, the *Ten Books on Architecture*, appears to have been written by Marco Vitruvius Pollio, commonly known as Vitruvius. He was a free Roman citizen, who served in the Roman army under Marcus Aurelius Caesar, who became an architect and civil engineer, during the 1st century B.C. The organization and presentation of Vitruvius treatise on architecture was intended, at least in part, to provide a mechanism to transfer knowledge about the building, construction, and related considerations to future practitioners of architecture as well as to educate interested readers about architecture design, materials, and related considerations. Rybcznski (2013) credits Vitruvius writings on architecture as “an invaluable aid for Renaissance builders seeking to revive the ancient architecture” (p. 318).

Vitruvius describes his purpose in writing the books:

I have therefore thought that it would be a worthy and very useful thing to reduce the whole of this great art to a complete and orderly form of presentation, and then in different books to lay down and explain the required characteristics of different departments. (p. 1).

During Vitruvius' lifetime, apprenticeship to an established master builder or service as a military engineer was the only means of acquiring architectural training. His training as a member of Caesars engineering officers provided him with exposure and opportunity to develop a knowledge of the building trades. It is noteworthy that Vitruvius writings outline the content categories for the collegiate education of American architects today. The National Architecture Accrediting Board (NAAB) requires that accredited schools provide education on four core elements, which are very similar to those presented by Vitruvius:

- are competent in a range of professional skills;

- understand architecture's historical, sociocultural, and environmental context;
- are able to solve architectural design problems including technical system integration and health and safety requirements;
- comprehend an architect's roles and responsibility in society (NAAB, 2015).

Vitruvius's texts are the only surviving major works on architecture from the period, and according to Curl (2000), these works were enormously influential through the Renaissance period. Brady (1996) reports that Vitruvius believed that architecture education should be based on a symbiotic relationship between observation and experience. In his text, Vitruvius outlined the functions of architecture and the scope of the art writing, "an architect ought to be an educated man so as to leave a more lasting remembrance in his treatises". Curl (2000) notes that the work was dedicated to the Roman Emperor Augustus, who reigned from 27 B.C. to A.D. 14, and consists of 10 books, which have been copied, translated, and illustrated many times throughout the ages. He notes that the original drawings have been lost so variances in editions can be traced to the periods they were produced, when differing artists would contribute renditions of the buildings Vitruvius described.

Vitruvius is credited with defining the goal of architecture as "firmitas" or firmness, "utilitas" or commodity and "venustas" or delight in structure. These three principles have been named the Vitruvian virtues or Vitruvian Triad. Vitruvius saw architecture as an imitation of nature, the human version of nest building. His description of the human form in nature served as the basis for the Vitruvian man drawings made by Leonardo da Vinci, which depicts the human body inscribed in a circle that is inscribed in a square. Vitruvius intention

with the creation of the volumes appears to have been two-fold, define the education of architects, and provide some means by which history would record his contributions to the discipline. He writes that he has neither the stature nor the looks to be remembered as an architect, and so he chose to be an author. The intent of the work as an education tool is evident in his final sentence of the preface:

I have drawn up definite rule to enable you, by observing them, to have personal knowledge of the quality of both of existing buildings and of those, which are yet to be constructed. For in the following books I have disclosed all the principles of art.

The 10-volume series begins with fundamental definitions and descriptions, followed by a book on materials, three on design concepts, one on geographical considerations, color, water, astronomy, and finally a book on machines. Vitruvius first chapter is devoted to the education of architects. With no introduction to the topic of architecture education, nor positioning of the text into a larger frame of reference, Vitruvius (26 B.C) proceeds directly from the preface to a description of a humanities-enriched education for the architect and the primacy of the architect over the other arts: “The architect should be equipped with knowledge of many branches of study and varied kinds of learning, for it is by his judgment that all work done by the other arts is put to test” (p. 1). Vitruvius then describes the content differences that separate the builder from the architect:

Practice is the continuous and regular exercise of employment where manual work is done with any necessary material according to the design of a drawing. Theory, on the other hand, is the ability to demonstrate and explain the productions of dexterity on the principles of proportion...architects who have aimed at acquiring manual skills without scholarship have never been able to reach a position of authority...while

those who relied only upon theories and scholarship were hunting the shadow, not the substance. But those who have a thorough knowledge of both...have sooner attained their object and carried authority with them. (p. 1).

This is the first known attempt at identifying the deficits in the isolated approaches of builders and scholars and the need to synthesize the two knowledge constructs in the education of the complete architect. Having described the approach to knowledge, he proceeds to a definition of the skills and attributes necessary for an architect writing

Let him be educated, skillful with the pencil, instructed in geometry, know much history, have followed the philosophers with attention, understand music, have some knowledge of medicine, know the opinion of jurists, and be acquainted with astronomy and the theory of the heavens (Vitruvius, 27 B. C., p. 1).

This positioning of architecture education as comprehensive and inclusive of studies of the humanities continues to frame educational practices at the University of Michigan today, which requires a two-year immersion into humanities based curriculum before the student is admitted to the studio culture and elective courses specific to the architecture curriculum.

Earliest university scholars supporting architecture. The education of architects in Rome and Greece was most often associated with the ruling classes (Kostof, 1977). Following the decline of the Roman Empire, Loth (2008) suggests that architectural education and development was stifled, remaining largely dormant in the Dark and Middle Ages because of the religious rigor of the period that sought to suppress the exploration of the works of pagan civilizations such as those that had flourished in Greece and Rome. Advances in architecture technology, knowledge, and building skills were relatively unremarkable throughout the medieval period in most of Europe with the exception of the development and completion of the Hagia Sophia in A. D. 537. at Istanbul, as well as the emergence of several stylistic movements such as the Gothic styles in France. Saint (1985) hints that this may in part have to do with the delayed development of masonic guilds as compared to other guilds, caused in part by the itinerant nature of a masons work. “The scale and cost of their operations meant that they worked mostly for wealthy taskmasters some of whom (notably the King) exercised the right of ‘impressing’ their workforce” (p. 36).

Kostof (1977) notes that after the fall of the Roman Empire, which had supported public works programs, as well as buildings and residences for the wealthy, the demand for architects declined radically. As political power shifted to the Church, architects of the period found that Church leaders became the principal patrons. Additionally, the end of the Roman Empire meant the end of slave labor for building projects. Building material suppliers, who had been kept busy meeting the demands of the Roman builders, now disbanded and new simpler building materials and methods had to be incorporated into design: “The Gothic architect sought recognition as much through his mechanical prowess as through his design, and he was expected to take active interest in the building process, even to the point of

supplying building materials” (Kostof, 1989, p. xii). Renewed demand for architectural projects, development, training, and opportunities has been credited to Charlemagne beginning in about A. D. 800 with his encouragement for studying the remaining examples of Roman forms.

Innovations in architecture form and education in medieval Europe may have languished but building did not. Instead, religious institutions relied upon their communities to supply the labor and building materials. As a political power and an economic engine of the period, the Church could encourage engagement of the local population (Rashidi, 2006).

Kostof (1977) found that architecture education in the Middle Ages was influenced by two general conditions of the time. The first was a shift in attitudes toward the built environment and the built product and a notable shift after the collapse of the Roman Empire from intellectual liberal arts based training to a skills based knowledge set that could be learned by way of the apprenticeship model. Further, the profession during the middle ages was seen as both demanding and respected. Kostof (1977) found that this period in architecture marked a return of design credit being assigned to the clients, who were primarily high-ranking member of the clergy, who have had divine guidance in the development of the design. Kostof (1977) notes that the definition of architect returns in the Middle Ages to that of master-builder:

What changed was not fundamental to the traditional task of the architect, the conception, and supervision of buildings. The change was rather one of social standing. And, reflecting this new role of the medieval architect, thus titles came to be drawn from the world of the masons’ lodge. (p. 61)

The distinguishing elements in the education of architects as opposed to the master masons in the middle ages according to Kostof (1977) was a theoretical understanding of the implications of geometry, which led to the selection of the geometrician with compass and measuring rod in hand as the graphical representation of the profession.

During the period, apprenticeships of seven years would begin at age fourteen; followed by three plus years at the rank of journeyman. In order to obtain master status in Europe, one had to present a “masterwork”, which may have been a job completed or a model demonstrating the requisite skills (Kostof, 1977). Once a student had reached master status, they could practice independently, and although not socially equal to many of their clients, they were at least adequately compensated and often invited to dine with the clients.

Design and construction processes employed for major works of the middle ages relied upon established tradition. Kostof (1977) notes the influence of the guilds: “Behind every architect stood the education of the lodge and the zealously guarded formulae of the trade. Distinguished practitioners added to this core knowledge by setting down exemplars derived from their own experience” (p. 89). During this period, multiple types of drawings for building design and construction would have been prepared for different audiences. The sketches for early design development, the elaborate renderings for clients, the construction planning documents for laborers and the placement plans and the “key-plan” on which all other parts of the building structure were correlated. Kostof (1977) finds that plan and drawing preparation and the traditions, which defined the creation of these documents helped form the basis of segregation of duties between architects and masons, writing that

The idea was to derive all structural and decorative members from each other in a concatenated pattern based on lodge practice... Full sized drawings for architectural or

sculptural details were scribed on the actual stonework, traced on a plastered floor, or derived from templates...so that they could be traced on stone and repeated as many times as necessary. The preparation of the templates was considered a major responsibility of the architect. They were delivered with some formality to the master mason after having been drawn and cut in the tracery house, the architect's own office on the construction site. (p. 89).

The protection of lodge knowledge was taken very seriously in the period. Kostof (1977) refers to the Regensburg Convention of 1459 where specific reference that “no workman, nor journeyman shall teach anyone, whatever he may be called, not being one of our handicraft and never having done mason work, how to take the elevation from the ground plan” (p. 89). Kostof (1977) believes that these practices describe why no significant written works on architecture and building theory were created in the Middle Ages. Additionally, Lucas (1994) notes that access to books, journals, and other written ways of conveying knowledge was extremely limited during this period. Teaching was reliant on oral lecturing and demonstration. Library collections were thin and access was limited to those who had completed eight years of study.

The education and practical experiences required of the architect during the Middle Ages, according to Kostof (1977), included the knowledge required of the Freemason, e.g., specialized carving and molding skills, and extended to include design skills, which allowed him to direct the work of the masons. Separating the architect who has conceived of the building designs from the masons as a participant in the construction process does not occur until the Italian Renaissance (Ettliger, 1977; Kostof, 1977).

The evolution of a definition of an architect from those who learned primarily by way of the mason's workshop to those whose education includes humanists training begins to evolve in the early fifteenth century, in part with the rediscovery of Roman treatises and classical texts. Roman influences on the education of architects during the medieval period may have been preserved and transmitted, according to Kostof (1977), by way of the medieval guilds:

There is good reason to think that their ancestral origins in the Roman *collegium* or craft guild. The *collegia* had started as voluntary associations, but were taken under state control in late antiquity along with all other trades and professions...

Membership in the *collegia* was hereditary...the hereditary basis for the building trades seems to have been in effect until the thirteenth century, when the system of apprenticeship gained currency (p. 69).

Writing in the seventh century A.D., Isidore of Seville "strikes a middle posture between the antique notion of the architect as planner and the medieval notion of him as the master-builder...the principal job is said to be the design of the ground plan, as distinct from construction" (Kostof, 1977, p. 71). In 714, there is evidence of a diploma being issued by King Liutprand outlining the fees that architects and building masons could charge for services. Around 970, while Europe was rebuilding churches and monasteries under Charlemagne's influence, Kostof (1977) finds evidence that the architects of the period had to be seasoned masters of construction, some of whom had trained in monasteries but most had advanced through mason's lodges. During the period, teams of construction specialists including stucco-ists, masons, glass-makers, mosaic-ist would travel to work sites, set up

workshops, train local talent. “the term architectus...began a slow comeback, as the architect was more and more distinguished from the body of craftsmen” (Kostof, 1977, p. 76).

Advancements in European architectural knowledge and education appear to have languished until the 15th century when works by Alberti and Palladio, as well as others, appear re-investigating the findings of Greek and Roman architects and recasting architectural knowledge in the contexts of the Renaissance. Ettlinger (1977) has written that during the fifteenth century there was no standard training for architects, and no guilds specific to architecture, and those who designed plans for churches and palaces were ranked socially with scholars who put their knowledge to practical use. The Middle Ages rediscovery of the Roman form led, to the adoption of the Romanesque style of Architecture as the first major style of architecture to be developed after the fall of the Roman Empire. Wilkinson (1977) writes that the only shared educational experience that practicing architects of the period had was self-apprenticeship, normally in Rome, where they went to study the art of the antiquities and formal training by way of practical experience in drawing and perspective; “Equipped with a knowledge of perspective and mathematics and of the remains of Roman architecture, an artist could become an architect” (p. 135).

Italian renaissance. The emergence of the next wave of authors, scholars, and practitioners of innovative architecture appeared during the Italian Renaissance when there was a general rediscovery of ancient Roman culture, its institutions, arts, and buildings. Larson (1993), writes that “the new architecture of fifteenth century Florence was meant to celebrate the city’s emergence as a major Italian state and to convey the sense that the new state transcended fragmented feudal power” (p. 15). Loth (2008) remarks that Alberti, Palladio, and their contemporaries were able to rediscover and build upon the work of Vitruvius by studying the ancient Roman ruins and after the discovery of a copy of Vitruvius work in a monastery in Switzerland. Ettlinger (1977) finds that aspiring architects in fifteenth century Florence, Italy, would have been educated in reading, writing, and calculating as part of the basic education given to children of the period. Middle-class children of the period would have completed their formal education at this point. Training in drawing and painting might have been used to discover whether children had talent for artistic professions. Entrance into artistic guilds might have followed, where students would learn their craft. Because there were no architects, guild aspiring architects would retain affiliation with their original artists’ guilds throughout their entire careers.

Ettlinger (1977) reviewed Italian architect’s careers and found that none of them had received training by way of a mason’s workshop; all had either been scholars or trained in an artistic guild. As a result, all needed the assistance of those with practical training, masons, joiners, builders, when it came to complex problems of construction, making the practice of architecture during the fifteenth century a cooperative industry. The Renaissance period marked the beginning of a bifurcated approach to the design and construction elements of new structures. Where the medieval mason’s workshop had been a cooperative enterprise

based on tradition and generations of shared knowledge included in the master masons access to pattern books, training in structural possibilities and limitations, the fifteenth century architect was struggling to return to the use of the classical Roman forms and lacked a depth of knowledge on the practical and construction elements required to complete the designs they were creating (Ettlinger, 1977). Larson (1993) saw the period as one during which designer of buildings were able to appropriate for themselves the intellectual task of conceiving the entire project while artisans executed its components. “Architects were not only freed from the stigma of manual work, they gained prestige from the complexity, the civic importance, and the ancient aesthetic lineage claimed for the new style of building” (p. 4).

Alberti’s influence. Leon Battista Alberti’s (1404-1472) work *De Re Aedificatoria* appears as the next significant manuscript on architecture. Written in Latin in 1452 and printed in 1485, it became a major reference for architects, although it was originally written to inform the humanist patron rather than the aspiring architect (Wilkinson, 1977). Alberti’s conception of the role and status of the architect, as Kostof (1989) has highlighted, appears in the opening passage of Alberti’s treatise. Alberti described design basis as fundamental to the architect’s self-conception and is a superior role to that of builder, laborer, and contractors: “That fateful disjunction persevered to the present. It was enshrined in the code of ethics of the American Institute of Architects, which prohibited its members for a whole century, until the about face of the late seventies from being engaged in building” (p. xii). Alberti has been credited as the transitional figure in architecture between the early Florentine Renaissance and the Roman High Renaissance of the early 16th century.

Alberti's work was the first printed book on the topic of architecture and, like that of Vitruvius, was organized into 10 books with topics that ranged from history and city planning through engineering and the philosophy of beauty. Alberti is credited as the first architecture author to include a sociology of architecture, citing literary sources such as Plato and Aristotle. Alberti believed that the work of the architect was the highest possible occupation for man, and more philosophical than philosophy itself. Wilkinson (1977) notes that Alberti conceived of the work of an architect as entailing both artistry and intellectual elements, which made it a distinct profession, separate from that of the craftsman. For Alberti, the foundation of architecture in geometry and mathematics made it a liberal art.

Alberti's work extended the documented body of architectural knowledge beyond that of Vitruvius by incorporating detail of the required engineering knowledge, and providing grounded stylistic principles of classical art in an aesthetic theory of proportionality and harmony. Even though *De re Aedificatoria*, was a large and therefore expensive book, it was written as Alberti described it, for both the craftsman and those interested in studying the art. Wilkinson (1977) provides context to the shift in how architectural education would be conceptualized thereafter: "The acceptance of Classical theory meant that architecture could not be learned on the job, it had to be studied" (p. 157). Wilkinson (1977) wrote that Alberti realized that the architect's pursuit of a higher-level social status was dependent on a new style of patronage: "The architect aspired to be educated like a courtier and to behave like one; and between him and his patron was the bond of a shared appreciation of the theory of architecture" (p. 126). There was a downside, however, to the higher social standing for the architect that resulted from the humanist patronage. Wilkinson (1977) notes that without the protection of an established artist's guild, the architect had few legal protections. Patrons

could change plans, add or drop projects or other architects at will and adjust the program budget without consultation.

Palladio's influence. Andrea di Pietro dalla Gondola's (commonly referred to simply as Palladio) influence (1508-1580) on the profession of architecture and the education of architects provided a bridge between craftsmanship and scholarship. Ackerman (1974) writes that "He is, the most imitated architect in history, and his influence on the development of English and American architecture probably has been greater than that of all other Renaissance architects combined" (p. 19)

Approximately a century after Alberti, the influential Italian architect Palladio, who was the son of a mill worker, began learning the vocabulary and technical skills required of the discipline of architecture as a craftsman. Among Palladio's contributions to the development of architectural knowledge and education were his efforts to unify the components of architectural drawings we now think of as the (floor) plan view, elevation view, and section view (Wassell, 2008). Palladio's treatise first published in 1570, titled *I quattro libri dell'architettura*, provides "painstakingly detailed and amply dimensioned architectural drawings, from designs to details, which would be the inspiration for many later architects" (Wassell, 2008, p. 2), was significant to the development of architecture education. The book became the primary source book for those seeking to learn about classical architecture. Its principle competitor of the period, first published in 1563 was *Regnola delli cinque ordini* (Canon of the Five Orders of Architecture) by Giacomo Barozzi da Vignola.

The Emergence of Architecture as a Profession

It appears that architectural education from classical times through the Renaissance was acquired either through military training in engineering-related topics, through education, association with wealthy elites, or through apprenticeships in building artisan trades and then through association with elites. Regardless of the origination of the training, the successful architect of these periods all required the patronage of the wealthy elites. Larson (1993) writes, “Although beautiful and significant buildings have been produced in every society since ancient times, architects first laid a lasting claim to the responsibility for designing them during the Italian Renaissance” (p. 3). Larson (1993) found that “training in the skills and the discourse of architectural design increasingly became the hallmark of the architects for the elite and later on the central element of professionalization” (p. 4).

Delorme’s influence. Among the contributions of Delorme (1510-1570) to the education of architects, according to Wilkinson (1977), was a vision of a self-governing professional specialists group which would have articulated and accepted standards for training, professional responsibility, and privileges. Published in 1567, Delorme defined the roles that the clients, architects, and workmen would manage and their interrelated responsibilities and tasks. Wilkinson (1977) reports that his writings were among the first focused works, which contrasted the role of the architect with other participants in the design-build process:

The true architect was something different...What gave the architect as a professional man his definition was a set of relationships - both professional and social - with those he came in contact with: the patron, the workmen, and the administrator and officials of the building program. (p. 125).

Making these distinctions, Wilkinson (1977) sees Delorme as attempting to establish a social distinction in roles for architects from manual laborers and striving to define the practice of architecture as a liberal art. As mentioned previously, there was a downside to accepting Delorme's distinctions of the roles of architects and craftsmen. First, acceptance of the changing roles was quicker among the practicing architects than among the craftsmen. According to Wilkinson (1977) "A new working relationship with the building trades was as necessary to the sixteenth century architect as was the new style of patronage" (p. 130). In France, the guilds were organized in close-knit systems that effectively controlled construction activity and did not choose to support the promoted position of the architect over the craftsmen. In Spain, the guilds of the period may have had greater dependence on large building programs and were not as interlinked as those in France. In Spain, the system operated effectively as long as the designer, a master mason who had risen through the ranks, was in charge of the workers. However, as Delorme had advocated in France moving the design responsibilities to the architect Wilkinson (1977) noted two strategies used by French guilds to resist the dominance of the architect over the building programs. The first was to conspire against the architect and the second was to adopt the title of architect themselves, thus undermining the integrity of the role.

Larson (2012) notes that the distinction between practitioners and specialists had mainly to do with who ones' clients were and how one learned the profession as opposed to the content of the knowledge one held. She found that among certain professions, providing services to any citizen meant you were a practitioner and had learned as a craftsperson, and those who would be labeled as specialists provided services to the socially elite citizens and learned at the universities in medieval Europe:

With some exception, the medieval origins of the older professions show a bifurcation between university and guild. The universities had started as associations of students and teachers or guilds of learning, but they soon came under the dominating influence of the Church. (p. 3).

Larson (2012), sees the secularization of law and medicine during the period as releasing those professions from the Church's influence. Knowledge of Latin and an association with universities conferred special status on the 'learned' professions, and distinguished their members from members of the craft guilds that developed during the Middle Ages, "the links with the Church, presumably, increased the aura of mystery surrounding the professions' esoteric knowledge, while Latin clearly associated them with the world of the elites" (Larson, 2013, p. 3).

Categorizing the guild member counterparts as having relatively more democratic origins and clienteles, Larson (2013) finds that it might be true that the bifurcation of roles is clarified at this historical moment, placing the architects in the social group associated with Universities and the builders/masons and millwrights with the craft guilds. Larson (2013) described the importance of association with either the church or the elites for this differentiation "the professions were closely bound to a social stratification system. For the learned professions, establishment and social standing were equivalent to their association with the elites and with the state" (p. 3). However, according to Larson, association with a University or an elite did not necessarily establish superiority in the eyes of the broad public. She writes that among the distinctions that these professionals saw between themselves and craft guilds men was their liberal education --- which made them fit to be gentlemen:

Based more on classical culture than on practical skills. The latter had always been acquired through various forms of apprenticeship, traditionally viewed as an extension of the education conducted within the family...General culture was a further statement about rank, a way of acceding to the cultural province of an elite. (p. 4).

European Architecture Education

European educational methodologies have been influential on the development of forms and content of American architecture education. British educational systems employment of the apprenticeship model can be seen in the licensing requirements that American architects must follow, which include a period of supervised practice after graduating from an accredited professional program. German educational influences can be seen in the early placements of American architecture education as sub-units of engineering schools. This placement focused on the technical aspects of architecture education including structural engineering, materials sciences, and encouraged a focus on functionalism and modernism in the ideological approaches to teaching architecture. The Beaux-Arts methodology from French schools formed the foundation in American architectural education curricular structure, studio-based pedagogy, and an alliance with the artistic side of architecture. A brief overview of the development of these European schools follows.

British educational model. Not unlike the evolution in architecture instruction seen in Italy and detailed above, British architecture education developed from more than one source, under multiple political influences, and for more than one purpose. Understanding the influence that the British training paradigms had on American systems, especially in the context of the social and political influence that Britain had on America in the Colonial and Federal periods, allows a deeper and richer understanding of the current multi-stage education, experience, and testing paradigms for American architects. Upton (2012) has written that the English philosopher and author Francis Bacon advocated in 1627 for a utilitarian approach to housing, that focused on their purpose rather than their aesthetics, as did the Restoration-era architects Christopher Wren and Robert Hooke. Upton (2012) described, “The emphasis on the utility and experiential qualities of architecture, on practice over theory, and on the mathematical and scientific skills needed to achieve them permeated Anglo-American architectural thought well into the nineteenth century...” (p. 41). Wilton-Ely (1977) found that the professionalization of architecture in England was influenced by two major social and intellectual changes, shift from an agrarian to capitalist based economy and the transitions from medieval to modern processes.

In America, as had been the case in Britain, the formation of a pupillage system for the training of architects supplied opportunity for students unable to afford to study at L’Ecole des Beaux-Arts. This earliest form of British architecture education was a modification of the medieval apprenticeship system, where a pupil exchanged his labor for instruction. The British system required that the students paid the master a tuition to be taught. Stevens (2014) writes that the length of the student’s pupillage period usually lasted for five to six years and beyond experience within the master architect’s office, it would have

involved some attendance at a local arts academy as well as some foreign travel to visit site relevant to architectural.

The development in Britain of formalized institutionally based training programs for architects emerged in the late 1700's and early 1800's, in part in response to increasingly strict series of examinations imposed by the Royal Institute of British Architects who sought to raise the standards of professional architecture practice. Weatherhead (1941) has described the pupillage system, which pre-dated the establishment of many of the British schools of architecture as being the dominant model for architecture education in England during the period. The first professional school of architecture was organized in 1894 within the University of Liverpool. The Royal Academy and Architectural Association was formed during this period in part to address student unrest and discontent with the pupillage system, which predominated British architecture training, and in part to define standards of content and instruction. The British pupillage system for training aspiring architects was similar in form, intent and structure to the apprenticeship systems used in other trades and crafts of the time with masters overseeing the work of apprentices, conveying instruction, guidance, and practice opportunity would continue to play an instrumental role in the holistic education of aspiring architects.

Some of the earliest formalized and institutionalized instructional programs in architecture were organized by Britain's social elites, who were permitted by the ruling monarchy, to lead instruction and establish standards, with a goal of gaining some authority over the development of British aesthetics at a time when there was no formal definition, structure, or content (Hodgson & Eaton, 1905). The possible exception to this norm may be the 1854 opening of the Working Men's College in London, which had been driven by a

Christian Socialist reform movement (Saint, 1985) and offered instruction to working class students.

Subsequent actions by disgruntled “articled pupils” who sought to establish design schools reflected the changing expectations the general population had regarding access to the professions and professional training (Larson, 2013). These students sought more opportunity to learn and exchange ideas across concepts that they found as articled pupils in private practices. Concerns about inadequate preparation, favoritism, and other forms of corruption and questionable ethics within the pupillage practice were voiced as supporting bases for the development of professional schools. Weatherhead (1941) notes that “the pupillage method could not afford a well-rounded training” (p. 23) in part because the opportunities and exposure to practice were dependent on the economic conditions of the architecture practices in which they operated and because it neglected any thorough study of construction sciences and offered little opportunity for creative design explorations. Weatherhead (1941) describes the mimetic training processes in use in Britain: “As an important feature of the pupillage method, students measured good examples of existing buildings of every period in England, and made finished drawings of them” (p. 22). This method of instruction could not easily be replicated in early American schools because of the lack of examples which were worthy of study.

Stevens (2014) asserts that the British pupillage or apprenticeship system offered the profession the ability to control the supply and demand of practitioners as well as the depth of instruction. He notes that as a body the profession might adjust the availability of educational opportunities dependent on the economy, adding students in boom times, and then releasing them during economic downturns, as opposed to schools, which prepare

students at a rate that maintains their economic needs. Weatherhead (1941) finds that the pupillage system produced good office staff who were well versed in English design traditions but lacking in the critical thinking skills that would advance creative designs. Stevens (2014) notes that as a social reproduction and capital management system the British architecture profession using the pupillage system could exploit the relationship between access to education and access to the elites as customers and consumers of architecture practice. In some cases, students would be accepted as articled pupils despite their lack of creativity or drawing skills simply because they had good connections to possible consumers of architecture practice. This social stratification as a condition of architecture education was not pervasive across Europe. Stevens (2014) writes that at the time that English architectural apprentices came from a higher social stratum than those in Germany, where architectural education was taught at technical universities.

The industrial revolution had a significant impact on the demand for architects and the content of their education. The materials and machines that they would use for the design, construction, and purposes for which they would be designing were all evolving. The period from 1760 to 1870 was marked by an improved standard of living for the general population. As in the United States, the economy of the industrial revolution created conditions of unprecedented development of commercial and industrial activity in the United Kingdom, which drove the demand for buildings to house factories, warehouses, offices, schools, hospitals, housing, religious and social spaces. The result of which was a demand upon architectural practitioners for designs to fill the needs of the new economies and the establishment of qualities and standards. The introduction of new materials and technologies, created the need to collaborate with structural, mechanical, and civil engineers, as well as,

surveyors, construction workers, and others, led to the endorsements by Royal Institute of British Architects of institutional arrangements for architectural education that was systematic. These changes included formal examinations that led to licensure and the right for an individual to practice as an architect.

Stevens (2014) notes that the establishment of professional societies helps assure that the field of architecture would manage the reproduction function for the creation of new architects. The first professional society for British architects was established in 1834 when several prominent British architects, many of whom had received foreign training, or endured the pupillage system, formed the Institute of British Architects. When chartered in 1837 by William IV, it became the Royal Institute of British Architects (RIBA) and, once established, assumed the role of controlling authority over professional status for architects in Britain and the United Kingdom. RIBA has never taken responsibility for the direct instruction of architects, but works closely with the Board of Architectural Education to establish educational criteria. RIBA was founded with a mission to advance civil architecture, promoting and facilitating related knowledge of the arts and architecture. RIBA was instrumental in the earlier years for formulating rules for professional practice and conduct as well as creating a journal for disseminating knowledge. American architects formed a similar organization in 1866 with a goal of regulating practitioners. The American Institute of Architects (AIA) did not require a Royal charter, but did get governmental approval immediately upon formation by incorporating. Unlike RIBA, the AIA did initially hope to provide a national system of architecture for the development of future members and practitioners.

The Architectural Association was founded in London in 1847 by a group of students as a reaction against the prevailing conditions for architectural training in the United Kingdom. In 1846, two articled pupils, Robert Kerr and Charles Gray, had published an article in a trade journal seeking reform in the training methods by proposing a shift in the provision of architecture education to eliminate the private interest of professional architects by providing a systematic course of training. It was not associated with the newly established University of London and remains unattached from other institutions even today (Stevens, 2014). Unlike the French L'Ecole des Beaux Arts, which operated within a system where the government provided oversight for architectural education, Britain with its liberal democracy and traditional fear of powerful centralized government had adopted a system of articled pupillage or apprenticeships. In the British system, students paid large premiums to private architects in return for a form of internship consisting of education and training. Some students asserted that the practice was rife with vested interests and open to abuse, dishonesty, and incompetence.

Kings College within the University of London and the University of Liverpool offered courses in architecture beginning in the 1900's. Stevens (2014) found that "as more schools were founded the system of articled pupillage declined, until by the 1920's most architecture students were undergoing some sort of comprehensive formal training." He notes that at the time of the 1958 Oxford conference, about 63% of the architecture students were attending either art or polytechnic schools, 22% were studying in university settings, and the rest were working in pupillage systems.

The development of training and licensure requirements for British architects was at times contentious and indicative of the evolving social class relationships as the influence of

the monarchy shifted and citizens struggled for a redefinition of roles and authority to self-govern. Although the British Board of Architectural Education was not constituted in 1931 under the provision of the Architects Registration Act with registration examination oversight duties, several changes in British society, and the interaction of groups interested in overseeing public art and architecture had to be negotiated before board would receive widespread support.

German educational model. Two strains of influence emanate from German educational models and are apparent in American collegiate architecture educational content, culture, and pedagogy: an emphasis on multidisciplinary technical research and the modernist design and pedagogical influences of the Bauhaus school. Veysey (1965) writes that “during the final quarter of the nineteenth century, few academic Americans who embraced the ideal of scientific research failed to acknowledge an intellectual debt to an explicitly German style of educational experience” (p. 126). Veysey (1965) notes that the German universities of the period, conceived of research as an all-encompassing idealism. Veysey (1965) found that American’s returning from German universities added the empirical elements to the conception of pure research but seemed to miss the contemplative implications of the German approach and “thus scientific Americans, unlike most scientific Germans, identified scientific specialization with the entire purpose of the University” (p. 127). Veysey (1965) saw “the practice of research became elevated into an all-encompassing ideal, while emphasis on professorial autonomy- always somewhat grand and hollow on German lips - became translated into a much more down to earth, hard biting American campaign for academic freedom” (pp. 127-128).

Initially, German influences on the education of American architects were seen in the flow of students from America to Germany seeking training. Later it was evidenced in the flow of German faculty to American schools, seeking to escape the politics and destruction being caused by the two World Wars. This emigration had a significant impact on the culture and content of American collegiate architecture education. Faculty who were philosophically aligned with modernist and functionalist architecture joined American institutions and helped to import German educational models, which integrated the studio-seminar instruction with research laboratory experiences.

The earliest schools of architecture in Germany were often closely aligned with the polytechnic institutes and the technical high schools, which supplied students who came, prepared to address the engineering based topics. Ockman (2012) describes the original German polytechnic model being well organized and state supported as well as having been based on the earlier French Ecole Polytechnique model.

Among the original schools of architecture in Germany, the present day Munich University of Applied Sciences is one of the 15 universities of Munich, the largest in Bavaria and the second largest in Germany. It can trace its evolution to 1823 when Gustav von Vorherr, the Royal architect, publicist, historic preservation advocate, and editor of the Monthly Journal of Construction and Regional Beautification for Bavaria, founded its predecessor the Konigliche Baugewerksschule in Munich. Gustav was the son of a master builder, who had operated a private sand quarry. He had studied architecture in Erlangen and Berlin and at the Art Academy in Berlin before commissions as surveyor, urban planner, restorationist, and architect brought him to the attention of the Bavarian monarchy. The first of its kind in the German-speaking world, the school was unlike models evident in the Ecole

Polytechnic and the Berlin Academy of Architecture because the curriculum was primarily oriented to the local needs of the building industry and the previously neglected rural areas. The principal aim had been to provide training to talented builders in architecture. The goal of the curriculum was the perfection of the builders. The students were divided into journeymen and master class groupings. Successive years expanded the curriculum to prepare masons, sculptors, carpenters, stove fitters, millwrights, fountain makers, plasterers, fitters, and related trades. In 1909 the school transitioned to become the State Building School of Munich and in 1924 the Higher Technical Institute of Munich. An early example of the functionalist tradition that German educators would bring to American architecture.

Entrance requirements for German architecture schools included graduation from the gymnasium (high school) and at least six months experience in an architect's office. This way the students would enter the architecture school with knowledge of drawing, mathematics, and physics, which provided an appropriate foundation upon for the German educational system with its emphasis on science and construction. The educational model for professional status aspirants relied upon a two year first curriculum, three years of government service, often as a building inspector, followed by two additional years of architecture curriculum. German drawing curriculum, like that of the British system relied upon copying the works of well-known architects. Weatherhead (1941) describes the goals of German educational practices:

The principles of design were to be inculcated by the study of architecture of the German masters, and by actual contact with the best examples of current government work... Designs were carried through to the working drawing stage, the structural elements were computed, and the plumbing heating and lighting equipment specified.

The German system was long, rigid, and technical, with little opportunity for individual freedom or originality in design. (p. 23).

In 1919, when founding the Bauhaus School at Weimar, Gropius began to evolve the German educational method away from copying the works of well-known architects to one that emphasized the primacy of design theory. Although Gropius was a practicing architect, and the Bauhaus style would later become one of the most influential in modern design, the Bauhaus did not initially include architecture coursework. The school operated in three cities during its existence and under the direction of three different leaders. Besides struggling with the changing political and economic forces occurring in the region, the Bauhaus is best known for its modernist aesthetic, desire to have a unified education and integration of the decorative and applied arts. Alofsin (2012) notes that the Bauhaus is generally credited as the first educational institution to unify art and technology in architectural training as aspects of industrial production and professional practice. Although American institutions such as the University of Michigan, and the University of Cincinnati, according to Alfossin (2012) were pursuing similar endeavors at about the same time.

Gropius immigrated to the United States in 1937, where he taught and then led the Harvard Graduate School of Design. Gropius saw the role of an architect as coordinating social, formal, and technical problems into organic relationships and speculated that two-track training from nursery school through college would sort students into technical or professional tracks. Yet, he expected that students on the professional-track would be expected to be train in the practical aspects of tools, and construction sites (Ockman, 2012)

French educational model: The Ecole des Beaux Arts. The Ecole des Beaux Arts in France also influenced the development of collegiate architecture instruction in the United

States. Draper (1977) has described the Ecole des Beaux Arts as having a well-designed curriculum, a rational theory of design, and government sponsorship as the model that proponents of the development of an American architectural education chose as foundational to the American model. Draper (1977) describes “The tradition bound, hierarchically structured Ecole seemed worth emulating to those architects who were alarmed by the almost total lack of regulation of the American building industry and the architectural profession” (p. 212).

According to Rosenfeld (1977), architects in Paris had been organized since the thirteenth century into corporations of carpenters and stonemasons, which regulated education and certification for professional status: “The medieval architect learned all the aspects of the profession from stone cutting and business administration to planning, mathematics and engineering; most masons were trained in family workshops” (Rosenfeld, 1977, p. 163). France created in 1461, the first Inspector general position, which was established to oversee site inspection, a responsibility, formerly held by the master mason, disempowering tradesmen in the building professions.

The establishment of the Academie Royale d’architecture in 1671 as one of the academies of the Ecole des Beaux Arts marks the formalized beginning of the French academic instruction of architecture. Cret (1941) described the change for architecture education in France: “Formerly, the arts had shared with other trades those educational facilities provided by the corporations or guilds under a system of apprenticeships carried on in the workshops or homes of the master craftsmen themselves” (p. 3). The phrase “Beaux-Arts” means fine arts. Draper (1977) writes that those following the Beaux-Arts tradition firmly believed that Architecture was an art: “It’s highly regimented, hierarchical system was

organized to produce an elite corps to fill official posts in government departments, particularly the Public Buildings and National Palaces Service, under the direction of the Ministry of Fine Arts” (Draper, 1977, p. 221). Led by Jean-Baptiste Colbert, the academy was deemed necessary by French leaders who thought that an organized school for the teaching of architecture would establish a pedagogy and a methodology to enable the general dissemination of the “most correct rules of architecture” would be preferable to the existing apprenticeship methodology (Weatherhead, 1941). Cret (1941) describes the cause of some of the changes in the French system as “the Renaissance came the emancipation of the artist from the guilds, as well as the separation of the fine arts from the crafts” (Cret, 1941, p.4). The development of the pedagogy for the academy was based on the Renaissance ideals of returning to a study of the classical orders, which had been suppressed during the dark ages and intended to supply King Louis XIV with rigorously trained graduates from the school to support work at Versailles. Weatherhead (1941) writes, “it was inevitable then, that from the beginning, the principles of the Renaissance with ancient Rome as the chief source of inspiration for its classical abstract forms, should dominate the philosophy of architectural design at the Ecole des Beaux-Arts” (p. 16). Pedagogically the Ecole’s approach to architecture stressed tradition rather than originality (Draper, 1977). Architects trained at the Ecole des Beaux-Arts relied upon the library resources because the pedagogy required a thorough study of precedents. While graduates of the Ecole might choose to go into private practice, its curriculum did not relate specifically to the business or deep technical elements of the profession as other French architecture schools did. Alofsin (2012) writes that by 1916, architecture instruction in France was chartered to the Beaux-Arts Institute of Design. There three basic principles operated: “Instruction occurred in ateliers of prominent architects and

artists; students advanced at their own pace; and the design competitions and exercises adhered as closely as possible to architectural situations encountered by contemporary practitioners.

Initial enrollment at the Ecole was capped at 28 students who qualified for admissions by means of a rigorous entrance examination. Admitted students would receive instruction from eight of the greatest French architects, for two days each week. Cret (1941) observed, “Not until the nineteenth century did the Ecole des Beaux-Arts show phenomenal growth, with a corresponding decline in the apprentice method. (p. 6). The pedagogy of the school was modeled on classical antiquities and the concept of preserving idealized forms and instructing future generations in these forms. Unlike other university types of instructing positions, at the Ecole des Beau Arts, instructors remained closely allied with architecture practice; this was assured by using local practicing architects with significant reputations, in the atelier (studios) for instruction. The ateliers were maintained independently by the design professors, who usually came around in the evening to give critiques; otherwise, the students came and went as they pleased. This alliance was reflected in the types of problems assigned to students, which often reflected contemporary challenges. Weatherhead (1941) describes supplementary instruction provided at the Ecole “In addition to the instruction in architectural design, lectures were given in mathematics, mechanics, construction, perspective, and the science of fortifications” (p. 16). Philosophically, the Ecole was tied to the Renaissance emphasis on the Classical ideal and on the discipline of conservative fundamentals in design. Weatherhead (1941) describes the bifurcation of architectural concepts within the curriculum: “Utilitarian details were ignored or deferred to later professional experience... It was the formal and monumental in design that was always

stressed” (p. 21). Draper (1977) writes that the Ecole exerted strong control over the nature of the student’s studies with organized lectures, and juried competitions. It provided students with an extensive library, which included a gallery of prints and casts. Draper (1977) notes that the numbers of students attending the Ecole after 1908 dropped dramatically as more quality training opportunities with Ecole trained instructors were developed in the United States.

In cataloging the influence that the Ecole des Beaux-arts had on the emerging American collegiate architecture development, Weatherhead (1941) highlights several key areas of consideration:

- rigid entrance examinations;
- instructors who were award winning and highly distinguished practicing architects;
- individualized instruction with the exception of lecture courses;
- student progress measured on quality rather than periods of time;
- instructional methodology was based in competition;
- incentive prizes were offered,
- advanced students were highly influential;
- emphasis was placed on design:
- design project solution need not be comprehensive,
- theory of *esquisse* and its impact on critical thinking skills;
- renderings, judging, and critiques;
- educational philosophy that gives the primacy to design over utilitarian details.

Variants of all of these themes can be seen in the teaching methodology, curriculum content, and student evaluation methodology used currently in collegiate architecture education.

Problems in Translation to American Environments

The development of an American form of architecture education, where higher education institutions became the principle theoretical training ground for professional Architects, has been influenced by the many of the same social, economic, political, and cultural forces that have shaped the United States (Jones, 2009). Ockman (2012) describes the multiple sources of architecture pedagogy integrated into the American model: “The mixed parentage of North American architecture education reflects not only its syncretism but also the complexion of a continent built by immigrants from various cultural traditions” (p. 11). European architecture education methodological and pedagogical traditions, brought to the Americas by the settlers of the Colonial and Federal periods, formed the basis for the earliest iterations of an American version of architecture education. The central unchanged element, which has been carried forward from the European educational models to the American educational models, has been the continued simultaneous emphases on art in architecture and the use of the studio system of instruction (Cuff, 1992; Stamps, 1994). The definitions of what it means to be an architect, what the purpose of architecture was and is, and the education of architects have evolved from the European influences to form a uniquely American form of practice shaped by American social, political, and cultural forces. Multiple authors have presented chronological studies of the development of collegiate architectural education, including Weatherhead (1941), Ockman (2012), and Kostof (1977). Generally, these authors have segmented the review of architecture education into periods

that are approximately separated by wars, marking the wars as periods, which catalyzed a change in direction or influence on the form, content, and culture of American architectural education.

European models for organizing higher education formed the basis for the organizational structures originally established in American institutions. Graham and Diamond (1997) find that one fundamental difference between European organizational models and those established in America was the role that the government would play in establishing policy. Essentially, European models were organized under a ministry of education and took policy and practice cues from governmental appointees. In contrast, American models were never organized under a national coordinating model. Graham and Diamond (1997) find advantages in the European organizational model in the reduction of inter-institutional competition for faculty and students; clear, distinct, and explicit missions, which minimized redundancy; an ability to control the inputs and outputs of the system; which, resulted in an ability to develop a rigorous research component. In contrast, they report that American systems struggled early on with weak students coming from the secondary school system; competition among institutions for students, faculty, and resources; and an emphasis on liberal arts. Similarly, the development of multiple and disparate missions and pedagogical approaches to American architecture education occurred as instruction moved from private offices to higher education institutions during the founding period.

Leaders working to establish American models had several resource and culture issues to overcome as they translated European models for architecture education into American operating contexts. These included the lack of instructors and appropriately

prepared students; space; artifacts, reference materials, and exemplars for instructional purposes: and pedagogical paradigms that were unfamiliar to existing university faculty and administrators.

Instructors had to be drawn from among the local professionals, who were not always of the highest caliber, and the schools could not yet be selective and had to admit students who often lacked appropriate primary school preparation. Placement of the newly developing architecture programs in schools of engineering, presented facilities and pedagogical challenges. The lecture structure of engineering courses did not support the studio pedagogy and activity-based learning used in the European models intellectually or spatially.

American educators saw the need to incorporate instruction in the latest advances in building technology, but to do so in a manner that, like the pedagogy of the Ecole, would prevent its domination over the art of design. Draper (1977) found “Courses created in America between 1890 and 1915 showed the strong impact of the Ecole, modified by other, specifically American concerns” (p. 235). Weatherhead (1941) notes that continued strong and unanimous support for the Beaux-Arts pedagogy also came from the 1907 AIA committee on education who made clear that methods of scientific pedagogy were inadequate for the training of architects.

Weatherhead (1941) begins with the period leading up to the American Civil war era. He asserts that this first phase is marked by the development of schools that were “highly individual, experimental, and provincially American in character” and where teaching emphasis was placed on the Beaux-Arts system and reliant upon Neo-Classicism stylistically (Weatherhead, 1941, p. 2). Ockman (2012) differs with Weatherhead and reports that the organizational alignment of architecture education within the educational institutions of the

period, was in closer alignment with the German polytechnic model, as many of the new architecture schools were placed in engineering schools and departments and emphasized a more structured and less individualized approach to instruction, reliant upon technical rationality. Webster (2008) saw aspects of the British articulated apprenticeship model transferred to American higher education institutions during the founding period. Webster (2008) writes that the pedagogic space that had been the architect's office became the design studio; the pedagogic tool that had been design problems for clients became simulated design problems adapted by the faculty. The pedagogic method of "learning design artistry via coaching from the architect became learning design artistry via coaching from design tutors" (p. 64). In contrast, Schon (1987) saw a sociological purpose for moving the education of architects to the colleges in America writing, "the professions began to appropriate the prestige of the university by placing their schools within it, 'professionalization' meant the replacement of artistry by systematic, preferably scientific knowledge" (p. 14).

The second half of the founding period, beginning post-Civil War, according to Weatherhead (1941, built upon the teaching and aesthetics of the French schools, was marked both by the domination of the Beaux-Arts and a stylistic evolution from neo-classicism to eclecticism. Weatherhead (1941) asserts that the training form was aligned with societal needs and pressures during the period: "It was a form of training which met the needs of the profession in an age of capitalistic control, of monopolies and the concentration of wealth in great metropolitan centers" (p. 3). Philosophically, a transition in the curricular content offered at the collegiate schools was occurring during this period. Where, in the early period, the content offered at American colleges offering architecture instruction was inconsistent, and eventually a narrowed content emerged in part in reaction to the rigid standardization

requirements imposed on the schools who sought membership to the newly formed Association of Collegiate Schools of Architecture (ACSA), which in 1912, began to assert its authority to regulate curriculum.

Rapid urbanization became an outgrowth of rapid industrialization occurring during the nineteenth and early twentieth centuries in America. These economic changes, as well as the availability of new materials and processes, created new challenges and opportunities for building design and the associated professions. Weatherhead (1941) lays out the three major changes in American architecture education of the period resulting from the industrial revolution. “the application of science and the machine to the requirements of life was the chief factor in the formation of that social and economic background which has indirectly determined all trends in modern architecture” (p. 6.). He sees that three direct results of the industrial revolution included “the gradual separation of the science of building construction from architecture, the tendency to separate the allied arts from architecture and the deterioration of craftsmanship” (p. 6). He asserts that the Puritan influence in American culture restricted adornment in Colonial times, and the arts of painting and sculpture remained distinct from architecture. Additionally, the utilization of modern machinery as a replacement for hand-tooled work of the stonemasons was representative of “the change from the ancient tradition of the craftsman-architect to modern professionalism was one the fundamental conditions of the time” (p. 7). Weatherhead (1941) found that post-1925; an evolution of American architecture education introduced the methods and philosophical approaches of modernism and reflected the Bauhaus influences of educators who came to America, seeking to escape the World Wars in Europe. Alofsin (2012) highlights the new materials and technologies that emerged during the era, spurred in part by government

funded research projects that allowed architects to expand their portfolios of structural solutions to meet societal demands. Alofsin (2012) writes,

Crisis of confidence, which came to a head in the early 1930's enabled the ideology of functionalist modernism to overshadow other innovative and alternative paths that American architecture education had been pursuing since at least the end of World War I. (p. 92).

Emergent American models. In order to understand the emergence of American collegiate architecture culture, I began by studying the literature on the earliest American architects and builders in the context of historical, societal, and technological changes occurring.

The history of the evolution of the professions associated with architecture, according to Woods (1999), is directly related to the history of American cities. Similarly, the emergence of American schools and colleges offering architecture instruction occurs as American cities evolve with the earliest schools appearing on the East Coast, followed by the mid-west and southern regions of the country. The first American school operated from the New York studio of a European trained architect followed by collegiate programs in Boston at Massachusetts Institute of Technology and Harvard University; in Ithaca, New York, at Cornell University; in Syracuse, New York, at Syracuse University; in New York City at Columbia University, and in Washington D.C. at George Washington University. Philadelphia architects supported the creation of University of Pennsylvania, as did architects in Chicago where the University of Illinois and the Armour Institute were among the programs established in the early period.

An outlier to the Woods (1999) assertion that the development of collegiate schools of architecture was city-based, and to the Weatherhead (1941) assertion that influential schools were conceived of and supported initially primarily by local architects of the founding period is the Tuskegee Institute. Tuskegee received its initial support from a network of wealthy American philanthropists, with whom; Booker T. Washington had developed a network to support Black education in the post-Civil War period. Another outlier according to Anderson (2008) is the military institute's inclusion of architectural engineering curriculum. A brief discussion of the founding of each program follows including the instructional paradigms initially adopted for architecture instruction.

The origination of the profession of architecture and the education of architects in America appears to have offered the same three options to interested parties as their European predecessors, military engineering training, craftsmen training, and scholarly training. Before the emergence of higher education as a source of architecture education, architects in the American colonies were predominantly European trained master-builders.

During the colonial and federal periods, according to Woods (1999), the social classes of Europe were somewhat replicated here in America, including the emergence of two classes of architects. Woods (1999) finds historical evidence that architects were either those who came from wealth and were European educated in Architecture and the humanities-related topics or they came from the working class and had apprenticed to learn a skilled building trade, such as carpentry and masonry. Woods (1999) finds that the number of skilled tradesmen who came to America far outnumbered the classically trained architects, in part because of the economic conditions of the Americas and Europe at the time. She reports that in Europe a lack of work, especially after London had been rebuilt from the great fire of

1666, meant that the craftsmen were available to take on the challenge of building from the wilderness that was America. Further, the abundance of wood in America and need for skilled tradesmen in the colonial and federal periods meant that the colonists were providing incentives for tradesmen to emigrate and master carpenters had plenty of raw materials from which to work.

Woods (1999) places the development of the profession of architecture and the European trained architect in the late 1700's in the Americas as an intermediary between the gentlemen and the craftsman. Woods (1999) describes the dismay reported by an early immigrant to America who had been formally trained in architecture in Europe. Latrobe's remarks reportedly describe the changing social classes, opportunism of some craftsmen who were attempting to claim the role of architecture and the need to define professional standards in the American frame.

According to Woods (1999), the building craftsmen during the colonial and federal periods of American history were in short supply and highly valued. Emigration to America where incentives from the colonists might include ship passage, land, exemption from taxes and military service brought them in increasing numbers to Boston, New York, Philadelphia and other emerging economic centers in the new world. She found that masons, joiners, glaziers, painters, and plasterers joined carpenters in great numbers in the major metropolitan areas and formed guilds to regulate trade. Woods (1999) writes that in the early colonies, master carpenters were often builders or "undertakers" writing, "They were entrepreneurs as well as craftsmen. These men were the general contractors of their day, acquiring materials and labor and then directing work on the site. If they drafted basic architectural drawings and supervised, they were known as architects" (p. 12).

During the colonial and federal periods, the majority of the master craftsmen were not employers, but self-employed independent contractors. Only those gentlemen architects who had pursued their interests as avocations were readily welcome in elite social circles (Woods, 1999). During the years before the Civil War, if a student had access to private wealth or had gained the patronage of someone with financial resources, they may have traveled, as Richard Morris Hunt had, to Europe to study either formally at one of the French Ecoles or informally by traveling and visiting public works, study engineering and arts at a German technical school, or as an apprentice to one of the British masters. The basic structure of these educational arrangements was very similar to those in existence in other professions and countries. McCullough (2014) discusses how American Presidents Washington and Jefferson each learned architecture concepts and aesthetics through travels in Europe, self-study, and through communication with respected professionals of the time.

Some opportunities in the pre-Civil War era, for those with limited means, were available through internships at the studio of an established architect, drafting and drawing at the direction of the architect. According to Weatherhead (1941), “Until the eighteen-thirties American architectural practice was limited almost entirely to the interests and hobbies of cultured gentlemen” (p. 14). Regardless of the origins of their study, according to Upton (2012) “For those that were able to afford it, travel remained the ideal way to complete one’s architecture education” (p. 65) well into the late nineteenth century. Weatherhead (1941) shares that during the antebellum period the training of American architects, although modeled on the British pupillage system, was much less formal and dependent on the learner’s ability to pick up what he could around the office:

In reality, little professional training was necessary, the ability to use a tee-square and drawing pen, together with a slight knowledge of materials and simple methods of construction that could be acquired from carpenters and masons on the job was all considered sufficient. Many of the most reputable American architectural offices continued at a much later date than the post-Civil War period to believe that information and practice obtained by the 'self-made' method were preferable to 'technology', and that schools of architecture were unnecessary. (p. 13).

Woods (1999) writes that the movement to professionalize architecture was "...a response to a confluence of economic, social, and ideological issues in nineteenth-century America (p. 2). The creation of a professional American identity for architecture, Woods (1999) believes, evolved from nineteenth century forces: "The nineteenth-century forms - private practice, professional societies, university programs, divisions, and responsibilities of architectural work - still persist today" (p. 4). Draper (1977) writes that early American educational organizers saw the development of professional schools of architecture as a way to inculcate ideals and foster group identity, to formalize licensure requirements and to gain recognition for the years of specialized study required for the application of scholarly concepts to the practice of architecture. The post-Civil War period, according to Cuff (1987), is an example of the social, political, and economic influences "the development of professional schools and licensing requirements both in architecture and engineering coincided with a significant increase after the Civil War in large-scale public works, transportation, and mass housing projects. Such projects compelled society to seek insurance for the quality of services rendered, and professional degrees were qualifications easily recognized" (p. 13).

Upton (2012) notes that many of the American publications of the time emphasized the empirical aspects of architecture over the aesthetic, writing that the necessary skills included, arithmetic, geometry, masonry, leveling and hydraulics, sketching and drawing, and lastly, designing. Early (1957) writes: “architectural books before the 1840’s, are of limited value to the historian. They document the gradual shift among American builders from Palladian and Adamesque orders toward the purely antique, but they contain little material of theoretical nature” (p. 23).

Architectural engineering, an informal scientific-instruction-based curriculum based on the Ecole Polytechnique in Paris preceded other formalized architecture instruction in the United States was first offered through military education according to Anderson (2008) who writes. “America’s first architectural education for engineers was offered at the United States Military Academy at West Point, New York, beginning in 1816” (p. 220). Mahan developed the course work using a curriculum that concentrated on rational design, materials, and structures. Anderson (2008) finds that the ideological emphasis was on functionality, appropriateness, and practicality, and that the civilian architects of the time became educators in engineering schools well ahead of the establishment of architecture schools in the country. Examples of early programs and projects at West Point included the design and construction of buildings, bridges, roads, canals, and other essential works that might be labeled as civil architecture. Anderson (2008) reports that the textbooks that Mahan created in support of the courses to be taught at West Point were perhaps America’s earliest architecture textbooks.

Although the practices of apprenticeship had been codified during the sixteenth century in England, arrangements were looser in America where apprentices were typically indentured to master craftsmen for a period of seven years, during which they were taught the

trade (Upton, 2012). After completing an apprenticeship, new entrants to the profession were called journeymen and allowed to charge for their services and open their own shops. In Philadelphia, Ockman (2012) found documentation of the formation of a Carpenters Company, organized by William Penn in 1724, that in 1834 began operating an architectural drawing school five nights per week. Similarly, in New York, Theophilus Hardenbrook advertised “that he had open’d a school near the New English Church where he teaches Architecture from 6 o’clock in the evening until eight” (Ockman, 2012, p.11).

American collegiate architecture education. The emergence of architecture as an academic discipline included in the curriculum of American higher education institutions occurred as part of a broader movement that included other professional disciplines as well. Graham and Diamond (1997) report that architecture was among the disciplines being incorporated into American higher education: “During the nineteenth century the private and public universities added to the undergraduate core college professional schools in medicine, law, architecture, engineering, business, education and various applied, or practitioner, fields, and graduate degree programs in the scientific and scholarly disciplines” (p. 19). The emergence of American collegiate architecture education was mimetic from inception through the 1930’s, according to Plattus (2012). He notes that books and libraries were used extensively to convey precedents, display exemplars, and provide guided instruction to students. One key component of the development of American collegiate architecture education, among the professional disciplines as well as in contrast to its European counterparts, is its relationship to the professional practice of architecture. Larson (1993) described, “the autonomous discourse of a profession, the knowledge and justifications it produces by and for itself, is articulated, transmitted and above all received in schools. This

is so in architecture, even though the pivotal place of built exemplars in architectural discourse gives practice inescapable primacy” (p. 11).

The period immediately preceding the American Civil War, approximately 1820 to 1860, was the period that marked the emergence of American architecture as a profession. However, it was a profession that did not yet control its commodities. As Upton (2012) has described, there was little differentiation between the master-builder and the architect of the period, and “in the eighteenth century were expected to defer to the wishes of their client” (p. 61). The pursuit of authority over ones work, social standing, and respectability meant that those who desired professional and “gentlemen” status as an architect would require that they distinguish themselves from builders. They accomplished this, in part, by shunning manual labor, by using the rhetoric of aesthetic taste and creative invention. Woods (1999) finds evidence that the alternating boom and bust cycles of the 1820’s and 1830’s had a profound effect on the differentiation of master-builders from architects. “The traditional solidarity of master, journeymen, and apprentice was crumbling amid the alternating economic boom and busts of the 1820’s and 1830’s” (p. 29). This was the era when education in master’s shops evolved from a form of paternalism to a form of employment. Masters had to compete in tight and highly competitive building markets for work and wages suffered. Violent labor strikes in the period not only pitted journeymen against masters and formed the foundation for the rise of labor unions. Some successful master builders of the period, Woods (1999) has noted, distanced themselves from their artisanal identities, and moved to a professional identity in order to secure commissions with upper middle class and upper class clients. This economic condition and social identity shift is thought by Woods (1999) to have been one of the catalysts for the founding of the American Institution of Architects, who in turn would

attempt to lead architecture education into a professionally based collegiate experience for aspiring practitioners. Cuff (1992) remarks that at the time, the American city and the building industry were struggling to accommodate massive immigration, overseeing the development of efficient transportation systems, and incorporating new building materials to support this urban growth. Cities developed new bureaucracies, which promoted the growth of professionalism through their need to provide guarantees of competency and technical expertise and in New York, the development of the first building codes:

Although American society changed rapidly during this period, Americans were reluctant to leave behind the traditional order of things, which included a layered, class-based society. For Architects as for other professionals, the emphasis on academic training, particularly foreign education was a means of preserving professional activity for those of social status. Two forces operated in tandem; educational movements were established to raise the status of the profession, and professional activity was kept in the hands of those of status. (p. 28).

The founders of the American version of an architecture profession were all men who had trained in building workshops or architectural offices during the early nineteenth century: “They defined the professional architect as a designer and supervisor standing between clients who commissioned the work and artisans who constructed it” (Woods, 1999, p. 4). Ware (1881) characterized the French influence as mainly artistic, German as scientific, and the English as practical, and yet each was lacking elements in their models that American educators sought to follow. The early versions of American architecture curriculum included coursework in design, construction, and history of architecture, drawing, and the more traditionally available academic subjects already being taught in American colleges. Early

architecture design courses were initially considered less important than drafting and construction specification courses, and early drawing courses were essentially copying classical forms as opposed to freehand drawing. The academic subjects included foreign languages, fundamental math, religion, history, and related topics. With a lack of a model to follow which would meet the needs of American architecture education, many of the early iterations were guided by local needs and the vision of one or two leading architects and representatives of the social elite who might provide financial backing:

The schools of the early period were experimental and entirely a reflection of current conditions throughout the profession of architecture. In spite of the professional idealism of the leaders in early education, the training prepared the students for little more than work as toilers in the architecture offices of the time. (p. 71).

Upton (2012) and Woods (1999) have detailed the circuitous and overlapping paths that craftsmen and architects had in their educational journey's during the period. Many began with craft-based training before taking on formal architecture training under the guidance of a practitioner, or attending drawing school or collegiate level courses. Often, if the aspiring architect did not possess an unusual level of genius and creativity the outcomes of their studies was reliant upon their social status (Upton, 2012).

In terms of content and philosophy, Gutman (1987) has described the evolution of American architecture education in terms of a pendulum swinging along a rationalist-empiricist spectrum, where the rationalist perspective places emphasis on artistic production elements including aesthetic knowledge, design as abstract, and the primacy of studio-based instruction models and where the empiricist perspective which places emphasis on the practical issues of architecture, research, and empirically based knowledge. The necessary re-

design of architecture education from classical European roots to an American version continues according to Macgilvray (1992), who notes that the nineteenth century pioneer in design education, Lethaby, believed that good design is the result of an iterative process, which requires that one engage in process which builds upon the experiments and points of the past.

America's leading nineteenth century architects may have been credited with creating an American architectural language, but McCullough (2012) believes that they knew how derivative their work was having been trained in Paris at the Ecole des Beaux-Arts. Cuff (1992) writes that in the 1700's, wealthy Americans often sent their sons to Europe for study after they had completed studies at colonial colleges. This was also the case for aspiring professionals of the era: "While in all the professions the majority of practitioners had no formal education, only the aristocracy was able to go to college in America and abroad, and thus the educated elite became the professionals of highest distinction" (p. 25).

Historically, the emergence of American collegiate architectural education can be traced to the first recorded school of architecture, which preceded any offerings at higher education institution. According to Boyle (1977), throughout most of the nineteenth century, aspiring American architects would continue to be trained under a system that mimicked the apprenticeship methods of England. Boyle (1977) found that because many of the architecture offices of the time struggled to survive, the informal training, dependent on the nature of commissions lacked continuity from one generation to the next. Sagas of students who had the opportunity to work in the studios of European trained architects dominate the educational literature of the period. Before 1865, American architects had to travel to Europe to formally study the practices and learn the requisite skills. Formal architecture education as

a distinct curriculum in U.S. higher education institutions did not exist until the late 1800's. Once educated they would return to the United States and establish practices, sometimes taking on draftsmen and other clerk level employees to assist with rendering design details developed by the Architect. Beginning in 1857 instruction was offered at the tenth street studio of a New York practicing architect who had attended the Ecole des Beaux Arts, for four students. Richard Morris Hunt, seeing a need for more trained architects to support the growing demand in American building and construction, began offering classes that built upon his educational experiences in France. Among the earliest of Hunt's students was William Robert Ware, who went on to found the architecture program at Massachusetts Institute of Technology in 1867 and Columbia School of Architecture a few years later. Hunt became one of the founders of the American Institute of Architects (AIA), which in turn, became a proponent of the development of American collegiate architecture education. Upton (2012) has noted that one of the functions of training in studio of a private practitioner was socialization into the profession and that this socialization methodology is still maintained in twenty-first education by way of the design studio requirements for professional degrees.

Drawing schools were located in the largest cities of the mid-1800's, including Baltimore, Philadelphia, New Orleans, and New York, to provide instruction to aspiring builders and architects. These schools, taught by locally trained architects and carpenters, focused on architectural fundamentals (Upton, 2012). Established in an era of economic and professionalism goals for many American workers, Upton (2012) reports that these drawing schools were venues for worker self-improvement.

Materials used in these courses according to Upton (2012) relied upon the contents of British builders handbooks. At the time, architectural publications were more widely

available than drawing schools. The first known example of an American authored work appeared in 1797 titled *Country Builder's Assistant*. These drawing schools may be one of the earliest examples of local American architects supplementing the income of their professional practice by offering instruction, which, as Cuff (1987) has remarked, remains the attraction of teaching in higher education for many struggling architects in the twentieth and twenty first century. Upton (2012) notes that the architectural publications most widely available to Americans, whether in public or private libraries, emphasized practical instruction and many contained compendiums of architectural details. Cohen (1992) notes that while many of the more famous American architects of the pre-Civil War period were schooled in European institutions, "it was the men training with builders who were responsible for the great quantity of the structures of the time, including middle-sized houses, both urban and rural, and the preponderance of civil and institutional structures outside of the big cities" (p. 139).

Cohen (1994) found evidence of two vocational drawing schools with institutional sponsorship, which existed in Philadelphia. Franklin Institute (1824) and Carpenters Company of the City and County of Philadelphia (from 1833) were established as evening classes with an intended audience of house builders. The Carpenters Company tried to establish a full architectural school in 1804, and the Polytechnic College of the State of Pennsylvania did succeed in 1860 in its establishment. Among the most valuable assets, that these institutes and schools provided was access to architectural libraries with classical treatises, state of the art technical expertise, and architectural drawing catalogs for members.

First American schools of architecture - 1865-1898. The American Institute of Architects, first formed in 1857. The lack of existing schools of architecture and no

architectural licensing laws in place catalyzed this group to establish the legitimacy of the profession and the right to control new entrants. In 1858, the AIA constitution was amended “to promote the artistic, scientific, and practical profession of its members; to facilitate their intercourse and good fellowship; to elevate the standing of the profession; and to combine the efforts of those engaged in the practice of Architecture, for the general advancement of the Art” (American Institute of Architects, 2008). With the establishment of a “profession” and without a training mechanism for educating new architects other than sending them to Europe before internships with American practitioners, in 1867, the AIA deliberated on establishing a national educational program based upon the Ecole des Beaux-Arts. Efforts to secure funding for a national school of architecture failed, leading to a decision to choose to support the newly opened program at Massachusetts Institute of Technology (1868). Soon thereafter architecture programs at Cornell (1871), University of Illinois (1873), Columbia University (1881), and Tuskegee Institute (1893) were founded.

Weatherhead (1941) describes the schools of the period as experimental, individual, and “provincially” American: “The period began with the establishment of the first school of architecture after the close of the Civil War and ended with the supremacy of the Beaux-Arts system and Neo-Classicism” (pp. 2-3). He found that in the first period of collegiate architectural education the most powerful of influencing sources on the content and method of instruction was the Ecole des Beaux-Arts in Paris: “This institution had been the leading one for training of architects throughout the world for two centuries, and some of the greatest American practitioners of the Early Period in architectural education studied there” (p. 5). Weatherhead (1941) wrote that it was inevitable that American schools would follow patterns established by the Ecole. In fact, the first American school of architecture was founded by

Richard Morris Hunt, the first American graduate of the Ecole des Beaux Arts was also a mentor to Robert Ware, who helped to found the programs at Massachusetts Institute of Technology in 1865 and at Columbia in 1881 (Chewning, 1986).

Opportunities for the development of collegiate level programming in architecture education were catalyzed by the demand for the services of trained architects after the Civil War and the subsequent progressive movement (1890-1920). The emerging American economy could support both public and private works of art and architecture. The demand was also driven by progressivist interest in avoiding some of the catastrophic failures of poorly designed structures that had resulted in significant loss of life and reputational prestige risks of practicing European trained American architects. These events also motivated the development of training and licensure requirements required practicing US architects to obtain formal education, practice with licensed architects, and pass formal licensure examinations (Woods, 1999). Veysey (1965) writes that a window of opportunity after the end of the Civil War, made it possible for college leaders to experiment with programming. Dwindling enrollments in classical studies programs made the introduction of a professional program such as architecture, which incorporated new European educational paradigms, was now seen as supporting American needs. The shift in focus in higher education was described by Veysey (1965): “The college has ceased to be a cloister and had become a workshop” (p. 61). Veysey (1965) summarized three distinct concepts that were fundamental to the formation of American higher education as a public service to prepare future professionals, as a place and source of science research, and for the elevation of public taste with the diffusion of a liberal humanistic culture. Ockman (2012) see a role for the

emergence of an American form of architectural education in each of those three conceptions of the purpose of American higher education.

U.S. colleges, with their emphasis on classical training, which had been a means of confirming respectability and a place in upper society, were experiencing declining enrollments in the late 1880's and 1890's as a growth in mercantilism and interest in the professions. The impetus for this shift, according to Veysey (1965) was relevance: "Unless they changed, the colleges seemed destined to play an increasingly minor role in an urban 'materialistic' society" (p. 5). Gumpert (1997) sees higher education, historically, as having been viewed as a social institution with a stewardship responsibility for a wide set of responsibilities to society for preparing young people for the support of societies goals (in Schuster, 2006).

The creation of collegiate architecture programs emerged as American society entered the Reconstruction period after the Civil War, often at institutions that had benefited from the Morrill Act of 1862, such as Massachusetts Institute of Technology, Cornell University, Tuskegee Institute, and the University of Illinois. Ockman (2012) writes:

The Morrill Act promoted the introduction of technical studies into the American university curriculum, and in doing so had the effect of making collegiate education at once more practical and more democratic... Architecture educators in the new land-grant schools quickly defined their discipline as a branch of modern engineering, (p. 17).

Weatherhead (1942) found that by 1880 there were three pioneering professional schools of architecture associated with American higher education institutions. Massachusetts Institute of Technology, Cornell University, and the University of Illinois had established

programs that were roughly parallel to one another and each led by strong personalities. Approximately a decade later, Columbia University offered architecture programming.

The introduction of the first academic program in architecture, in 1867 at Massachusetts Institute of Technology (MIT), opened just as the Civil War was ending, Reconstruction was beginning, and the country was considering the changes that the Emancipation Proclamation and presidential assassination would bring. Veysey (1965) notes that the leaders of higher education institutions of this period had generally held their positions for significant periods of time, mostly came from the clergy and had only a vague interest in changing the institutions: “For these men the Civil War may have resolved a set of troublesome, important political issues, but it offered no invitation to alter fixed beliefs about the fundamentals of society, religion, or learning” (p.9). Ware, the founder of the program at MIT, has been described as approaching architectural education from a humanistic rather than a technical viewpoint (Andraos, 2015).

The period 1865-1890 has been identified by Veysey (1965) as the emergence of the concept of the university with its three pillars of mission, namely: research, service and to “diffuse standards of cultivated taste” or teaching. (p. 12). The broadening of the mission of higher education to incorporate these three pillars allowed the education of architects to move from the practicing architect’s office to the University. The addition of the elective system in concert with the changing behavioral expectations of students, with the intention of developing trained experts, aided this transition: “The elevation of the younger professions, such as engineering, school teaching and academic scholarship itself, comprised one of the prominent themes of American ‘real life’ in the late nineteenth century” (Veysey, 1965, p. 67).

American structures for collegiate architecture education were not well established before the late 1800's. Early developers of collegiate education faced multiple challenges as they worked to incorporate their programs in the existing collegiate curricular and administrative structures of the late 1800's. Among the challenges was the lecture versus studio teaching methodology and cross-disciplinary course requirements imposed by academic administrators. Weatherhead (1941) wrote,

The basic problem with which the pioneers in architectural education were faced was two-fold. First, they had to devise the specific type of training that would prepare students for the unprecedented needs of this newly professionalized field; and second, it was necessary to construct the program of study in such a manner as to fit into the plan of the American university. The continual adjustment of the demands of these two often-conflicting situations was everywhere apparent. (p. 66).

The educational paradigm of many of the original American architecture schools appears to have been focused on the development of critical thinking skills the future architect might need in their own practice five or ten years after graduation (Weatherhead, 1941). Adapting American collegiate teaching structures to the pedagogical needs of architecture education was an additional obstacle faced by early educators. Where the lecture model had been the dominant instruction model in the traditional curriculum of American collegiate education, early leaders and advocates for architecture education, many of whom had been trained at the Ecole des Beaux Arts, sought to include studio based design education elements in the curriculum. Additionally, early educators found it necessary to supplement design programming in the architecture curriculum with course offerings from other

disciplines. This was especially true when the newest architecture programs were founded within existing engineering departments according to Weatherhead (1941):

The architecture departments were small and with the growing emphasis upon the new science of structural engineering it was quite logical that they be allocated to engineering divisions... The viewpoint of the engineer, however, was essentially opposed to that of the architect (p. 67).

Because many of the earliest programs were originally situated within engineering departments, by political necessity they were often required to draw a considerable portion of the curriculum from the engineers. The new programs with their growing emphasis on the “new” science of structural engineering were relatively small and not always welcome additions to the existing schools and their faculty colleagues. Weatherhead (1941) reported that early architecture educators, many who had been trained at the Ecoles des Beaux-Arts, struggled with adapting instructional methodologies to fit existing American collegiate educational paradigms:

The University lecture system long dominated instruction in most of the subjects of the early schools...the design class began from the first to break away from the typical university procedure. Thus began the long struggle to adapt an individual project method into an academic setting, which finally resulted in the elimination of the lecture method throughout most of the professional subjects (p. 66).

In order to round out the architectural program the early educators had to select subject matter required from other segregated departments.

The 1900 census reported more than 10,500 individuals calling themselves architects yet in the nine professional schools in 1898 there were less than 400 students (Weatherhead, 1941; Noffsinger, 1955)

French approach: Massachusetts Institute of Technology and Columbia University.

The French approach to architecture education was adopted by two of the earliest schools of American architecture: Massachusetts Institute of Technology and Columbia University.

After accepting the position as Director of Architecture Instruction at Massachusetts Institute of Technology (MIT), Ware traveled to Europe and spent two years investigating methods of instruction and consulting with leaders in architectural education in London and Paris. While in Paris, he never took courses at the Ecole des Beaux Arts, but he did take private lessons from advanced students in order to learn about the methods of instruction used at the Ecole (Weatherhead, 1941). Chewning (1986) describes the earliest version of the program at MIT as a post-baccalaureate program, best suited for "...for persons who were graduates of four-year colleges or who had some experience in architects' offices" (p. ii).

Developing the first formalized program of collegiate architecture education in the United States, required that originating directors to consider which elements of European systems would be used to create a uniquely American program. One of the early pioneers of American architecture education, William Robert Ware, who was not a graduate of the Ecole des Beaux-Arts, but a practicing architect who had worked and studied under the founder of the first American school of architecture and the AIA, Richard Morris Hunt, was selected to lead the programs development and administration. An educational innovator, Ware became the original director of architecture at MIT and then helped to found the School of Architecture at Columbia in 1881. He wrote:

The chief difficulty in the study of architecture as well as in practice is its many sidedness...a school cannot narrow its range, and although in fact the French courses of study are mainly artistic, the German scientific, and the English practical, they all from this very fact, fail to furnish the model we should wish to follow. The problem before us in this country is to devise a course of study so carefully adjusted that the practical, scientific, and artistic studies may receive equal consideration...not neglecting at the same time the languages and literature. The student of architecture cannot follow the full course of scientific construction taken by the student of civil engineering, and have any time left for the artistic and practical studies which are, after all, the distinctive characteristics of his work” (cited in Weatherhead p. 67).

Ware established at MIT, a curricular model that required the study of design throughout the academic program. Many architecture programs, including the University of Michigan, emulated this aspect of the MIT curriculum.

As American architecture education evolved, decisions had to be made about the proper sequencing of courses, relationships with other disciplines, and practical training needs. Careful coordination between collegiate administrators and the emerging influence of practicing professionals on educational content and expectations had to be negotiated as well as the development of advanced degrees. By 1874, MIT was offering both the Bachelor of Science in Architecture and the Master of Science in Architecture. In 1881, construction course work was added to MIT’s architecture course offerings as an elective, originally called “Architecture Laboratory”, the intent of the course was to give students practical exercises and experiments in construction and materials testing. Weatherhead (1941) describes the approach that Ware was taking: “Ware always believed that the architect should

be a man of culture, an artist whose outlook upon the world was that of the liberally educated man rather than that of a narrow specialist” (p. 48).

Weatherhead (1941) notes Ware’s evolution in thinking about the influence of the Ecole des Beaux-Arts over time, writing that by the time he was designing the curriculum for Columbia, Ware started to believe that French system could be customized to fit the American operating conditions. After transitioning to the leadership position at Columbia University, for example, Ware eliminated the competitive features that had been embedded in the character of MIT architecture. Unfortunately, because Ware and his faculty were not brilliant designers and were not able to attract French trained brilliant designers to the school, the design quality of the final products produced by Columbia’s students during Ware’s administration became increasingly less favorable, according to Weatherhead (1941). Because of successful acquisition of a substantial library collection, history courses came to have an unusual prominence in the curriculum, including interrupting the design courses for a six to eight week course of research in the spring of each year to encourage use of the library facilities.

Another American departure from the Ecole curriculum that Ware instituted at Columbia included courses on topics that were fundamental to business side of practice for students nearing the end of their studies. These courses included client relations, estimating, and legal obligations. Ware and the faculty at Columbia thought that providing students with the fundamentals of these topics before they encountered them in private practice would prepare the students more fully for the risks and mitigation techniques to manage those risks. Among the firsts that MIT can claim is the 1890 graduation of the first female architecture student, was Sophia Hayden Bennett (Rackard, 2013), and in 1892 the first African-

American architecture student, Robert R. Taylor, who went on to found the program in architecture at the Tuskegee Institute in 1893.

French approach: Syracuse University and George Washington University. Syracuse University developed the first architecture program to be associated with a school of fine arts and George Washington University created the second. Other schools, departments, and colleges forming during the era were being associated with engineering studies. Although courses in architecture were offered starting in 1873 at Syracuse, the early years of study offered general coursework and left design studies to the final year. Weatherhead (1941) characterized Syracuse early program as having a tendency toward non-professional objectives. When in 1896 a graduate of the Ecole des Beaux Arts assumed the leadership role for the architecture department at Syracuse, he led a revamping of the curriculum to better align with the principles and practices of Ecole. Similarly, at George Washington the coursework was arranged so that the illustration courses were aligned with the lectures on architecture history. Weatherhead (1941) writes that during the early period the school at George Washington and its course offerings were a product of the local conditions: "It represented an attempt to create within an American university a school which would provide the training needed as preparation for a contemporary architect's office" (p. 56).

Characterizing the offerings at George Washington, Weatherhead (1941) found an emphasis on the decorative arts of architecture, locally influenced with slight traces of Beaux-Arts.

French approach: University of Pennsylvania and the Armour Institute of Technology. Early formation of the architecture program at the University of Pennsylvania had been prompted by local architects who wanted local students to have access to the same types of training available in Boston and New York. They support, its original founding,

provided instructors, many of whom were Ecole des Beaux-Arts educated, and donated books, drawings, and other necessary items to get the school functioning. Known for its early emphasis on hand drawing, Weatherhead (1941) has written:

An interesting characteristic of the design course was the spirit of the student body in the Pennsylvania drafting room. Here the students worked together with utmost freedom. They criticized each other's work and there was an atmosphere of congenial competition, which was excelled only by the Paris ateliers. The presence of able instructors and brilliant advanced students, combined with the importance placed upon design, established and fostered this tradition. It was impossible to enter the drafting room without sensing this spirit, which is so important to a school of architecture. (p. 54).

The curriculum at the University of Pennsylvania was organized so that liberal arts courses were taken in the early years of study, and the final years would focus on professional topics alone, a model similar to that used at the University of Michigan today. Similarly, the Art Institute of Chicago, was organized in 1889 by two architects, one of whom was a graduate of the Ecole des Beaux-Arts. The original program only included design courses and had the advantage of using local architects who were experimenting with new materials and building concepts as course critics. In 1995, when the curriculum was expanded into a complete four-year professional school, the program was listed as a department within the College of Engineering but called the Chicago School of Architecture. Weatherhead (1941) points out that this was the third example of an American architecture school being allied with the fine arts.

The British approach morphs to the French approach: Cornell University. As the

second collegiate program in the nation, Cornell University, led by President Andrew Dickson White, a former University of Michigan History instructor with a deep interest in architecture, offered a Bachelor of Science in Architecture degree program starting in 1871. Offering the first four-year course in architecture at an American University, Cornell benefited from the donation of an extensive library on architecture from President White and marketed its programs as an alternative to apprenticeship programs or study in Europe. Cornell claims credit for graduating the first woman in 1880, Margaret Hicks, with a Bachelor of Architecture (B.Arch.). The first director of the program at Cornell, Charles Babcock, was also one of the founding members of the American Institute of Architects. “Under Babcock, Cornell’s curriculum was based on John Riskin’s notion that before an architect can become a true artist, he must be a master of the art of building and a man of science” (Cornell University, 2018).

In contrast to the programming at MIT, there was little instruction in cultural subjects, design was not offered until the final year of the degree program, and “professional work” was offered in the first year. Weatherhead (1941) characterizes the impetus for this structural difference as arising from the founding instructors who “were practical architects, educated in typical American offices” (p. 34). At Cornell, instruction was more closely aligned with Romanesque forms, and “there was little evidence of the elegant and monotonous French influence of the Ecole” (p. 34). The emphasis at Cornell, according to Weatherhead (1941), was the practical aspects of architecture. Design instruction was a series of exercises that students were to follow to give them a practical acquaintance with the historical styles. Cornell also offered its students applied construction courses as well as construction details courses: “Cornell emphasized the production of good practical draftsmen which were so

much needed during these years” (Weatherhead, 1941, p. 35). The school was much criticized on devoting so much time to the details that might be learned in an architecture office, and a subsequent complete reorganization of the curriculum in 1896, when the department became an independent college, signaled a radical shift to the methods in use at the Ecole des Beaux-Arts. In 1919, under the influence of a new dean, Francke Bosworth, Cornell became the first school to expand its programming from four to five years in length and shifted its emphasis again, this time from Beaux-Arts to the polytechnique philosophy in part because of the dean’s interest in an emphasis on the enclosure of space and an interest in human needs (Cornell University, 2018).

Harvard University. The founder of the architecture program at Harvard University, H Langford Warren, had been educated in both Germany and England, and had worked for an English architect before attending courses taught at MIT by its founder Robert Ware. Warren subsequently worked for four years in an American architect’s office, traveled, and studied architecture in Europe before opening a Boston practice and being invited to establish a professional school of architecture at Harvard. When, in the fall of 1895 the complete four-year course was finally established, it was attached to the Lawrence Scientific School and the first construction courses were taught by faculty from the engineering department. In 1901, a substantial gift to the program allowed the construction of the first building solely for the instruction of Architecture in America. Warren was a self-proclaimed romanticist who lectured at the school in order to help students not only recognize the classical forms but to understand the contexts in which they were created. Weatherhead (1941) found that Harvard’s program was characterized by culture and sophistication of the fine arts as well as emphasis upon broad scholarship with limited influence of the Ecole des Beaux-Arts.

Weatherhead (1941) described the influence of the local community “Scholarship and good taste in design were emphasized from the first, and the courses were relatively free from the influence of the Beaux-Arts” (p. 60). To assure this approach as maintained, early instructors at the school were drawn from the Boston area practitioners: “In this way the school kept in close touch with the ideals of the community” (p. 60).

German approach: University of Illinois. Approximately a year after the opening of the architecture school at MIT, nominal instruction in architecture was first offered at Illinois Industrial University (IIU). In 1870, a graduate in science from the University of Michigan, who had had some experience in a Chicago architect’s office, James Bellangee, began offering instruction to six students. Situated in a rural community where few actual examples of construction could be readily observed, and therefore copied, the emphasis on applied construction remained an outstanding characteristic of the school. Weatherhead (1941) credits this construction orientation at Illinois not only to the Midwestern practicality of the pioneers but its first leaders concern with the shoddy construction practices which were prevalent in the period. In 1871, Harald Hansen, a Swedish architect who had studied at the Bau-Akademie in Berlin, joined the staff teaching architectural drawing, design and rendering. One of his students Nathan Ricker, a graduate of the program became instructor, succeeding Hansen who went to Chicago to practice. After completing his studies at IIU, Ricker spent six months studying at the Bau-Akademie and observing methods of instruction at European schools before assuming his position. Ricker was instrumental in establishing the third professional program in America, a four-year program of study. Ockman (2012) notes that Ricker developed programming that emphasized both manual and mental labor and

worked to integrate shop instruction by requiring students to enroll in carpentry, joinery, cabinetry, and the making of scale models.

Weatherhead (1941) reports that among the limitations Ricker faced in the early days of establishing the program at Illinois was the lack of an architectural library. Books were expensive and needed to be imported from Europe, making the cost of them out of the reach of most students. Ricker would translate the books himself and copy the books on to parchment paper, had the material blueprinted and copies placed in the corners of the classrooms for students use. As funds became available more books, models and slides were purchased to form the beginnings of the library resources.

Weatherhead (1941) has characterized this first school of architecture west of the Allegheny River as having been patterned after the German system that Hansen and Ricker had attended in Berlin, but contextualized to the needs of the people in the Midwest. “The curriculum at Illinois was a product of the Middle West, influenced somewhat by the German system. It was weak in design but strong in construction and architectural engineering” (p. 69). Weatherhead (1941) reported that the three practical objectives of the school included: “1) a thorough knowledge of the principles of construction employed in all classes of buildings. 2) Practice in the preparation of general and detailed drawings- plain, shaded, or colored, with specifications, estimates, etc., necessary to form a complete design. 3) Practical knowledge of construction in all forms by shop practice” (Weatherhead, 1941, p. 39). In 1879, Illinois awarded the first Bachelor of Science in Architecture to a woman Mary Louisa Page.

Programming in the architecture education continued to evolve as funding and student interest grew, and in 1890, Ricker launched the first professional program in

architectural engineering. Ricker had noticed that he had students who were skilled in the design aspects of the curriculum, those who excelled in the mathematical concepts, and a few who could blend and excel at both. In order to create such a program, negotiation with university officials around several courses, had to occur, in order to build in a year of study for architectural engineering, which included studies in structural engineering and strengthened emphasis in advanced construction and building equipment. Similarly, Illinois was the first to organize a shop course for its students. Illinois bulletins list three objectives for the course: to acquire a knowledge of tools and manual processes in construction; to distinguish between good and bad work in inspection; and to learn the peculiarities of materials and modes of working with them as the background for design.(Weatherhead, 1941, p. 65).

Blended influences European: University of Michigan. Weatherhead (1941) reported that the founding educational philosophy for architecture education at the University of Michigan was unique;

the University of Michigan did not attempt to follow the methods of the Ecole des Beaux-Arts...It was the policy at Michigan to establish a course of training in architectural design that would best meet the needs of the American profession without reference to the then popular Beaux-Arts methods. (p. 120).

Its founder Emil Lorch was reported to have said, “A school knows best its own problems and those of the community it serves” (Weatherhead, 1941, p. 120).

The intention to create studies in architecture at the University of Michigan can be traced back to the 1837, when, during the first Ann Arbor-located Board of Regents meeting, the decision to create three types of professorships was made: philosophy, languages, and

mathematics in all its various branches, Civil Engineering, and Architecture. Some authors have credited the potential inclusion of architectural studies at the University of Michigan to John D. Pierce, who was Michigan's first Superintendent of Public Instruction. Pierce anticipated that there would be a need to institutionalize architecture education years before the establishment of the American Institute of Architects in 1857 and its subsequent educational proposals would be drafted.

Emancipation: Tuskegee Institute. The architecture program founded at Tuskegee in 1893 was developed and led by the first African American graduate of MIT, Robert Taylor, who had been recruited by Booker T. Washington. Unlike most of the other early programs listed above, Tuskegee embedded practical construction experience as a required element of its curriculum. Like the programs at IIU, Tuskegee's curriculum included shop training, which according to Ockman (2012): "represented an effort on the part of educators in an industrializing society both to bridge the gap between traditional craft practices and scientific instruction and to extend architectural instruction to a wider segment of the population" (p. 18).

Washington was able to gain financial support for the architecture program from philanthropists including Carnegie, Rockefeller, Rogers, Eastman, Anderson, and Rosenwald. The introductory program at Tuskegee Institute was a Bachelor of Architecture degree, one of the few remaining five-year programs that lead to a professional degree. Tuskegee's architecture program was founded by Booker T. Washington, who believed that architecture had the power to inspire, and, emphasized practical experience for students. The students and faculty designed many of the buildings on campus. The architecture faculty at Tuskegee Institute was one of its strengths. Outstanding Black architects were attracted to Tuskegee

Institute because teaching opportunities elsewhere were limited. The program opened in 1893 with 35 students and by the fall of 1899 enrolled 320 students (Dozier, 1990).

The late nineteenth century was a time when the building industry was increasingly fragmented and marked increasing specialization in the trades. Woods (1999) remarks, “The Tuskegee synthesis of craft training, architectural education, and building experience was unique in American architectural education” (p. 75). Woods (1999) notes that among the earliest American schools of architecture Tuskegee and Illinois were the only schools to preserve the artisanal origins of architectural training and professionalism.

Traveling scholarships. Weatherhead’s (1941) research on the development of a modern American form of collegiate architecture noted the emergence of the traveling scholarship as a key educational component: “The importance of traveling scholarships as general incentives to student effort and as a means of rounding out the education of outstanding and promising young architects came to be universally accepted” (p. 88). Weatherhead (1941) reports that all of the well-endowed schools of the era offered at least one of these scholarships and several inter-institutional scholarships were made available. Administrators of the period used the scholarships to spark competition and raise the general level of student achievement. The scholarships provided for one to two years of European travel and study. Not unlike the “Grand Tour” that the sons of many wealthy Europeans would have taken after during the period, these scholarships were both a finishing technique and an opportunity to visit the buildings, locations, culture, and art that they had studied and drawn throughout the academic careers.

Second phase of development. The second phase of development of collegiate architecture education in the United States, occurs between 1900's and 1940's, was marked by the emergence of an American model of architecture education, founded on American values and influenced by American educational leaders. Shifts in the form and content of architecture education have historically been driven by social, political, and economic forces; the second period of American architecture education was likewise influenced by these external forces. Spanning both war years and peace years, the emergence of the American model was spurred by technological advances and societal changes occurring between the early 1900's through mid-century. Americans and Europeans of the era were increasingly seeking social, political, and economic changes that would engendered greater social equity and distribution of wealth. They were questioning the efficacy, effectiveness, and social acceptability of governmental, business, and manufacturing practices. Americans were enduring prohibition, two periods of economic depression, and would be called to fight in two World Wars.

Political and aesthetic shifts. The societal demands for change influencing the development of architecture education included the adoption of ethical practices and equity. This societal pressure sparked changes in architecture practices and the nature of the projects undertaken in the United States and change the content and nature of architecture education. The Western architecture profession went through two significant shifts during the early twentieth century, according to Larson (1993). The first shift was seen in the modernist movement emergence in the 1920's; the second shift included the revisions of the postmodernists (1966-1985). Larson (1993) marks these shifts as "symptoms of changes in architect's conceptions of their professional role and in the conditions of their practice" (p.

6). Larson asserts that modernist architects embraced the task of redefining the field of architecture to incorporate the machine age and its benefits. Larson (1993) finds that a shift in the social relationships occurred during the machine-age, which elevated the social standing of industrial builders and engineers to equal partnership with architects in the built environment economy, causing a loss of the elite status architects had held based on aesthetic supremacy.

Among the most notable of changes for the profession of architecture was the substantial increase in demand for services from clients other than governments and the elite patrons, leading to increasing demand on the architecture schools at a level never before experienced. Shifts in conception of architects and their clients occurred in the period resulting in a tiered system of architects and their clients. Elite services by elite architects to aristocratic elites broadened to include industrial capitalist elites, and a second tier of architecture firms offering more standardized services to the industrial working class. Weatherhead (1941) marks the shift in American collegiate architecture education away from Beaux-Arts Eclecticism toward modernism, most notably with the core assumption that greater numbers of people, from a broader range of social classes, should share in the distribution of wealth and the benefits that would then be available. For architecture, this meant that dwellings, work environments, and cities must be reconstructed to adapt to a new version of capitalism which takes human factors into account, leverages technological advances in building materials, considers regional and national factors rather than just local factors, and accounts for the impact of the automobile and related transportation advances. Larson (1993) remarks that modernist aesthetic movements were marked by a desire to align with capitalist industrialist conceptions of economic efficiency, a rejection of ornamentation

as a moral shift and “architects ambitions to change their role from the embellishment of leisure to the equipment of production” (p. 29).

The economic, political, and social changes occurring in the United States during the Progressive through the New Era resulted in alterations to existing educational models (Weatherhead, 1941). Changes implemented were designed to provide a curriculum and an educational environment that would enable graduates to function effectively in the newly emerging social paradigms. An American form of architecture education would emerge because of these changes, and it would alter the culture of the American architecture academic experience (Weatherhead, 1941; Alofsin, 2012). New courses that took advantage of new materials and construction techniques were added, and shifts in ideology and the addition of research agendas for faculty and students would refresh the schools intellectually as would a diversification of the student body (Ockman, 2012). Giving structure to some of the reforms that would influence collegiate architecture education, was the development of an accreditation process and accreditation body that had gathered support from three very influential architecture groups: the educational committee of the American Institute of Architects, National Council of Architecture Registration Board, and Beaux-Arts Institute of Design (Weatherhead, 1941).

In the late 1890's, John Dewey, an influential American educator, established the progressive school for general education, which encouraged student's personal development and expression rather than the traditional teaching methods that relied upon rote learning and recitation. This adaptation in American general education teaching methodology was nearly coincident with the developments in university architecture education that had been struggling to adapt the European models of studio-style instruction into the more prevalent

American lecture and recitation formats. Ideologically, the Progressive Era saw a gradual movement in architecture education from the Beaux-Arts Eclecticism educational formats and content to the modernist formats. Because many of the faculty teaching in architecture schools at the beginning of the era had been trained in the Beaux-Arts tradition, the transition was rather lengthy (Weatherhead, 1941). During the Progressive Era, the architecture schools located in the Midwest and Northwest were among the first to challenge students with projects that were more practical and less fanciful. They encouraged students to exercise individual creativity and innovation encouraged by the modernists (Weatherhead, 1941; Alofsin, 2012). Regional sensibilities that were less supportive of eclectic fancifulness and preferred the simplistic and pragmatic aspects of modernism were credited as the catalyst for these schools as early adopters of the aesthetics as well as the pedagogy of modernism (Weatherhead, 1941).

The Beaux-Arts tradition relied upon classical solutions to architectural problems and did not allow students an opportunity for sustained inquiry, reflection, and innovation of alternatives. In contrast, the movement towards a modernist ethic did allow students and faculty greater experimentation and flexibility in determining design solutions. In order to support the curricular and methodological changes, as well as to incorporate new disciplinary sub-specialties arising from technological and building materials advances of the era, the architecture faculty composition began to evolve into three broad groupings: history-theorists, building environments, and technology specialists and designers (Ockman, 2014). Where the primary allegiance of the faculty in previous eras had been to the professional practitioners, other external stakeholders would influence the development of architecture education from the 1900's through the 1940's. This evolution had a profound impact on the

curricular structures, educational expectations of accrediting bodies, and the public and the culture of the school (Weatherhead, 1941).

Weatherhead (1941) reported that between 1895 and 1915, twenty-one new schools of architecture were established, with only forty schools offering a complete four-year professional course in architecture as of 1913. The majority of the architecture schools still lacked the independence from other academic disciplines that other professional schools, such as medicine and law held; enrollments were on the rise. Two-thirds of the established schools in the mid 1910's were divisions or departments within engineering programs, yet, architecture educators remained convinced that their programs should be taught as a form of fine arts (Weatherhead, 1941). Unlike European schools, the American schools of the era did not impose rigid entrance requirements that were specific to architecture subjects.

Weatherhead (1941) suggests that this was caused by the lack of preparatory courses available to high school students. This resulted in American architecture schools needing to develop a more “elementary approach to the professional subjects than was maintained in European schools” (Weatherhead, 1941, p. 140) as well as a higher than normal rate of attrition among lower division students who had entered the program without a good understanding of what the profession and its training would require of them.

As American higher education institutions adopted architecture education, as a professional discipline, incorporation of required new and foreign teaching paradigms were challenging established patterns within the schools and colleges. Progressivist interest in upward mobility increased the numbers of students who were applying for admissions. American architecture practices were in need of a trained supply of employees who would bring the necessary skill sets for managing new technologies, materials, and regulations.

Boyle (1977) traced the evolution in the curriculum and in practice from the Beaux-Arts and eclecticism to modernism and design education back to the emigration of several European architects and architectural educators during the world war years. Weatherhead (1941) documented philosophical shifts “the ruling principle in architectural education gradually changed during the early modern movement to experimentation” (p. 186).

Weatherhead (1941) saw the economic depression of the late 1920’s as one of the forces that expedited changes in American collegiate architecture education away from idealism of the Beaux-Arts and toward the realism of the modernist movement. The lack of employment opportunities for graduating architects, and anomie in the profession required educators to search for new educational processes. During the years surrounding the two World Wars, the national interest shifted toward industries that supported the war efforts and some responsibilities previously managed by architects moved to engineers.

The establishment of the Association of Collegiate Schools of Architecture by members of the American Institute of Architects, which undertook the standardization of the four-year curriculum for architecture education, reflect the national sentiments of the time for expectation clarity, ethics in professional practice, and collaborative development of structures and frameworks for assessment.

Pedagogically, Weatherhead (1941) found emergent a new theory of design that embraced the precision that machined elements of European modernism brought to design. It was a theory within which “there is now an increasing tendency toward a normal and logical synthesis of engineering and art, usefulness and capacity for aesthetic satisfaction, which is one of the fundamental aesthetic trends of this time” (Weather head, 1941, p. 189). Plattus

(2012) found that the period also marked a challenging of books as sources of precedent and method.

Other movements noted in the period included aligning the students training and experiences to support a new set of architecture clients, those of means that are more modest. This was seen as a practical extension of the mission of the colleges in which many of these schools were housed including Michigan (Cuff, 1991; Kostof, 1997; Alofsin, 2012).

The evolving model of American architecture education was traced, by Boyle (1977) to changes in architecture practices occurring in the late nineteenth and early twentieth century. Examples of large offices with architectural specialists and non-architectural staffs supporting practices in much the same way as those found in other types of professional services firms emerged during the period to support the desired growth of the nation (e.g. accountants, marketing personnel). Increasingly, the need for specialized business knowledge as well as architectural knowledge helped encourage a new division of labor and organizational paradigms within American architecture practices, which in turn required higher education institutions to evolve to meet the needs of their graduates seeking entry into the profession after school. Boyle (1977) uses an example found in *The Bricklayer* written by Harder (1902) to illustrate this evolution in expectations and pressures of the time: “The architectural opportunities fall to those who are preeminent for business rather than artistic ability, and thus it is they who build the architecture of the country... The architect must be a business man first and an artist afterward” (p. 317). Boyle (1977) notes that by the end of the nineteenth century, the large office had become an established norm in American architectural practice, and this new operating paradigm allowed many of the major practices of the time, unlike those of previous generations, to continue operating into the twentieth

century, despite the deaths of their founders. This paradigm shift added a new level of employment stability for trained architects. Boyle (1977) notes that the artistic hostility toward machine technology that had dominated architectural discourse between the mid 1800's and early 1900's evolved into acceptance leading to a new conception of architecture as modern design.

The impact of the two World Wars on the development of American architectural education in terms of both curricular content, student access, and cultural form has been detailed by several architectural education historians including Ockman (2012), Kostof (1997), and Cuff (1992). The transition from eclecticism and a teaching methodology predicated on replicating ancient styles and forms was replaced by functionalism in American schools of architecture (Weatherhead, 1941). Modernism's emergence after World War I was seen as a rejection of historical styles and the failure of the old world order of imperial leadership in Europe.

By the end of World War II, American educators had moved the curricular emphasis at most schools from Beaux-Arts and Eclecticism to Modernism and found a balance between the competitive and collaborative ethics that each of the movements espoused. The dominance of the European models over American schools was reduced by the emerging needs of the nation and opportunities presented by new technologies, materials, and financial resources to research and experiment with design. An increasingly large student body with a new set of expectations from higher education and new governmental investments in higher education particularly in research and development were likewise influential.

Architecture texts and publications of the period increasing included photography rather than drawings or pictorial representations of artifacts from which students might study (Plattus, 2012).

Influential architects like Gropius, who had established the Bauhaus programming in Germany in 1919 and brought it to Harvard in 1937 under Hudnut's leadership, as well as student involvement in the development of new modernists curricula spurred a move from many of the traditions of the Ecole des Beaux-Arts teaching methods during the period. Shellman (1957) wrote that until the 1930's architecture educational vocabulary was almost entirely focused on historic forms and that as a result quality was judged by its closeness to classical forms. Shellman (1957) writes: "architectural training-too rarely concerned with the imaginative planning characteristic of the best phases of the Beaux-arts - consisted primarily in showing each student where stylistic niceties lay and how to adapt historic details and proportions to contemporary structure" (p. 20).

A post war zeitgeist emphasizing individual action, thought, and freedoms and shifts in governmental authority in war-torn regions had a profound impact on American architecture pedagogy (Ockman, 2012). Anderson (1999) writes that the founding of the School of Arts and Crafts in Dusseldorf in 1903 may have had a significant impact on the development of architecture education in the United States. Gropius and van der Rohe, both of whom trained under founding director Peter Behrens, would go on to establish the Bauhaus in Germany and later lead programs at Harvard and the Armour Institute. Anderson (1999) traces some of the evolution in German educational philosophy to Behrens actions in the selection of an art historian, Walter Niemeyer, rather than an architect to lead the history curriculum at the new school. Reportedly, Behrens found Niemeyer's innovative approach to

be “a critical need for the Dusseldorf school. The proposition that sculpture was essentially the occupation of space while architecture was the art of creation of space fundamentally cut away conventional stylistic discourse” (Anderson, 1999, p. 283). Anderson (1999), writes that Behrens was the first to incorporate a highly trained academic art historian in a programmatic role in the development of an innovative architecture curriculum in a polytechnic school: “It shows the telling influence in architectural education of the abstractions of scientific art history rather than received stylistic or even architectural commitments” (p. 283).

In 1919, shortly after the fall of the German monarchy at the end of World War I, Walter Gropius had founded the Staatliches Bauhaus, (School of Building) more commonly known simply as the Bauhaus, from a merger of the Grand Ducal School of Arts and Crafts and the Weimar Academy of Fine Art. Ockman (2012) notes societal shifts influencing the Bauhaus:

In its original incarnation in Weimar, the Bauhaus had emerged out of yet another state-sponsored educational system, the school of applied arts (and indirectly the British Arts and Crafts movement), and thus represented a rebellion against both the fine-arts and the polytechnic school. Its vividly anti-academic spirit was able to find fertile ground in North America at a moment when the Beaux-Arts system was corroding under the impact of industrial civilization and Depression-era realities. (p.20).

Boyle (1977) adds that Gropius saw justification for his theory of design education as embedded in the need for a spiritual reawakening in modern society that would parallel the evolving social consciousness arising from the First World War. Gropius sought, according to

Boyle (1977), to develop a school of design and crafts that would be responsive to its era's challenges and opportunities and would be all embracing and experimental at its core rather than rote copying of ancient artifacts and design paradigms. Gropius educational vision when forming the Bauhaus would merge fine-arts education with applied arts or crafts.

European emigres to American universities including Walter Gropius at Harvard, Ludwig Mies van der Rohe at Illinois Institute of Technology, and Laszlo Moholy-Nagy at the Institute of Design in Chicago, would both influence and be influenced by their new academic homes. Ockman (2012) described the migration of talent: "The 1920's saw a steady stream of architects associated with the European modern movement making their way across the Atlantic in a reverse grand tour" (p. 20). The president of the University of Michigan declined the opportunity to hire any of the recent emigres citing budgetary constraints.

Boyle (1977) highlights the influence that Gropius had on re-conceptualizing design education content and methodology. Curricular content according to Gropius was to embrace the biological, social, technical, and artistic problems that could be addressed by good architecture with the emphasis on the needs of the human being. Methodologically, emphasis was to be placed on teamwork to foster collaboration skills that would transition to the professional practice environment, which was a significant variance from the competitive and highly individualized system that had been at the core of the Beaux-Arts system.

American architecture was rising in prestige internationally, and according to Ockman (2012), in 1924, in a first example of work by American architecture students being presented to European audiences, students from the University of Michigan were invited to contribute to an exhibit on American architecture and city planning by the director of the

Akademie der Kunste in Berlin. Because models were too heavy and therefore costly to ship, the student's drawings were sent and displayed alongside works by major architects including Sullivan, Saarinen, and Kahn.

Both Weatherhead (1941) and Littmann (2014) note that Modernism emerged in the Schools in the mid 1920's, a movement which "led to sweeping change in both theory and processes of education" (p. 3). They note that these changes occurred simultaneously with collapses in the economic system in America. Boyle (1977) asserts that a leading figure in this paradigm shift toward modernism was Gropius, who had emigrated from Germany after having led the re-conceptualization in Germany of architecture education away from rigid regimentation to a new theory of design education. Before the Bauhaus movement came to define the German educational paradigms, the model employed in the German drawing curriculum, like that of the British system, relied upon students learning by copying the works of well-known architects. Larson (1993) remarks that the elevation of the modernist movement in architecture practice and education was as much a result of who supported the aesthetic and its goals as who rejected it. She notes that Hitler's rejection of modernism "... gave the modernists' minority position more importance than it had had and an aura of progressivism that not all the victimized artists deserved; and two, the diaspora caused by Hitler's persecution of the Modern Movement was ultimately responsible for the belated triumph of the new aesthetics" (p. 22).

Although, Littmann (2000) has described the period between the two World Wars as particularly contentious and dynamic for architectural education at American universities, Bannister (1954) and Ockman (2012) acknowledge that the Bauhaus movement in American architecture expedited the end of Beaux-Arts supremacy and French Eclecticism in American

architecture education and practice. Gropius intention however, to free thinking from dogmatic influences, according to Bannister (1954) had instead replaced it with a new dogmatism with its own clichés. Kostof (1989) wrote that “According to Gropius, it was enough to keep your mind centered on function; the design would take care of itself; and the occupant, sooner or later, would see the logic of the architect’s way” (p. xv).

University of Michigan innovation. Frank (2004) has placed the contributions of Emil Lorch, a founding member of the Association of Collegiate Schools of Architecture and chair of the department of Architecture at the University of Michigan as a champion of new methods in architectural education, specifically, the Theory of Pure Design, which emphasized abstracted exercises rather than drilling in the historical styles. Lorch believed that this change in methodology would allow students to develop a “truly modern American architecture” (Frank, 2004, p. 28). Throughout his career, Lorch had articulated a new vision of American architecture education that integrated engineering and art. It was not a style as much as an ethic, within which students, who had first been encouraged to develop their creative ability, would subsequently produce “good design solutions with the materials and technology available” (Frank, 2004, p. 28). Frank (2004) notes that for the time this was a radical change in thinking about architecture educational practices. Weatherhead (1941) writes that Lorch lobbied hard for the opportunity to be the first director of the architecture program at the University of Michigan and that “through the untiring endeavor of Lorch the department of the University of Michigan became a school with a marked individuality” (p. 120).

When Lorch arrived at U-M, the university was under the leadership of President Angell who espoused a utilitarian approach to the development of professional curricula and

supported the role of basic and applied research in higher education (Veysey, 1965). Angell's support for moving the educational mission away from recitation to exploration had been made public years before:

No undue restraints should be placed upon the intellectual freedom of the teachers.

No man worthy to hold a chair here will work in fetters. In choosing members of the Faculty the greatest care should be taken to secure gifted, earnest, reverent men, whose mental and moral qualities will fit them to prepare their pupils for manly and womanly work in promoting our Christian civilization....So only can we train a generation of students to catholic, candid, truth-loving habits of mind and tempers of heart" (Angell, 1873, pp. 30-31).

Lorch received his architectural education at Massachusetts Institute of Technology and Harvard University before practicing and teaching at several institutions. When joining the University of Michigan faculty, he was aware of the influence of the Ecole des Beaux-arts, and that the existing American schools of architecture mimicked the approach of the French school. Shaw (1953) noted that it was inevitable that in order to give this process some resemblance to the French prototype, Frenchmen would be sought as chief critics. In 1907, when Lorch became head of architecture at U-M, this pattern of organizing collegiate architecture instruction was becoming well established. Shaw (1953) noted that legitimacy and authority of not only of the French methods, but also of successful architects from New York and Chicago who had been fortunate enough to have spent some time at the Ecole des Beaux-arts added credibility to the program plan.

Frank (2004) found that many architects of Lorch's era desired the development of a uniquely American architecture, and Lorch thought that the path toward the development of

the new modern form would arise through architectural education that would be both productive and effective. Frank (2004) found that Lorch avoided the debate among the American schools of architecture, which critiqued the Beaux-Arts educational methods against the more technical engineering-based programs, by combining the best of each pedagogy. Frank (2004) describes this combination: “Lorch’s vision combined the notion of the art of architecture with the practical knowledge of building construction” (p. 28). In his position as chair of architecture department within the College of Engineering and then director when the College of Architecture was formed at the University of Michigan, Lorch was able to develop a unique curriculum that gained recognition nationally and internationally. Frank (2004) found that the development of the new curriculum had been previewed in a lecture Lorch gave to the Society of Western Engineers in 1901. Lorch argued that architecture schools curricular content on art and design elements were being overshadowed by the technical-mechanical aspects of the existing educational paradigms of the day, limiting the capacity of graduates to practice effectively.

A similar evolution in pedagogy at the University of Southern California (USC), has been documented by Breisch (2013), who found that the architecture department at USC, established in 1919 by Weatherhead, originally employed a classic Beaux-Arts pedagogy and shifted the curriculum toward a more pragmatic approach to design by the mid 1930’s. The depression era shift to studios formed around proto-modernist practical topics like housing, city planning, and a stronger emphasis on three-dimensional models rather than the pictorial qualities of design sketches, which were the definitive product of the Beaux-Arts method, was meant to prepare students for the realities of architecture practice of the era. In 1941, in reaction to the growing concerns about the United States engagement in another World War,

Weatherhead reportedly shifted academic projects to focus on population, evacuation, emergency housing, the design of arsenals, airports, and the building of emergency communities for workers. Weatherhead believed, that these lessons to be learned by the USC students who were at the same time are given instruction in architectural principles of graphics, engineering, material studies, estimating, and construction costs and research.

By 1932, according to a report by Bosworth and Jones, commissioned by the Association of Collegiate Schools of Architecture, of the 52 degree-granting institutions in America, more than half were still embedded in engineering programs within their institutions, although influenced by the Beaux-Arts. They found that the French systems influence was primarily in design, but that an American version of construction, drawing, and history had developed (Alofsin, 2012; Ockman, 2012). They also found that architecture educators' goals had shifted "the profession is in a state of flux...the conception of architects as primarily aestheticians were passé. Instead of training just draftsmen or designers, the educational system now had to educate young people to become professional leaders in a modern society" (Alofsin, 2012, p. 100).

Alofsin (2012) credits Hudnut, a graduate of the U-M program under Lorch, for the introduction of a radical break with traditional teaching methods at Columbia. As a leading educational proponent of modernist design education, Hudnut sought to make the study of design as realistic as possible by basing assignments on actual conditions and present practice. Alofsin (2012) found that methods used in the classroom were to anticipate those of the architect's office.

Hudnut brought these concepts to Harvard from U-M and used them as he formed the curriculum for the graduate school in architecture; "His transformation of Harvard's

architecture program would eventually become the model for schools all over the North American continent” (Alofsin, 2012, p. 103). Changes in the descriptors listed in the Official Register for Harvard to emphasize the utility of the degree in service to the public appeared in the 1936-37 catalog, and the school’s previous curricular emphasis on history was replaced with an emphasis on design. The faculties who had specialized in structures, professional practice, and social requirements of architecture were merged into one faculty who would emphasize design. Hudnut then recruited Gropius, the founder of the Bauhaus in Germany, who was then in exile in London to re-constitute architecture training at Harvard. Saint (1985) described the transition occurring in the pedagogy: “Now the new German method supplanted faltering French traditions in the architecture curriculum... The new education spread with such great rapidity that by 1954 the AIA regarded a Bauhaus-derived curriculum as orthodoxy for American architectural school” (pp. 116-117).

However, Hudnut began to question the direction that Gropius was taking the program as the emphasis on functionalism, which Hudnut found too sterile, gained greater dominance. In an article in 1945, Hudnut first introduced the term post-modernism as he called for a return in architecture education for history, a renewal with civic engagement and urban culture (Alofsin, 2012). Gropius introduction of a course in design fundamentals, which was modeled on similar course that had been offered at the Bauhaus in Wiemar, was another one of the pedagogical innovations he would bring to American schools. One fundamental discrepancy that Alofsin (2012) reports strained the Hudnut-Gropius relationship was in the definition of collaborative works. Under Hudnut’s definition collaboration on architecture projects meant architects working with other professional fields such as landscape architects, city planners and the like, but for Gropius collaboration meant

delegation within the studio of design elements. This is, according to Alfonsin (2012), an exemplar for the differences between American modernism and European modernism, with American modernist concern for the environment and public spaces contrasted with the Europeans dismissiveness of external elements because of their perceive former association with royalty and the wealthy.

Other experimental schools of the era developed along similar lines, the most famous and long standing of which was Frank Lloyd Wright's Taliesin Fellowship. The fellowship program began in 1932, was managed in an atelier manner, similar to the way Wright had learned under Louis Sullivan. Alfonsin (2012) described "Wright claimed to abhor conventional architecture schools, but he saw himself as a teacher and envisioned the fellowship as the ideal means of training architects to create a democratic American architecture" (p. 109). The University of Pennsylvania was among the last to embrace modernism and then not until the 1950's (Alfonsin, 2012). Princeton did not shift fully to a design emphasis over history either. Alfonsin (2012) credits this to the design of the building the program was housed in with its close proximity to the art history program. The Princeton program remains small, history-theory based, and attached to its library resources (Andraos, 2015).

Signaling acceptance of the changes occurring in the American schools of architecture, and in a joint meeting with members of the education committee of the AIA, NCARB, and BAID, the ACSA members voted to abolish the standard minima in 1932 and replaced it with guidance to accreditation evaluators to consider the faculty, budget, organization, curriculum, entrance requirements, library, and equipment when judging the ability of a school to train candidates for the profession of architecture.

Third phase: Modernism to international style to post-modernism 1940's -1970's.

The third phase of the development of architecture education occurred simultaneously with changes to the structure, culture, and content of higher education institutions during the period that spanned from the end of the World War II through the Vietnam War. The American government invested considerable funding in university-based research, and the G.I. Bill boosted enrollments (Geiger, 1986; Graham & Diamond, 1997). Social activism on American campuses changed the culture and the content of some courses and offerings. The outcome of these three forces would result in greater respect for American institutions internationally and an increase in applications from foreign nationals (Graham & Diamond, 1997). The American schools of architecture would participate, adjust, and benefit from these same influences (Ockman & Sachs, 2012).

The emergence of the capitalist world economy after World War II, according to Larson (1993) is synonymous with the architectural modernism as the aesthetic of reconstruction and a symbol of American hegemony. Graham and Diamond (1997) note that during the postwar era American higher education was influenced by unprecedented growth and achievement, economic prosperity, and changes in federal science policy. And yet, “In the mid-fifties, only 56 percent of American architects had a degree, and only about half of all architecture students in the United Kingdom were in full-time university education” (Stevens, 1995, p.111). Pedagogical movements in architecture schools, which began as shifts from European modernism to American modernism, morphed into postmodernism as American educators adjusted to the social, political, and economic realities of the post-World War period.

Government funding for research. The post-World War era marked a significant

transition in the relationship of the U.S. government and military to American higher education institutions and spurred the growth of research efforts, and the formation of research units and institutes (Geiger, 1986). New relationships were formed at the University of Michigan and other architecture schools with the building industry in the postwar period spurred by housing growth, industrial design initiatives, and the prefabrication movements (Ockman & Sachs, 2012).

The support for research initiatives was not evenly distributed across all of the academic disciplines. Graham and Diamond (1997) found that after World War II American society was convinced that: “the link between research universities and a nation’s economic strength and national security was too vital for the national government to leave unattended. A postwar policy of national investment was essential” (p. 25). As a result, a general reconsideration of the educational enterprise and its role in the postwar economic priorities and global leadership initiatives would result in reconfigured institutions seeking to reflect the new American priorities. New academic course offerings were developed to meet the scholarship and research development needs American society sought. Ockman and Sachs (2012) detail the differing focus of European and American architects in this era writing:

While their European counterparts struggled to reconstruct damaged cities, architecture educators across North America looked to harness broad-scale planning initiatives, new technologies and materials, and individual creativity to make their contribution to postwar society. They explored industrial building methods with renewed vigor and, above all, embraced the ideas of a “progressive” --- that is, modernist - pedagogy. (pp. 126-127).

Universities that embraced the research and development opportunities of the era, and the government funding to back the research projects, were in a building phase during the postwar period. These efforts marked the first large-scale mobilization of research and development at universities for military purposes. Postwar governmental investments supported the research and development efforts of the scholars and practitioners studying the technical branches of architecture, but excluded the aesthetic and artistic branches with which architecture educators, especially at the schools that were aligned with the arts.

Last in the pecking order of sponsored academic research have been the arts and humanities. Despite the establishment of federal research fellowships and grants by the national endowments in the late 1960's, the arts and humanities have never been included in the NSF reports that document federal support for academic research. (Graham & Diamond, 1997, p. 138).

In response, the architecture faculty at U-M, who wanted to establish research as a legitimate function of architecture schools, hosted events and symposia to garner support. Bartlett (1995) reported:

The college attempted through many other means as well to substantiate research and design as legitimate modes of inquiry. In March 1959, the College of Architecture and Design hosted a 'forty man research committee' of the American Institute of Architects whose charge was to formulate a program of architectural research. (p. 81).

Among the successful outcomes of these efforts was the college faculty's ability to garner federal funding for projects as well as their involvement in building, manufacturing, and design research that would revolution the building industry.

The prefabrication movement in architecture schools and the building industry emerged in the late 1940's and early 1950's, as an outcome of research on the development of new materials and systems for constructing homes and buildings as well as factory production of entire homes. Ockman and Sachs (2012) found that the programs at the University of Michigan and University of California - Berkeley created detailed research policies, prerogatives, and responsibilities for funded projects. By mid-century, the housing program at the University of Michigan's College of Architecture and Design, under the direction of C. Theodore Larson, had opened a full-scale architectural research laboratory. Chief among its accomplishments was the realization of a prototype school construction system for the Unistrut Corporation, a company that specialized in prefabricated building systems, which had been founded by alumnus Charles Attwood (Bartlett, 1995; Ockman & Sachs, 2012). Similarly, George Brigham, a U-M architecture faculty member, developed the Brigham Building System that allowed for mass prefabrication of housing components, a system, which was, leveraged his investigation of factory fabrication techniques, which he had begun during World War II with funding from the War Production Board. The College's emergence as a center of research coincided with the university's capital fund raising campaign. The College of Architecture and Design, collaborating with industry to advance research and scholarship was showcased as creative fundraiser among the university's development staff (Bartlett, 1995). Similar initiatives occurred at the University of Southern California during the era where the Institute of Building Research was founded as well as at Massachusetts Institute of Technology, which received support from the Bemis foundation.

Ockman and Sachs (2012) remind that during the postwar years, politically, anti-communism agendas resulted in a need to Americanize the conception of modernism taught

in architecture schools in the U.S. They report that several prominent American architects of the McCarthy years found refuge in teaching at universities when private practices were struggling. Faculty who were practicing architects faced additional scrutiny; the university had high expectations of any professional practice activities undertaken, requiring practice to be specifically approved and equivalent to research (Bartlett, 1995).

Enrollments. During the second World War, Ockman and Sachs (2012) report that efforts were underway in architecture schools to support the war effort by providing accelerated programming and increased engineering offerings, but concerned about reduced enrollments, the chairman for the ACSA wrote to officials in Washington, D.C. requesting special deferments. He asserted that graduates of architecture school would be more valuable to the country after they had finished their training. Ockman and Sachs (2012) found that in 1941 Harvard chose to maintain enrollments by admitting women: “but stipulated that their number should be limited to twelve to fifteen at most” (p. 123).

The declines in enrollment were reversed at the close of the war, and several government-sponsored efforts supported a significant change in the demographic profile of newly enrolled students. In 1941, when Roosevelt signed the Servicemen’s Readjustment Act, returning veterans were guaranteed a free college-level vocational education, enrollment declines were reversed, and architecture schools benefited from an expanded and more mature applicant pool. Ockman and Sachs (2012) describe the demographic shifts: “Plenty of students no longer came from elite backgrounds. More pragmatically oriented, they had unabashed vocational preferences yet recognized that a professional education was essential” (p. 126).

In addition, the Taft Bill, which provided low-interest loans to veterans, spurred the housing industry in the postwar period:

It not only subsidized slum clearance and urban renewal projects under its Title I provisions but underwrote a comprehensive program of research on new housing technologies. Funding became available not just for workers in government and industry but also for academic researchers. Eager to partake, architecture schools began offering courses and even complete programs devoted to contemporary construction methods and fabrication techniques. (Ockman & Sachs, 2012, p. 129)

The postwar period marked the first time in American architecture education history that administrators would have to consider how to limit the size of an entering class. At the 1948 meeting of the ACSA, representatives from the University of Minnesota reported on an evaluation procedure, which required prospective architecture students to submit evidence of their scholastic aptitude, maturity and professional objectives. Ockman and Sachs (2012) found widespread support among the architecture schools leading in 1955 to the establishment of an ACSA Committee on Aptitude Tests to work with the Princeton-based Educational Testing Service on tests specifically designed for architects (p. 126).

At the U-M, enrollment grew in the architecture program from 291 students at the end of World War II to 776 by 1950. Concerns that the enrollment would double again in the next twenty years drove a building fund raising campaign, which ultimately moved the college from its central campus building, which had been designed by Lorch, to its current North Campus location designed by alumni Robert Swanson. The post-World War years also marked the beginning of a significant shift in the gender of the incoming class. In 1950 the

freshmen class of 105 included 42 women, in comparison, the College of Engineering admitted just one women to a class of 280 students that year (Bartlett, 1995).

Emigration. The advent of the modernist movement and its influence on American collegiate architecture education appears to have been influenced by the availability of new materials and technologies. The adoption of the movement was hastened by the emigration of noted modernist's architects from Europe fleeing two World Wars as well as alliances with a broader array of technical experts who could supplement and bridge the traditional and emerging technologies in building construction. Modernist architects of the World Wars period, such as Walter Gropius, Ludwig Mies van der Rohe, Louis Sullivan, Daniel Burnham, Frank Lloyd Wright and Le Corbusier, believed that newly available technology made old building styles and design methodologies obsolete and that architecture should be open to a freer and more organic conceptualization. Ockman and Sachs (2012) observed that postwar period also brought about an "engineering age" in architecture education.

Understanding the causes for emigration from Europe and beyond for architecture scholars, practitioners and prospective students is aided by an understanding of the general perception held by many Europeans previous to World War II about the quality of American universities. Graham and Diamond (1997) have explained that European critics viewed the "...proliferation of hundreds of state schools and small private sectarian colleges, most of them teaching undergraduate general education, was no pathway to advanced scholarship and scientific excellence" (p. 11). The generally accepted reason for the emigration of European architecture scholars during this period has been dangers of the World Wars, but Graham and Diamond (1997) believe that the United States significant investment in research activities at higher education institutions also fueled the emigration of scholars. An additional attraction

was working with a system that managed faculty careers in a more egalitarian manner than those operating in European schools of architecture. Geiger (1990) writes that the postwar growth and investment in American universities created secure professional employment for thousands of scientists and scholars. Bartlett (1995) found that policy and practice at U-M, seemed to shy away from offering emigre's teaching positions during the Wars and during the immediate postwar period, which resulted in missing out on the "deprovincializing effect that these intellectual immigrants had on American academia" (Bartlett, 1995, p. 76).

Educational reforms. Educational reforms were underway in the architecture schools in the post war years. Some reformers saw the need to balance the heavy emphasis on technical aspects of the building industry being taught by programs located in engineering schools in the United States with humanities and artistic orientations. The postwar transition from eclecticism and a teaching methodology predicated on replicating ancient styles and forms was replaced by functionalism in American schools of architecture during this period, but architecture educators saw a need for greater investigation and deliberation. The American Institute of Architecture (AIA) Director of Education and Research from 1946 to 1960 promoted the idea that the educational emphasis on the artistic elements of the discipline was out of date and counterproductive for the profession. The director criticized the schools writing, "While schools should expose their students to contemporary ideas coming from the social and behavioral sciences, human physiology, and earth sciences, their fundamental task was to instill a systematic and comprehensive body of clearly defined knowledge, principles, and techniques" (Taylor, Ockman & Sachs, 2013, p. 144). Having been trained in the military, Taylor, the AIA's Director of Education and Research, promoted the use of military logic with which complex problems subjected to systematic analysis and

operational research would be resolved. Ockman and Sachs (2013) noted the internal shifts in image and identity of architecture educators as the architecture faculty assert their claim as an autonomous branch of techno-scientific knowledge. The result, according to Ockman and Sachs (2013) was greater connectivity with other disciplines and reconsideration of the methodologies used in design.

Texas A&M developed an architectural division of the Texas Engineering Experiment Station to test environmental comfort systems and incorporate the learnings into future teaching activities on designing for human comfort. Asimow, an engineering professor wrote *Introduction to Design* in which he classified design as the operational discipline of engineering and described it as a process that starts with the abstract and moves toward concrete resolutions. In 1964, Alexander published the first treatise on the use of computers in solving complex architectural problems (Ockman & Sachs, 2013).

In the late 1940's, a major survey commissioned by the AIA, and overseen by Turpin Bannister, an architectural historian, noted several transformational initiatives underway in North America which would affect the future of architecture education. The first reflected changes in accreditation standards and length of study as approved by NCARB and the second addressed distinguishing architecture education from architectural engineering education. Another significant change initiative for practicing architects and architecture educators arose out of the losses incurred during the Depression-era and wartime when city and regional planning agencies favored the selection of engineers over architects in large-scale public projects.

Architects in practice were also suggesting an evolution of the pedagogy in the post-war years. These included encouraging the schools to prepare students for the emerging

evolution of the role of an architect. Noting that, out of necessity, had evolved from that of single expert overseeing lower skilled staff and helping them to develop skill sets, to that of a team of experts in the many sub-specialties that building construction now required, who were led by the design architect. Ockman (2012) writes that by the mid twentieth century the concepts of consultant, team, and the culture of experts were all in place both in practice and in schools. Boyle (1977) reports that in 1950, the AIA sponsored a survey of the profession which found that three types of firms were typical of the period; small, less than ten employees, medium comprising 10-50 employees, and large having over 100 employees. The AIA report also showed that specialization and segmentation of work increased as the size of the firm increased. The schools of architecture needed to adapt.

By mid-century, many universities had established departments for the study of city planning and landscape architecture, and architecture departments needed to establish collaborative relationships with these scholars and practitioners according to Ockman and Sachs (2012). In 1946, a formalized program in city planning was developed by dean Bennett at the University of Michigan and an innovative interdisciplinary teaching effort initiated when “Theodore Larson promoted collaboration through a joint studio in which students of city planning worked out land-use patterns while architecture students designed parts of the plan” (Ockman & Sachs, 2012, p. 141).

Similarly, the Harvard Graduate School of Design, combined the architecture, landscape architecture, and city planning program to promote collaborative initiatives, as did the University of Pennsylvania in 1951. The emergence of another sub discipline focused on the built environment was instituted at Harvard in the mid 1950’s in urban design. Pennsylvania, Rensselaer Polytechnic, and Washington University at Saint Louis established

similar programs within the next five years. The University of Michigan did not have a program in urban design until the late 1990's when dean Kelbaugh came to campus and hired the re-urbanist Roy Strickland to lead the program.

Methods, means, and geography. At the 1949 Regional Meeting of the Southeastern Schools of Architecture, Wurster, dean of Architecture at Massachusetts Institute of Technology, encouraged students to consider the character, curricular emphases, and geographical locations of the American schools of architecture when selecting a place of study. He stated:

There can be no one curriculum which is all in all and no one place which is the anointed one. I am grateful these two things prevent an association such as ours from rigid standards to apply to all schools...A questionnaire sent around through the faculties of one of our universities turned up 164 courses which the well-educated architect must have, which would be forty years of school life. (p. 1).

A representative sample of the debates of the time is included here:

Harvard Graduate School of Design. Stern (1969), noted that Harvard's introduction of the European modernism movement emphasized aesthetics, overlooked site planning, and in some ways was embraced by younger faculty and students because of its novelty.

Princeton School of Architecture. Shellman (1957) believed that the architectural educational evolution from eclecticism to functionalism was too limiting, unimaginative, and narrow. Shellman (1957) wrote "any theory of architecture exclusively devoted to purposes that are mechanical, or physical, moral or ethical and social or biological will only engender solutions that are narrow" (p. 20). Shellman (1957) describes Princeton's required architecture introductory courses of the 1950's as having three thrusts: immerse the student

in the broad range of expressive architecture; small group exercises in aesthetics in physical forms of art, such as architecture and sculpture; the use of drawing as a craft to communicate with others the architectural intentions. Shellman (1957) wanted his students to develop critical thinking skills that can assess reasonings beyond engineering and decoration in architectural artifacts, including learning to question why given similar climate, geography, materials, different forms evolved, which essentially required questioning the psychological, social, and emotional record created by architecture. Shellman (1957) wanted his students to move beyond the fashions of architecture so that they comprehend in a Wittgenstein ladder manner the architectural knowledge. Acknowledging that much of architectural knowledge was developed before them and the body of knowledge will continue to be developed after they are gone.

Shellman (1957) saw a need to evolve a new form of architecture education that would continue to incorporate many of the pedagogical techniques of the Beaux-Arts rather than dismissing them. In much the same way, that Lorch had several decades before, Shellman advocated for a broader more liberal education for architects with exposure to the humanities, arts, and social conditions.

Massachusetts Institute of Technology. Wurster (1949) described the organization of education at Massachusetts Institute of Technology in the late 1940's:

We do not have any master-studio type of organization. We have a pool of about one hundred teaching hours a week, and each critic is assigned... to participate in more than one group. Each student has two or more critics, which enables him to taste the chaos which will be his when he meets the world (p. 3).

Wurster (1949) describes the educational methodology at MIT as mimicking the practice-studio methodology of describing a problem, assigning research areas to individuals or small groups of individuals, sharing research findings with the larger group. Once the research findings were shared amongst studio participants, individuals then pursue design solutions that are guided throughout a developmental phase by the critics personally or in small groups. The finalization of the students design solution is presented to the school at a final jury that includes classmates, schoolmates, jurors, and critics from across the school as well as from architectural practices. Wurster saw this method as allowing students to have exposure to the sub-specialties that were emerging with the development of new technologies without losing the breadth of experience that would be required for graduating students to be successful. Confirming this view, practicing architect Arthur Holden (1931) wrote:

It is no longer possible for any man personally to know all of the things and do all of the things that enter into a building. But he must know enough about each of the special items to be able to select intelligently the various experts employed for the particular problem, to weigh and judge the information they give him and to correlate the whole job. (Ockman, 2012, p. 24)

Wurster (1949) was among the first architecture educational leaders who advocated for an interdisciplinary approach to architecture education, seeing the need for architects to understand sociology, community planning, and collective social action. Ockman and Sachs (2012) credit Nowicki at North Carolina State with a similar educational reform agenda, and cite many examples at both public and private schools of the era to find the right balance between methods, ideologies, and resources.

University of Michigan. At U-M, Bennett and Youtz, took an explicitly mixed-methods approach to design instruction, which included using innovative pairings in instruction, bringing thought leaders to campus to encourage national debate, developing new avenues of reaching, and teaching the community about good design and building practices. Innovative instructional approaches included combining faculty who were brisk supporters of Beaux-Arts tradition, and 'Miesian' Modernism as co-teachers in the design studio. Bennett (1951) thought that

The important schools of architecture have gone through the process of adjustment from the highly academic Beaux-Arts system to the more intellectual German approach of the Bauhaus, or to an independent point of view based on American environment and American building techniques. (Bartlett, 1995, p.72).

Fourth phase: Expansion and the baby boomers. The fourth phase in American architecture education was marked by significant changes in the missions and visions, demographics, academic alignments, and the facilities used for collegiate architecture education. During the period architecture emerged as a distinct academic discipline in American higher education; initiated scholarly research and discourse with a broader array of academic disciplines, re-established relationships with engineering departments, and began generating new and distinct subdisciplines, such as urban planning and urban design which added to the discourse on the built environment.

The changes in the academy were mirrored in the profession, and the AIA educational subcommittee commissioned two studies, in 1962 and in 1967, which evaluated the contents, ideology, and methodology needed and used in architecture education. The results of the 1962 study predicted a rebirth of the profession and a redefinition of the structure and content

of collegiate architecture education, with an emphasis on the application of scientific methods and systems approaches. The second study called for collegiate architecture education to be reformulated as a team approach to environmental design and the conceptualization of design as a political task (Ockman & Sachs, 2012).

The changes in American society during this period had a profound effect on the relationships between architecture professionals, their clients, and the public as well as between architecture students and their academic communities. Ockman and Sachs (2012) describe a public perception that the profession of architecture, and the principles and practices of technocratic modernism, as complicit in the exacerbation of the social ills that were triggering societal upheaval. The evidence, found in the built environment, where separating the affluent from the poor seemed to be a function of the profession, became of great concern to the academic and professional communities, as did concerns about the impact architecture practices were having on the natural environment.

In response, a series of curricular reforms with attention to policies relevant to the built environment, as well as increasing attempts by architecture schools to differentiate themselves from one another, dominated the period for architecture educators and their leaders. Operating in an increasingly competitive student and faculty recruitment market, the schools of the period sought to take advantage of federal funding for research opportunities, and several benefited from the postwar government funding to support the construction of new educational buildings.

Larson (1993) found that “distance and indifference (and at times resentment) are perceptible in the different orientations of architectural schools” (p. 8) of the period. McLeod (2012) found that during the late 1960’s and throughout the 1970’s, social activism by

architecture students increased, included leading protests on American campuses against University planning policies and their effects on the neighborhoods, especially at Columbia and the University of California at Berkeley. In addition, protests and demands from students seeking greater relevance in curricular content, which addressed social factors, resulted in several schools establishing co-teaching paradigms, paired design instructors with social scientists (McLeod, 2012). By the end of the period, the ideology of architecture education as enacted at several architecture schools had altered considerably. McLeod (2012) notes that those who taught in architecture schools during the late 1960's through the 1980's saw significant changes, including a "collapse of a belief in the principles of modern architecture. Functionalism, structural rationalism...and the idea of architecture as an agent of social reform were no longer verities and no longer a basis of architecture education" (p. 162).

Similarly, fundamental changes in the architecture profession occurring during the period from 1960's through the 1980 in terms of style, scope, and of clientele (Larson, 1993). Architects, according to Larson (1993), had to learn to find a balance or compromise between professional autonomy and heteronomy as they provided services to clients, and shifting client bases required the negotiation of new relationships.

Noting that architectural practices are dependent on the level of personal income, its concentration in the hands of those who can afford to spend it on design, the market of this period had expanded from solely the upper class and governments to include the American upper middle class. This broadened market required architecture professionals to reconsider the autonomy-heteronomy models previously used to include new client conceptions of the shared responsibility for the built environment. In addition, in what Larson (1993) has labeled as postmodernist revisionism, a split in authority for in the construction of new

buildings emerged with the design architect losing much of the oversight for construction, as those responsibilities shifted to construction managers and other agents of the building industry, many of whom had been trained in Engineering schools.

Larson (1993) attributes some of this shift to the varying state of the American economy, with its numerous recessions as well as the strategic position of the profession, which based claims of mastery on aesthetics rather than the technological mastery that had been claimed by engineers. She also asserts that discursive shifts in architecture practice and education were an acknowledgment that architecture exemplars of the period were influenced by a broadening recognition of the need for inclusion of sociological factors in play in the built environment.

Spurred by societal movements, government investments in historic preservation programs, mortgages, public housing and community facilities, and urban renewal programs played a role in the expansion of architecture research and scholarly discourse as well as professional practice. Larson (1993) remarks that governmental investments in development became differentiated between architecture which supported social capital and serves the community, such as schools, libraries, hospitals and fire stations as compared to economic capital, that which serves private sector economic interests, such as roads, bridges, airports, resulted in different kinds of demands for professional services and the education required to prepare professionals to provide such services. McLeod (2012) writes "...social and political movements spurred critiques of government-funded research and the increasingly instrumental orientation of the social sciences in academia, they led to an interrogation of architecture's own alliances with power and an economic elite" (p. 163).

Gutman (1996) disagrees, asserting that postmodern architects were not a force in the market for architectural services until the very late 1970's and early 1980's and were not therefore able to assert influence over the building industry sooner: "The ideas and approaches of a group of new architects came to dominate the internal discourse of the profession in the 1960's and within a decade they began to win important commissions" (p. 583), most of whom had academic appointments of one type or another to supplement both their income and their ability to disseminate ideas on architecture. Architecture practices struggling during the early postmodern period seemed to divide into futuristic technological symbolism or a return to either historical sources or abstract formalism (Larson, 1993, p.59).

Enrollment. The period of expansion in architecture education was influenced by societal forces as well, triggering increased enrollments and enrollments from a more demographically diverse population than in any previous era. McLeod (2012) speculates that the increase in graduate enrollments in the 1970's was triggered by recessions, especially after the 1973 oil crisis. Gutman (1996) highlights changes in the demographics of students enrolling in schools of architecture in the postmodernist period writing

The fact that so many of them were the children or grandchildren of Southern and Eastern European immigrants, including Jews and Italians, that they came into architecture at a time when professional education had moved into the universities and out of the ateliers, and when the expansion of opportunities in higher education enabled so many of them to acquire formal training, and penetrate a profession that until recently had been restricted to gentlemen. (p. 585).

The civil rights movement and subsequent legislation precipitated the recruitment of minority faculty and students at several schools, especially those with significant federal

funding, fearful of the loss of that funding (McLeod, 2012). Gutman (1996) believes that the influence of students from these backgrounds had as much to do with the emergence of postmodernism as did other factors.

Many of the postmodernist felt they had little to lose by turning their back on the ideas of the establishment of their youth, an establishment that would be unlikely to welcome them whatever their attitudes toward design. The best hope for recognition and fame was to be outrageous. (pp. 585-586).

Architecture schools were slow to respond to the women's liberation movement, it was not until the mid 1970's that women were enrolled in significant numbers in architecture schools (McLeod, 2012). The legacy of this delayed enrollment continues as the numbers of tenured women faculty in 1994 was under nine percent (McLeod, 2012, p. 170).

Educational reforms. Educational reforms of the 1960's and early 1970's were driven more by ideological movements in society than in technological changes in materials. The student revolts of the period were seen to have an immediate and profound impact on architecture schools. McLeod (2012) describes the pedagogical and demographic shifts underway:

These changes were instrumental in eliminating the last vestiges of the Beaux-Arts system and eroding the elitist old boys atmosphere that still characterized so many architecture schools; they also helped undermine the focus on design methods and systems that dominated architecture research during the late 1950's and 1960's. (p. 164).

These would include movements away from functionalist design for the built environment based on a conceptual 'universal man' and scientific integration of systems

theory to embrace the needs of users and sociologically informed practices. Design movements away from brutalist styles, and toward considerations of ecology, sustainability and social justice in design were seen at many American architecture schools. Ockman and Sachs (2012) have described the impact of the 1960's on architecture education as representing a decisive break from many previously held values.

Influences from systems thinking, collaborative efforts between architects and urban planners to reconsider the built environment as a whole rather than a collection of elements, in part, motivated architecture educators in the late 1960's to begin to broaden the definition of architecture as a discipline. The AIA special committee on education, in 1962, called for a new process for architectural education, and the creation of a two-tiered system. The change would create an undergraduate degree in liberal arts, followed by graduate professional degree. The special committee thought that the new organization would guarantee mature professional with superior qualifications for the most talented and committed students as well as “the creation of a reservoir of undergraduate with a broad understanding of the built environment, even if they did not go on to train professionally” (Ockman & Sachs, 2012, p. 146).

A second report was commissioned, and published by the AIA in 1967. The report called for a team approach to environmental design and the education of students preparing for careers in the field. Although not widely supported, it sparked further discussions on systems approach to architecture, lattice, and semi-lattice approaches, and approaches that considered problem solving as more political task of “satisficing” competing interests.

Sociologists and their work were added to the research and education portfolios of many schools of architecture in the period, such as the program at the University of

California at Berkeley, which pioneered partnering design instructors with social scientists. Socially driven movements that rejected the top down approach in firms and architecture schools of leaving directional decision-making in the hands of experts now encouraged a new collaboration strategy with sociologists and social scientists in scholarship about the built environment and the consideration of the needs of users as well as firmness and commodity in building ideals. Research at many architecture schools of the period began including user studies, uses of space, and space syntax and design evaluations in the user contexts. These movements eventually led to the establishment of the Environmental Design Research Association (EDRA), which popularized environmental design research internationally. Urban planning and urban design emerged in the period as subdisciplines to architecture.

Ideological shifts. Reforms of the mid 1970's through 1980's according to McLeod (2012), were marked by a collapse in the ideological belief, evident in modernism that architecture through functionalism and structuralism that architecture would be an agent for social change. Efforts were made to create a more relevant and less hierarchical curriculum at American schools, where hands-on learning might occur in a more collaborative manner. McLeod (2012) writes, "A new set of preoccupations with form, ornament, urban context, regionalism, and symbolism dominated studio discussions and reviews" (p. 162) in the post-modern era. Studio topics became more socially engaged because of the student activism of the period and several schools opened community design workshops. McLeod (2012), found that most of the community design workshops failed because the timing of teaching and learning, to get the students skills to appropriate levels did not always mesh with build project time schedules. Further, societal problems arose from these studios when "tensions arose from perceptions that black or ethnic neighborhoods had become training grounds for

privileged, usually white students” (p. 166).

The failure of modern architecture as an agent of social improvement and equity caused many designers and educators, according to McLeod (2012), to refocus their efforts toward the ‘art’ of architecture. Moving away from teaching studio as a community design problem, architecture educators believed that “If architecture could not solve social problems, at least it might enrich and enliven daily life” (McLeod, 2012, p. 171). The schools of the period worked to solve relevance, pedagogy, research, and interdisciplinary explorations in different manners. Some experimented with curricular content, others with sociological influences; other thought leaders would direct studios that engaged American popular culture. The team of Venturi and Scott-Brown introduced a mode of studio instruction, which was team-based and focused on research and documentation rather than design. McLeod (2012) saw common themes among the East Coast schools including a conviction that design could be taught, where architecture was composed either of personal intuition or of bio-technical determinism. In contrast, at Oregon and Berkeley, she found a continued reliance on the scientific approach, rational and data driven. The debates around the use of historical examples would continue as educators debated how to assist students in developing their own catalogs of spatial solutions, especially in the context of communicating with the public where the use of familiar examples from the past aids understandings.

The recessions of the 1970’s meant that graduating architects had very few opportunities to design and build projects, resulting in a significant number deciding to take up teaching careers, as well as significant efforts in the production of scholarly and creative practice works for exhibitions, conferences, and publications. The new interest in teaching

was fortunate for the schools, which were benefiting from the increased demand for graduate study caused by the lack of employment opportunities (McLeod, 2012).

In addition, a renewed interest in architectural aesthetics spurred interest in architectural history. In the 1970's, architecture history classes, which had been set aside as irrelevant in the modernist period, were again valued by students who sought to explore the interrelationships among forms and the society that assigned meaning to the structures (McLeod, 2012). Many of the schools sought architecture history educators who would incorporate urbanism, social context, and theory.

Jencks (1977) notes that six major trends in architecture discourse dominated the period between 1960 and 1980: historicism, straight revivalism, neo-vernacular, ad hoc urbanism, metaphor metaphysical, and postmodern space. McLeod (2012) notes two distinctly different methods of re-conceptualizing architecture education as educators sought to move beyond historicist's postmodernism emerged in the 1980's. The first became popular among the East Coast schools, where a methodological approach to education embraced typological studies to students by exposing them to Italian neo-rationalists and the development of an understanding that "urban form played a crucial role in the city" (p.190). Studios of the time challenged students to adapt specific city sites using specific housing types as a form of exploration. The West Coast alternative to the re-conceptualized architecture education was formal experimentation, with emphasis on the creative process itself, for which Southern California Institute of Architecture (SCI-Arc) became known. McLeod (2012) reported that at SCI-Arc "...they encouraged students to explore new uses of materials, try different construction techniques, and break away from geometric constraints" (p. 190). Similar, but different efforts at Cranbrook Academy of Art in Michigan, under the

direction of Libeskind, would encourage students to “find ways of embodying symbolic and mythic meanings in projects without resorting to literal figuration or historic replication” (p. 192), reject functionalist and structuralist imperatives, and formalism.

The economic boom of the 1980’s resulted in architecture as a profession becoming popular and marketable, and some educators becoming nationally known trendsetters. Schools invited high-profile designers as studio critics, expanded lecture series to provide students with a greater range of ideas, and leveraged these activities as means to increase enrollment and diversity. The 1980’s in architecture education, according to McLeod (2012) saw the rise of factionalism in approaches to research and the dissemination of knowledge across American schools. Despite the diverse ideological paths schools were choosing, common amongst them was the commitment to architecture as an art, as well as increasing disengagement from social issues. McLeod (2012) describes the shift in postmodernism in architecture as swinging from an interest in history, to a preoccupation with theory in the 1980’s. A new kind of architecture educator emerged in the period --- the professional architecture theorist. Some of these new types of teachers had trained as architects and had practiced for short periods, but others came from other disciplines. McLeod (2012) found that few of these architectural theorists would continue to design or build, preferring to focus full time on new theoretical investigations. She remarks that the emergence of the professional architectural theorist as educator occurs simultaneously with the emergence of the earliest doctoral programs in architecture and marks a growing divisions between practice and theory. McLeod (2012) found two major theoretical tendencies emerging in the era: the first a politically motivated critique of postmodernism, and the second focused on post-structuralist theory.

The role that politics and social activism played on architecture curriculum in the 1960's and 1970's shifted in the 1980's including gender and identity politics; colonial and post-colonial studies, and ecology (McLeod, 2012). The presence of women as students and eventually as faculty and academic leaders in the architecture schools led to a series of conferences, symposia, and publications on the role of gender in practice and in education (Groat, 2016). Similarly, a growing awareness that the preparation of students for international practice might benefit from international explorations and the impact of the built environment on the natural environment would foster academic explorations, research, publications, and new inter-disciplinary alliances in architecture schools (Fishman, 2017).

Changes in architecture education in the 1980's would also benefit from the introduction of computer-aided design and associated software that allowed faculty, researchers, and students to virtually construct, de-construct, and explore complex folded and curved surfaces (Borkin, 2016).

Fifth phase: Technology, identity, ideology. American architecture education, between 1990's and 2017 has been reshaped by technological innovations, re-evaluations of professional identity, re-aligned disciplinary collaborations, and negotiations between the academy and profession.

The politics and aesthetic explorations of the 1990's brought two divergent directions to architecture education; deconstructivism and historicist postmodernism. Emerging at a time when the public and the architecture community no longer believed that architecture alone could solve the issues of housing, urban blight, and the related problems, deconstructivism and historicist postmodernism each presented theoretical options, opportunities, and challenges for the community. The re-emergence of environmentalism,

now seen through new lenses including landscape architecture, landscape urbanism, ecology, and building performance were aided by computational systems that changed architecture studio instruction, evaluation and discourse in the 1990's. Schools of architecture became more demographically and culturally diverse, more willing to challenge modernist dogma, open to exploring non-western culture, and less elitist. The 1990's were a time when architecture educators were replacing historical explorations with technology-driven explorations, signaling a new phase in architecture education (Allen, 2012; McLeod, 2012).

Changes in architectural practices and education in the 1990's have been characterized as rejecting modernist dogma and embracing computing-aided explorations in materials, design, and construction. The architecture community in the 1990's benefitted from the relative prosperity of the 1990's, but had to adjust to new regulations with the introduction in the United States of the Clean Air Act and the Americans with Disabilities Act. The sub-specialty of urban design emerged as city leaders sought support in developing models that would reverse de-population (Kelbaugh, 2016).

Advances in computer-aided design, programming, and manufacturing changes provided the architecture community with research and creative explorations opportunities. The firms were ahead of most of the schools in adopting these technologies. The schools needed to invest in computing equipment and specialized staff, to support both input and output devices on a scale not previously encountered and internal struggles over spending priorities would often come down to debates between veteran faculty and younger instructors and students. Ultimately, the reality that the architecture firms had adopted these technologies to increase efficiency and effectiveness, as well as the increasing ease of use and pervasive of

multiple forms of technology-enabled applications and devices, pushed the schools to develop curricula and methodologies to prepare graduates (Allen, 2012; Larson, 1993).

Architectural leaders of the period straddled the academic and professional worlds. Some, defining themselves as much as artists as architects, gained prestige through gallery exhibitions and theater work or publications. Teaching and research activities were intermingled as they used academic visibility to gain professional credibility. Allen (2012) notes several significant leadership transitions occurred at leading architecture schools in the 1990's as retirements created vacancies. Columbia hired a dean who was known primarily for theoretical writings, Harvard's Graduate School of Design hired a chair who promoted a pluralistic approach to architecture education, and Massachusetts Institute of Technology chose a computer specialist as dean.

Widening the gap between architecture practice and the activities of the academy was proliferation of theory courses in the schools, which changed the emphasis in architectural education from technical to cultural practice. The expansion of architecture theory in the 1980's to embrace other disciplines, including cultural studies and literary criticism enabled "architecture to take its place among the other humanities disciplines, it had to be reconceived as a kind of discursive, text-based practice itself" (Allen, 2012, p. 211). Writers who had challenged modernist dogma in the 1970's had asserted that architecture needed to reconsider its relationship with society, releasing the formulaic systems approaches and functionalism, in order to uncover the idea of architecture as a language. Allen (2012) explains: "Conceived of as a form of language, architecture could variously affiliate itself with discursive practices from literary criticism to narrative fiction, film, critical art practices or new media...they redefined architecture as built discourse"(p. 211). These shifts yielded a

widely accepted view among architecture educators that the knowledge of structural linguistics and post-structuralist philosophy was a fundamental to an architecture education. Allen (2012) noted changes in the curricula of architecture schools designed to incorporate this new way of conceptualizing architectural knowledge: “By 1990, the schools could claim to be highly expert in questions of meaning, discourse, and interpretation, while questions of technique and practice were ceded to the working professionals” (p. 212).

A return in emphasis in the early 1990’s to materials and built forms occurred as architecture educators and students investigated how agency embedded in a material practice functioning in the world might be a more effective mode than literary metaphors for effective transformations. In the 1990’s the theoretical priorities, as evidenced by articles in architecture publications, shifted from critical theory to building culture, which encouraged the academic architecture community to shift from theoretical to basic research and from a focus on activities inside the academy to the public outside of the academy (Allen, 2012). Larson (1993) writes, “In the face of engineering’s more established position, it was strategically easier for architects to base their professional claims on the aesthetics of construction than on technological mastery or scientific methods. Thus, the image and identity of modern architecture remained centered on the subordination of technology to design” (p. 4).

Aided by technological developments, architecture schools recognized the need to catch up to architecture practices where the efficiency and effectiveness of computer-aided design had already been implemented. Early adopters of computer aided technologies included Columbia, MIT, SCI-Arc, UCLA, and Ohio State, where young designers borrowed software and other technologies from the film and aviation industries.

As computer-aided technologies became more pervasive and easier to learn, and as senior faculty who had learned design techniques without computer aid retired, the acceptance of such technologies and their associated costs became matter of fact in design schools. Some schools, such as the University of Michigan moved the teaching of the use of software from the core course content sessions and began to provide instruction in workshop format, provided by software use experts, so that faculty instruction was devoted to architecture content not software use (Ponce de Leon, 2008). Computing and software use in architecture schools became focused on strategic and operative potential. This included the logics of design, visualization processes, and interactive technology embedded within building skins.

Research. Needing to fit a research model into a university environment, and in part caused by earlier alignments with art departments, architecture research until the 1990's was humanities-based, theoretical and art historical, critiques of normative practices which led to publications, conferences, and exhibitions. This was problematic for explorations of other types of research including creative practice, material explorations, and technological. The bifurcation of research interests distanced some scholar-academics from practitioners. With impetus from clients in both the public and private sectors, Allen (2012) found that architects were being asked to participate in programming and design decisions that required a broader and deeper understanding of the societal variables enacted in the built environment. The broadened profile of research in architecture today includes a range from archival studies to robotics and studies on environmental performance as well as global urbanism. This broadening knowledge base required architecture schools to continue the outreach begun in the 1970's and 1980's to humanities and sociology to include other disciplines, including

engineering, natural resources, landscape architecture and others. Funding these research initiatives, by way of federal sources was diminishing, and new strategies for supporting architectural research were sought.

Summary. The evolution of architecture education from Vitruvius to modern day appears to have been influenced by four key factors: pedagogy, clientele, building materials and technologies, and shifting ideological allegiances. These four factors are reflected in the shifting emphasis in architecture practice and education among the original three Vitruvian principles: firmatis (durability), utilitas (utility) and venustas (beauty). This pluralistic orientation to the goals of architecture in the built environment has allowed practitioners and educators to consider the scholarship of a broad group of related disciplines in the development of the core expectations of their own discipline.

First, the pedagogy of architecture has evolved as architects move the Architects' self-conception from that of laborers to craftsmen to artisans to theoreticians and beyond. Accordingly, the education of architects has evolved from self-taught masters who were sole practitioners to master-craftsmen training and relationships centered in small workshops and studios with primarily local influence, to traveling guilds and articulated apprenticeships led by artisans who had strategically separated their body of work from that of the crafts and builder classes, to theoretician who speculated on the social factors influencing and influenced by architecture, to its current pluralistic state which embodies the craft, artistic and theoretical elements. The emergence of collegiate architecture appears to have been driven in part by a desire to formalize the educational and licensing requirements for those claiming the title of architect.

Second, architects needed to affiliate themselves with clients who had the financial means to support building projects. The actualization of architecture products has required close association with members of the powerful or elite social classes, who may have been affiliated with the Church, the military, governmental bodies or the wealthy. The recent broadening of the demand for services from upper-middle class clients is merely an extension of the older client paradigm brought about by the distribution of wealth in recent economic cycles. Governmentally sponsored and corporate contracts, the client home and business and mass housing all have had different client types, different building types and cultural expectations attached, and ultimately come down to who can pay for the architects services and get the building completed. The need to find clients who can afford to pay for architectural services has required architects to balance the concept of professional autonomy with a form of client-imposed heteronomy. In times of resource constraint, some practicing architects sought prestige-building opportunities in other artistic forms, such as furniture design, book design, and other visual technologies and exhibits. The impact that this has had on the education of architects is seen in the assertions that collegiate architecture education embodies the humanities, so that graduates can be articulate with potential clients. This alignment with the humanities also affected the development of doctoral education, allowing the redefinition of architecture to expand beyond the built environment to a text-based environment.

Third, the changes in educational content and pedagogy has been influenced by changes in available building materials and methods that have evolved from stone age craft using wood and timber construction, to modern-age design incorporating steel, glass and concrete to digitally fabricated building skins. Advancements in architecture products and

processes have driven changes in both architecture practices and architecture education. Schools that may have originally used only mimetic techniques reliant on exemplars, moved to experimental investigations of materials and methods and the expansion of scholarship of related disciplines to visualize, manipulate, and virtually construct the built environment. The changes in the materials and methods used in professional practices impact the expectations of schools as they prepare future architects. Academics and practitioners alternately exert pressure on each other in the development of the field and have to keep pace with each other and ahead of other attempted professional entrants seeking to influence the built environment.

The fourth the body of architecture knowledge, its ideology and philosophy, has varied in its allegiance to the technical-rational elements which aligned with the engineering disciplines to the creative and cultural elements of the built environment which align more closely with the art disciplines. Philosophical changes appear to have been influenced by a number of societal operating in the marketplace as they have moved from classicist styles to postmodernist approaches.

Chapter 5: College History

The history of architecture education at the University of Michigan (U-M) and the emergence of the unique culture operating among the architecture faculty at the Taubman College of Architecture and Urban Planning is the focus of this chapter. It is presented as a segmented series of developmental stages; founding, transitional, and maturity (Lippitt & Schmidt, 1967) augmented and segmented by leadership actions that influenced the faculty culture. Natural time line dividers aligned with the appointment of new leadership, in part because these leader's actions often influenced cultural developments among the architecture faculty or were influenced by the existing culture, and partially because much of the record of the college's history was documented by the dean's and other leaders.

The conceptual framework for data collection, analysis, and organization of findings relied upon a combination of the organizational culture theoretical framework provided by Allaire and Firsirotu (1984) with that of architectural theorists Frampton (1989), and Vogler and Vittori (2006). Shown below, the conceptual framework used to undertake this project shows elements of each of the theorists in environmental contexts.

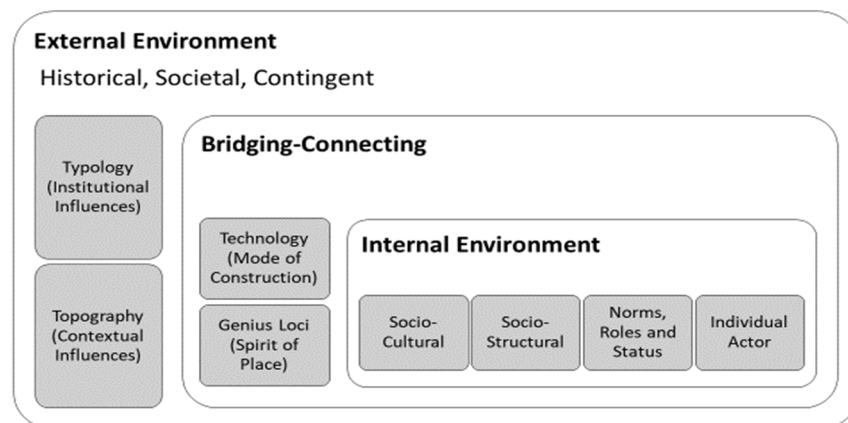


Figure 7. Conceptual framework

The founding stage spanned from 1876 to 1957, and included the activities that preceded any official organizational existence. The catalyst for establishing architecture education at the University of Michigan was a desire, of the U-M founders, regents and president to include architects within the portfolio of professions trained for the State of Michigan (Shaw, 1953).

The focus of the founding stage was defining the organization and its goals in the context of the University of Michigan and the architecture profession, as well as participation in establishing the foundations of architecture education in the United States. The second stage of organizational development was a transitional one that spanned from the late 1950's through the mid 1980's. During this stage, the organizational operating paradigms evolved in response to the changing expectations emanating from the University of Michigan and the profession of architecture. Significant change in societal conceptions of the image and identity of the architect and faculty members in academic settings seem, to have been the catalyst for organizational change among academic architects during this organizational development stage. The third stage of organizational development appears to have emerged in the late 1980's in response to a shifting in expectations in research universities, such as Michigan, seeking reputational capital.

Organizational creation and survival have been described as the critical concerns of the founding stage of organizational development (Lippitt & Schmidt, 1967). The three men most directly involved in the development of the U-M architecture organizational culture during this period, included William LeBaron Jenney, Emil Lorch, and Wells Bennett, each of whom were appointed by university administrators to leadership roles. Both Jenney and Lorch, as originating leaders, were focused on creating the organization and gathering

necessary resources needed for success. Bennett's leadership focus was on assuring its survival as a viable academic unit within the U-M superstructure and adjusting the organizational paradigms to meet evolving operating conditions. Each man had a distinctive approach to architecture education, the traces of which can be seen in the current academic architecture culture at the University of Michigan. Jenney was an engineer-architect-inventor who employed mimetic teaching methods and supported the discovery of ways to make architecture more durable through innovation. Lorch was an artistic-architect who believed that students could be taught to design through critical investigations of design theory. Bennett saw architecture as utilitarian and in service to the needs of man. It appears that each of the first three leaders of the U-M architecture program established Vitruvian values as the basis of architecture education at Michigan; and used those value constructs as a framework for communicating with internal and external stakeholders about the contributions of architecture education. In addition, these leaders established innovation, pragmatism, and flexibility as value constructs during the founding stage.

The second stage of the development of the academic architecture culture at the University of Michigan, the youth or transition stage occurred between 1958 and 1984. Similarly, this was a period of significant change in the mission and vision of the University of Michigan (Peckham, 1994) and the profession of architecture (Ockman & Sachs, 2012), each evolving from their founding to youth stages. Changes in these influential institutions required the architecture faculty organization to adapt new operating paradigms to assure organizational survival. Institutional and organizational goals in this developmental stage are focused on stability and attempts to gain reputation and develop pride (Lippitt & Schmidt, 1967).

The mission of architecture education at the University of Michigan evolved from a purely vocational focus to one that embraced research, scholarship, and creative practice, during this phase (Bartlett, 1995). Adaptations within the profession of architecture to new technologies and societal expectations of architects were influencing expectations of the knowledge set that graduates of an architecture program might bring to the profession (Ockman & Sachs, 2012). These new expectations had a disruptive influence on the culture of the architecture faculty (Bartlett, 1995).

College leadership during the transition period included Phillip Youtz, Reginald Malcolmson, and Robert Metcalf. Youtz and Malcolmson were selected by U-M administrators who believed that they would be able to lead the faculty to embrace broadened organizational goals, which would add prestige to the University of Michigan. Metcalf was selected to lead the architects after a period of significant internal conflict that resulted in organizational structure fracturing, and the partitioning of the college into two distinct academic units.

Youtz and Malcolmson's leadership sought to expand the definition of architecture education to incorporate theoretical approaches to architecture as well as vocational training. Metcalf's leadership was focused on achieving stability after organizational fracturing. Similar to the first developmental period, the first two leaders of this period were hired from outside of the University of Michigan, and the third from within the college (Bartlett, 1995). Organizational attributes established during this period, which are evident in the current operating culture, include its dean-centric organizational structure as well as the incorporation of broad definitions of architecture research in the work of the faculty and the academic program offerings of the architecture program.

The third stage of organizational development according to Lippitt and Schmidt's (1967) is maturity. During this period, those appointed to leadership positions were charged by U-M administrators with the pursuit of recognition, legitimacy, and status on a national and international level in the context of its mission and aspirations as a research university. The maturity stage includes organizational actions, which seek to achieve uniqueness and adaptability as well as contributions to society (Lippitt and Schmidt, 1967). College leaders during this period included Robert Beckley, Douglas Kelbaugh, and Monica Ponce de Leon.

Beckley's leadership efforts were directed toward establishing norms and values that could provide a foundation for the college as a national and international leader in architecture education and research. Kelbaugh and Ponce de Leon's leadership actions built upon the existing value of intellectual flexibility and focused on developing unique expertise within the organization, as a conduit toward reputation building and external competitiveness.

Organizational norms, values, and operating paradigms established during the maturity stage included an expectation that faculty members would demonstrate having attained national and international acclaim, and that academic programs and administrative initiatives would be focused on providing new, unique, and differentiating contributions to the discipline.

The current members of the architecture faculty at the Taubman College of Architecture and Urban Planning report that the organizational attributes they find most compelling include

- support for broad engagement in architectural discourse;
- support for interdisciplinary approaches to education, research and service;

- support for a maker culture that values building and architectural practice as both research and service;
- support/demand for faculty currency and originality;
- support for both pragmatic and idealistic visions of the purpose of architecture and architecture education;
- support for the primacy of design within the curriculum and the ethos of the college.

Founding Stage

The founding stage spanned from the first offering of architecture instruction at the U-M through the emergence of architecture as an autonomous academic unit. During this stage, the organizational type, its placement within the institutional structure, original norms, values, and operating paradigms were established. The actions of the appointed leaders Jenney, Lorch, and Bennett as well as those of the U-M President Angell were instrumental in defining and modeling elements of the culture, which would become guideposts used by architecture faculty members in subsequent eras.

The organizational form during the founding period evolved from a single faculty member providing instruction, to a degree-granting department within a college, to an independent college at the U-M. Figure 8 depicts the evolution of the organizational form and its place within the U-M.

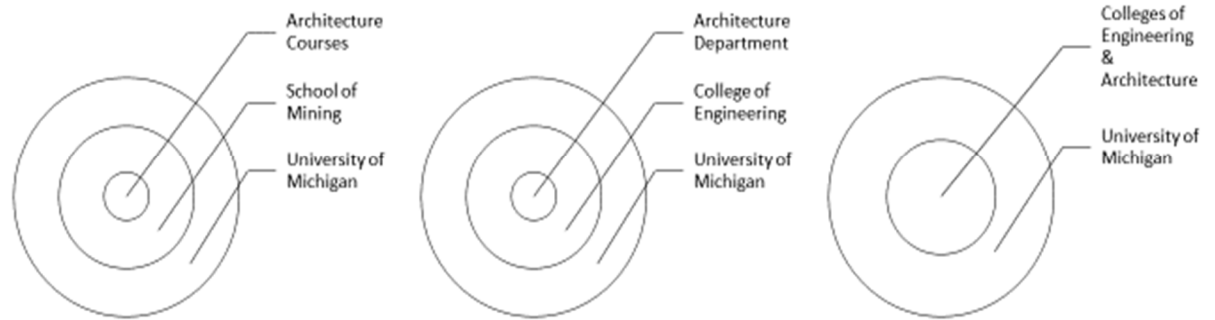


Figure 8. Development of architecture program within U-M institutional structure.

The emergent organizational type in the founding period most closely resembled the Peterson and White (1988) clan form. The leadership actions during this period positioned Jenney, Lorch, and Bennett as mentors and sages in the development of architecture education at the local and national level. During this period, the faculty was made up primarily by professional architects; they recreated studio-learning environments that mimicked their professional ways of working. The leadership goals during the period included developing relationships internally and externally that would provide a stream of resources that assured organizational survival. Peterson and White's organizational type matrix is depicted throughout this chapter with emphasis place on the sector, which matches the organizational characteristics observed. Figure 9 has emphasis on the clan form of organizational type as identified for the founding stage of this organizations development.

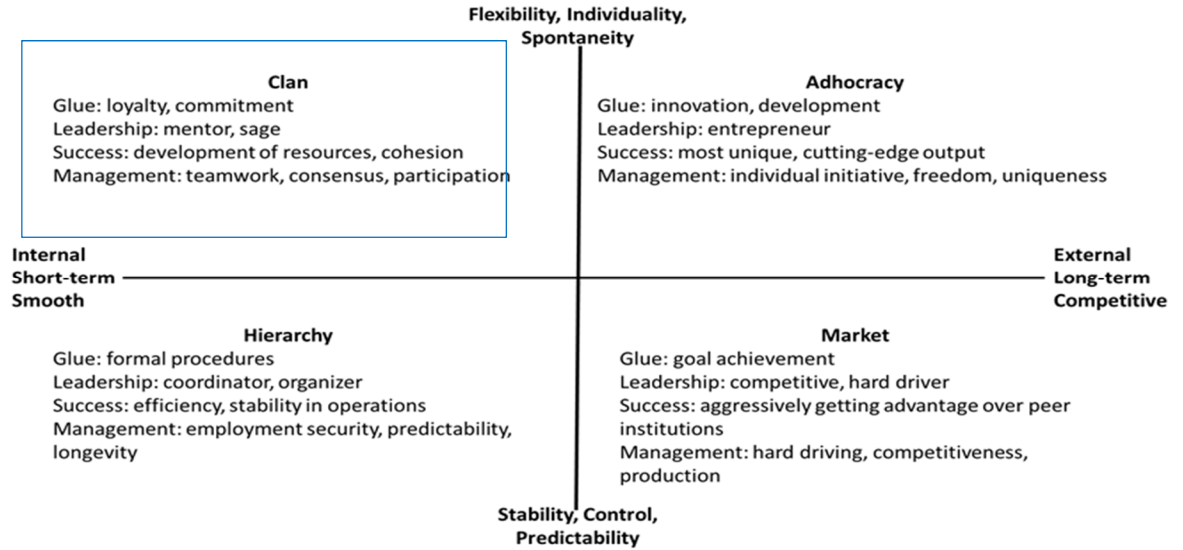


Figure 9. Organizational type matrix (adapted from Peterson and White, 1988)

Four organizational attributes, established during the founding period, have persisted: the studio-teaching paradigm, use of practitioners as faculty, ideological flexibility, and peer-review as a means of establishing legitimacy.

William Le Baron Jenney (1876): Inaugural instructor. Selected as the first architecture instructor at the University of Michigan, William Le Baron Jenney typified the engineer-architect of the era. His scholarship on architecture education included a co-authored book, and his reported enjoyment of teaching, design, and structural innovations and leadership experience, established many of the operating expectations for the academic architects at the University of Michigan today. His instructional contract was terminating when funding provided by the State of Michigan was transferred to a new institution being established in the Upper Peninsula. Angell's selection of Jenney as the inaugural architecture instructor established the archetype for future hiring in architecture at Michigan.

Typology (institutional influences). An architect's design choices are influenced by the institutional purpose and type of structure the client has commissioned (Frampton, 1989).

Similarly, designing and building an architecture program at the University of Michigan was informed by the client President James Angell, and the institutional type desired by the U-M president, regents and the citizens of the State of Michigan (Shaw, 1953). The two institutional forces that appear to have had the greatest influence upon the organizational culture and the leadership actions of the architecture faculty were the university as an institution and architecture profession.

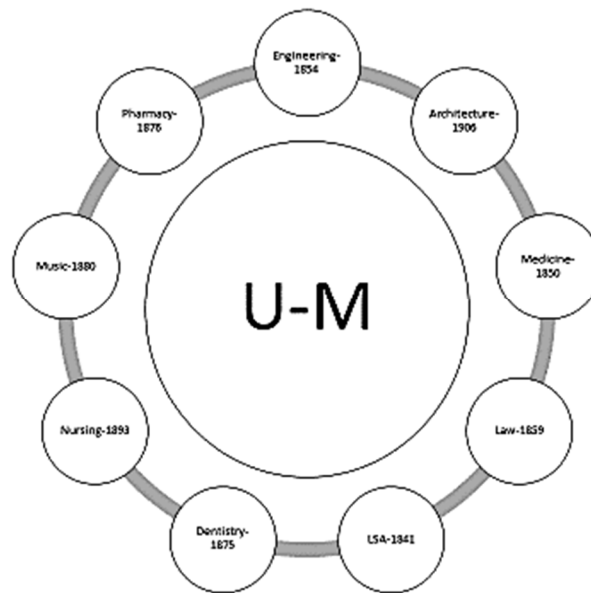


Figure 10. Schools and colleges established at U-M before architecture.

When James Angell was selected as president in 1871, the university included four distinct academic units: the College of Literature, Science and the Arts, the School of Medicine, the College of Engineering, and the School of Law. During Angell's administration, the School of Dentistry, School of Pharmacy, School of Music, Theater and Dance, School of Nursing, School of Mines (now at Michigan Technological Institute), and the forerunner to the A. Alfred Taubman College of Architecture and Urban Planning, were inaugurated.

Angell is often quoted as desiring to create a university that provided “an uncommon education for the common man” in service to the citizens of the State of Michigan. He, along with the regents and state legislature of this era, has been described as ideologically pragmatic (Frank, 2004). The influence of this pragmatism is evident in the original vision of architecture instruction as focused on producing architecture practitioners who could be available to support the needs of the State of Michigan. This pragmatic vision influenced the culture of academic architects in the founding period as they developed and refined the purpose and content of architecture training in a university setting.

As was true at many of the founding schools of the era, establishing an architecture program in an existing higher education institution meant negotiating a number of unique agreements. These included the formation of partnerships with the community of professional architects; the acceptance of unique teaching paradigms that had to be situated within existing facilities and faculties; and the acquisition of physical, human, financial, and spatial resources. Jenney began by providing a list of supplies, reference material needs, and desired facilities to President Angell. Because of his short tenure at the university, negotiating the other required elements and relationships was left for future leaders to manage.

Topography (contextual influences). In 1876, Michigan was experiencing significant population growth caused by immigration from Europe and migration by those who had fled the Civil War. The demand for trained architects to help support the work of regional firms was steadily growing. The university had recently adopted the elective system which allowed students to choose courses and the faculty of the department of Engineering as well as regional architects had been petitioning the Board of Regents for a number of years to create an architecture program in order to meet the growing demand for trained staff in architecture

offices.

When Jenney arrived on the U-M campus, there were very few buildings, no library, and no museum. Michigan had very few exemplars of works of architecture for students to study; there was no library of architectural artifacts, books on architecture, drawings, nor materials examples for students use (Bartlett, 1995). Jenney had limited funds from which to acquire resources to aid in architecture instruction, he chose to maximize his budget resources by asking for donations from friends and acquaintances in the architecture profession.

Tectonic (mode of construction). Responsibility for constructing the inaugural program in architecture education at U-M was shared by President Angell and Jenney. Before establishing architecture instruction at Michigan, and recruiting William LeBaron Jenney, President Angell consulted a U-M alumnus, who was president of Cornell University, Andrew Dickinson White, but not the leadership at the existing Midwestern schools of architecture. Bartlett (1995) speculates that Angell preferred an Easterner and Eastern educational methods, in effect establishing an expectation for the U-M that was somehow different from the programs already offered in the Midwest.

William LeBaron Jenney, the first instructor and campus architect was an innovative engineering-based architect. Jenney had demonstrated leadership in the army and had experienced both scholarly and commercial success before being recruited by Angell (Bartlett, 1995). Uniquely able to bridge both the aesthetics and engineering aspects of architecture “Jenney's architecture reflected his profession's deepening scientific understanding of building materials. His elegant frameworks of metal replaced heavy masses of stone and brick, and thus transformed the urban landscape” (Tobin, n.d.). Jenney's 1869

co-authored book, *Principles and Practices of Architecture*, was well regarded and his Chicago practice was receiving commissions for commercial and domestic projects throughout the Midwest. In an early response to an invitation from President Angell to apply for the position, Jenney's understanding of the advantages of university association for a professional practice was apparent "...there is an opportunity for research and theoretical labor that does not occur in practice" (Bartlett, 1995, p.12). This declaration was prescient for academic architects at U-M, and an early value-setting statement, which has been reflected in many of the subsequent hires for both faculty and deanship positions.

Jenney's appointment contract included both academic and professional expectations. Beyond teaching, Jenney was expected to design a library and museum building. Bartlett (1995) notes that "...these additional duties as campus architect would outlast his teaching responsibilities" (p. 14). The regents meeting minutes acknowledge the receipt of the working drawings three years later. (Bartlett, 1995, p. 18). Jenney's contract only required two days per week on the Ann Arbor campus, to allow him time to maintain his professional architecture practice. This contract established a continuing norm of allowing time faculty and leaders time away for professional practice.

Jenney's approach to designing the inaugural curriculum reflected his continental training, respect for working with construction staff, and an understanding that graduates would most likely be practicing within the region. Jenney wanted his graduates to enter professional offices with problem-solving skills, and he designed projects and problems that he believed would build that skill set (Bartlett, 1995). The course requirements for the freshmen through senior year were described in the 1876-77 circular and included French, "as well as contemporary association of botany with architecture" (Bartlett, 1995, p. 20).

Jenney also required students to design and draw plans that could be readily understood by the construction staff. He was a promoter of regionalized architecture education writing in the course catalog:

The advantages of obtaining an architectural education in the region where the conditions of materials, construction, and ways of working closely resemble those, which are found where the graduate proposes to practice, are very evident to all architects and builders. The prospect for a successful career to architects of advanced taste and skill was never more brilliant, especially in this part of the United States. (University of Michigan General Register, 1877, p. 70),

Jenney's actions and writings laid the foundation for the college's adoption of the values of students learning by constructing or making, faculty members researching, writing as architecture scholarship, and combining professional practice with teaching.

Historical, societal, and contingent influences. Allaire and Firsirotu (1984) describe the influence that history, society, and contingent influences can have on organizational cultures. Jenney, as the inaugural instructor in architecture education, personified many of the normative values established at schools of architecture in the United States in the founding period, including his scholarship, research, and continuing engagement with his professional practice. The college archives document Jenney's consultations with other founding American architecture educators as he developed the curriculum and resource lists for the courses at the U-M. This early form of benchmarking and environmental scanning became a norm of the college administration, and a key component of the work of the professional associations for academic architects such as the Association of College Schools of Architecture.

Angell perceived that Jenney's Eastern and European education as a professional engineer-architect could provide the university with the legitimacy needed to establish architectural education at Michigan and may have appealed to the Ann Arbor community (Bartlett, 1995). Like many of the schools of architecture being established in the period, institutions found it necessary to recruit architecture professionals with little to no experience in teaching to become instructors. These professionals established teaching paradigms that mimicked the professional studio environments. These models of design instruction combined multiple modes of instruction and a problem-solving case study content. Architecture design instruction offered students opportunities to learn from the instructor as a group and individually as well as through engaging in collaborative problem solving and research in groups. The professional studio model used in architecture education extended through student evaluations, which were designed as pseudo-client scenarios, administered by way of public presentation of their products. Courses in architecture design offered students a different approach to research, problem solving, and the development of critical thinking skills than the lecture and recitation courses required elsewhere in the university (Frank, 2004). This method of instruction continues to be used today in the architecture programs across the United States. This teaching method emphasizes design thinking, which is a constructivist approach to education that is described by the faculty as being a human-centered approach to balancing the three Vitruvian values of durability, utility, and aesthetics.

Sociocultural influences. Jenney's introduction to the Ann Arbor community was carefully crafted by President Angell, who asked him to prepare a short series of afternoon lectures to be made available to the public. These lectures allowed the local citizenry to see first-hand the value of adding architecture to the university portfolio as a pragmatic

discipline. Jenney understood the goal of the program was to support the region and included coursework that addressed regional design conditions and needs so that graduates were able to enter private firms and be ‘useful’ immediately upon graduation (Bartlett, 1995).

Operating norms that Jenney helped to establish included the reliance upon architects in professional practice as members of the instructional faculty, and the expansion of disciplinary knowledge boundary through experimentation, innovation, and research. As a professional practitioner, Jenney continued to be actively engaged in his Chicago practice while on the faculty at U-M, traveling by rail to Chicago or building sites and Ann Arbor (Bartlett, 1995).

Jenney’s professional architecture practice was engaged in research and development of new building materials and methodologies. His innovative development of steel frame construction techniques and building fireproofing systems revolutionized American architecture. Notes to Angell on possible ventilation systems for the new homeopathic hospital, established for the president an understanding that the disciplinary boundaries, and an ability to contribute to the growth of the nation were not limited by classical orders and mimetic educational processes. Jenney established architecture as a growing discipline for the University (Bartlett, 1995), laying the groundwork for the expansion of the program to include architectural research.

Socio-structural influences. During the Jenney years, the socio-structural components of the college were in flux as the institution of the University of Michigan was still developing and negotiating its relationship with the State of Michigan. Architecture instruction at U-M had originally been established within the School of Mines with two years of provisional funding from the State of Michigan. The program was suspended when the state transferred the funding for mining instruction to the Upper Peninsula to support what would later become Michigan Technological Institute. Some courses in architecture fundamentals were voluntarily offered within the College of Engineering by its faculty during the intervening years, using engineering teaching modes and norms of lecture and recitation rather than the studio norms that Jenney had established. The legacy of this period is a continued supportive relationship between the College of Engineering and the architecture program, including some joint appointments and joint research projects.

Norms, roles, and status. Norms, roles, and program status established during the Jenney era, which continue today, include appointing practitioners to the leadership role and reliance on practitioners for instruction, frugal use of budgets allocated to the program, desire to expand the boundaries of architecture through research, and an understanding of the pragmatic purposes of architecture education.

Angell and Jenney helped to establish the practitioner-researcher-instructor as the normative definition of the leader of architecture instruction (Bartlett, 1995). Each of the leaders, since the founding period of architecture instruction at U-M, has brought this same professional profile to the position. In addition, Angell established normative expectation that the leader of the architecture faculty would be a practicing architect, with a national reputation for scholarship, and innovation. The service aspects of Jenney's contract, which

required him to design several buildings for the University, as well as Angell's outspoken resistance to spending resources on architecture, established architecture's status as somewhat lesser than the other established professional programs such as medicine and law (Shaw, 1953). No other professional school established at Michigan required that faculty members provide service to the U-M as a condition of their employment contract; no other professional program had the president of the university dismiss its output as an unnecessary and frivolous expenditure for a state school.

Allaire and Firsirotu (1984) have described the influence that the individual actors have on an organizational culture and Bartlett (1995) describes Jenney as the personification of the type of architecture culture the President Angell wanted to establish at Michigan. "Refined New Englander by birth, continental sophisticate by education, romantic patriot by war duty, and ambitious westerner by vocation, Jenney embodied the image of architect as worldly professional"(p. 11). Angell's selection of Jenney, an inventor-engineer-architect, who enjoyed teaching and scholarship, established a cultural paradigm that became described the attributes found in many of the faculty members thereafter.

Emil Lorch (1906-1936): Pure design. Emil Lorch was appointed in 1906 to re-establish architecture education at the University of Michigan. He led the college for the next three decades and established or re-established the values, norms, and the operating paradigms used to guide the college and form its emergent culture. During his tenure, the college grew from a series of courses, to a department, and an autonomous academic unit at the University of Michigan.

Lorch was chosen by Angell, because he had local roots and support of the local architecture community, his scholarship on architecture design theory was being widely

discussed among academic architects, and he was an experienced teacher (Bartlett, 1995; Frank, 2004). These characteristics were important cultural guideposts selected by Angell in re-establishing the architecture program at U-M. The American architectural education environment had changed significantly while the program had been on hiatus, and Lorch had been one of those urging its evolution beyond mimetic practices toward innovation.

Lorch extended the reach of the University of Michigan through his leadership actions in the American Institute of Architects (AIA), as a founding member of the Association of College and Schools of Architecture (ACSA) and the National Architecture Accrediting Board (NAAB). Frank (2008) documented Lorch's impact on American architecture education standards "As a founding member of the Association of Collegiate Schools of Architecture (ACSA) in 1912, ...he had a fundamental role in drafting the ACSA's "Standard Minima" for architecture programs, which included room for courses in theory and design elements"(p. 263).

As a practitioner, Lorch designed and oversaw construction of the college's first independently occupied building, now named Lorch Hall. Values established and reinforced during the Lorch era included emphasis on design over engineering, preference for practicing architects as instructors, originality, community service, use of objective criteria for program and faculty evaluations.

Lorch sought to insure organizational viability through engagement with the local and regional professional community. Providing educational opportunities for the professional community fostered the collaborative development of architectural curricula, and criteria for academic program accreditation and professional licensing. This leadership strategy aligned

with the interests of the progressive movement and societal concerns about efficiency and efficacy.

Typology (institutional influences). Lorch led the re-establishment of the architecture program at Michigan as well as holding leadership roles in several architecture-related institutions that were also in the founding stages including the Association of Schools and Colleges of Architecture (ACSA) and the National Council of Architecture Registration Boards (NCARB), which each influence the educational components of a professional architecture education. As an insider to these influential organizations, Lorch could help shape policies and practices that would be used to evaluate his own organization.

The University of Michigan at the time of Lorch's appointment was led by President Angell, who held the view that the mission of the university was to support the needs of the State of Michigan for the development of an educated populace (Angell, 1879). In concert with Angell's desire to assure that the was useful to its citizen's, Lorch worked with local and regional architects and professional associations to establish a regionally appropriate curriculum and fostered information exchanges through workshops, conferences, and lectures. This strategy allowed Lorch to establish legitimacy for the methods and content of architecture education being developed at U-M.

Lorch gained a national reputation for his proposed changes to the mimetic curriculum being used at many schools. Gaining the support for this new approach to architectural education from the professional associations was key to its acceptance as a legitimate training methodology. Lorch, along with others, formed an educational sub-committee of the American Institute of Architects in 1914. They proposed minimum educational standards for the schools of architecture, which eventually lead to the definition

of accreditation standards for the schools and licensing standards for architects (Bartlett, 1995; Frank, 2004, 2008).

Lorch established Michigan as the site of innovative architectural education with high standards for teaching and service to the profession. Key among his successes was his leadership and collaboration with other architecture educators and practitioners as they worked to define the shared responsibility of the academy and the profession in the education and development of the licensed architect. These actions led to the eventual formation of the Association of Collegiate Schools of Architecture (ACSA), the National Consortium of Architecture Registration Boards (NCARB), and the National Architecture Accreditation Board (NAAB), which formed an extra-institutional structure and environment for negotiating, regulating, and legitimizing architecture education in the United States.

Topography (contextual influences). Re-establishing architecture instruction at Michigan was achieved in part because of the support of the local professionals, the faculty of the department of engineering and at the request of students. Lorch (1928) optimistically wrote that he believed that there had never before been so excellent an outlook for the trained architect. Pragmatically, engineering was viewed as the discipline that taught the how of construction and architecture added the why needed in the design of buildings (Lorch, 1914). Angell and the regents assumed that pairing engineering and architecture would be beneficial to both disciplines. Lorch reportedly struggled to establish the necessary framework for architecture instruction within the educational norms that had been established in the engineering school. He worked to establish a comprehensive architecture education program, partially reliant on engineering faculty members and within a building designed for engineers. Frank (2008) reports that the different operating norms, evaluation methodology,

and ideological expectations of each of the disciplines caused friction between Lorch and engineering Dean Cooley.

Lorch and the architecture faculty were responsive to the needs of the local professionals, national trends in architecture education, and the student demand on campus. The architecture faculty delivered a number of outreach, service, and extension courses during the Lorch era to help ensure the viability of their program. Dean Cooley described some of these activities to the regents “So much interest has been manifested by the architects of Detroit as to make it desirable for the University of Michigan to undertake, on a moderate scale, some such extension work in the near future.” (Cooley, 1909, pp. 606-607)

Tectonic (mode of construction). The mode of construction, used by Lorch, under guidance from Angell, for the reinstated architecture program at Michigan combined several different strategies. These strategies, over time, elevated architecture instruction from a few courses offered with the department of engineering, to its eventual organizational autonomy as an independent college. Hired by pragmatic university leadership, in a pragmatic region of the country, the administration of architecture instruction was placed, for administrative convenience, within the department of engineering (Lorch, 1914). Lorch was aware of the cultural context of the university’s Midwest location, and institutional aspirations as he developed the internal structures, norms, values, and operating paradigms while simultaneously working within external collateral organizations to co-construct the curriculum and experiences needed to educate American professional architects.

The strategies Lorch used included developing:

- a differentiated architecture curriculum while still utilizing available resources within the engineering department;

- broad marketing to attract new entrants to the university;
 - course work for junior architects practicing locally who needed to refine and develop skills, and providing it in readily accessible formats;
 - strategic partnerships with professional architecture organizations at the State and national level to assure Michigan's place among the architecture elite;
 - distinct degree-tracks that could provide engineer-architects and design-architects with differentiated learning opportunities;
 - educational programming to exceed the expectations of the marketplace
- (Bartlett, 1995; Franks, 2004, 2008).

The success of Lorch's program construction strategies was evident in its enrollment numbers, recognition of the quality of its students as they garnered international prizes and its eventual administrative autonomy. Bartlett (1995) noted that by 1922 the architecture program was the third largest in the country. The dramatic growth in enrollment in the period between the two world wars led to increasing tension between the architecture and engineering faculty: "By 1923 enrollment had increased to 246 and the pressure of inadequate facilities led to a campaign for a new architecture building"(Bartlett, 1995, p. 52).

Genius loci (spirit of place). When Lorch assumed the responsibility for re-instating architecture education at U-M, he wanted to create a spirit of place specifically designed for architecture. Franks (2004) notes that "when President Angell reinstated architecture in 1905, he did so with a specific angle in mind. As a state institution, the university had a pragmatic and practical bent" (p. 34).

Lorch's innovative belief that architecture education should be based on his theory of pure design, a constructivist pedagogy, as opposed to the didactic methods used by the

engineering faculty and, among other architecture schools, established a fundamentally different spirit of place within the University of Michigan. Frank (2008) described, "...the theory of pure design with its emphasis on abstracted exercises rather than drilling in historical styles, Lorch believed it freed students to develop a truly modern American architecture" (p.28). Classes in engineering were primarily lecture and seminar formats with faculty providing knowledge and students absorbing and reciting what was learned. In contrast, studio-based pedagogy involved students and faculty, co-constructing learning, using problem solving, and group work.

Lorch established the architecture program as a holistic preparation program: "Idealism certainly finds one of its strongholds in our institutions of learning. The fundamental ideal of college is, after all, to increase resource and power; to develop men, to train them for good citizenship rather than narrow vocationalism or professionalism" (Lorch, 1922, p. 118).

The studio-based pedagogy created a unique place for architecture within the engineering department; it was collaborative, less bound by rigid formulas, and more informal in its interactions between faculty and students. This informality extended to faculty relationships and administrative decision-making, which was described as 'family-like' with no formal notes being recorded until the program became administrative autonomous. Lorch's approach to program administration remained generally informal and ad hoc, trusting that reasonable professionals could negotiate among themselves to manage the affairs of the program. The first official faculty meeting on record was held October 22, 1929 (Duderstadt, 2017).

The mood on campus and among the architecture faculty shifted in the 1930's "towards a more complex administration less dependent on a single, senior faculty. Meetings were held, minutes were kept, and the program gradually assumed a more participatory operation" (Bartlett, 1995 p. 68).

Lorch believed that at its core American architecture education was a fine art, which meant that he expected that some adaptations to the physical resources such as those found in fine arts education could be made available for the architecture program. He documented some of the frustrations of creating a fine -arts-based architecture curriculum, within an engineering environment, including the need to retrofit spaces to accommodate instructional needs and the need to create a materials library. Chief among his earliest location-based challenges was the ability to deliver architecture pedagogy by way of an instructional methodology that differed from the existing engineering instructional norms in spaces that were not conducive to the needs of architecture education. While the program was housed within the engineering building, Architecture classes were assigned typical classrooms, with classroom desks, not the studio spaces with great windows and large drafting tables or easels required of architecture education.

Lorch had already become well known in architecture education circles, before coming to U-M, for promoting a new instructional methodology for architecture, and it did not map easily upon the established patterns used in the Michigan engineering department. Frank (2008) describes him as a pragmatic man, who found a way to balance architecture education between aesthetics and the construction-emphasis prevalent among his engineering colleagues. Fundamental to the growing cultural and ideological conflict between the engineers and the architects was a growing belief in architectural educational circles that an

artistic approach rather than a scientific approach was needed. Eidlitz (1858) explains some of the differences inherent in the two disciplines:

Architecture in the abstract is the art of representing and expressing in the organism of a structure, the idea, which has given rise to its erection. The science of construction...though a necessary and fundamental element in the education of the architect, forms only an important accessory to the art itself. (p. 53).

Where engineering courses were delivered by lecture and seminar methods requiring memorization and repetition, the core of architecture education, studio-instruction, was predicated on creative problem solving and normative spaces which were large enough for individual student drafting desks; required daylight or special lighting fixtures which did not cast shadows; and artifacts for students to draw, paint, or model. Lorch was concerned that architecture education must include appropriate art course work, in appropriate facilities.

The architecture faculty at U-M employed a constructivist method of instruction helping students to co-create design. In contrast, the engineers of the period relied upon a direct instruction methodology explaining, modeling, and encouraging skill acquisition. Lorch (1901) described the goals of architecture education as including how best to prepare the student to build beautifully and soundly as well as to teach him to be a creative worker rather than one that adapts. Lorch was seeking to educate artist-builders who were capable of finding artistic solutions to otherwise utilitarian problems (Arnold & Conway, 2016).

The enrollment growth in both the engineering and architecture programs as well as pressure from Michigan Architects were influential factors in President Burton's decision to seek the support of the U-M regents to launch a fund raising campaign for a new building for architecture (Burton, 1925). In 1925, the State of Michigan provided a \$400,000

appropriation toward the new architecture building (Burton, 1925). Additional sources of external support for the architecture building and artifacts came from the construction industry. These included donations of building materials and funds for the acquisition of art objects and historical fragments of American architecture for the students use. The support of these external constituents was key for the completion of the building.

The U-M regents selected Lorch and Associates to design and oversee the construction of the new architecture building. Lorch designed an L-shaped plan, with spaces that would uniquely support architecture and art education needs. The complete plan was designed to support any additional future program growth with the addition of two wings that could form a quadrangle with an enclosed courtyard.

Acquiring a building specially designed for architecture instruction also provided the faculty with an opportunity to demonstrate an independent identity. Peckham (1994) asserts that the addition of the Architecture building, not only relieved congestion in the engineering college, but also hastened the independence of the College of Architecture.

The new structure was positioned on the edge of the university's campus, and its facade emphasized in its exterior decorative elements the fine arts, including a weather vane, which from a distance appears to be a ship at sail, is made up of an artist's palette and paintbrush, riding atop a T-square. Other ways that Lorch communicated the values of the program included incorporating medallions and plaques on the exterior facade, which were engraved with the names of famous architects and artists including Michelangelo, Rembrandt, Titian, and Brunelleschi, as well as the Seals of the University of Michigan and the State of Michigan. The intentionality of representing the arts on the façade of the Architecture building provides important cultural clues. Seiler (1984) notes that "When

buildings reflect the purpose of the business and encourage important work relationships, they can become significant elements of corporate strategy” (p.111). The decorative elements, which combined art and architecture strategically, signaled to the rest of campus that the architecture program’s developmental intentions leaned toward the fine arts and its desired independence from the engineering college.

In 1928, the facilities of the architecture building were outstanding among the architecture schools of the United States. The drafting rooms were well equipped with drafting tables and the drawing and painting studios with easels and tables. In general, however, the furnishings were inadequate, and for many years, the classroom benches were of varying vintage, recovered from furniture discarded elsewhere on the campus. The architecture library was provided with overhead lighting fixtures that had been discarded by the general library.

The two wings of the Lorch design were completed in the 1920’s, provided the college with nine faculty offices and eight classrooms, a library, auditorium, exhibition cases, exhibition room, and studio drafting rooms. During the period 1931-1936, Slusser and Gores (1974) reported that the faculty perceived that their working accommodations were spacious and comfortable.

The most operating norms established during this period, relevant to the spirit of place that persist in the current architecture culture, include willingness to use makeshift furnishings and lighting, insistence on well-lit open spaces for studio instruction and research endeavors, prioritization of space over contents, and adaptability to changing space-related conditions.

Historical, societal, and contingent influences. Once the university had funding to

resume architecture instruction at U-M, President Angell chose an emerging American architect who was gaining a national reputation for promoting a uniquely American architectural paradigm. Lorch understood that American architecture education was evolving, catalyzed by emerging technologies and societal demands, yet struggling with the aesthetic movements which had uneven acceptance in society. During the first decade of the new program, new visions of architecture, and the relationship to the environment, society, and politics emerged, nationally. Lorch (1914) was aware of these trends and the need to evolve, writing: “Rapidly changing modern requirements and slowly forming artistic tradition meet and must be harmonized in modern architecture” (p. 403). In response, Lorch designed a responsive and progressive program that significantly altered the American conception of architecture education and supported the regional developmental needs.

Burchard (1956) notes that at the time the U-M architecture program was being established, architectural fashion was moving away from eclecticism, and the earliest modernists and the Bauhaus movement in Germany were emerging. Architecture education in the United States was struggling with an internal debate about the appropriate curricular balance of aesthetics and engineering. The architecture program at the University of Michigan never fully adopted an aesthetic fad because as Lorch said, “A school knows best its own problems and those of the community it serves” (Burchard, 1956, p. 121).

However, not all new ideas were especially welcome within the architecture program. The program faculty did not actively recruit women or minorities. Lorch wrote to a perspective female student, “Because of the ‘all-around’ kind of demands made of the profession of architecture very few young women are now practicing in the profession. But for those with the proper equipment in the artistic and constructional fields, and with some

business ability, there should be ample opportunity in the direction of house building” (Bartlett, 1995 p.31).

Keller (1981) quotes the first woman graduate of the program, Whitman as having been told by professor Lorch, during the admissions process in 1914: “Well you’re a woman and the law says we have to take you; but I’ll tell you right now we don’t want you” (p. B-3). Delight Sweeney, the first woman who attended the U-M architecture program in order to get an architects license, shared that for almost three years she was the only girl enrolled in the program (Bartlett, 1995). Similarly, prejudice toward non-Christians was challenging for Louis Redstone, class of 1929, who recalled incidents of both blatant and insidious racism, including resistance in sharing drafting tables because of his Jewish heritage. Even though Ann Arbor’s population of African Americans had increased nearly 50 percent between 1900 and 1910, their closest association with architecture was almost entirely in construction (Bartlett, 1995).

Sociocultural influences. Angell’s reinstatement of architecture education and the selection of Lorch as its founding director aligned in four keys ways with the institutional values that Angell was attempting to establish for the University of Michigan as an institution that provided an uncommon education for the common man. First, by adding architecture education to the university’s portfolio, a profession where many East Coast elites were attempting to limit access by requiring university education, Angell was advancing bringing training for entrée to this elite profession to Michigan’s citizens. Second, by selecting a thought leader in educational methodology like Lorch, Angell was choosing to establish the program at Michigan as an original, not a mimetic version of east coast schools, nor the existing mid-west schools. Third, by aligning the program initially with the engineering

college, Angell signaled to the regents and the citizens that architecture was pragmatic. Fourth, by selecting a locally born, East coast trained, practicing architect who was a well-respected scholar and artist as the program's founder he was creating room for a making-profession. Angell's selection of a Detroit native, who had been educated in Eastern schools, as well as in Paris, with some teaching experience and scholarship aspirations, seemed to meld the cultural requirements of the regents and the regional residents. Lorch (1914) had accepted the challenge of creating an architecture program within an engineering department, where doubts were expressed by both the engineers and the practicing architects in the region about the efficacy of such an arrangement.

Innovation and originality. Duderstadt (2007) has described originality as one of the core values of the University of Michigan and Arnold (2016) saw Lorch as a founding contributor to that value. This originality came in the introduction at a college-level of a new concept in architecture instruction: pure design. Lorch brought the concept of using the artistic imagination as a means to discover new architectural knowledge as a foundational element of designing an architecture program. He wrote:

The creative faculty, the art instinct, the artistic imagination, is the most valuable and most essential quality that the architect can acquire; it is that essential element in all great art. To awaken and develop this faculty is the greatest opportunity of the architecture school. (Lorch, Frank, 2008, p. 249)

Lorch's methodology formed the foundation for an architectural curriculum that balanced technical and aesthetic instruction by teaching critical thinking skills. Lorch's use of pure design theories and methodologies differentiated the University of Michigan architecture curriculum from the instruction in engineering-based architecture schools and

those taught through the classical mimetic reliance on forms. This innovative curriculum provided a foundation upon which Lorch's leadership among architecture educators nationally was established. This new architecture curriculum was an uncommon approach to instructing the common man in architecture, its success relied upon instructors willing to work cooperatively with those who brought different ideologies to the U-M.

Initially, instructors from the engineering department, worked with architecture instructors who had been trained at Eastern schools or in Europe to deliver the total curriculum. Lorch organized the curriculum, and hired additional faculty with the understanding that studio instruction was the core of architecture education. The elective classes were designed to serve the instructional goals of studio instruction.

Ideologically flexible and holistic. Lorch established the architecture program philosophy as liberal arts based and inclusive of both artistic and technical architecture knowledge. Lorch brought a distinctly aesthetic approach to architecture curriculum design and delivery at U-M. The curriculum was also pragmatically focused on the creation of architecture practitioners, as Lorch described when writing to a prospective student: "Our aim is to combine the cultural and technical work, both of which are so needed by our practitioners today" (Bartlett, 1995, p. 40). The liberal arts basis for the curriculum was intended to improve student's abilities to work with clients and to encourage the development of their critical thinking skills.

Lorch hired faculty who had been trained in the Beaux Arts systems and the German poly-technical system as well as those from diverse professional careers including artists, engineers, and practicing architects. This meant that no one particular aesthetic would

dominate the instructional activities of the college to assure alignment with his desire to emphasize design; Lorch hired three faculty members who had studied at Harvard as he had.

Lorch rejected the notion that artistic ability was subjective, and sought instead an objective and systematic approach to encouraging ability in architecture education. “Lorch knew he was importing methods intended for art into architecture” (Frank, 2004, p.31). His intention was to foster student creativity by way of abstracted rather than stylistic design instruction. Perhaps to increase the credibility and legitimacy of his pedagogical approach “He promoted the theory of Pure Design through the Architectural League of American and the ACSA and he made it the foundation course in the architecture program at Michigan” (Frank, 2004, p. 26). The outcome of Lorch’s curricular construction is an ethic, which continues at the U-M. Trandafirescu (2016) explains that the underlying ideology of the faculty teaching architecture at the U-M, is one that seeks to train students to create the next great building rather than a craft orientation, which trains students to build a good and adequate building.

In order to establish a culture that valued design as the core component of architecture education, Lorch hired faculty that aligned with this ideology, and devised a curriculum that reinforced a constructivist and synthetic design-thinking base. Lorch (1910) explained:

Design, owing to its comprehensive character, is of greatest importance to the architect, it should be, and is carried on parallel with courses in construction, the history of architecture, scientific and general studies which actually increases the efficiency in design. (p. 24)

Professional architect-teacher model. Schools of architecture across the country were hiring, as faculty members, professional practitioners. Establishing a normative value at the

University of Michigan that a faculty member would both provide instruction to students and engage in private practice for remuneration was a new and difficult concept for the university administrators and those at the College of Engineering to embrace. Clashes between the scholar's guild and the crafts guild, when higher education institutions hired practitioners, as instructors in the early days of architecture education were a common occurrence (Fisher, 2000).

Concerns about conflict of interest, conflict of commitment, and the evaluation of the quality of the professional practice activities have been discussed at multiple times over the history of the college. The first such documented instance appears in the faculty meeting minutes of October 27, 1930, when the architecture department was still administratively joined with the College of Engineering. It appears that engineering dean Sadler had written a letter to the architecture faculty, expressing the opinion that any outside work accepted by members of the faculty should be in the nature of consulting work, as opposed to design work. He cautioned that faculty members should be scrupulously careful to adhere to the ethics of the profession, and especially that they should not actively solicit work. In response, the faculty meeting minutes indicate that the architecture faculty assumed that dean Sadler's letter referred to members of the engineering faculty only and not to Architects. The faculty meeting minutes included:

Nevertheless, they felt it desirable to take a stand on the matter of outside work; they felt that they should not be limited to work of a consulting character, inasmuch as such work is unusual in the architectural profession, but that they should be permitted to accept any architectural commission where meritorious work might be expected.

They expressed the opinion that since active solicitation of work is not contrary to the

ethics of the profession of architecture, that this activity be left open to them.
(Marshall, 1930).

The response from the architecture faculty affirmed the value that they placed on professional practice, and a stubborn independence from the directive of the engineering school.

Disciplinary knowledge base expansion. During the Lorch era, the purpose, content, and methodology for architecture education was being re-negotiated between higher education institutions and the profession. Locally, Lorch was adapting the curriculum to the needs of the region by offering extension courses, as well as constructing a curriculum for a professional program. Nationally, he was advocating, negotiating, and collaborating with the professional associations the roles, scope, and regulations that the professions and the architecture educators in higher education institutions could use to assure the professional development of those who aspire to become architects. Simultaneously, professional architects, architecture educators and researchers, engineers, and related professions were developing new knowledge about methods and materials relevant to the discipline.

By 1912, all students in architecture took preparatory courses in drawing and elementary construction, and could select a degree path leading to a general course of study with an emphasis in art, one in architectural design, or one in architectural engineering.

Legitimacy. Lorch sought legitimacy for the architecture program at U-M, from two primary sources: the leadership of the University of Michigan and the profession of architecture. His pursuit of legitimacy for the architecture program included local, regional, and national campaigns for his teaching methodology, working with educators at peer institutions to establish minimum performance criteria and with the profession to develop licensing criteria. Achieving a state of legitimacy within the professional schools at U-M, he perceived could be aided by pursuit of accreditation and licensing criteria within American architecture education and among American architects.

Although architecture was specifically named in the original conception of the university, other interests have often taken priority over provisioning for architecture instruction at U-M. As the only academic program, which began with instructors required to perform service to the university, enduring long periods where multiple presidents dismissed the value of built architecture as frivolous and not in keeping with the pragmatic spirit of the university, insult was added to injury when President Burton excluded architecture faculty and students from any role in campus development. Where Jenney and Lorch had been expected to provide professional service in campus planning and building design, the U-M architecture faculty was excluded from these activities once Burton became president. President Burton created the “Committee of Five” to oversee the university’s building program. Committee members included a regent, the U-M president, an engineering faculty member, and a professional architect, Albert Kahn, who was not on the U-M faculty. Lorch was disappointed that the central administrators were not open to engaging architecture faculty in University projects. “Lorch had at first thought that Burton and his committee would support a new building for architecture, but realized during the president’s five year

tenure that other units, and architects, were priorities” (Bartlett, 1995, p. 62). Kahn went on to receive commissions for ten university buildings. The only building designed for the U-M campus by its faculty was the architecture building designed by Lorch.

Key among Lorch’s successes was his leadership and collaboration with other architecture educators and practitioners as they worked to define the shared responsibility of the academy and the profession in the education and development of the licensed architect. Lorch understood that the point of a professional education was for the recipient to attain legitimacy and authority within their field. He understood that legitimacy and authority are most often conferred through the establishment of standards and measurement of achievement against those standards (Bartlett, 1995). Lorch’s influence as a founding member of the Association of Schools and Colleges of Architecture (ACSA) and service on the AIA educational committee was focused on the establishment of minimum accreditation criteria and evaluation methodology. Lorch volunteered to have the program at U-M serve as the first accreditation visit site. Legitimacy for the program through peer-evaluation then became the standard by which the schools of architecture developed performance expectations. Legitimacy through peer-evaluation of faculty productivity as individuals came in a subsequent era.

Lorch helped to develop the sociocultural environment in the college and among architecture educators that supported the development of a socio-structural environment that provided a framework for legitimacy within the academy and profession. Examples of that structure include promotion and tenure guidelines, accreditation standards, and *College Rules*. Examples of the sociocultural environment include acceptance of the normative values include the rites, rituals and customs that support licensing activities and accreditation

activities as well as the manner in which faculty are evaluated for their academic contributions.

Norms, values, and ideologies that became part of the organizational culture as a function of the Lorch era included:

- embracing ideological flexibility,
- establishing the primacy of design-based instruction,
- employing professional architect-teacher as primary instructors,
- achieving legitimacy through peer-evaluation and coordination with the profession,
- expecting that the faculty would aid in disciplinary knowledge expansion, and
- discontent with perceived lack of centrality by the U-M central administration.

Socio-structural influences. Socio-structural elements of the academic architecture culture at Michigan, which emerged during the Lorch era, and are most evident in the maturity stage are the close relationships between architecture and engineering, art and landscape architecture. Structurally, the academic architects were associated with each of these disciplines throughout the foundational period. The legacy of these associations continues in the content of the degree programs, the working relationships of the architecture faculty, with faculty in those disciplines, and the development of interdisciplinary research and teaching initiatives. Physically, these programs were housed in the same space at some period during the Lorch era. This geographic proximity of these disciplines continued when each was relocated to the U-M north campus several decades later.

During the Lorch era, an informal system of administering the college, without written procedures manuals or rules, was employed; formal processes and procedures were

not established until administrative autonomy was achieved many years later. The first unofficial faculty meeting minutes were recorded in October 1929, after the department had relocated to the architecture building. Bartlett (1995) has described the administration of the early program as relatively informal and simple, almost family-like.

Evolving organizational structure. American schools of architecture during this period were most often organized within university structures in one of three ways, either as independent academic units, adjoined to art instruction units, or, to engineering instruction units (Whitehead, 1941). The decision at U-M to organize architecture education within the newly independent engineering department was merely an administrative convenience rather than an ideological choice, and reflective of the U-M's pragmatic approach to institutional organization (Lorch, 1914). At the time of the architecture program's initiation, did not offer art education; it came in later years, first as a department within the College of Architecture.

Lorch and the other architecture faculty as well as members of the American Institute of Architects petitioned the regents for administrative separation from the engineering program, with the belief that autonomy would allow the program to strengthen and grow to meet the needs of local architects for more trained professional entrants (University of Michigan Regents, 1907).

After architecture instruction was reinstated in 1906, it grew from a series of classes, to a degree-granting program, and gained status in 1913 as an academic unit within the College of Engineering. Figure 11 illustrates the degrees granted during this period and the changing organizational structure.

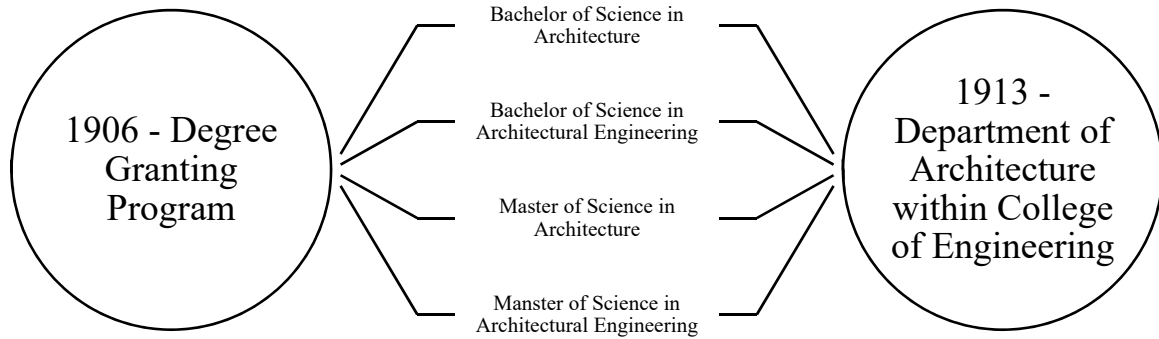


Figure 11. Architecture degrees granted at U-M 1906-1913.

By 1913, the academic program headed by Lorch had 100 students enrolled, hired instructors, and converted from a program in engineering to its own department, a decade later the enrollment had grown to 246. Views from Lorch Hall onto the campus through large windows were often the site of drawing and drafting courses because of the natural light available at these locations. Figure 12 shows some of these views with students working at them on drawing and drafting projects.



Figure 12. Views from Lorch Hall (Shaw, 1953).

During the Lorch era, the degrees and curriculum offered within the department evolved to meet the needs of the profession, and to recognize the growing discipline of art. During the founding period, art instruction was a core element of the design studio offerings. All art instruction through the 1930's was offered in a large sky-lighted studio on the fourth floor north in the West Engineering building. Pictures from the period show plaster casts, still life tables, pottery, and foliage.

The goal of the art courses was to help students to develop the ability to depict the objects accurately. The curriculum consisted of a series of courses, progressing from line, to tone, and finally, to color. A remnant of these early requirements is still taught today in the undergraduate curriculum. In 1924, the Board of Regents approved the addition of Bachelor of Science in design based upon a decorative design curriculum. (University of Michigan, 1924). The growth of academic offerings recognized the growing body of knowledge in the architecture and art disciplines. Figure 13 depicts the degree programs and their sequences as of 1926.

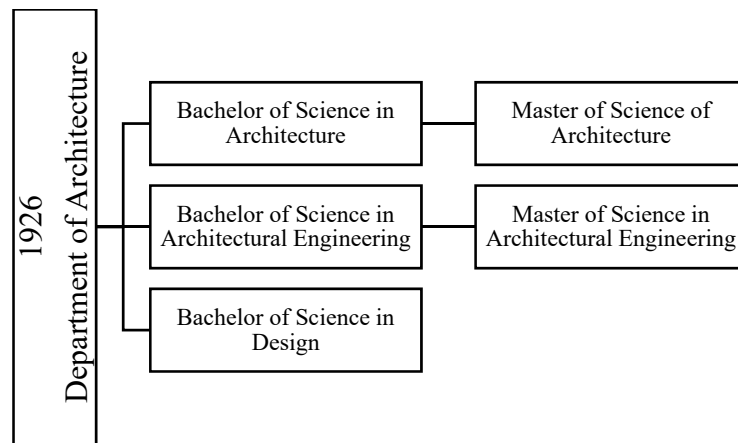


Figure 13. Department of Architecture - degrees offered as of 1926

The question of administrative autonomy for the Architects did not have the support of four successive university presidents, including Angell, Hutchins, Burton, and Little.

Bartlett (1995) explains that Burton's resistance stemmed from his concern that students at U-M not become over-specialized. The lack of support of the four president's did not deter Lorch from continuing the campaign for administrative autonomy. Bartlett (1995) described his tenacity writing "Braving the... outright intimidation ...of President Clarence C. Little, Lorch continued his campaign for the establishment of an autonomous program of architecture which would allow for an even stronger distinction in pedagogy between architecture which would allow for an even stronger distinction in pedagogy between architecture, engineering, and the liberal arts" (p. 56).

The regents conferred autonomous status upon the college, in 1931, creating the Colleges of Engineering and Architecture. In 1937, the architecture college was separated from the engineering College and merged with the landscape architecture program. The new organization was named the College of Architecture and Design. Figure 14 depicts the changing organizational structure in which the program was operating. The changes from 1931 to 1937 show the achievement of administrative autonomy and the beginning of internal disciplinary differentiations in the subdisciplines taught at the new College of Architecture and Design.

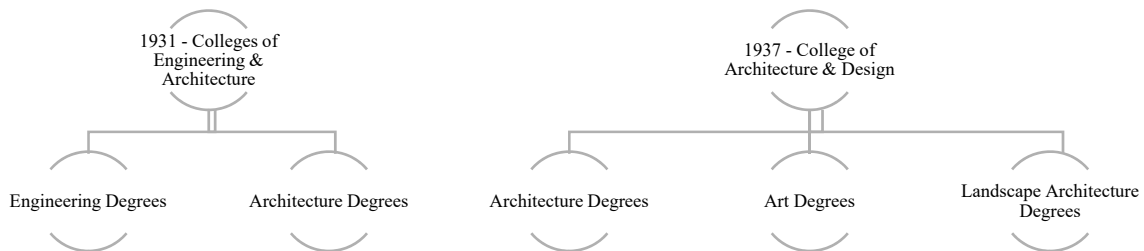


Figure 14. Evolving organizational structure and degree offerings in the 1930's

Recruitment and outreach strategies. Establishing the durability of an architecture program at U-M was of concern for Lorch who was aware that his predecessor's contract had been terminated after just two terms. He developed and implemented strategies that reached both to the professional community in the region and to new potential program aspirants to assure a steady supply of demand for the program as well as a source of legitimacy for the content and teaching methods employed.

Lorch implemented a student recruitment campaign that sought out students rather than passively waiting for them to self-identify and sent 2,500 copies of a program announcement across the country (Bartlett, 1995). Among his strategies for increasing the student enrollment was the first marketing of the program offerings by mail. Lorch sent two thousand five hundred copies of an announcement about the program and its offerings across the country. In 1906, twenty-three students were enrolled, several of whom had weak drawing skills, necessitating the development of remedial activities, which he organized as a sketch club.

There were two primary elements of Lorch's professional community outreach strategy: providing instruction to local practitioners, and engagement with professional associations. The outreach strategy established service as a cultural norm in alignment with the university's service mission, it created goodwill for the program, and was an advertising strategy used to increase enrollment. The legitimacy and credibility of the program was solidified in 1911, when the American Institute of Architecture added it to the list of recognized schools" (Bartlett, 1995)

The professional association engagement strategy allowed Lorch to advance the profile of the program while participating in the creation of legitimization strategies for the

profession and architecture education. Lorch led professional association educational sub-committees that developed the earliest educational standards and the precursors to program evaluation and accreditation standards as well as promoting efforts to create mandatory licensing requirements, becoming the first president of the National Council of Architectural Registration Boards.

Norms, roles, and status. The process of establishing the norms, roles, and status for the Michigan architecture program was similar to those used at other schools of architecture during the founding period (Weatherhead, 1941). The most prevalent norm established during the period was the expectation that the faculty for architecture was drawn from among professional practitioners who were interested and capable of providing instruction. A secondary norm, implemented by the professionals as instructors, was the implementation of the studio instruction methodology.

It was logical that the studio model form the basis for architecture education, because the majority of the earliest instructors in American architecture education delivered at higher education institutions had been trained using the studio-model, both in their formal instruction and in their practical experience. Studio model instruction established the role of faculty as studio leader and status of students progressing through the levels of the educational program. The model developed in American schools of architecture was a hybrid of the European models, American liberal arts courses and the newly instituted elective system.

During the founding period, all faculty members were all of equal rank, internal roles, and norms aligned with Lorch's informal management approach, where all decisions were

made in a family-environment, with Lorch as the paternal final word within the architecture faculty group (Bartlett, 1995).

Professional practice. Establishing practitioners as instructors in higher education environments meant that professional associations had considerable influence over the development of the educational program and its participants. Fisher (2000) writes that “this represented a major intrusion into the territory of the academic guild” (p. 4) and those professionals brought their own professional norms to the studios and classrooms. The agreement negotiated with the profession was that the schools would handle the theoretical components of the education and the professions were responsible for the practical and applied components of architectural training (Fisher, 2000).

Among the norms brought to the academy was the establishment of design studio as the center of instruction and the organization of design studios in a manner similar to the professional firm, with a senior member providing the project brief, desk criticism and eventually juried criticism of student work. The desk criticism was and is a one-on-one interaction between the studio instructor and the student. The juried criticism is an event during which the student displays and defends their solution to the project and a group of senior instructors critique the solution presented by the student. These activities were designed to mimic the interactions students might encounter in a professional firm. As a normative instructional practice, studio instruction followed by juried reviews was established at U-M during the founding period.

Establishing studio-instruction as the core of the curriculum, the core use of instructional space and the core from which culture in architecture is transmitted, was an intentional effort of the founding period. Piotrowski and Robinson (2001) wrote, “The

primary focus of architectural education has been the development of professional competence to construct buildings that serve society. The architectural curriculum is structured around this content, with architectural design as the core activity” (p. xii). Piotrowski and Robinson (2001) note that the primary activity of the design studio is synthesis. It is the place where students are supposed to integrate the divergent knowledges taught in other classes and apply them to their design projects. This instructional methodology differs from other disciplines according to Pitorwski and Robinson (2001) because the design studio resembles the laboratory setting where students learn by doing, and instructional mode is predominantly criticism. Fisher (2000) finds that design-oriented, studio-based pedagogy has remained unchanged for more than a century in architectural education.

Despite the fact that faculty in established architecture schools across the United States were employing professional practitioners as studio instructors, establishing a norm for faculty members as professional practitioners with commissions arising from clients outside of the university was a new and difficult concept for the university administrators and those at the College of Engineering to embrace. Internal tensions between the engineers and architects, and the program and central administration because of this paradigm were extensively documented in the college archives.

Wells Bennett (1937-1957): Growth, differentiation, fracturing. The theme of the Bennett period became one of managing growth: enrollment, ideas, influence, and national stature. Bennett became dean of the College of Architecture and Design in 1937, the year the architecture faculty were first granted status as an independent college at the University of Michigan. The changes in the culture, structure, and technologies of the college during the 20

period mirrored many of the movements in architecture and art education nationally. Changes in academic offerings, engagement with professionals, and the public, enrollment fluctuations, new organizational structures, and new technologies each influenced the evolving culture of the college. Perkins (1962) describes two schools of thought that dominated architecture education between the 1930's and 1960's: the establishment of a relationship between architecture and the humanities; and the city as a laboratory for architecture (Perkins, 1962).

Typology (institutional influences). During the Bennett years, the university was led by two presidents with differing agendas, Alexander Ruthven (1929-1951) and Harlan Hatcher (1951-1967). As Frampton (1989) has explained, the type of institution that a client has asked an architect to build has an influence on their design choices. Ruthven was credited with guiding the university through the Great Depression, World War II and the beginning of the post-war expansion. Ruthven restructured the university's administration to the more corporate form used today, which allowed the deans and faculty to have a greater role in university governance. The influence of these institutional changes included enrollment growth and significant organizational structure changes at the College of Architecture and Design during the Bennett era as the faculty sought a greater role in administrative decision-making activities. The primary cultural difference occurring during this period was the faculty's governance, which evolved from informal and family-like with Lorch as patriarch to formal, highly structured and distributed among department leaders.

Hatcher's administration oversaw enrollment growth at the U-M from 23,000 to 41,000, and the initiation of the development of the university's north campus and the Flint and Dearborn campuses (Duderstadt, 2017). The development of the north campus region

fostered hopefulness among the faculty of the College of Architecture that their facilities needs might be met in the new campus plan. Metcalf (1974) notes that the faculty were advocating and planning for larger and more differentiated facilities to meet the needs of the multiple disciplines housed within the college, its growing enrollment, and staffing.

The institutional influences from Ruthven's restructuring of central administration were mirrored at the college, culminating in a departmental governance structure, which shifted responsibility for curriculum and faculty hiring from the dean to the departments. Current *College Rules* assign responsibility for curriculum and guidance on faculty hiring to the degree programs, with final authority for selecting faculty from an unranked list of program-approved faculty prospects assigned to the dean.

Changes in the architecture profession and its corollary associations were also significant during the period. World War II (1939 to 1945) caused a depletion of personnel available to help with work in the firms, a shift in the clientele of those firms from private to public, especially in support the war effort and an increasing awareness of the value of research and development staff needed to support these output shifts. Ockman and Sachs (2012) found that "Perhaps more than any other discipline, architecture would find itself caught in the widening divide between the two cultures it straddled --- art and science, by virtue of both its history and nature" (p.122). Similarly, conflict caused by disciplinary culture differences between the art and architecture faculties was on the increase within the college, and these conflicts became one of the key reasons the faculty was advocating for a departmentalized organizational structure (LaMore, 1951).

Topography (contextual influences). Topographical changes occurring through American architecture education during this period included expanded academic offerings,

expanded efforts at outreach to the profession and the public, enrollment fluctuations, new organizational structures, and the addition of new technologies (Ockman & Sachs, 2012). Significant diversification of the art curriculum, the emergence of subdisciplines in architecture, which were founded in the hard sciences and social sciences, as well as the addition of the landscape architecture program, were topographical changes that occurred during the Bennett era that significantly altered the organizational culture of the architecture faculty (Geddes, 1967).

The College of Architecture and Design was granted status as an independent college at the University of Michigan in 1937. Accommodating enrollment growth, which nearly doubled during the Bennett era, was a major concern. Ockman and Sachs (2012) report that this was true in architecture programs as well “the most urgent problem was how to accommodate the massive influx of students” (p. 126). To accommodate these new circumstances, it was necessary to add additional faculty members to the college, many of whom brought a diversity of skills, ideologies, experiences, and educational backgrounds. Among the hires having the greatest influence on the culture of the architecture faculty were those hired by Bennett to catalyze innovation and research. A private panel of leader in architecture education and professional practice, commissioned by Bennett, had shared a concern that the college had stagnated and become provincial. Bennett’s strategy to counteract this stagnation was in recruiting three rising stars in architecture research, design and criticism (Bartlett, 1995).

Tectonic (mode of construction). The mode of construction used during the Bennett era included opportunistic enrollment growth, locally and internally focused design faculty hiring; the initiation of funded research; emergence of two distinct faculty subcultures: art

and architecture. The faculty expressing increasing interest in administrative decision-making and disciplinary growth as well. At the start of the Bennett era, in 1937, college records report a total enrollment of 358 with 24 faculty and staff. The enrollment in 1957 reached 647 with 46 faculty and staff, all working in a building designed to accommodate 100 students and eight faculty and staff.

In 1939, the landscape design program organizationally relocated from the Literary School to the college and was renamed landscape architecture. In recognition of these organizational changes, the college was renamed the College of Architecture and Design. In 1946, a master of city planning degree was developed in the Rackham Graduate School as a multidisciplinary undertaking, and the architecture research laboratory was formed in 1948. The creation of the master of city planning degree was an outgrowth of the evolving scope of knowledge that architecture was fostering, and a recognition of the growth in interest of the city as a laboratory (Perkins, 1962).

The design architects remained bound to their aesthetic traditions, although differentiation around problem-solving approaches was reported by Prof. Muschenheim, one of the Bennett hires intended to change the faculty culture (in Bartlett, 1995). Building technologies and material systems faculty members pursued new research paradigms often mixing hard and soft science norms (Bartlett, 1995). Faculty who specialized in City Planning began shifting emphasis to incorporate economics, space syntax, governmental management, community development, and policy studies as their core focus and source of their normative value set (Crane, n.d.)

The emerging differences in the norms, goals, and values of the faculty, catalyzed changes in its organizational structure. Toward the end of the Bennett era, in 1954, the

college faculty voted to move to a departmental governance structure, with art, architecture, urban planning and landscape architecture each operating independently but still administratively within the College of Architecture and Design (Marshall, 1954). Figure 15 depicts the departmentalization of the College by subdiscipline.

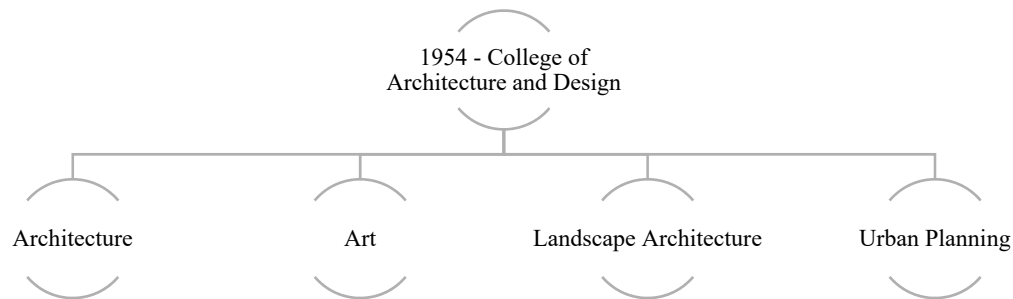


Figure 15. 1954 Post-departmentalization organizational chart

Genius loci (spirit of place). Churchill's (1943) statement "we shape our buildings and afterwards our buildings shape us" is particularly apt for the genius loci of architecture education, and its academic culture, during the Bennett era. The architecture building, which had been designed to support architecture education at the turn of the century, was increasingly unsuitable for the emerging subdisciplines of art and architecture, and the burgeoning enrollment. During the early years of the Bennett era enrollment had declined with the war effort, replaced in part by enrollment of women interested in pursuing art degrees, and those interested in art education, as well as cross campus enrollment in art classes. After the war, a boom in enrollment credited to the National Serviceman's Readjustment Act, caused significant overcrowding in the college, culminating in the initiation of selective admissions practices. The college's entire program portfolio rose to a high of 655 by 1950 and dropped by 1953 to 498. Department of architecture, in 1954, chose to cap its enrollment at 330 students. They held the cap at 330 until 1974 when they relocated to the new building on north campus. At 330 students, the architects were the largest program

in the college. Ockman and Sachs (2012) report that the spirit of place in architecture schools was positive despite overcrowding caused by the postwar enrollment boom.

Some of the studio spaces designated for undergraduate architecture students was retrofitted to accommodate ceramicists, sculptors, and printmakers, and the remaining studios became increasingly cramped. The building originally included just eight offices for faculty and administration; these were shared by nearly 50 persons. Bennett (1952) described challenges with the facilities for the faculty and students writing, “It is ironical that, with a good faculty and a lively and growing student body, we should be handicapped by out-of-date equipment and the lack of physical space (Hatcher, 1953)

The increased total enrollment meant that classes, at times, were conducted in hallways and students had to work together on projects in stairways (Bartlett, 1995). Exhibition spaces were remodeled as faculty offices or drafting rooms. Additionally, research projects undertaken in collaboration with the building industry fostered the need for additional space. The faculty built an Architectural Research Laboratory in the courtyard, with the support of an alumnus, creating a space of creative inquiry (Borkin, 2016).

The balance of enrollment had shifted during the war years from primarily male architecture students to include an increasing number of female art students. The art faculty became demographically and intellectually more diverse, hiring more women and more specialists. Culturally based conflicts between architecture and art faculty members were increasingly a part of the *Genius loci* of the college during the Bennett era (Bartlett, 1995).

As the faculty began engaging in basic and applied research, the college formed the architecture research laboratory with the intention of integrating construction, materials technology, and planning and research activities into the curriculum of the college. These

new initiatives necessitated a need for more space and a new type of dirty space. The faculty, working with an alumnus in the building industry, were able to construct a semi-permanent structure made of UNISTRUT material in the courtyard of the architecture building to provide faculty and students with ‘build’ and ‘dirty’ space for research and materials testing. (Larson, et al., 1968). The UNISTRUT building, a test structure assembled by the research faculty in the architecture building courtyard, relieved some of the pressure caused by the growth of faculty research, but did not resolve challenges caused by overcrowding and changing building use paradigms. Borkin (2016) shared that the culture of the research laboratory was dynamic and exciting as students and faculty worked together to define what architectural knowledge included, how to pursue its discovery or invention, how to apply it to the building industry and how to use new technologies that were emerging. Borkin (2016) credits the research laboratory as having laid the foundation for the college’s subsequent development of the doctor of architecture degree (D. Arch).

Historical, societal, contingent. Bennett held the deanship during the end of the great depression, through World War II and the beginning of the Cold War. Architecture education and the profession evolved within the modernism movement and with new architecture technologies. Significantly, in architecture education the evolutionary direction moved away from the pure design emphasis that Lorch had established, to one which was more engineering-based and incorporated research on building materials and construction technologies as well as the social sciences. This was a period of New Architecture when renowned modernist architect, first director of the German Bauhaus, and Harvard educator Gropius (1937) wrote extensively on the impact of the machine on architecture, freeing architects to move beyond mimetic practices of the past and generating opportunities for

production and education that had not previously existed.

During this period, prominent architecture faculty emigres fleeing the wars in Europe were hired at several East Coast universities. Many of these emigres are credited with inspiring intellectual de-provincialization of American architecture education. Despite encouragement of Albert Kahn, who had been a favorite of many U-M presidents and designer of many Michigan buildings, President Ruthven chose to take a conservative approach and refused the opportunity to hire any of these emigres, citing budgetary concerns (Bartlett, 1995).

Ockman and Sachs (2014) describe the significant shifts in architectural education and the boundaries of architectural knowledge occurring during this period, attributing the shifts to catalytic actions of the U.S. federal government. These actions included: an enrollment boom fostered by the National Serviceman's Readjustment Act; a housing development boom fostered by federal research funding for construction and materials technology development; a shift in emphasis in the schools to an engineering focus; housing ownership boom fostered by Veterans Affairs benefits creating building industry-university partnerships, and a countervailing shift in the schools to expand architectural knowledge with the aid of the soft sciences.

The availability of federal government funding for architecture related research, new emerging computing technologies and 'plastics' pushed architecture schools to think beyond the design studio boundaries in new ways. Ockman and Sachs (2012) note, "Funding became available not just for workers in government and industry but also for academic researchers" (p. 129). The availability of this new source of funding allowed many architecture schools to shift to an emphasis on building technologies. Bennett brought Larson to the Michigan

faculty to support the development of these new directions in architectural research and education. The faculty participated in plastics research, hosting the first meeting of the Building Research Institute, Plastics Study Group in 1955.

A counter-balancing effort was also underway because of concerns about connections being formed between the universities and the emergent military-industrial complex (Ockman & Sachs, 2012). Some schools of architecture were resisting the “zeal for the hard sciences was simply replaced by, or sublimated into an affinity for softer social sciences – fields such as sociology, anthropology, geography and psychology” (Ockman & Sachs, 2012, p.135).

Sociocultural influences. The sociocultural changes that occurred during the Bennett era included the emergence of subdisciplines in art and urban studies with differing worldviews and interests; a changing demographic profile, which included women and minorities as students and faculty; and a changing mix of the interests of enrolled students. Tensions between the interest groups and increasing scope of disciplinary knowledge in each of the subject areas, internal conflicts over space utilization and resource deployment, and the use of external advisors for an all college assessment resulted in several structural changes. The subdisciplines were increasingly differentiating in interests, scope, and methodology, and the impact on the sociocultural environment of the college moved its management ethos from family-like and informal to the more corporate form President Hatcher was instituting in the central administrative offices of the university. Bennett’s leadership and ability to keep the faculty together as a cohesive whole was strained.

Enrollment in the college reached a new high in 1940 of 399, but decreased significantly during World War II, especially in architecture, which had had a predominantly

male cohort, who went off to war (Slusser & Gores, n.d.). The decrease in architecture students opened up the possibility that female students, interested in architecture and art, could enroll in courses taught at the college. This was a significant change for the college enrollment demographically and culturally. Following the end of the war, the return of the male architecture students, required additional shifting. Slusser and Gores (n.d.) report that within the faculty, changes were also occurring, “At the close of the war, with the sharp increase in staff made necessary by the sudden inflows of veterans, there inevitably came, with new personnel, new ideas, and new viewpoints”

Ideologically flexible and holistic. The faculty of architecture and art were in a period of re-imagining the goals of their discipline and the roles of faculty in the university. This period marked the emergence of the researcher-faculty in addition to the artist-practitioner-faculty and scholar-faculty roles. Bennett (1952) describes some of the differences in philosophy and ideology that were emerging among the faculty:

Although the interests of these three programs are closely allied through their common basic interest in drawing, painting and sculpture, the particular careers toward which students are trained have become increasingly specialized...The painter sees the world subjectively...the landscape architect has as his major interest the use and arrangement of nature...the architect...is the objective point of view. (p. 115)

In addition to re-conceptualizing the goals and boundaries of the discipline, the 20 year period marked the end of the ‘great-man’ approach to college leadership and the emergence of greater participation and engagement in the governance of the college as seen in the departmentalization and committee efforts.

Bennett, like his predecessor Lorch, preferred that the college not be tied to specific pedagogical or ideological styles of architecture education or practice (Bartlett, 1995). His attempts at influencing the faculty were primarily aimed at the incorporation of liberal arts education within the professional curriculum. He understood the primary filter upon which curricular planning rested was the education of professionals, but added an opinion that “electives in economics, sociology, and history are equally valuable as training for sound and effective professional practice” (Bennett, 1939, p. 125).

The growing body of architectural knowledge was influential in the decision to increase graduation requirements in the undergraduate program from four to five years by 1939 and the addition of a major in city planning option in the mid 1940’s. Although accreditation standards for architecture education had become formalized in a five-year undergraduate professional program, the graduate year was increasingly gaining importance in the late 1940’s and early 1950’s. The expanded curricula was attributed to newer technical complexities in building types and “...faculty with superior qualification and training were required, and an increasing emphasis on professionalism and the growth in specialization began” (Metcalf, n.d.).

Bartlett (1995) notes that studios during the Bennett era were frequently co-taught by faculty who had been trained in the art-based Beaux Arts tradition alongside those who brought the more mechanistic and technically based Bauhaus traditions to their teaching. Bennett hired faculty with conflicting views on the process of architecture design to encourage broad dialogue and critical discourse. Bennett continued to emphasize in architecture instruction the primacy of design as the basis of an architectural education, regardless of architectural ideology. Bartlett (1995) found that it was not unusual during this

period that "...design studio was taught by the team of professor Frederick O'Dell, who favored the Beaux Arts tradition and professors Edward Olencki, a graduate of the Miesian Illinois Institute of Technology" (Bartlett, 1995, p. 71-72), two distinctly different traditions in architecture education.

Frequent disagreements between three of the Bennett hires, Muschenheim, Larson and Sanders, centered on whether analysis of the design problem came before or during the design process. A faculty member's choice of the Bauhaus or Beaux Arts ideologies affected how the design studio was taught and represented. Ideological clashes among architecture faculty members in contemporary periods seem more often to represent instructional techniques, which were faculty members saw as formative in their experiences in East Coast or West Coast schools of architecture than the European schools (Adams, 2016; Gilpin, 2016).

The art curriculum expanded beyond the painting and drawing courses, which had originally been created to aid the education of architects, to include courses as diverse as ceramics, product design, information design, printmaking, and sculpture as well as a cooperative program with the School of Education in art instruction education. Faculty hired to support the arts programs were increasingly bringing national and international reputations in art and prestige to the college. These faculty members were attracting greater numbers of students interested in art exclusively and changing the demographic mix of the college, and increasing competition for resources between the art and architecture faculty (Bartlett, 1995).

Simultaneously, an evolution of the architecture curriculum was occurring in response to the needs of the profession. Changes in conceptions of architecture education from theoretical and distanced from practice established under Lorch, to the beginnings of the

maker-culture found in later eras, and were evident in Bennett's (1938) communication to the president. He described the perceived benefits of exposing students to opportunities to work directly with materials "... the student's imagination is quickened and the creative process the transition is made between the paper statement of a problem and the realities and artistic possibilities of the medium to be used in its solution" (p. 126).

These shifts changed not only what the faculty was teaching, but also what norms, values, skills, training, experience, philosophies, and objectives that new faculty hires brought to the college. Slusser and Gores (n.d.) described one of the causes for the emergence of a cultural divide between members of the faculty during the period as being predicated on professionalism in the architecture program versus utility of a general art curriculum.

Professional architect-teacher model. The postwar enrollment boom had necessitated hiring many of the college's own graduates as faculty in design, structures and building construction, including future dean Metcalf. Many of the faculty hired during the period remained with the college throughout their career creating stability in staffing but also creating, intellectual stagnation, and a lack of academic clarity (Bartlett, 1995). Of those hired in the period two thirds were practitioners, the rest were interested in research in social science, humanities, or technologies of architecture.

In 1948, the external review committee noted what they perceived as three serious defects in architecture instruction at the college, namely,

- lack of sufficient teachers with broad vision and aptitudes in architectural design,
- weak organization of the curriculum, and

- confusion about the objectives of architectural design. (Hauf, Hudnut, Murphy, Root, Wurster, 1948. p. 3.)

The committee noted that the general movement in architectural education was away from the concern of a design staff dominated by a single personality towards a collective approach. In response, Bennett approached design instruction leadership through hiring outstanding East Coast designers when it was determined that the program needed an infusion of new ideas and talent and he supported a series of conferences on design, bringing thought leaders to Ann Arbor. Bennett went to the East Coast to recruit faculty members for the college. New hires included Walter Sanders, William Muschenheim, and Theodore Larson; they each remained at U-M, until the end of their career and brought critical new discourse and directions in architecture as a discipline to the college. Each of these faculty members had experience in a different aspect of architecture practice, including scholarship and publishing, research and professional design.

Bennett also launched the Ann Arbor conferences, originally conceptualized as ‘salons’ of free flowing discussions on architecture design, pedagogy, and research with no paper presentations or proceedings published. Bennett organized the salons as gatherings of prominent architects and designers who could brainstorm, without competition, on the direction of architecture as a profession and as an academic discipline. The goal of the salons was to invigorate discourse on the Ann Arbor campus and situate the U-M program among those that were innovative (Bartlett, 1995). Subsequent offerings focused on specialized topics and resulted in published proceedings.

Architectural research in service to the discipline, the profession, and the nation rose as a priority among schools of architecture during the period that Bennett led. The faculty

conceptualized and delivered community outreach and service in a number of ways.

Professor Catherine Heller worked with Michigan Media to present a televised course on design of home interiors in the 1950's. Professor's Brigham, Bennett, and Hebrard presented community workshops throughout the State of Michigan to homebuilders and planners on the newer features of domestic architecture and community planning. These events followed on the architectural clinics, which college faculty had offered during the depression when enrollments were low. Bartlett (1995) notes that dean Bennett provided continued support to endeavors in urban studies and housing research. Bennett formalized the commitment to urban development research and education by establishing a program in city planning.

Disciplinary knowledge base expansion. The role of design-based studio instruction and its primacy in the curriculum was challenged during the Bennett era by external authorities. Two studies commissioned by the AIA issued during the period highlight the significant changes occurring in the discipline and the field. Bannister (1948) found initiatives to differentiate programming for sub-specialties, and standardize program lengths in alignment with other university degree programs. Bannister (1948) conducted a survey commissioned by the AIA on the state of architectural education in the United States, finding that two contemporary initiatives that would transform architecture education were underway including the standardization of length of study and means of distinguishing architecture programs from those in architectural engineering. Ockman and Sachs (2012) report that departments of city planning and landscape architecture were emerging in the universities of the era as well as the beginning of intellectual movements designed to generate architecture theory. After the mid-century mark, many architecture schools began "...focusing on defining architecture education as a distinctive type of training, one that not only gave

students specialized skills but also generated abstract knowledge" (Ockman & Sachs, 2012, p. 140).

During the 1950's, the AIA director of the education and research committee, Walter Taylor, declared that the educational conception of architecture as an artistic process was out-of-date and counterproductive to the profession. He believed that the future architect could engage in a process of analysis and synthesis, which might lead to aesthetic decisions made on purely rational criteria (Ockman & Sachs, 2012). The University of Michigan and University of California - Berkeley architecture faculty each developed detailed research policies, prerogatives, and responsibilities for funded projects in the 1950's (Ockman & Sachs, 2012). The faculty developed one of the first architectural research laboratories in the country Borkin (2016).

Wineman (2007) notes that many of the U-M faculty were already engaged in research. In 1943, research and development of prefabricated housing launched an interest among the faculty to explore expansion of architectural knowledge in an applied manner. Brigham led the way, developing housing systems for the federal government with funding provided by the War Production Board that he called the Brigham Building System. During the World War II years, Brigham researched the production of low-cost houses for the building industry. Initiating a series of experiments with prefabrication, Brigham directed the first federal government sponsored architectural research program at an American university (Sies, 1982).

The impetus for expanding the research agenda had arisen from an external report that described the program as intellectually stagnated. In 1948, Bennett hired Theodore Larsen, a practitioner and researcher, who had served as project planner for the U.S. Housing

Authority and in previous roles in the National Housing Agency and for the military, as the inaugural director of research. The Larson research appointment, which brought investigations of materials, systems, and construction to the architecture portfolio (Borkin, 2016).

While the faculty did not choose to supplant design-studio instruction with any of the environmental design components, it bolstered the diversity of instruction by inviting Sanders and Muschenheim to reinvigorate the discussions and weave architectural theory, philosophy and architectural history into the design studio as well as policy work (Bartlett, 1995). Despite these efforts, the 1956 NAAB review of the architecture program commented on the poor quality and availability of the facilities, lack of visiting lecturers, disorganized curriculum, and paucity of non-design studio faculty.

Larson conceived of architectural research broadly, extending from materials, through social and statistical sciences. His development of the architectural research laboratory sought to extend the discovery and dissemination of architectural knowledge and its consideration of the global built environment. Bartlett (1995) reported that these activities culminated in “The college’s emergence as a bona fide research division of the university occurred during the country’s formative period of substantial investment by private and public interests” (p. 83). Figure 16 depicts the possibilities for interdisciplinary collaboration on architecture research created by Lonberg-Holm and Larsen (1953).

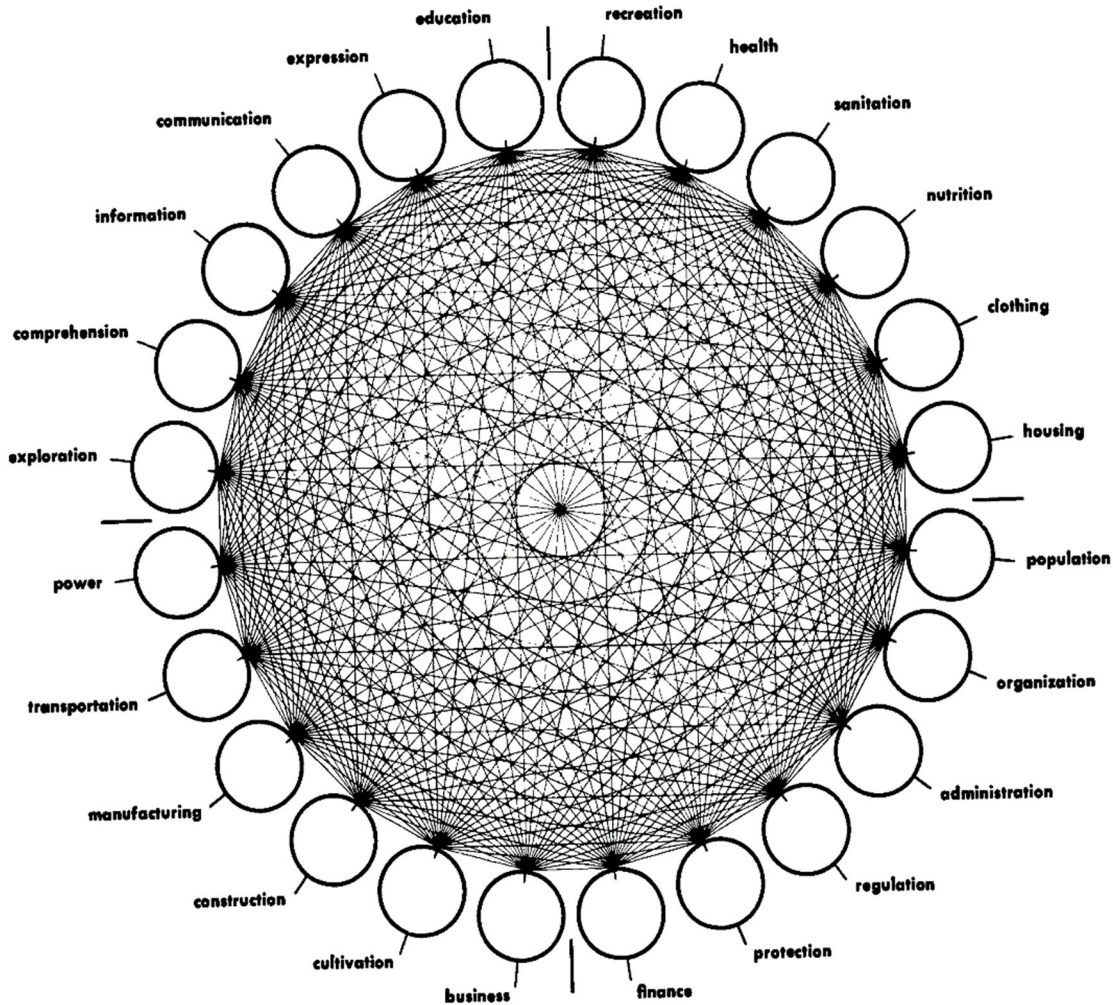


Figure 16. Architecture Research Development Index (adapted from Lonberg-Holm and Larsen, 1953).

A new faculty appointment type was created when Larson was brought to the campus predicated on the development of an applied research portfolio. Larson was expected to teach half time and work on architectural research the other half. Most significantly, the research expectation was related to the practice of architecture rather than the history of architecture, expanding the definition of what constituted architectural research. Larson's appointment was viewed by the college as its first signal to the university that professional practice was a form of research equal to other forms found the university environment. Bartlett (1995)

reported that new forms of architectural research and testing were now being undertaken on the central campus. “The most celebrated evidence of research undertaken by the team of Larson, his colleagues, and students was the structural prototypes constructed right in the courtyard of the college alongside the classical fragments already on the lawn” (p. 81).

Larson led the Architectural Research Laboratory (ARL), where faculty and advanced students explored new materials, methods, and theories of architecture. In 1949, when the ARL was formalized as an independent administrative unit of the college and the ARL building was erected on central campus using a UNISTRUT system developed by a graduate of the college the scope and diversity of architectural research began to grow. The mission statement for the laboratory was to develop new knowledge and new methodologies for use in environmental planning, building technology, facility and energy management, human behavior and the environment, computer-aided building design, building evaluation, policy planning, and the study of built forms and land uses. The faculty working within the ARL (later named Architecture and Planning Research Laboratory) saw themselves as providing training for research-oriented designers and planners, disseminating the work through a series of publications, and providing advisory and consulting services to aid organizations and communities in solving complex problems in planning and design. The mission of the research undertaken was both applied and theoretical as described by Larson (1990) “linking the scholarly and research activities of the university, the design and planning activities of professional offices, and the evolving needs of clients. APRL seeks to work specifically in areas not addressed by public agencies and the professions. (p. 1).

The incorporation of landscape architecture in the college as well as the emergence of city planning as a distinct discipline expanded the scope the architecture faculty’s

conceptualization of education and research on the environment. While landscape design had been an existing department before moving to the college, the planning program grew out of interdisciplinary efforts of some members of the faculty, including the dean Bennett, who were interested in exploring issues such as transportation, utilities deployment, and public housing from both a policy and applied perspective. The transfer of the landscape design faculty in 1939 aligned with shifts in the architecture profession and the emergence of city planning as a field of professional study. A collaborative studio, overseen by Larson promoted collaboration between students of city planning, who worked out land-use patterns while architecture students designed parts of the plan (Ockman & Sachs, 2012, p. 141).

The degree program in city planning, later renamed urban and regional planning had its roots in electives offered in the college. In 1945, the first professor of planning, John Hyde was appointed and a major was created within the undergraduate curriculum. The master's degree in city planning was formally created within the graduate school in 1946.

Legitimacy through peer evaluation. Bennett was among the first architecture educational leaders to invite external review committees to conduct a strategic assessment of the college's programs and resources, and among the first to host international conferences on architecture education. Both of these strategies were intended to legitimize activities of the college through peer evaluation. Mid-way through his deanship, in 1948, Bennett sought input from faculty members and deans of architecture at Yale University, Washington University, Massachusetts Institute of Technology as well as architects in private practice on the direction, resources, and administration of the College of Architecture.

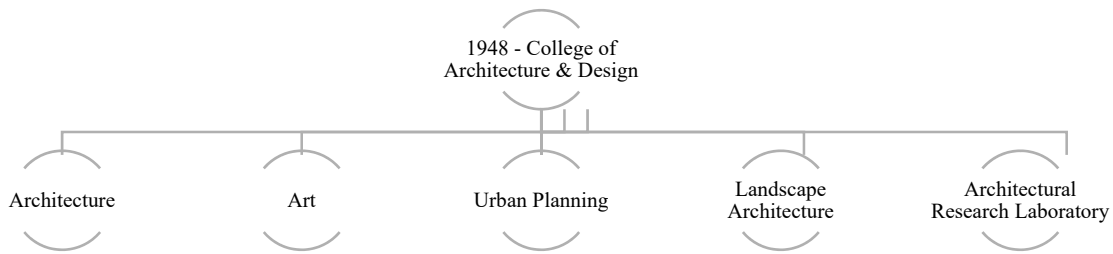


Figure 17. Changes in college disciplinary portfolio

This peer review of the college provided Bennett with an external assessment of the college that could be shared with the faculty and central administration in establishing future actions. The external review committee recommended significant changes in the college's academic portfolio, curriculum, faculty, and facilities. They admonished the central administration for its handling of campus planning and design without the advice of the faculty. The committee reinforced the belief that design studio is best taught by practicing architects and urged clarification of the objectives in the architectural design curriculum. (Bartlett, 1995)

Laying the groundwork for future separation of the college into two autonomous units, the committee reported, "It is our feeling that the professional instruction in architecture at Ann Arbor has suffered from its association with the instruction in graphic arts - and especially from its association with instruction in advertising and industrial design" (Hauf, et. al. 1948, p. 2). The committee also suggested the transfer of landscape architecture, which had joined the college in 1939, to Michigan State College, and history of architecture to the College of Literature, Science, and the Arts.

Discontent with the U-M administration during the Bennett era included concerns about the lack of understanding and support for the role of professional practice for design faculty, lack of inclusion on campus planning committees, and lack of access to design

commissions. The external review committee commented on the relationship of the central administration to the college, specifically, its disregard for the values held by the faculty specifically writing “the authority and usefulness of the faculty of architecture ought to be extended in such a way as to be a determining influence in the physical environment of the university” (Hauf, et. al., 1948, p. 4).

The report ended with an admonition to the university leadership for not incorporating the faculty into campus and building design decisions, and the impact on the general community perception of the importance of the arts and their support of their own faculty by not having done so (Bartlett, 1995).

Socio-structural influences. Significant organizational structure changes occurred within the College of Architecture during the Bennett era including departmentalization of the faculty into independent administrative units by discipline, the addition of the department of landscape architecture, the evolution of an interdisciplinary program in city planning, and the creation of an independent department of architectural research. Each of these structural changes was influenced by the evolving culture of the faculty as it undertook different intellectual directions, the profession, and the University of Michigan.

The administrative staffing structure changes began in 1936, when Lorch resigned as director. President Ruthven initially appointed a three-member Executive Committee to oversee college affairs, with Bennett as its chair. The regents changed Bennett’s title to Director of the college in 1937, and then in 1938, under pressure from both the College faculty and the local Association of Architects, to dean of the college. When the landscape design program transferred from the College of Literature, Science and the Arts to the

college, the department and degree were renamed landscape architecture and the college was renamed the College of Architecture and Design.

Enrollment growth in the college and complaints from the faculty about the speed of managing administrative matters in the dean's office was the basis for the regents granting approval in 1947 for the creation of an assistant dean to manage admissions, records, budget, and the facilities issues for the college. Other administrative staffing appointments created during the Bennett era included department chairs and a chair of research. These staffing changes added a layer of governance between the dean and the faculty. Figure 17 depicts the new organizational structure with multiple academic departments and the addition of an assistant dean for Administration.

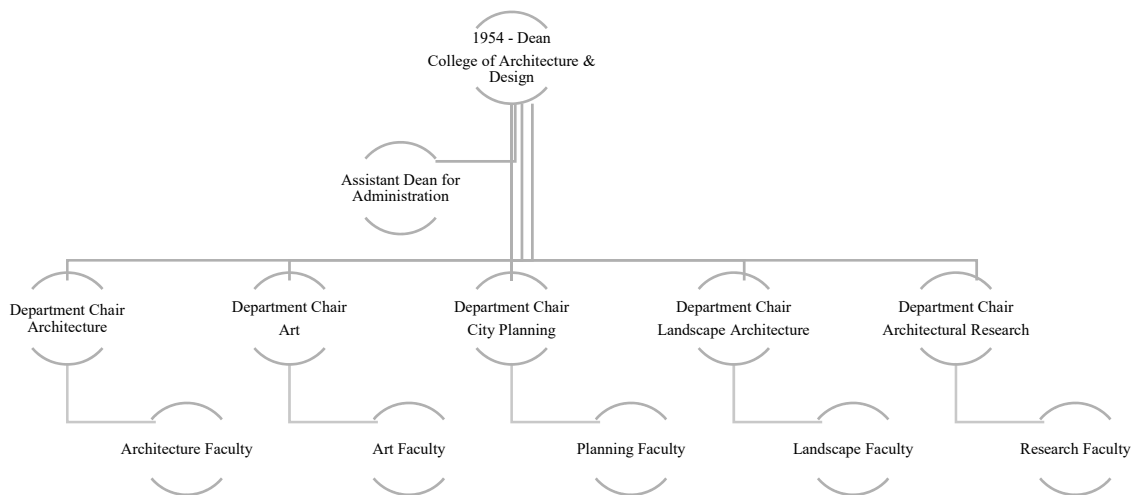


Figure 17. Organizational structure after 1954 departmentalization

College rules. Once the college had been established as an independent academic unit, an Executive Committee was empowered by the regents to administer the affairs of the college, including formulating educational and instructional policies, budget, promotions, and appointments. The structure of the Executive Committee included faculty representatives

from each of the academic subdisciplines, with Bennett, as director and the committee chair. (Regents Proceedings, 1936-39, p. 149). The details explaining how the faculty went about establishing rules and policies is missing from the archival records other than early attempts at establishing a process for selecting Executive Committee members when the original board members terms of appointments ended.

Official faculty meeting minutes are available in the university archives for the period starting in October 1929. The meeting minutes from the early period of the Bennett era record faculty discussions concerning general administrative topics including development of policies and practice on grade changes, professional experience credits, curriculum development, and facilities issues. Discussion on developing governance policies, understanding, and defining which faculty members are eligible to participate in governing activities became a more frequent entry in the faculty meeting minutes in the latter half of the Bennett era. References to aligning the college policies and practices with the Regents By-laws, proposals to develop topical ad hoc taskforces and subcommittees are also documented. Bartlett (1995) noted that with the increased complexity in the curriculum, the faculty appeared to have been emboldened and established multiple standing committees in 1951 to advise the administration.

In 1952, the faculty adopted a set of policies and procedures that defined the responsibilities of the Executive Committee based on the Regents Bylaws. The descriptions developed of the role of the Executive Committee placed a majority of the administrative authority in the hands of this leadership group. The faculty meeting minutes include, “The Executive Committee is charged with the duties of investigating and formulating educational

and instructional policies for consideration by the faculty, and it shall act for the college in matters of budget, promotions, and appointments” (College Faculty, 1952, p. 15).

Hiring decisions were to occur when the Executive Committee agreed that there was a need to fill a position, and the Executive Committee made the final selection of the new faculty member. This was a significant change, because previously the dean had had the final say in hiring decisions. The new rules stated, “From written qualifications and recommendations, the Executive Committee makes a choice or choices among the candidates and then a personal interview is arranged... the Executive Committee makes the decision” (College Faculty, 1952, p. 16). Promotion decisions were to include years of service, but only minimally: “It cannot be assumed by any faculty member that his promotion to a higher rank will follow automatically after a sufficient period of service” (College Faculty, 1952, p. 15).

Evolving organizational structure. Changes to the organizational structure during the Bennett era included the creation of administrative positions, academic leadership positions, and discipline-based academic departments. The academic departments chose their individual governance structures for handling curriculum, resource requests, and participation in all college governance activities.

The policies and procedures adopted by the faculty in 1952 placed most of the governance authority with the Executive Committee, and assigned to the dean administrative responsibilities. These changes left the dean with very little authority to lead the college in any intellectual capacity. Administrative changes included the creation of the position of assistant dean in 1947, who assumed responsibility for the administrative activities associated with admissions, finances, scheduling, advising, and student records.

Changes in the academic portfolio of the college, including the addition of landscape architecture and the differentiation of offerings from the art faculty, did not catalyze organizational changes until the latter half of the Bennett era. The 1948 external review committee suggested several academic structure changes to the college, including the addition of the city planning studies, writing, “The improvement of human environment in cities and towns is one of the most urgent tasks, which confronts our country. It is a task which architects and city planners must undertake together, supported by an informed public” (Hauf, et al., 1948, p. 3).

The external review committee report recommended that the college place its emphasis on the professional disciplines working with the built environment and exclude all other academic disciplines. Given the membership of the committee, which included architectural educators at schools similarly organized, and professional architects, these suggestions were not surprising. The faculty chose to follow the External Review Committee’s suggestions for the development of a city planning curriculum while Bennett worked with the dean of the School of Natural Resources to negotiate the departure of the landscape architecture program. The landscape architecture faculty, were in fact in support of the move, primarily because their focus had shifted from the built to the natural environment and the philosophical positions of the architects and faculty interested in city planning were in conflict with their philosophies.

Organizational change process. The growth of the college and the differentiation of the disciplines under its umbrella, with their changing values, norms, and goals, spurred both curricular and structural revisions to the college. The faculty asserted that changes in the composition of the student and faculty populations, as well as the overcrowded conditions in

the architecture building and competition for resources, demonstrated that the organizational structure of the college was inadequate and revisions were necessary. In 1951, the faculty, dissatisfied with Bennett and the Executive Committee's administration of college affairs, established several standing committees to oversee the college's administration. Among the most influential, the Committee to Investigate the Educational and Administrative Policies of the College of Architecture and Design, recommended that the question of departmentalization be given careful study by a representative committee and that a separate committee draft a detailed statement of guiding rules outlining policies and procedures in the college for departmentalization.

The faculty sentiment for proceeding with such a change was mixed and became the subject of a vote where the motion to proceed passed by just one vote. Meeting minutes included a statement of the issues as presented by one of the advocates for departmentalization, which included cultural and structural dissonance as the foundation for the call, as well as efficiency of operations (LaMore, 1951). The *Final Report of the Committee on Departmentalization* recommended the formal establishment of a Department of Art as a subdivision of the College of Architecture and Design. Bennett (1952) explained to the president and regents that the visual arts faculty was seeking greater autonomy and organization, and that the Executive Committee had charged a group of three to "bring matters of policy, curriculum, and development to the Executive Committee and the faculty" (p. 116).

Further evidence of the faculty seeking greater role in governance and establishing socio-structural elements was included in that same report. Bennett (1952) described the establishment of six standing committees, including: the Committee on Teaching Programs;

Committee on Research; Committee of General Service to the university and the State; Committee on Building Space and Equipment; Committee on Architecture Library; Committee on Relations with the Architectural Profession; were designed to help to coordinate the activities of the faculty and increase its outreach efforts. The dean's reaction to the administrative changes was reported by Bartlett (1995), "Leonard Eaton recalled much later that 'Bennett accepted departmentalization very graciously although he couldn't understand why nobody liked his benevolent dictatorship'" (p. 75).

Degree program changes. Similar to the evolution in the organizational structure of the college, the faculty worked to evolve the degree programs to address the increasing complexity in architectural knowledge and education. In the late 1930's, the Bachelor of Architecture degree was the training ground for professional architects. The growth of architectural knowledge and concerns about the adequate preparation of students for practice motivated the faculty to expand the course offerings and to increase the graduation requirements (Bartlett, 1995). These changes, which the faculty had spent four years perfecting, extended the time to graduation from four to five years, and contributed to the overcrowding in the college. Bennett (1938) saw the needs of the profession and similar actions undertaken at peer schools as sources of legitimacy for this change. "This is in accord with the attitude of the profession objectively stated by the various state registration acts now in force in thirty-nine states...most important, the spirit of the profession thus backs increasingly higher standards of training" (Bennett, 1938, p. 120). The major in city planning option was also added in the mid 1940's as architects began to conceptualize their role in education related to the built environment more broadly (Ockman & Sachs, 2012). The expanded body of knowledge expected of practicing architects was the subject of much

discussion at professional associations and at the college during the period. Nationally, architecture program accreditation standards had become formalized for a five-year undergraduate professional program and a graduate year was increasingly gaining importance in the late 1940's and early 1950's as new technical complexities were incorporated into the curriculum to meet current building opportunities. These new requirements provided the schools with opportunities to hire faculty with new expertise and interests beyond the design studio, fostering the emergence of subdisciplines within architecture education. Figure 18 depicts the emergence of new subdisciplines within the architecture faculty, which developed as the disciplinary knowledge set continued to expand.

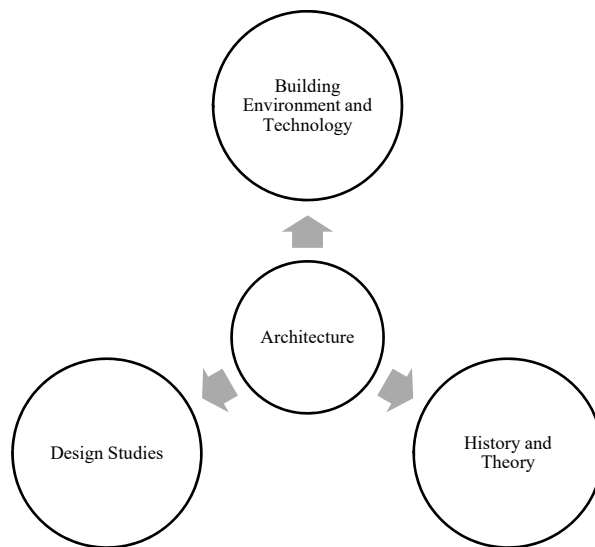


Figure 18. Emergence of subdisciplines within architecture.

Norms, roles, and status. The evolution of norms, roles, and statuses of the college during the Bennett era reflected the growing pains of an organization that was developing differentiated disciplinary pathways for its faculty and students in response to external influences. Admissions norms were altered, admitting more women and then capping overall admissions once capacity had been reached and exceeded. Norms of seeking originality,

innovation, and creativity in architecture design reportedly diminished during this time but were reinvigorated in the later half with hiring and resource allocations to support those areas. In addition, the status of the art faculty rose with the increased demand for art education, and the architecture faculty found funded research opportunities and a self-built space to test their projects.

Societal expectations that the male students serve in the military during the war changed the demographic and intellectual composition of the students and faculty, and the facilities utilization paradigms. Societal demands that women be admitted to the college were accommodated, and LaMore (1951) credits their enrollment with sustaining the college during the war years when the male students were away as well as for hiring greater numbers of art faculty. During the war years, the faculty chose to re-purpose rooms designed for architecture instruction to meet the needs of art education, chose to travel around the State providing art and architecture instruction directly to communities, and developed art education programs.

The diminished norm of originality, innovation, and creativity reported during the first half of the Bennett era appears to have been a consequence of hiring paradigms that favored selecting locally available instructors rather than leading architect-teachers. The hiring of recent graduates in combination with President Ruthven's reluctance to hire émigré's from Germany and France who were innovating architecture education paradigms at other schools of architecture during the era seems to be the source of the some of the criticism of the faculty included in the External Review Committees assessment of the college in the late 1940's. New leadership strategies that Bennett introduced to mitigate these conditions were reliant on accessing external voices in architecture. Hiring faculty trained at

other schools, and inviting visitors from a broad range of architectural interests, became a leadership strategy that future deans would also employ to catalyze cultural change.

Professional practice. The norm of faculty members participating in professional endeavors was challenged during the Bennett era by the U-M central administrators. The responsibility of the professional faculties, to the University of Michigan, had become of concern to the regents in the early 1930's, and requests to clarify commitment to the university as one's primary affiliation had been sent to all of the schools and colleges. The topic had been raised while the architecture faculty was still a part of the engineering school in earlier decades and dismissed by the architecture faculty as not pertaining to them. The regents (1934) proclaimed that full-time faculty members were not to engage in employment by others during the academic year except in certain pre-approved conditions. These conditions included enhancing the faculty members' skills beyond that which might occur as they worked on campus, when the work was distinctly public in nature and might further the goals of the University of Michigan.

It took the architecture faculty nearly three years, and a committee of three, to formulate its response to the regents, explaining that professional practice added legitimacy to the faculty and was relatively inconsequential at Ann Arbor because there was not a significant amount of opportunity to practice available in the region, yet still highly desirable in architecture education. The architecture faculty declared that "It is understood that any outside work will be undertaken in a spirit looking toward the maintenance and betterment of the individual's professional standing, thus enhancing his value to the university" (Marshall, 1937, pp. 1-2).

Subsequently, in 1952, the faculty adopted Regents Bylaw 5.12 on outside employment and amended the *College Rules* to include implicit approval of the college Executive Committee to engage in work involving remuneration from outside employment. Conditions imposed included a provision that the work not violate Regents Rule 5.12, did not use college facilities, and that the engagement should reflect positively on the image of the college (College Faculty, 1952). The dilemma of assuring legitimacy of the architecture faculty through architectural practice against the limited opportunities in the Ann Arbor area remains a concern for faculty and administrators in contemporary periods.

The changes in the faculty profile during the course of the Bennett era included the addition of women in art instruction, engineers in building technology instruction, and the colleges own graduates. The men who were appointed as architecture instructors during the Bennett era had been trained at schools across the country, including Michigan (28%), East Coast schools (28%), and Midwest schools (17%), at international schools (13%), and at West Coast and Southern schools (14%).

Summary of the founding stage. Three of the most influential people in the development of the organizational culture for the architecture faculty during the founding stage were its appointed leaders, William LeBaron Jenney, Emil Lorch, and William Bennett. In addition, U-M President Angell, who played a role in bringing the three men to campus, played a significant role in establishing the foundation for the college, and maintaining it as one of the U-M professional programs.

The founding period spanned from 1876 through 1957, during this time the two most influential institutions were the University of Michigan and a group of professional

associations, which coordinate some of the goals of the private practice sector (AIA), the education sector (ACSA) and an organization that bridges the two sectors (NAAB).

During the founding period many of the operating paradigms, which continue in use today, were first established. The following list provides examples of elements of the sociocultural and socio-structural systems that were established as operating norms and values.

- studio model of instruction,
- the primacy of design in the curriculum,
- professional practitioners as instructors,
- pragmatic application of architectural knowledge,
- independent and flexible design ideology,
- professional-academic autonomy and porosity,
- establishing legitimacy through the professional community and by way of peer evaluation.

Transition Stage

The second era in the history of the college was transitional, taking the college from a foundational mode where norms and values for architectural education were being established at U-M, and throughout the country, to one where disciplinary boundaries and research expectations were evolving and architectural education was transitioning from vocational-professional to professional-scholarly models of education. Leadership during the transition stage included two deans who were described as having been hired by the regents and president because of their perceived cosmopolitan perspective on architecture education. The third dean of this stage of organizational development was selected, because of his

perceived ability to lead the faculty after a period of significant internal turmoil and structural changes. Examining the leader's influence on transition stage culture was important because "leaders of organizations are part of the culture, not merely because they too work, in the environment, but also because they, more than anyone else in the organization, have roles in determining the culture" (Budd, 1996, p. 156).

Pursuit of reputational capital. Deans Youtz and Malcolmson each worked toward modernizing the content, image, and identity of the faculty to meet what they anticipated would be the future needs of society. Dean Metcalf, chose a more pragmatic approach to leading the college, promoting a pragmatic ethic while encouraging the growth of research and scholarship. The change in leadership styles and goals of the deans of architecture occurred during a period when the profession, where the large multi-disciplinary collaborative architecture firm was emerging as a new professional form situated to meet the needs of a new client-type: the large corporation, large civic, or governmental project.

Changes in organizational type. The organizational type during the transition era evolved as changes in orientation, composition, leadership, and management actions as well as group cohesion adapted to internal and external pressures (Peterson & White, 1988).

It appears that the transition from the early founding period clan style organizational form to a more hierarchical form, at the end of the founding period, was an outcome of internal adaptation to external pressures. Among the transition made during this period that influenced the organizational type were evolving University of Michigan goals, which were more externally focused, market driven, and competitive (Peckham, 1994).

The hierarchical organizational form designed by the faculty, constructed barriers, which deans Youtz and Malcolmson's perceived limited their ability to lead the college, was

a source of frustration. A modification of the hierarchical form, accomplished after the college partitioned in the 1970's, gave the third dean of this era, Metcalf, more flexibility in leading the faculty, but also allowed the faculty to retain a version of a clan-hierarchical form.

Changes in organizational resources. This was the period in the higher education industry, fueled by post war growth in federal funding programs, where many universities grew through the creation of new degree programs, research programs, and in term of student enrollment and faculty members (Thelin, 2004). Hiring activities during the transitional era brought specialists to the faculty, often from other institutions. In some cases these new faculty created sub-disciplinary clusters who initially formed small clans within the college, as they bonded over common interests and goals, creating an organizational form of clans within a hierarchy. Kerr (1963) observed that many universities of the period had become multiversity's, where the leader had to be a mediator rather than a monarch. The first task of the mediator is to keep the peace (Kerr, 1963), --- a role that Metcalf, reportedly did very well and Malcolmson struggled to manage.

The recessions of 1974 and 1982 were notable exceptions to the accretion phase according to Barrow (1996), who has noted that any retrenchment activities that the Universities undertook during the recession were viewed as short-term setbacks in organizational goals.

Changes in enrollment. Changes in enrollment during the transition period, 1957-1984, reflect transitions in higher education. The numbers of students increased, the demographic diversity of the students increased as more women and minorities were admitted to the U-M and the college, and the goals of the students enrolling in the college

diversified from professionally focused to include those interested in advanced research, scholarship, and theory development. The development of advanced degree options and research opportunities attracted students to the opportunities available in architecture and planning as well as the other disciplines of the college. Overcrowding in the original architecture building located on central campus caused the architecture faculty to institute selective admissions during the period.

Philip Youtz (1957-1964): Modernization. Philip Youtz led from 1957 to 1964. His leadership actions were focused on changing the faculty culture in a way that would modernize the college and expand its operational paradigms beyond teaching and limited applied research activities.

Typology (institutional influences). Philip Youtz assumed the deanship of the College of Architecture and Design during a period of significant change at the University of Michigan and within the architecture profession. Societal forces were influencing significant changes within both institutional forms (Thelin, 2004). At the University of Michigan, significant increases in enrollment without increased state funding provided an impetus for changes in organizational structures, practices, and policies, which have been described as corporatizing the academy. Examples included capping admissions, changing the school calendar, and seeking funding from other sources for new initiatives such as research (Hatcher, 1962). Administrative staffing and structures were created within the U-M central offices and at the college to manage the increased demand for record keeping, scheduling, reporting, planning, and maintenance. The University of Michigan created a new associate vice president role overseeing the academic affairs units (Hatcher, 1962).

Signaling a desire for a changing profile at the College of Architecture and Design, the president and regents choose an external candidate with an international reputation in art, architecture, and scholarship to lead the college. They believed Youtz could lead the faculty to a more cosmopolitan perspective. The Youtz era marked the beginning of dramatic changes to the composition of the college, its structure, its culture, and its operating norms (Bartlett, 1995).

New clients and new technologies, as well as societal changes during the cold war era were fostering national-level discussions about relevancy of the architecture profession, and the impact of competition from allied professions and changes in the scope of responsibilities for the professional architect (Ockman & Sachs, 2012). The profession of architecture, through their professional organizations, was commissioning reports during this period, evaluating changes in the market place and making suggestions for paradigm changes in the ways that firms were managed. The proposed paradigm shifts in professional practice provided the impetus for curricular changes in the schools of architecture. These discussions and reports had implications for the college's curriculum and the faculty composition and leadership efforts of the deans in the transition stage. In November 1957, the American Institute of Architects (AIA) appointed a panel to study the emerging challenges in architectural practices. Johe (1973) reported to the faculty that the profession had begun to view the role of the architect as extending beyond the limited concept of agency between the architect and the client.

Similarly, in 1963 the ACSA Committee on the Advancement of Architectural Education, which was chaired by the U-M architecture department chair Walter Sanders, recommended that the education of students be re-conceptualized to meet new societal needs

and to incorporate new knowledge and technologies. Malcolmson (1967) agreed, suggesting an expansion in architecture education to include a broader view of the built environment: “If architects are to assume their full responsibilities to the community and fulfill their roles as designers of the man-made environment, their cultural understanding must match their technical skills” (p. 19).

Topography (contextual influences). Youtz assumed the deanship before administrative operating norms were developed for the new departmentalized college. The lingering distrust for the office of the dean, which had been the impetus for departmentalization, became exacerbated as the new dean worked to implement a new vision of college and a new vision of the realm of the architect.

Youtz believed that his vision of a holistic architecture education was a legitimate one for the college to pursue because it aligned with the findings of the American Institute of Architects (AIA) educational committees. Youtz saw the need to move beyond the provision of a “practical” education to one, which provided a comprehensive university education by broadening and deepening architecture education beyond design to include environmental and urban topics. The faculty, who were predominantly graduates of the program with limited national level experience and no international experience, resisted these changes to their operating norms. Hollinger (1989) has described the orientation of the U-M as serving a broader constituency than that of the region, but Youtz perceived the architecture faculty, as local in orientation. Conflicts between faculty members on proposed curricular revisions, architectural ideologies, and educational philosophies continued throughout the Youtz era and into the Malcolmson era (Bartlett, 1995).

After being led for more than 50 years with an emphasis on design and aesthetics, the University of Michigan chose a dean for the College of Architecture and Design who was internationally respected in artistic, architectural, and structural aspects of architecture and architectural education. Youtz (1954) described the changes occurring in architecture as it moved from its artistic preoccupation to one that could take advantage of technological advances in the construction and engineering industries. His orientation sought to incorporate the aesthetic and the scientific within architecture education.

Contemporary society straddles a broad chasm between two types of culture, a traditional aesthetic inheritance which has enriched men's lives from the dawn of history and a progressive scientific revolution which arousing hope that we may increasingly control our environment and our social destiny. (Youtz, 1955, p. 4).

Youtz (1955) described the evolution of the role of the architect-artist as providing protection from the cruelty of natural laws: "They found satisfaction in creating a beautiful world because they could not make a more hospitable one" (p. 4). Supplementing this view, Youtz saw the new architect-engineer identity as one that was oriented to a scientific exploration of the world in order to understand and direct natural forces for the benefit of humans. Youtz (1955) advocated a shift to incorporate the tools being developed in the machine age that might be incorporated into architecture education and practice, writing "The acquiescent, aesthetic relationship to nature has given way to an aggressive, technical attitude toward our physical environment...Precision instruments have surpassed the accurate judgments and patiently acquired skills of the craftsman" (p. 4.). Accepting Youtz vision for the college would have meant changes in the curriculum and the compositing of the faculty.

The AIA findings had reported a need for the schools of architecture to embrace the emerging technologies of the era within the instructional portfolio, disseminating what was learned in the research arena to the classroom and beyond. Youtz' sought to re-balance the curriculum to give structural and technical training greater status than it had previously held. The faculty resisted these proposed changes.

Tectonic (mode of construction). The position description, drafted by the faculty, used to search for Youtz emphasized the status quo, and the presumption that the dean would be male. The faculty committee presented a list of suitable candidates to the associate vice president for academic affairs; all of the candidates listed were male. The position description included:

Professional: He should possess professional training or experience in some phase of the visual arts, advanced contemporary orientation in art and architecture, understanding of educational objectives and their relation to the professions, enthusiasm for promoting education, research, and creative work in art and architecture

Personal: He should possess integrity, tactfulness, a broad humanistic background, understanding, and sympathy for the arts and should be articulate.

Administrative: He should possess ability to administer well, to deal with people humanely and considerately, to organize efficiently and promote the school publicly and professionally" (Albano, et al., 1956, p.2).

The president and regents chose a leader who had a record of accomplishment when challenging the status quo in architectural education. His ability to lead the faculty was challenged by the strong willed personalities who had campaigned for departmentalization. Those who had been appointed to lead the new departments found that the new structures

they had created limited their need to interact with the dean on substantive matters. The new organizational structure had dis-empowered the leadership role of dean in the educational affairs of the college, casting it more as an administrator, resource seeker and information conduit.

Youtz (1958) believed that changes in the education of an architect, which incorporated cultural awareness, could better prepare graduates to meet the evolving societal expectations of architects. He encouraged architects to prepare pragmatically to understand the problems of their age and to equip themselves to help the public. This view represented a change in perspective of the relationship of the architect to their client, and even though it was supported by the AIA, it became a point of contention between Youtz and some of the Michigan architecture faculty (Johe, 1973). The new paradigm required the image of the architect shift from expert to collaborator. Some of the U-M faculty resisted such a fundamental change, in part because they did not have the curriculum to support such a program (Bartlett, 1995). Challenges to established operating norms and existing conceptions of the role and goals of architecture education became the subject of many faculty meetings. Attempts to resist the changes proposed by the dean and his supporters resulted in revisions to the college's governance rules, creation of sub-committees within the architecture department, and outreach to central administrators seeking support for each side.

The Presidents Report of 1961-62 shared with the regents Youtz's perception that "too long we have offered our students practical training instead of a university outlook. The call today is for professional men in the design arts, not for graduates who are mere technicians."

Genius loci (spirit of place). Reportedly, the genius loci of the architecture program was conflicted and they debated ways to meet the changes in both the internal and external

environment. Internal changes included the departmentalization of the college and significant enrollment increases. External events affecting the *genius loci* included civil unrest on the campus and in the broader society, as well as significant change among the architecture profession and architecture education. Adapting to these sources of change had an unsettling effect on the faculty culture as organizational goals evolved and new expectations, norms, and values were being integrated into the college's operating paradigms (Bartlett, 1995). In combination, these internal and external sources of change created a spirit of place that was growing impatient with the academic status quo and perhaps, catalyzed by the overcrowding and a growing nonconformist attitude in the city of Ann Arbor, tensions among the faculty, were high (Bartlett, 1995).

The faculty decision to departmentalize, toward the end of the Bennett administration, had altered the normal operating patterns of the college. Where governance activities had once been described as 'family-like' during the Lorch period, there were now formally proscribed patterns of interacting. Committees had been charged with constructing new governance rules and documents. They were directing curricular changes appropriate to the needs of their particular disciplinary interests, and pursuing divergent directions in research, teaching, and service.

The architecture building, which had been designed to meet the needs of a visual art-based architecture curriculum, did not easily accommodate the needs of new art subdisciplines in making, nor did it accommodate the research in materials and structural testing and model making requirements of the new architecture curriculum. The result was conflict for space resources, overcrowding, and confusion about resource allocation, and decision-making authority.

Historical, societal, contingent. Youtz came to U-M at a time described by Thelin (2004) as higher education's golden age, with enrollment growth fostered in part by federal government investment in student aid and buildings, structural diversification within the higher education system, and federal investment for cold war research, leading to the development of the peer-review process used for research assessment and evaluation processes.

Greater economic security in the United States in the postwar period, federal support for higher education attendance and new construction, as well as societal desire for upward mobility through education, increased pressure at American universities to admit a larger and more diverse students. These students came from a broader range of socioeconomic backgrounds than had previously been admitted at most higher education institutions (Thelin, 2004).

External influences on faculty of the college included what Frampton (1989) has described as an emerging cultural ethic during the 1960's in architecture education of an ergonomic-cum-logarithmic design methodology, which was attempting to convert architecture into a form of techno-scientific practice.

In 1964, the educational program committee of the department of architecture listed the social and technological components they saw as integrally influencing the direction of architecture education. Under social changes, they listed increasing population, urbanization, mobility, communication, specialization, and education. Under technological advances, they listed increasing industrialization, mechanization, automation, forms of energy, systemization, and availability of synthetic materials.

The committee defined a response to these challenges in terms of education of the

profession, the public, and expansion of the body of knowledge with an emphasis on the urban scene as the dominant context. The emphasis on the urban context supported the development of the urban planning program, and the separation of the landscape architecture program, with its emphasis on the rural context, from the college.

Sociocultural influences. Many of the sociocultural- based changes occurring during the Youtz era appear to have been in recognition of the shifting image of the architect and the resultant pressure to alter educational paradigms. These changes had significant influence on the leadership actions and evolving culture of architecture faculty. Two key facets of that shift, seen in the profession of architecture, were identified by Boyle (1977), the image of the architect as a solo artist to one who was a collaborator and coordinator of built environment and the shift from a focus on a single built element to the total built environment.

Youtz (1960) describes the catalyst for the image shift in terms of the machine-age. Youtz believed that the faculty needed to shift their fundamental approach to teaching and evaluating students to include a broader range of criteria. He hoped to co-create new-shared values with the architecture faculty that could support this new image of the professional architect and architecture education. The process of co-creating new-shared values that could support new ways of conceptualizing the field of architecture was a lengthy and contentious one, spanning the next several deanships.

Youtz (1957) asserted that the goals of architecture education, faculty skill sets, out of date pedagogy and intellectual isolation from other disciplines, were factors that were reducing the effectiveness of a U-M architecture degree. The combined faculty skill sets needed to deliver a comprehensive architecture education became more diverse and differentiated during the transition era. The growth of architectural knowledge meant that it

was no longer reasonable to believe that faculty members were interchangeable, and specialization of skill sets was a trend among architecture faculty in this period. The addition of faculty members who could support coursework in structures, construction and emerging technologies as well as a psychologist, planners and industrial operations engineers altered the traditional faculty cohort of designers. At many architecture schools, the faculty began differentiating and focusing their intellectual efforts in either design, technology, history-theory or research generating subgroups. Faculty-scholars, faculty-designers, faculty-technicians, and faculty-researchers became new paradigms for architecture faculty types.

This fundamental change also reflected a time shift in the orientation of architects who were designing for the future rather than mimicking past designs and methods. Youtz (1960) described the shift in terms of changes in society. “Architecture has become a contemporary profession reflecting the current progress of society. The architect now designs for the future not the past” (p. 41). This was a fundamental shift in the value orientation of architecture education as well. The mimetic practices of the past were giving way to the expansion of disciplinary knowledge and the new ways which architecture might define its role as a profession. The role of the U-M architecture research laboratory in helping to construct doctoral education began to be realized during the Youtz era as students and faculty worked to discover and define the boundaries of architecture as a discipline. Research in material systems, construction technology, and computer-aided design and human interaction systems, was pushing architectural imagination toward the future (Ockman & Sachs, 2012). In this context, the faculty created the first Building Technology Laboratory in the country for architecture research under the leadership of Willard Oberdick (Bartlett, 1995).

Boyle (1977) saw the tensions in the architecture schools of the period, such as those documented in the architecture faculty meeting minutes during the Youtz era, as being attributable to ideological alliances among architecture educators to either the Beaux-Arts, sole design-genius-practitioner model, or the Bauhaus collaborative environmental design model of education. “The individual architect did not disappear in the twentieth century, but his role in the profession became something less than it had once been” (Boyle, 1977, p. 331).

Along with valuing the alignment of architecture education with the perceived changing needs of the profession, Youtz noted that originality and innovation were continuing values of the college, writing, “The College of Architecture and Design furnishes a working laboratory where originality is a constant subject of study by the faculty” (Youtz, 1959, p. 84). One of the transformative ways that these values were exemplified was in the establishment of architecture research as an integrated expectation of the students and faculty of the college.

Admissions criteria before the Youtz era had been fundamentally residency blind. Concerned about overcrowding and the ability of the faculty to deliver a quality education, several college faculty meetings were held to discuss the responsibility the faculty thought was owed to the state to choose qualified Michigan residents over nonresidents for admissions. In order to minimize overcrowding and minimize any perceived negative consequences of the lack of space, the architecture faculty voted to hold architecture admissions at approximately 330. *The President's Report 1961-62* documents for the first time ever, non-resident qualified students were being denied admission in the architecture program. Enrollment statistics for 1964 demonstrate the severe overcrowding, where over

760 students were enrolled in the College of Architecture and Design, in a building designed to educate 400 architecture students.

Ideologically flexible and holistic. Youtz was concerned that the American colleges of architecture, with their emphasis on aesthetic design, were losing their relevance to other professions and neglecting other essential elements of an architect's education. Youtz (1962) wrote, "We give lip service to the statement that architecture is both an art and a science but these two elements have not been amalgamated" (p. 57). He wanted to be sure that the education provided at U-M was holistic; the challenge was not only the resistance of the faculty, but the ability to provide the holistic education within the limits of the degree program. Similar conversations were taking place at the ACSA-AIA conferences in the early 1960's. The new dean's proposal to undertake a comprehensive revision of the entire curriculum to better align it with the emerging needs of the profession and to incorporate more deeply technology and liberal arts courses sparked conflict among the faculty on ideological grounds as well as socio-structural grounds. Some faculty reported concern about the proper balance of the different elements of the curriculum the dean proposed, and others asserted their governance rights were being infringed upon by the dean's engagement in a comprehensive revision (Architecture Meeting Minutes, 1957).

Youtz (1958) supported the Michigan architecture faculty in their resistance to alignment with any particular design aesthetic writing, "Ability to design develops best when a student is in contact with a faculty representing a variety of techniques, tastes, and philosophies" (p. 31).

Youtz (1957) reported that the faculty of the college was working collaboratively with professional organizations on an evaluation of the architecture education provided at

Michigan, and getting conflicting feedback. On one hand, the professional organizations recommended that the students have greater exposure to liberal arts and on the other, more technical education (University of Michigan, 1957). Youtz (1964) writings indicated that he remained concerned that the architecture faculty needed to have a greater understanding of the needs of the profession in order to adapt appropriately to the external environment:

The designing artist is not an outlaw leading an adventurous life outside the jurisdiction of established society, but a true representative of his times... He belongs to a period and school however persistent are his efforts to escape. (p. 13).

Primacy of design-based instruction. Youtz (1964) believed in a balanced curriculum that included humanistic, scientific, and artistic instruction, noting that too much emphasis in the curriculum on structural design yielded an engineer, too much emphasis on books and history of art yielded a fine arts professor. Youtz's (1964) image of the prospective graduates of the architecture program included: "We want to turn out designers, but not graduates who are only designers. We are striving to train well-rounded men who can cope with all phases" (p. 31).

His emphasis on the practical needs of the profession over theory in the curriculum made his tenure as dean challenging as well as his attempts to incorporate computer-aided means and methods into the college. Youtz (1961) shared his dismay at the resistance he encountered as he attempted to change the culture of the faculty "...To tamper with the sacred curriculum of a school of architecture is to invite academic wrath" (p. 4). Yet, he remained convinced that changes to architecture pedagogy were necessary. Youtz (1961) wrote, "Too long we have offered our students practical training instead of a university

outlook. The call today is for professional men in the design arts, not for graduates who are mere technicians” (p. 22).

Youtz (1958) believed that a forward-looking architecture education, less reliant on the classical styles and apprenticeship methodologies of the past with its one-master method was needed, and his leadership efforts internally and externally were aligned toward achieving the necessary changes. The balance of responsibility for professional education of the architect was of great concern to Youtz, who had observed that the schools of architecture were defining the limits of their responsibilities as design fundamentals instruction while claiming that any practical knowledge needed to be learned in the professional office. Pragmatically, he justified his thinking in terms of anticipated employment needs for the profession “less than five percent of the graduates in architecture will ever be designers” (Youtz, 1961, p. 4).

Although Youtz sought to incorporate technical components into the architecture curricula, it was not his intention to delete liberal arts nor design instruction. The schools of the era had to compromise and extend the time to completion of the professional degree. When the faculty debated changing the professional degree program from its five-year undergraduate form to a six-year form with four undergraduate and two graduate years, skirmishes included the dean and some faculty opposing any changes that would de-emphasize the humanities and design components. When the dean threatened to override any changes approved by the faculty that would replace design instruction with mathematics, economics, and physics, 24 faculty members signed a petition asking central administration to intercede and determine whether control of the curriculum rested with the faculty or with

the dean. Eventually, the program evolved to the six-year format for the professional degree at U-M and most other schools of architecture around the country.

Disciplinary knowledge base expansion. The profile of the faculty changed significantly during the Youtz era because of several new faculty hires. Many of those faculty members were responsible for significant expansion of the definition of architecture as a discipline. The 13 faculty members hired brought a scientific and technical approach to the discipline of architecture and advanced the college profile both within the State and at the national level. For example, Paraskevopoulos helped to lead and define architectural research in materials and methods. Nystuen added geography to the college knowledge base. Carson was appointed as an assistant professor of psychology in architecture. Borkin worked in Architecture and Planning Research Laboratory as both a lecturer and a student, and eventually the chair of the doctoral program in architecture, Kowaleski helped to establish the Dinkeloo lecture series that brought prestigious practitioners to the campus. Marzolf and Olving played a substantial role in state historic preservation efforts. Each of these hires had a significant impact on the development of the discipline and the culture at Michigan, allowing it to grow in an organic fashion. The expansion in the faculty profile reflected the teaching needs of the era and its evolution into a multidisciplinary field but had the effect of differentiating the faculty into clan like affinity groups.

A key driver of this disciplinary expansion was the interdisciplinary approaches to discovering knowledge boundaries. The advantages of including architecture research within the college, as a form and subject of research, that was distinct from engineering, building, or materials research, was described by professor Sanders (1958):

Unlike most other research, architectural research provides the opportunity of unifying research finding in many other fields; for example, the combining of new discoveries in the field of behavioral sciences with those in the field of technology in order to discover new environments optimal for their purpose. (p. 1)

Figure 19 depicts the interests of new hires and others during the Youtz administration and the continuing growth of architecture disciplinary knowledge.

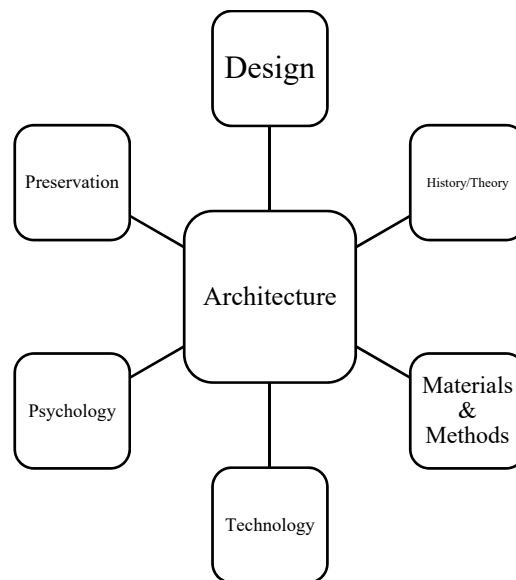


Figure 19. Disciplinary differentiation within architecture department 1957-1964

Socio-structural influences. During the Youtz era, the faculty worked to establish a new socio-structural framework for the college operations. Organizational structure, strategies, policies, and practices were developed to reflect new governance paradigms, which placed more decision-making authority with the departments than with the dean.

Formalizing policies and procedures. When Youtz assumed the leadership position at Michigan in 1957, the development of new policies and procedures, which reflected the departmentalization efforts had been underway for nearly three years. The governance model being developed distributed authority to a broader group of faculty rather than the department

chair or college dean. For example, the architecture department formed an Executive Committee, which assumed the functions of the Operations and Policies Committee and the Committee on Appointments, Promotions and Merit increases, with the chairman as ex-officio. (Architecture faculty meeting minutes, 1960).

Structural challenges ensued when dean Youtz worked toward moving the curricula toward a more inclusive view of the role of the architect as collaborator in the design and construction of the built environment, while some faculty preferred the image of the artist working as a master surrounded by apprentices. Senior faculty who were resistant to the changes invoked U-M faculty governance policies and procedures, and the college and departmental rules, which had been created toward the end of the Bennett period as governance structures, which provided them authority over curriculum. The debate was moved to an educational sub-committee for consideration and presentation to the faculty. Findings and challenges to those findings were reported at architecture and college faculty meetings throughout the Youtz period with no resolution.

Evolving organizational structure. In 1957, the college included the departments of art, landscape architecture, architecture, and research. The complexity of the new organizational structures resulted in overlapping departmental and college committees. This necessitated the appointment of departmental committee members on college committees to aid in communications (Marshall, 1962). Figure 20 depicts the overlapping roles for college-level and departmental-level committees.

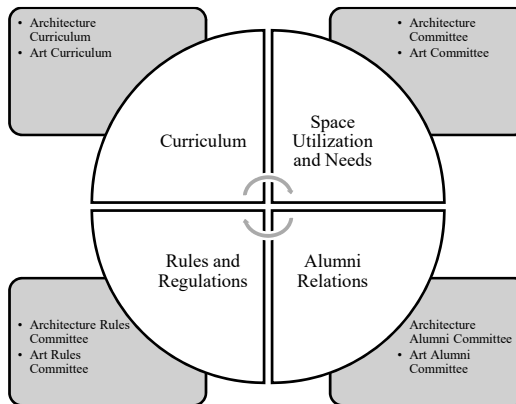


Figure 20. Overlapping committees

Constructing new processes and procedures for governing the college seems to have taken up the majority of the faculty meetings during the Youtz era, and appears to have been consultative and careful. Topics spanned from how to select a department chair to the roles and rules for committees and their members as well as representation on college wide governance committees. The complexity of the solutions demonstrated a hierarchical and siloed approach to administering the affairs of each department and a lack of cohesive and collaborative spirit across departments or with the dean.

Norms, roles and status. Norms, roles and statuses of faculty members and organizational leaders were evolving during the Youtz era. The desire for changes in the norms, roles, and status of the faculty had brought Youtz to the University of Michigan

where “Change has always been an important part of the university’s tradition” (Duderstadt, 2007). The tradition of change was not as deeply entrenched among the architecture faculty as perhaps other sectors of the University. Establishing research and competitions as normative activities seems to have changed the time orientation of the faculty from an emphasis on the past to one that reached simultaneously into the past and the future. In addition, the faculty adopted an expectation that all faculty members would be contributing to the growth of disciplinary knowledge. These two changes in the conception of the discipline and the faculty’s responsibility for its currency had a profound effect on the evolution of the ambient culture.

Research as a norm. Youtz wanted to advance research efforts and further embed research activities into the life of the college; he saw this as critical to the changing orientation in the profession. Youtz (1959) reported, “Interest and activity in research remain high in the department, and progress is noticeable in the efforts to identify architectural research as a field unto itself and inseparable from architectural education” (p.85). He noted that the norm in architectural education had previously rested on tradition rather than originality and critical thinking to solve problems limiting research to architectural history. Youtz (1961) saw opportunities to advance research as a practice in the college, “We continue to practice the art of architecture and were still unaware that contemporary practice included both the art and science of building” (p. 4).

Annual reports document the architecture faculty increasingly embracing research agendas including projects that investigated construction methods, materials, and educational content at other schools of architecture, human factors in design and more. Youtz (1958) reported that the faculty was keenly interested in pursuing research agendas. In the 1960’s

faculty research on building materials and structures, which they hoped could support low-cost housing in under-developed countries, predominated the agendas of the Architecture Research Laboratory. (Metcalf, 1981, p. 14). The college played a leadership role among the schools of architecture during the Youtz era to encourage the development of research agendas in architecture, by hosting a national conference. Bartlett (1995) reported, “In March 1959, the College of Architecture and Design hosted a forty-man research committee of the American Institute of Architects whose charge was to formulate a program of architectural research” (Bartlett, 1995, p, 81).

The significance of these efforts included the establishment of a research mindset among the faculty, and a changing relationship between the faculty and graduate level students. Borkin (2016), who had been a student and a faculty member during this period, described these research efforts as the catalyst for the foundation of the first doctoral program in architecture education in the United States in the U-M architecture school as well as forming a dynamic culture of student-faculty co-creation of knowledge.

Competitions as a norm. Youtz frequently reported to the regent’s examples of the faculty’s success in garnering prestigious awards, commissions and other forms of recognition. This was an important point of success for Youtz in his efforts to raise the profile of the college, and demonstrated the depth and quality of the faculty’s professional practice work through external assessment measures.

For example, Youtz (1958) shared when faculty won international competitions, design awards from *Progressive Architecture Magazine*, placed among the eight finalists in the Franklin Delano Roosevelt Memorial competition as well as when he was elected to the College of Fellows of the American Institute of Architects.

Reginald Malcolmson (1964-1974): Challenging the status quo. Reginald

Malcolmson led the College of Architecture and Design from 1964 -1974, a time of internal and external cultural conflict leading to significant changes in the operating paradigms of the college. Some of the changes were influenced by the maturation of the profession of architecture in the United States, some by societal changes and expectations of both architects and higher education institutions and others by the evolving expectations of faculty and students in higher education environments. During his tenure as dean, the U-M architecture program became the first American school to offer a professional doctorate in architecture.

Typology (institutional influences). The two primary sources of institutional influence on the emergent academic architecture culture at the University of Michigan continued to be the profession of architecture.

The architecture profession was continuing to evolve in its self-conception of the architect from that of a designer of buildings to a more holistic focus on the built environment (Ockman & Sachs, 2012). The image of the architect was evolving from sole practitioner to collaborative team member including both specialists and generalists. The construction industry was competing in the market placed for a greater market share of the building business by using its strength of technological innovation. During the 1960's and 1970's, the client for building business was shifting from single individuals to groups of individuals and were often governmental agencies, and corporations (Gutman, 1988). The profession of architecture needed trained junior architects with skill sets that could help the firms retain market share, incorporate the new technologies, and respond to the logics of

governmental agencies and corporations. This meant that education of architects needed to be created, adjusted, and updated to meet these new and emerging needs Huxtable (1966).

The University of Michigan administration and regents expectations of faculty and relationship with students was evolving in this period in response to external pressures from governments and society (Hollinger, 1989). The research universities of the era evolved similarly in response to the same set of complex interests made explicit in the missions of the National Science Foundation, the Department of Defense, large private foundations, homogeneous boards, alumni and legislators attempting to influence the flagship and elite higher education institutions (Hollinger, 1989). Additionally, the universities were attempting to diversify the demographic profile of their student and faculty bodies in response to societal pressures (Hollinger, 1989). What distinguished the University of Michigan, and contributed to its status as an elite higher education institution during this period was its emphasis on being persistently generic (Hollinger, 1989). Its mission to serve the common man and serve the nation through intellectual pluralism made it the site of a form of academic professionalism, devoted to both excellence and comprehensiveness.

The U-M tradition of faculty activism was particularly robust during the Malcolmson era, with Teach-ins, and sit-ins were a frequent strategy employed by students and faculty to motivate administrative action for change (Duderstadt, 2017). Although the records of the college do not document any significant interruption or changes in strategies, policies, or processes, relevant to the civil rights movement during the Malcolmson era, faculty and student activism had a significant impact on his leadership. The campus spirit of unrest that manifest within the architecture program stemmed from aesthetic and pedagogic ideology rather than the demands being cited by those participating in the civil rights movement.

Bartlett (1995) shared that while Malcolmson was petitioning the regents seeking support for “bringing about curricular and staffing changes according to his paternalistic design, his faculty was mounting its counterclaim to ‘democratic freedom in action’” (p. 95).

When Malcolmson became dean, he understood the need to balance the pressures from the profession with expectations of the U-M as an institution. Malcolmson saw that embracing emerging opportunities in architecture materials research, construction methodology, and computerization were important areas which aligned with the demands of both institutions and one in which the U-M architecture program could grow intellectually. Knowing that these new knowledge domains were being adopted at other schools of architecture, Malcolmson wanted the College of Architecture to incorporate these new emerging areas in a manner that matched the needs and expectations of both institutions. He also was concerned that they guard against over emphasizing the technical aspects and becoming a trade school, or academic remoteness from actually building and becoming too ivory tower like (Malcolmson, 1967).

U-M President Fleming (1968), inaugural address aligned with Malcolmson’s ideas. Finding the right balance between specialization and generalization, however, is not easy, and it grows more difficult as the body of specialized knowledge increases. The question of how best to coordinate career aspirations, the technical knowledge to support such aspirations, and the broad humanizing influences of a higher education call for greater attention for the community of scholars than it is now receiving.

During the Malcolmson period, leaders in the American Institute of Architects (AIA) sought to influence American architecture schools, and the National Architecture Accrediting Board (NAAB), to adapt the curriculum better suited to the needs of the profession. The AIA

was encouraging its members to think more holistically about their practices and to consider the multiple relationships and perspectives of building and designing for modern life in the context of evolving societal expectations. In order to achieve these goals, the profession desired graduates who had been prepared to consider the problems of complexity and dynamism in environmental design.

The influence of these discussions is documented in the faculty meeting minutes where debates on how to achieve the AIA directives had the faculty questioning their collective ability to provide the depth and breadth of additional scholarship required. The departmental faculty meeting minutes (November 1964) provide insight into the concerns and conflicts between faculty members, "...the (AIA) Report confuses needs with means...we as a faculty are not currently equipped to educate the students we would hope to graduate." One member of the faculty expressed concern and support for revamping the curriculum at U-M, "that the present architectural education is 'pitiful' and that there can be no delay in formulating a new program" Other faculty weighed in, "the current state of change in the world is head first and not gradual, and that we should not teach technologies which are better learned in practice" (Werner, 1964).

Topography (contextual influences). The topography of architecture faculty culture at the University of Michigan was being challenged by the professions re-imagining of the architect, and the evolving expectations of faculty and administrators. Malcolmson came to the Michigan campus, from the Illinois Institute of Technology, with expectations that did not align with the actual operating environment of the college and the U-M. His analysis of the architecture department found weaknesses among the sociocultural norms, socio-structural processes, and the idiosyncratic actions of individual faculty members.

Executive committee meeting minutes document Malcolmson's early attempts to engage the group in strategic discussions about the intellectual directions of the college. Even though significant changes were made in the curriculum during the era, the bulk of conversations in the Executive Committee appear to have focused on process and procedure as a defense strategy used by committee members to obstruct changes proposed by their dean. The committee appeared to prefer the role of gatekeeper and boundary between the dean and the faculty, rather than as visionary partners in the advancement of the college.

Malcolmson was future focused and used two primary strategies to influence changes in the culture of the architecture faculty. His first strategy involved modeling a new way of being an academic architect through the promotion of his own work on visionary architecture. His second strategy involved replacing retiring faculty with individuals whose ideology and experiences more closely aligned with his vision of architecture education needs of the future.

The faculty meeting notes throughout the Malcolmson era highlight the three core conflicts being debated by the faculty and its leadership. The first concerned the appropriate emphasis of design instruction versus technical instruction for the professional degree program. The second conflict centered on departmental and college governance questions and the authority to approve the curricular changes, and the third conflict entailed the debate between the appropriate balance in the curriculum between liberal arts preparation and its role as a component of a professional degree program.

The architecture educational planning committee chair reported that two topics had dominated considerable amounts of time in their deliberations: the role of art in architecture and the degree of emphasis given to a rational rather than intuitive approach to architecture

(Werner, 1967). Lorch had promoted an art-based approach and an ability to learn to design. Many of the faculty teaching at the school during the Malcolmson period had been trained in a more technically based Bauhaus tradition. Former dean Bennett had not wanted to stifle ideological debates, and Malcolmson had joined a college that was ideologically diverse. The pressure from the profession to prepare students for new and emerging societal conditions was bringing these ideological conflicts to the center of faculty debates on how to accommodate the growth of disciplinary knowledge and the emerging educational needs. The interdisciplinary foundation envisioned which might support a new proposed curriculum, and meet the needs of the profession was discussed at length during faculty meetings in the 1960's.

Tectonic (mode of construction). At the time of his introduction to the regents, the vice-president for academic affairs described the key external and internal pressures that he expected might be influential on Malcolmson's deanship. The list included perceived pressure to evolve architecture education to meet new societal conditions and expectations, as well as, the challenges of leading a newly re-organized college with internal climate issues (University of Michigan Regents, 1964). The college had not resolved several governance points since its organizational structure change from one large faculty led by the dean, to one that included departments. The scope and processes for decision-making, which had been contentious in the former structure, had not yet been resolved in the new structure.

Constructing governance roles and authority for approving major changes in college business continued to be the source of contentious debates among the faculty and between academic leaders. One particularly issue, which seemed to cause significant strife, was the debates around the processes and decision-making authority for revisions in the curriculum.

The divisiveness of the issue was so great that the faculty sought advice, and support for their position on the issue, from the vice president for academic affairs. The topic to be decided, once the process had been established, was whether to move the professional degree program from its five-year format to a six-year format (Executive Committee, 1967). The heart of the debate was the purpose of architecture education, its goals, values, and relationship to the profession and the university. Exacerbating the internal strife over the issue was ideological and leadership style conflicts between the former and current architecture department chair.

The postwar years strained the building resources of the University of Michigan, which was experiencing tremendous enrollment growth in several of its schools and colleges and facing the need for additional dormitory space to house students. Campus overcrowding was the impetus for the purchase of 300 acres north of Huron River, to be used to build a second campus (Peckham, 1994). The regents believed that once the new campus was built out with academic buildings, dormitories and other facilities, the disadvantages of a divided campus would be minimal.

In 1954, the regents approved funding for a preliminary study by the faculty of the College of Architecture and Design of the anticipated building needs for the next decade. (University of Michigan Regents, 1954, p. 268). The decision to move forward with a building for architecture on the North Campus was delayed, and revived again in the mid-1960's. A new study was prepared by the faculty, adjusted to meet new pedagogical conditions. The operational factors to be considered when designing a building to support the two core disciplines of the college in the 1970's were described by Malcolmson (1972) as encompassing quiet and clean spaces, noisy and active spaces, sedentary spaces, and spaces

that could support semi-industrial uses. In addition, the faculty advocated for the art and architecture library and a retail location for the sale of specialized art supplies.

The new architecture building was designed to support the enrollment of 1,200 students and cost approximately \$8.5 million. Approximately 80% of the interior space in the new facility was dedicated to studio and workshop activities. The basic design was modeled after inexpensive loft-type buildings, with an interior that could be modified to meet evolving programmatic needs. Originally designed to house the College of Architecture and Design, by the time it was occupied, the programs had split in to the College of Architecture and Urban Planning and the School of Art.

Genius loci (spirit of place). A spirit of questioning authority, greater engagement by faculty and students in governance activities, defining ideologies, and broadening disciplinary boundaries on campus and within the college seems to have influenced the spirit of place at the college during the Malcolmson era (Bartlett, 1995).

This was most noticeable as the faculty and students organized to challenge the scope of authority and decision making of academic administrators, worked toward establishing new operating paradigms of shared governance, and began to make explicit the different values evolving among the several disciplinary subcultures that had developed within the college. The outcomes of the debates and discussions during the period resulted in separation of the faculty into multiple discrete discipline-based organizational frames, with some disciplinary groups separating from the college all together.

The *genius loci* of the college during the mid-1960's became so conflict-laden that the architecture department earned the unenviable right of becoming the first academic unit to vote "no-confidence" in its chairman, despite urging by central administrators to be more

patient and tolerant. In a special meeting of the faculty, a listing of the faculty's concerns and points of dissatisfaction was read by the former chair. The list included procedural infractions, ideological conflicts, and a lack of transparency in decision-making.

Additionally, the norms for faculty dress and behavior were changing on the U-M campus, and in the college. Malcolmson, who had come from a highly regimented school, the Illinois Institute of Technology, found the transition to the more relaxed atmosphere difficult. He described the cultural differences between IIT and U-M “I moved on to Michigan, going from a highly disciplined environment to one that prided itself on the absence of discipline” (Malcolmson, 1987, p. 140). He was dismayed by the culture he found at U-M, which reflected some of the norms seen during the student activism movements on the Ann Arbor campus. Malcolmson (1987) was disdainful of some of the prevailing norms of the faculty “I mean we’ve even had teachers in Michigan that come in dirty shirts and unshaved, in the hope that if they smelled like some of the others do that maybe they’ll strike up some common bond” (p. 100). Malcolmson, having come from practice and from an academic environment, predicated on the German Bauhaus method of architecture instruction, which was highly prescriptive and controlled, did not value the more casual U-M approach.

Historical, societal, and contingent influences. Societal changes during the 1960’s and 1970’s were reflected in many of the internal conflicts experienced at the college. It was a period of radical societal change and political upheaval. Activist organizations such as the Black Action Movement, the Gay Liberation Front, White Panther party, and the “hippy” movement flourished in Ann Arbor during this era and helped to change the campus and the university culture and climate as well as its curricular offerings and hiring and recruiting policies and practices. Glenn (2009) described the U-M student body as embracing a strong

anti-authoritarian sentiment.

Student activism of the mid-1960's at the University of Michigan as more peaceful than at other campuses where violence and loss of human lives and resources took their toll. A general re-think of the role and responsibility of the architect in society, greater efforts to include women and minorities, a view of the client as a user of a building rather than the owner, and new interest in ecology were under discussion among the architecture faculty (Metcalf, 1981).

Nationally, the disciplines of art and architecture were taking distinctly different philosophical and ideological directions. Art was emerging as a distinct discipline with a separate theoretical body of knowledge, distinctly different focus, and ideology than the professional schools of architecture. Similarly, the growth of disciplinary knowledge in architecture, and the pursuit of architectural research on the technical and utilitarian aspects of architecture created new scholarship opportunities that were divergent from the aesthetic basis of the art and architecture relationship. At Yale University, the art and architecture schools separated organizationally in 1969 (New York Times, 1969), at U-M the split came in 1974.

Sociocultural influences. Sociocultural changes apparent in the college records during the Malcolmson period included: evolving differences in architecture and art disciplines directions, needs, and ideologies; a movement toward more formality in administration, and a desire for increased shared governance rights for the faculty.

Among the challenges to the architecture faculty culture during this period was the different developmental paths that the artists and architects were taking. Larson (1967), who oversaw the research department, wrote to the U-M vice president for academic affairs "The

college has become a two-headed monster; with architecture and art each struggling to pull it in a different direction” (p. 1).

Sanders (1964), a proponent of administrative separation of art and architecture was influential among the architecture faculty. Describing himself as father confessor, Sanders (1964) ascribed the differences between the artists and architects in terms of professionalism, the perceived intellectual output of the programs, and the goals of its students. Writing, with perhaps a bit of misogyny:

The architecture students are almost entirely young men seriously concerned with obtaining a high level of complex training, whereas the art students are mainly young women who find in their courses an outlet for self-expression and the opportunity to add to the cultural aspects of their ultimate domesticity. (Sanders, 1964)

The engagement of the dean with the operating activities of the college and the architecture program were the subject of Executive Committee meetings during the Malcolmson era. September 1967 Executive Committee meeting notes commented on the dean’s lack of engagement in department level affairs, perhaps signaling a concern held by the faculty, that the new dean was not aligning with norms established by previous deans who had engaged in architecture department affairs. Metcalf reported that members of the architecture department “...felt that the dean had not involved himself sufficiently in the meetings that had taken place over the past three years” (Executive Committee, 1967). This statement, from a future dean, was predictive of how he would lead in the near future.

Malcolmson’s more formal approach to college administration may have distanced him from the architecture faculty culture, which had been established by Lorch, a leader who had preferred a more family-like and informal way of administering. Similarly, Brownson,

who was selected to lead the architecture department after Sanders retirement, struggled with the architecture faculty's need for constant consultation noting that he preferred action to discussion (Brownson, 1994)

Disciplinary knowledge base expansion...Programmatic expansion was deemed necessary by the faculty as a response to growth in the knowledge domain and requirements from the profession. The architecture faculty developed the first American doctoral degree in architecture and the inaugurated the master of architecture degree replacing the five-year bachelor of architecture degree as the professional degree. These changes represented an acceptance of a cultural shift in the image and identity of the faculty, who had moved from generalist able to teach at all levels and in all courses to specialists in creative design, technology, scholarship, theory, and research, focusing on the built environment.

The 1965 departure of the landscape architecture program from the college was catalyzed by an ideological shift among that faculty, which had changed its focus from the built environment to the natural environment. The disciplinary emphases of the college faculty changed between 1964 and 1968. Figure 21 depicts the 1964 model that included landscape architecture, which was replaced in 1968 with the emerging discipline of urban planning.



Figure 21. Changing disciplinary emphases 1964-1968.

By 1968, the College of Architecture and Design faculty had articulated a distinct intellectual focus and curricula for the disciplines of architecture, art, and urban planning, as well as distinct activities for research. Having evolved from architecture as the core discipline at its founding, the faculty subcultures were differentiating along disciplinary lines, developing distinct values, goals, and operating expectations. The expanding boundaries of disciplinary knowledge available to those pursuing architecture careers during the mid-1950's through early 1970's had a profound effect on the evolution of the profession and architecture education and the Michigan architecture faculty culture (Metcalf, 1981). A change in the purposes for which an organization exists requires the members to co-construct their new goals, and can affect group image, identity, and composition (Schein, 2004).

Designing a new curriculum that could prepare architecture students to perceive the world from a different vantage point than they had been previously teaching. The changes required hundreds of meetings over a six-year period during which the faculty agonized over the details. The resulting curriculum was less prescriptive and conceptualized as two years of liberal arts, two years of general core courses, and two years of specialized core courses.

The expansion of disciplinary knowledge in the architecture field had enabled the creation of a professional doctoral program during the Malcolmson era. During this period, the college was seeking researchers as teachers, believing that it was training the first generation of architects whose primary orientation would be architectural research (Metcalf, 1970). Having hired Larson to administer a research laboratory, the creation of an academic program that could integrate research and training for the profession of architecture, created a unique educational model among schools of architecture in the United States. Because the

program was a professional program, and critical scholarship had not yet become an attribute of the program, the scholar based doctoral program was not feasible (Borkin, 2016).

In many ways, the successful development of the doctoral program was a natural outgrowth of the long history of architectural research was performed at Michigan by faculty and students. The merging of instruction and research in professional education for architecture was a new development of the mid-1940's which was pioneered by this school. (Metcalf, 1981, p. 13).

The timing of the introduction of the Doctor of Architecture (D. Arch) degree offering overlapped with the revisions being made in the original professional program of the college the bachelor of architecture degree (B. Arch). The de-commissioning of the B. Arch and replacement with the Bachelor of Science (B.S.). plus the master of architecture (M. Arch) as the first professional degree awarded from Michigan aligned more closely with the degree tracks in the University of Michigan's other schools and colleges. First enrolling students in 1969, the earliest doctorates awarded used a multiplicity of methodologies and topics were widely varied.

Metcalf (1981) saw the success of the doctoral program at U-M, as directly attributable to three factors including the college's faculty resources, the earlier establishment, and integration of the work of the faculty by way of a research program and the resources and the availability of support from the U-M for the multidisciplinary instructional needs of such a program. Metcalf (1981) described the sociocultural benefits of having a doctoral program at the college: "the doctoral program provides new knowledge for all faculty and students, as well as providing opportunities for some part-time student

employment. The presence of the Arch. D. program, affects perceptions and attitudes about architectural education...” (p. 31).

A catalyst in the creation of the professional doctoral program at Michigan had been the hiring of faculty who were “highly qualified researchers capable of serving the emerging needs of society relative to the manmade environment” (Metcalf, 1981, p. 31). The intended outcomes of the program included training to conduct significant, original research; and to make important contributions to new knowledge of value to the architectural profession (p. 31).

The evolution of disciplinary knowledge was one of the factors blamed for the cultural fracturing that was happening within the faculty of college and within the architecture department. At the time of his arrival, Malcolmson received from architecture department chair Sanders (1964), a summary of some of the philosophical and ideological differences held by different factions within the college. Key among the differences was the focus of the professional programs of architecture, planning, and landscape architectures on issues of societal welfare as opposed to artists whose knowledge domain and responsibilities to society were less defined. Sanders (1964) suggests, that synergy between the architecture, planning, and landscape architecture existed because the core difference in the subdisciplines was scalar. Larson (1968) also noted that the evolution in the professional disciplines of the college was often the result of faculty members increasing engagement in research and new incorporating knowledge domains from external disciplines from both the hard and soft sciences.

The growth of disciplinary knowledge included the emergence of education in city planning. The architecture faculty subdivided, creating a department of urban planning in

1968 offering a two-year graduate degree program in physical planning, urban design, and planning administration (Norman, 1967). Figure 22 depicts the addition of a department of research to the college organizational structure.

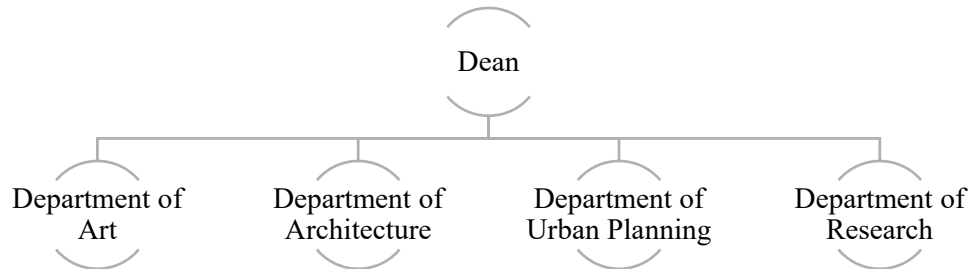


Figure 22. College organizational chart – 1968.

Among the most deliberated of educational changes in the architecture program was the expansion of the professional degree program from a five year to a six-year long program, completed in 1967. Proposals to extend the required curriculum for the professional degree had been under consideration since the late 1950's, but the direction forward lacked faculty consensus. The series of proposed changes to the curriculum had a splintering effect upon the architecture faculty. This was especially evident when proposed changes highlighted the conflict between those faculty members who had been trained in the technical Bauhaus tradition versus those who had been trained in the artistic Beaux-Arts traditions. These debates escalated, culminating with a session that brought the vice president of academic affairs to a faculty meeting seeking his adjudication of an outcome. Bartlett (1995) shares that once finalized, the appeal of the new curriculum for many faculty, was the integration of environmental, technology, and building materials into design courses at all levels.

Snyder (1999) saw the program changes being driven as a response to rapid social change in the 1960's, which yielded a belief that architects should be educated rather than

trained. Snyder (1999) described the acceptance of an expanded role for liberal arts training for architects writing, “More exposure to the liberal arts was seen as the answer to this need. This was perhaps a rational assessment, because at the time a liberal arts curriculum was thought to be the core of a college education” (p. 1). A second source of the refocusing efforts, he believed was movement among the traditional design professions to engage with broader environmental issues, and finally the rise of the junior colleges, which gave undergraduates opportunities to complete the liberal arts courses at lower cost institutions.

Metcalf described the new organization of the curriculum as enabling a two-year general education component aimed at helping students understand why prior to four-years of professional architecture study aimed at how.

External pressures from the ACSA and the AIA motivated proposals for course content and structural revisions in 1964. In early 1963, at the annual meeting, the ACSA released the *Committee on the Advancement of Architectural Education* report documenting what it saw as major problems facing architecture education. The four problems reported by the ACSA Committee (1963) included a perceived need for broader general education; upgraded curricula; coordination with the schools for licensing; and alignment of the curricula with the needs of the profession.

Professional architect–instructor. The primacy of the professional architect-instructor model and the emergence of the researcher-teacher model were sources of conflict. As Metcalf (1981) described, “Since the establishment of a program in architecture in 1906, it had been acknowledged in all appointments that professional activity, either in practice of research, was essential in order to maintain one’s teaching capability”(p. 15). However, professional success did not always translate to teaching or academic leadership success.

In particular, cultural conflicts arising after the appointment of Jacque Brownson as architecture department chair, succeeding Sanders, may have occurred because the faculty initially ignored its concerns about his educational position, mollifying themselves with his status as national-award winning architects. They had not considered how his leadership style might have been informed by his design-aesthetic, which was uncompromisingly aligned with Miesian modernism. Brownson's inflexible leadership style, informed by the "less is more" precepts of miesian modernism was a significant shift from the parental-style behavioral norms and collaborative expectations of the architecture faculty, established by previous leaders.

Malcolmson believed that the key to moving the college forward was the addition of new voices "we can only make significant changes by bringing in new faculty members from the outside." he told the regents (Bartlett, 1995, p. 95). The challenge was to bring in faculty who could advance the college in a collaborative manner that supported the prevailing operating paradigms and ideologies, and allowed for growth in the discipline.

Malcolmson acknowledged the benefit of having practicing architects on the faculty, and noted that with the increase in number of schools of architecture there could be greater pools of candidates from which to select new faculty members. He remarked that he was surprised by the number of U-M faculty that had not had academic experience elsewhere (Malcolmson, 1967)

Researcher-instructor. The researcher-instructor was still a new form of faculty role when Brownson was appointed as architecture department chair. His lack of familiarity with the expectations of the role may have been the source of conflicts that developed between him and research chair Larson.

A particularly acrimonious incident involving Brownson and Larson, which was held in the UNISTRUT building, seems to demonstrate the cultural clashes. Larson reported to the faculty that in a private meeting with Brownson, the chair was hostile toward research efforts and Larson's lack of status as a registered architect. Larson reportedly told the chairman that he did not intend to become a registered architect but rather he preferred being a research architect.

A question as to whether the challenges to the quality of the research and the faculty were representative of differences or disrespect was noted in faculty meeting minutes. Discussions about the cleanliness of the research facilities and litter from structural testing failures ignited tensions between chairman and the research faculty after Brownson called the research laboratory a plastic slum. Larson defended the research program by referring to a report written by Dr. Norman noted, "The Architectural Research Laboratory had the full respect of the university administration and could expect full support" (Bartlett, 1995, p. 101)

Ideologically flexible and holistic. Ideological conflicts as well as conflicting norms and values, and *genius loci* that enabled activist challenges to administrative authority during the Malcolmson era, created circumstances in the architecture department, which resulted in Brownson's resignation as chairman during spring 1966. The cultural predisposition in the architecture program for ideological flexibility was challenged with Malcolmson and Brownson in leadership roles. *The Michigan Daily* reported (March 26, 1966) that students felt that certain professors including Brownson and Malcolmson were forcing a particular philosophy of design upon the students:

The conflict seems to express two trends of thought within the school. One group contends that design problems should be solved within the framework of a particular

philosophy of architecture. In this framework craftsmanship — what one student termed “static excellence” — is emphasized above all else. A second group stresses architecture as a dynamic profession, which requires...a fallibility of thought. A variety of approaches and the importance of research are stressed. (Rothschild, 1966).

Notes from faculty meetings of the period document not only the core ideological tensions but also some of the strategies that those holding dissenting opinions used to influence students and other faculty. Many grievances were aired at the 1966 meeting and some ideological tensions between newer faculty members and older faculty members were evident as well in the meeting notes. Ultimately, the architecture faculty passed a vote of “no-confidence” in the chairman, which was forwarded to the dean, college Executive Committee, and the vice-president for academic affairs.

Socio-structural influences. Administrative and academic structural changes that occurred during the transition phase of the college motivated by shifts in faculty norms, values, and operating expectations were used to legitimate sociocultural changes underway in response to external pressures from the profession of architecture and the U-M.

Malcolmson solicited the sitting department chairmen’s opinions, on the organization of the college when he first came to Ann Arbor. Their responses capture the differing perceptions of the cultural and structural components that were operating within the college. The architecture department chair, Sanders (1964), advocated separating the professional disciplines of the college from the non-professional. He urged the creation of a new professional school to contain only the departments of architecture, landscape architecture and a newly established department of planning. In contrast, the department of art chair, urged maintenance of the status quo, citing the shared concern with the visual environment,

formal and informal departmental relationships, and a common need for resources such as space, and library (Iglehart, 1964).

In 1968, the department of urban planning was established, evolving from within the architecture department's city-planning program. The creation of a department of urban planning recognized that a subset of the architecture faculty were shifting focus from constructing the built environment to a focus on the policies and practices used in urban areas. The change in the administrative structure, occurring in 1968, is depicted in Figure 23.

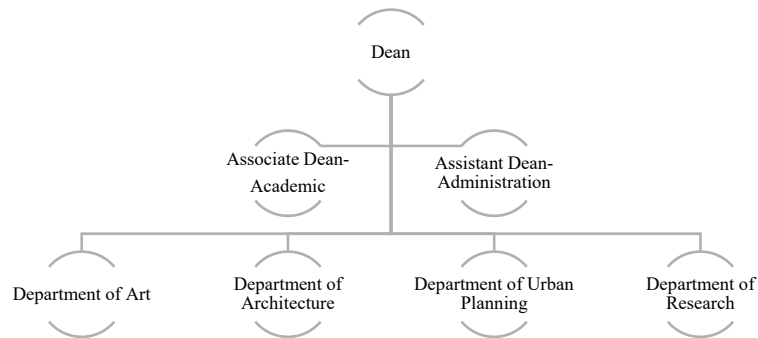


Figure 23. Administrative organization of the college – 1968.

Appointment structures. The architecture faculty continued to value having members that practiced professionally. During the Malcolmson era, they sought a way to achieve recognition of their creative contributions in a manner that aligned with the expectations of the research university. The following statement describing faculty appointments appeared in the *College Rules* through the late 1990's:

To maintain professional currency as a teacher in architecture, each member of the faculty is expected to devote 20 percent (one day per week) of his/her time to professional work. If that happens to be sponsored research, the faculty member can receive an additional 20 percent appointment from project funds. (College Faculty, 2017, p. 17).

Among the challenges was how to equitably recognize that some research-faculty were able to enhance their income through externally funded research grants, some practitioner-faculty were receiving funding through externally managed commissions and scholar-faculty were generally unable to enhance income through either mechanism. These challenges were coupled with the university's concerns during the period that the faculty was appropriately apportioning their time to teaching, research, and service. In 1969, the architecture faculty came up with a unique way of resolving the external funding dilemma. Noting that the faculty handbook allowed the faculty one day per week to pursue scholarly and creative practice projects, they developed an appointment structure, which limited teaching appointments to four days per week or 80% at the same base salary rate. Metcalf (1981) provided "The new policy simply clarified that at least one day a week should be devoted to professional activity, and research in particular was encouraged" (Metcalf, 1981, p. 15).

Governance. Just a few years before Malcolmson's arrival, the faculty had voted, and the regents approved an administrative restructuring, which subdivided the faculty into distinct governing bodies including art, architecture, and landscape architecture. This administrative change was still in the process of normalizing, rules, procedure, committees were still being formulated, and the governance relationship of the dean to the departments had not been clearly established. The creation of the department structure within the college also enabled the creation of separate departmental Executive Committees, which added to the governance confusion. The role of the dean was described as having responsibility for maintain the quality of its educational programs, efficiency in its management, and representing the interests of the college internally and externally.

Similarly, the architecture department was struggling to operate within their new structure and the rules they had developed which were intended to diffuse power across the faculty rather than empower any one individual (Norman, 1974, p. 2). The April 1966 architecture department meeting minutes note several internal sources of tension and conflict. One faculty member was quoted as saying, “Department administration is the job of the chairman; department policy is the job of the Executive Committee”. This lack of an established governance pattern and clear expectations for the role of the chair, and dean were consequential for Malcolmson and the chairman he chose to succeed Sanders.

Administrative growth. Managing the growing enrollment, which exceeded 800 students by 1972, and the sophisticated administrative needs of the college, required an expansion of the administrative staff. The college Executive Committee approved in 1966 a recommendation, which Malcolmson had presented in 1964, to create the position of associate dean. The responsibilities of the associate dean included student recruitment and counseling, student and faculty publications and dissemination, conference administration and external relationships with organizations that could support those activities, as well as participation in the development of continuing education and interdisciplinary programming at the university. (Malcolmson, 1966). Also approved was the position of assistant dean, with responsibility for budgetary matters and control of expenditures, records and registration, staff administration, facilities, ex-officio on college committees, and membership on appropriate university committees.

Evolving organizational structure. The first organizational structural change occurred when the landscape architecture faculty, which had shifted focus from the built environment to the natural environment, negotiated a move to the School of Natural Resources (Metcalf,

1981). The second organizational structure change occurred when a subset of the architecture faculty, who were focused on urban planning, made explicit their intention to engage in work with a policy focus rather than a design focus and went on to establish an autonomous department of planning within the college in 1968. The third organizational structure change occurred after 15 years of proposals, when the art faculty organized as a new independent and autonomous academic unit, separating completely from the College of Architecture and Design. In recognition of the many organizational structure changes, the College of Architecture and Design was renamed the College of Architecture and Urban Planning. Figure 24 depicts the organizational structure of the College after the departure of the landscape architecture faculty.

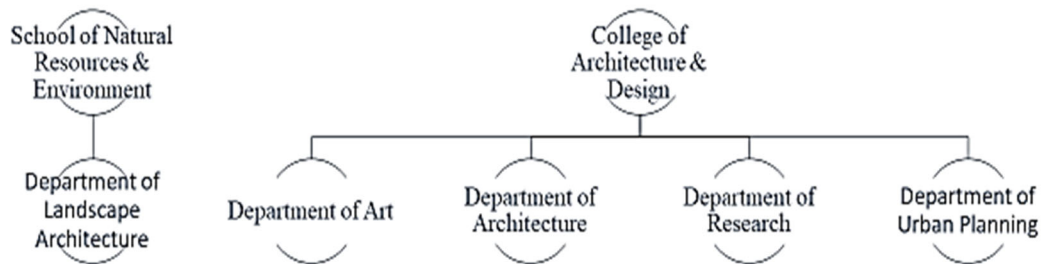


Figure 24. Organizational structure after landscape architecture departure

The challenges of administering the college in this organizational form were of concern to the Executive Committee as Malcolmson's contract was ending. They forwarded to the vice president of academic affairs a request to conduct an evaluation of the college prior to the selection of a next dean with the goal of evaluating options for optimizing the functions of the departments and the college in relation to the university at large (Lewis, 1973).

Executive committee meeting minutes from April, 1973 record discussions within the college's three departments regarding program reviews, structural reviews and prioritization of dean's search over internal reviews, with the belief that an administrative review might better establish an accurate description of the credentials and abilities required for the deanship.

In October 1973, Executive Committee meeting minutes provide the review committees charge from President Fleming. These included a review of the (a) academic goals of the college; (b) the organizational structure of the college; (c) administrative procedures; (d) professional requirements, i.e. licensing; and (e) the relationship with other schools and colleges.

Among the outcomes of the committee appointed by President Fleming to review the college was the recommended partitioning of the college into two separate academic units and dissolving the departmental structures. The partitioning into the two schools was less significant to the future culture of the architecture faculty, than the elimination of the department structure, which changed the governance paradigms, and limited the role of the program leadership and Executive Committee to that of gatekeepers. Figure 25 depicts the organizational structure after the partitioning of the College.

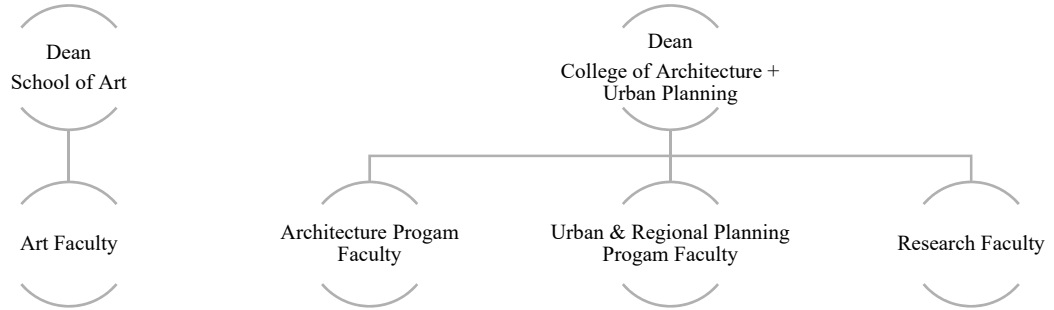


Figure 25. Organizational structure -1974.

Norms, roles and status. Changing norms, roles and statuses in the college, driven by changes in the architecture profession, the university investment, and support for externally funded research, and expanding disciplinary boundaries, was all key to the evolution of the academic architecture culture during Malcolmson's deanship. The norms, roles, and statuses of the faculty, its academic leadership, its governance structures, ideology, and core mission were all in transition. Malcolmson perceived he was brought in to affect change, and was frustrated that the faculty culture and structure did not allow him to make the changes he thought were necessary. In contrast, Sanders who had been brought in many years before was protective of the status quo, in part, because he too had been brought in to change the culture. Changing norms concerning the role expectations of the dean, the department chairs, the Executive Committee, and the faculty were a cause of internal conflict during this period.

Dean role. The role of the dean, ability to lead, and the working relationship with the Executive Committee and department chairs were all under negotiation during this period. Among the most frustrating to Malcolmson, as he described to the vice president for academic affairs, was the influence of senior faculty members who obstructed change efforts.

Malcolmson (1967) perceived that the current faculty was so entrenched in outdated practices and a localist view of architecture that the only way for him to make significant changes was to bring in faculty from the outside. The cultural conflicts experienced by Malcolmson and Brownson were a force of habit for the architecture faculty. The faculty, did not perceive their resistance as in support of one generation of faculty over the other, nor as an artifact of hiring recent graduates, but rather the resistance was to protect the ideological flexibility of the program (Bartlett, 1995).

Malcolmson tried, unsuccessfully, to engage the Executive Committee in developing strategic initiatives for the college rather than its previously transactional focus, based on meeting notes. The October 1971 the Executive Committee meeting minutes documented similar sentiments from another faculty member who was equally frustrated with his colleagues for their focus on administrative minutiae.

Malcolmson described for the faculty the expectations he brought to the position

So I came to this college as dean on September 1, 1964, with a considerable amount of enthusiasm and optimism in the knowledge that there was, as I had been led to believe, a creative and constructive task to be done, and that there would be strong support for carrying out any recommendations I might make. As time elapsed, I became aware of the fact that the impressions that had been formed by me at the time of my acceptance on the basis of information then available were not in accord with the internal structure of the college. (Malcolmson, 1967, p. 2)

Faculty role changes. Faculty role changes during the Malcolmson era were most often attributed to changing expectations, from both the U-M and the profession of architecture. A combination of factors influenced changes in the normative image and

identity of the architecture faculty. These factors included increased expectations for the creation and dissemination of new forms of knowledge, participation in governance activities, and a broadened view of the necessity of multi-disciplinary approaches to the built environment in research and teaching. Central to the image and identity changes was acceptance that the mission of the program was evolving from one purely focused on the production of professional architects, to one that embraced a wider and more comprehensive view of the faculty, its scholarship, and a holistic relationship to the built environment.

The faculty navigated these changing expectations through new articulations of expectations of productivity and an expanded definition of a faculty member: “The College believed that it required researchers as teachers since it was training the first generation of architects whose primary orientation will be towards architectural research” (Bartlett, 1995, p. 102-103). The definition of research and creative practice expanded during this period, and faculty whose backgrounds were in geography, sociology, and psychology were added to the roster. For practitioner faculty, changes were made in the appointment structure to clarify release time for professional practice.

Faculty roles evolved in college governance, distributing responsibility, and authority more broadly than at any other time in the college’s history. Operating norms changed as the faculty created more committees that needed to be coordinated with program administrative activities across and within the college.

Among the characteristics that did not change “There was a recognition among newly arrived faculty that, structural discipline was regarded as of primary importance” (Bartlett, 1995, pp. 98-99) and the continued emphasis in the curriculum on real problems, at real sites. Unlike peer institutions, Bartlett (1995) noted that there were no sabbatical requests sought to

address the emerging avant-garde philosophy of post-modernism. Instead, the sabbatical reports described evaluations of contemporary developments in materials, planning, housing, and construction in Europe, nothing on heritage, ideology, or philosophical explorations.

Role of the Dean and Executive Committee. The role of the dean was evolving to accommodate departmentalization, with greater administrative authority being conferred to the department chairs and Executive Committee, which frustrated the dean.

The Executive Committee meeting minutes from September 26, 1967, document the increasing tension between its members and dean:

The dean explained that he was not aware of nor had been presented with a definition of the duties of the dean....Mr. Cassara [a faculty member] stated that he has constantly requested a clarification of the role and duties of the dean (Executive Committee, 1967)

The faculty took their complaints about Malcolmson's leadership to the *Michigan Daily* "Activist professors were joined by students, who in 1967 were given a more direct role in deliberating over college policy with representation on all department committees" (Bartlett, 1995, p. 95).

Among the points of contention was the assertion that the dean preferred that the faculty teach a specific ideology. The faculty had historically been resistant to any imposition of a particular ideology and this occasion was no different. Bartlett (1995) explains, "There was therefore no indecision for the majority over rejecting an authoritarian doctrine of either modernist or classical, Euro-centric orientations since these were never characteristic of the Michigan tradition" (p. 96).

Research facilities. The overcrowded conditions in the art and architecture building,

in tandem with the continuing desire of the faculty to develop architectural research agendas, and an opportunity to experiment with materials provided by an alum of the college, resulted in the construction of a semi-permanent structure in the college courtyard of an unusual facility.

The UNISTRUT facility, one of the first such facilities in the United States, designed exclusively for architectural research. Faculty members saw it as a catalyzing feature of the architecture programs engagement in materials, construction, and structural research. It also became a source of conflict between the new architecture department chair and the chair of the research program. The research laboratory, allowed the faculty and students to move some “dirty” research-testing activities from the main architecture building to this separate structure. The building was featured in *Fortune Magazine* in 1955 as one of the 10 most significant technological building innovations. Borkin (2016) described the facility as having provided an exciting atmosphere of innovation and testing, where faculty and graduate students worked side-by-side to define what architectural research encompassed and how it might be pursued.

Malcolmson, as dean of the college, failed to lead the faculty, in part because the faculty perceived that his ideological focus was too narrow and not pragmatic. Malcolmson’s fascination with “visionary architecture”, which has been described as work which is more conceptual than buildable (Malcolmson, 1987), and his focus on international exhibition and dissemination were unfamiliar concepts to the U-M architecture faculty. His attempts at changing the culture of the faculty through encouraging exhibition, theoretical scholarship, and dissemination were rejected, as was the department chair he selected to lead the architecture department. Bartlett (1995) describes this resistance as a component of the

culture that deans and chairs of the architecture faculty struggled with when seeking to make changes “The act of resisting the chairman and dean was a force of habit rather than a momentary, fashionable manifesto. Michigan’s faculty neither sought nor approved of any single ideology as their collective identity” (p. 96).

Malcolmson’s most obvious cultural misstep occurred with the selection of a department chair to replace Walter Sanders. Malcolmson chose a candidate whose ideology closely aligned with his own, Jacques Brownson, but whose inability work with collaboratively with the faculty caused significant turmoil. Consequently, Brownson’s experience was short, politically fraught and hampered by culture clashes, often articulated in faculty meeting documents by the preceding department chair. Foreshadowing their future clashes, Bartlett (1995) found that the faculty had had serious reservations with the selection of Brownson as the department chair. Reportedly, they found that he was “obviously intelligent he seems to be somewhat non-committal intellectually as evidenced by a reluctance to submit a statement relative to his philosophy of education” (p.96), but the international press attention to his recently completed Chicago Civic Center seemed to ease the faculty’s initial reluctance to accept him in the role. Culture clashes appear to have arisen from his focus on a single ideology caused Brownson to become the first academic administrator at the University of Michigan to be relieved of his responsibilities through a vote of no confidence by faculty. Brownson saw his failure to lead theU-M faculty as an artifact of their organizational governance structure rather than his inability to work collaboratively with people who had a broad spectrum of interests.

They in effect, would stonewall me, and I couldn’t get anywhere... you could not get through to faculty members who were very clever and worked the system so they

could maintain their position and simply keep the status quo going. As soon as you would start to question their competency, they knew they were out in left field because they couldn't produce. (Brownson, 1994, pp. 208-210).

Robert Metcalf (1974-1988): Calming and stabilizing. Robert Metcalf served as dean of the College of Architecture and Urban Planning from 1974 to 1986. He was the first dean selected to lead the college after its administrative separation from the art faculty. The theme of Metcalf's deanship was stabilization.

The partitioning of the college was the key recommendation of the report submitted by a university review committee studying the organization of the College of Architecture and Design at the end of the Malcolmson deanship. Membership on the committee included two faculty from the department of urban planning, three from the department of art, one from the department of landscape architecture, four from the department of architecture, one from the department of mathematics, one was an adviser to the U-M Executive Officers, and the chairman, was from the Institute of Environmental Quality.

Key findings in the report highlighted concerns about the sociocultural and socio-structural components of the college's operating environment, which they believed had created conditions of disharmony, disloyalty, and an unhealthy competition for resources. The committee believed that the fundamental values of the two core disciplines in the college, were taking divergent evolutionary paths. Acknowledging that the conflicts had been exacerbated by the overcrowding in the art and architecture building on central campus, the assessment committee did not believe that the pending relocation of the college to larger facilities on the U-M north campus would be sufficient to resolve those conflicts. They saw the conflicts as philosophical, ideological, and value-based, and output based. They

recommended the administrative partitioning of the college and the elimination of the departmental organizational structure, which they saw as an impediment to democratic governance and leadership.

After the partitioning of the college, Metcalf led the faculty in the creation of new organizational structures, creating new *College Rules* and governance strategies. Once new operating paradigms were established, Metcalf focused on establishing service to the State of Michigan as a value. His own engagement in professional licensing and architecture education development allowed him to demonstrate the value of service and stay abreast of emerging trends and new programs being developed at other schools of architecture in the United States.

Typology (institutional influences). The influence of the expanded mission and vision of the university and reconceptualization of architecture practices provided the faculty with many opportunities to adapt norms, and expectations and create new operating paradigms during the Metcalf era. The profession was continuing to move from its master-builder form conscious orientation to a role, which worked with the entirety of the built environment on environmental design, encompassing broader physical, social, and economic considerations (Morrison, 1973), but the schools were not evolving as quickly as the AIA desired.

The primacy of design-based instruction in the schools of architecture was the subject of an AIA- Committee on Design Education Task force in the late 1970's. The committee was concerned that "in general, the schools appear to be quite isolated in their communities. Except for occasional joint programs with other faculties within the same university. The design programs are purposefully self-sufficient and introspective" (Hartman, 1977, p. 21).

Similarly, at U-M, the 1977 NAAB report faults the college for the limited interaction with the other disciplines at the U-M. Moving the college to the nearly unoccupied North Campus exacerbated this condition.

At the University of Michigan, the period 1974 through 1986 was notable a reduction in the appropriation from the State of Michigan, increasing reliance on external funding for research in social and physical sciences, and the regents support for building programs for the medical campus and engineering programs.

Metcalf served as dean under two U-M presidents, Robben Fleming, and Harold Shapiro. The Shapiro era was marked by funding challenges, and strategic pursuit of external funding to support to sustain quality. Shapiro (2009) wrote that as a president of a flagship state university, his constant challenge was to negotiate with various political groups the objectives and “exactly what the university was and who it should serve” (Shapiro, 2009, p. 2). In his inaugural address, Shapiro addressed the goals of professional schools at U-M “it must proceed within a critical framework that not only refuses to accept things as they are, but works to bridge the gap between professional practice and theoretical knowledge” (Shapiro, 1980, p. 2).

Shapiro noted that the U-M managed to sustain its position and quality, during the 1980’s, using external funding subsidies. However, the college was not able to garner the federal funding and private giving available to other academic units because its research did not align with the federal funding priorities, which were directed toward engineering and medical studies. Private giving, largely from alumni, was challenged by both the partitioning of the college and the economic reality that art and architecture alumni did not have the personal wealth on par with the alumni from law, business, engineering, and medicine. The

inability of the college to garner significant external funding contributed to an atmosphere of scarcity and a perception of holding a lesser status than those units who could garner external funding with the U-M central administration (Snyder, 1983).

The period under Fleming is remembered as key for the Black Action Movement and Fleming's attempt to devise a system to address discrimination concerns. The impact of the Fleming administration on the activities of the college appears to have been minimal. Some attempts at encouraging the enrollment of Black students from historically Black colleges and universities as well as from the City of Harlem, New York, are documented. Efforts at recruiting women and minorities included advertisements in women's magazines.

Topography (contextual influences). When Metcalf assumed the deanship, the operating paradigms and norms of the college were being revised to meet a new post-partitioning operating context. The simultaneous requirements for the dean to manage the establishment of a new organizational structure, occupation of new facilities, new expectations for garnering external funding for college operations, and for the education of architects and planners were all conditions not faced by previous leaders of the college

Based on the documents available from the period during which Metcalf led the college, it appears that the conflict laden cultural atmosphere that had characterized the Youtz, and Malcolmson administrative periods relented and a more cooperative and collaborative period ensued. It is unlikely that the change in the culture from the Malcolmson era to the Metcalf era was directly attributable to any one factor, most likely a combination of factors including the partitioning, re-organization, relocation to more expansive facilities, the retirement of three of the most vocal critics of the two previous deans, and Metcalf's administrative style.

Tectonic (mode of construction). Constructing a new College of Architecture and Urban Planning post- partitioning was achieved in part by organizational structure changes and in part by relocation to a new facility and the addition of new faculty. Although a new building to house the College of Architecture and Design had been proposed for the North Campus in 1950, occupancy of the new facility did not occur until 1974. By that time, the enrollment had exceeded 850 with 93 faculty. Metcalf (1981) thought that in retrospect the delay in construction benefited the faculty and students, because they could adjust the building program to accommodate changes in architectural education arising from social and technological changes.

Following partitioning the two new academic units established transition plans and new structures for administering their programs. Among the first order of business was the selection of the leadership. The internal assessment committee had recommended an interim leader, drawn from the faculty, be appointed who would have knowledge of past problems and university procedures (Norman, 1974). The committee was clear on the charge that should be given to the college's new leader: establish supportive relationships with other U-M schools and colleges, and create efficient and effective administrative structures and governance paradigms.

Metcalf was appointed as the interim dean for the college, while a national search for a permanent leader was conducted. He began working with the faculty of the college to define new rules, roles, and expectations of the faculty and its leadership. The composition of the faculty was altered by retirements and/or death of three influential former architecture faculty members, two of whom had held leadership positions and had been instrumental in the old conflict-laden environment. These changes in membership offered the remaining

faculty an opportunity to construct an operating environment that minimized governance conflicts inherent in the old structure and supported greater collaboration.

The disciplinary composition of the college, which had been pared down to architects and planners after the partitioning, consisted of faculty who held values, viewpoints, and goals, relevant to elements of the built environment. This allowed for a simplification of mission and vision for the college, which enabled Metcalf to work with the faculty to restore the norm that had supported a flexible approach to architecture ideology and respected the academic freedom concepts allowing exploration and education of those ideologies. Disagreements over resource deployments were minimized as the faculty moved into larger facilities that were equipped with technologies they had long requested.

The socio-structural configuration established post-partitioning organized the faculty as academic programs rather than departments, established an all-college Executive Committee, charged with advising the dean and assuring compliance with established rules, several specialized committees to oversee academic administrative activities and advise the dean and Executive Committee as a new set of *College Rules* and regulations was developed. This new structure placed significant administrative authority in the hands of the dean, always in consultation with the Executive Committee.

Changes in the interests of the faculty, the needs of the profession and the demands of the U-M were reflected in Metcalf's descriptions of the college prepared toward the end of his deanship. Metcalf (1984) described the college faculty culture as having shifted from a practice-oriented faculty to a balance of practice and research orientation. Metcalf (1984) provided context for the faculty accomplishments and the advancements being made at peer schools, "... Michigan has been number one in architectural research for three decades. We

may not hold our position, for other schools are following our model, and several have excellent funding” (p. 2).

Genius loci (spirit of place). The *genius loci* of the new College of Architecture and Urban Planning were collaborative and future-focused. The faculty left behind old tensions; discarded structural barriers erected in governance, and relinquished artifacts of the previous era including the seal of the college, embedded in the floor of the lobby of the original building and the weathervane installed on top of the tower. Many of the artifacts that Lorch had collected, from estate sales and donations, were given to the University’s Museum of Art on permanent loan. Bartlett (1995) shared, “The old Architecture Building on Monroe was renamed Lorch Hall as a tribute to its architect and a recognition that he, rather than the ongoing program, was the building's permanent affiliation” (Bartlett, 1995, p 110).

The new building, which the faculty had asked to build in a manner that worked with the natural terrain, and as a series of boxes connected by corridors, was exactly that according to Schwadron (1974), “Structurally, the new Art and Architecture building is composed of three rectangular units, each two stories high and running parallel to Bonisteel Boulevard. Two corridors connect the units” (p. 2). Schwadron (1974) reported that the new space would be able to accommodate enrollment growth “The structure is large enough to accommodate substantial student enrollment” (p. 1) and described as a large industrial type space. More than 80% of the interior space was dedicated to studio and workshops; the building featured basic materials such as concrete and exposed steel framing, without ornamentation. The design studio was 360 feet by 90 feet and provided workstations for 450 architecture students 24 hours a day.

The spirit of criticism was still active among the students and faculty as they moved into the new building. Criticism of the buildings aesthetics, design and its potential energy utilization was published just three days after the press release for its opening was distributed. Comments included, concerns about the energy efficiency of the building and its unattractiveness (Lilly, 1974). Complaints from students about lack of social spaces and dividing walls in the studio were answered by Dean Metcalf: “Students have sufficient personal space in the big room and therefore don’t need a lounge. The noise level, resulting from the hum of the ventilations system, is intentional acoustical perfume” (Lilly, 1974). Professor Feldt, a professor of urban planning, was quoted as saying that the building “is a symbol of the sterility of modern American architecture...it’s hard to believe that an architecture college got a building like this” (Lilly, 1974, p. 1).

Historical, societal, and contingent influences. Societal changes were mirrored in the college and, included efforts to increase the number of women faculty and students, and increasing resources for the support of computer-aided design for architecture. Deans leading architecture schools were calling for reforms in education that recognized the changes in practice including the growth of public projects for housing, civic centers, medical centers, and educational institutions, growth of alternative institutions in the building field, and the increasing industrialization of the building process as well as concerns about social equity. Metcalf was reporting on the administrative pressures he saw, including pressure for enrollments and alternative funding sources, service courses, new courses, and new programs to meet the changing needs of both society and the profession (Metcalf, 1981).

It was also a period where college faculty and alumni were recognized for their contributions to architecture. Gunnar Birkerts, a member of the college faculty was awarded

the prestigious Rome Prize for architecture. Charles Correa was awarded the Royal Institute for British Architecture Gold Medal Award and an honorary doctorate by the University of Michigan for his contributions to architecture.

Sociocultural Influences. Once the partitioning was completed and the faculty had moved into the new facilities on the U-M North Campus, a re-unification and stabilization of the faculty took place. The retirement or passing of several senior faculty members who had held tightly to old organizational structures and cultural norms also allowed the remaining faculty to establish new operating norms and affirm jointly shared values. Metcalf was selected as dean, in part because the faculty believed that he had the unique combination of skills, values, and behaviors that could lead them beyond the conflicts of the past and return them to a focus on teaching, research, and service. Metcalf had played a significant role in the reunification and stabilization of the faculty (Johe, 1983).

During the Metcalf era, the design faculty developed a renewed focus on providing a pragmatic ‘professional’ architecture education. Several of the design faculty ran prolific professional practices during the period while teaching full or part time at the college. Similarly, the new facility with specialized technical laboratories allowed the research faculty to expand and refine their research investigations and enabled the further development of post professional studies in architecture.

Snyder (1983) described the cultural changes at U-M and elsewhere: “the leading architectural schools are undergoing transitions from vocational-professional to professional-scholarly models of education” (Snyder, 1983, p. 1).

After the partitioning, the college culture was described as inclusive, open, and trusting of its dean. Borkin (2016) described meetings with Metcalf, where he was seeking

support and funding for a new venture: “Knew what he knew, talked and listened. Agreements were handwritten on a scrap of paper. ...ok we are going to do this. If he wrote it down it was going to happen. That was the way it worked” (Borkin, 2016). Borkin (2016) appreciated the leadership style that Metcalf used, which sounded very parental and similar to the leadership model used by the college’s founder.

After stabilization, Metcalf worked to move the college faculty forward on developing a vision and agenda for the future. The faculty was described as being not engaged, and demoralized (Borkin, 2016). Working with the faculty during a three-day retreat in the spring of 1980, Metcalf worked to engage them in a wide ranging and intensive discussion of issues of importance. Metcalf (1981) reported that “Six small task forces were created to develop ideas over the summer and report to the faculty as a reconvened session in late August, prior to opening the school year. Task force assignments were (1) program structure and governance; (2) college philosophy and mission; (3) educational strategies; (4) communications; (5) faculty development; and (6) facilities” (p. 75). The outcomes of the retreat provided a road map for his administrative actions going forward.

One indication of the evolving sociocultural life of the college can be seen in the growth of the breadth of architectural education and research during the Metcalf era. Metcalf and the college Executive Committee were invited to present an overview of the college to the U-M Regents in 1984. The overview highlighted new areas of research investigation, areas of instruction and the continuing inability to attract black students to the college. The research emphasis, he reported, had been on computer aided architectural design, human behavior/response to the environment, especially for older persons, energy conservation in

buildings, problem-solving methodology and tools, program development, and evaluation of facilities and facility management.

With respect to minority students, he indicated that women and Asian student enrollment was very good and Hispanic enrollment was increasing, but the college was failing to attract black students (Regents of the University of Michigan, 1984).

The faculty appreciated Metcalf's support for the wide variety of research, and creative practice interests pursued by the faculty, which ranged from building design to man-environment analysis to policy analysis (Borkin, 2016; Turner, 2016). Borkin (2016) found Metcalf's philosophy liberating, and Turner (2016) reported that the spirit of inquiry inspired the emergence of a new norm for faculty behavior that created an expectation that every faculty member engage in expanding the discipline of architecture. Turner and Borkin each reported a greater sense of engagement of all faculty during the period with less internal conflicts.

Ideologically flexible and holistic. The status of the college's norm of ideological flexibility was questioned by the accreditation visiting team in 1977. The NAAB team reported that they were unable to discern "the considerable diversity of architectural and personal philosophy' to which the EDP (Educational Development Plan) refers. Indeed, much of the team's observation of the program suggests a rather singular perspective of architecture and of the profession." (Geddis, 1977, p. 7). A possible shift in philosophy was noted "They suggested that, 'the students of the school and the faculty are less interested in information than in validity; facts rather than hypotheses'" (Bartlett, 1995, p. 109).

Primacy of design-based instruction. The primacy of design-based instruction under Metcalf was slightly expanded to incorporate a broader range of elements related to the

environment, 29 out of 56 faculty members continued to report design as their area of teaching and research focus in 1981. The impetus for this evolution came from movements in the profession, an integration of concepts available in other disciplines fostered by an active research program and the philosophical orientation of Metcalf in his role as dean. Metcalf (1981) described the goals of the educational programs in architecture at U-M in terms of the human elements, technical and economic considerations and the aesthetic and symbolic attributes, all integrated with design fundamentals and concepts. Metcalf (1981) described the philosophical approach the faculty used, “The curriculum is based on the conviction that design is holistic –the idea of the totality being ever present in the parts and the importance of the parts in achieving wholeness” (p. 77).

Metcalf promoted a holistic approach to architectural design education, and was aware that external observers criticized the college’s balanced approach to architecture education. The U-M architecture program had been labeled by some external observers as a technical rather than design school. There was some sensitivity to this definition and Metcalf (1981) defended the college as a design school writing, “We try to present a balanced consideration of as many significant design determinants as possible, so that the process and solution will address the substantive, not just the surface, issues of the problem.” (pp. 82-83).

In contrast, the NAAB visiting team (1977) criticized the absence of formal attention in the curriculum to design and research methods or the integration of interdisciplinary components noting that “Professional ‘input’ in the design program does not appear to be extensive in regard to social and behavioral factors as well as historical and theoretical concerns” (Geddis, 1977, p. 9). Further, the NAAB visiting Team (1977) found the programs’ area of greatest strength to be its emphasis on pragmatic concerns such as health and safety

over the quality of social and environmental aspects. In alignment with Metcalf's pragmatic approach to architecture and architecture education, the visiting team did note unusual consistency as regarded the student's knowledge of construction practices health and safety codes and the general integration of knowledge in architecture design.

Disciplinary knowledge base expansion. There were no new degree programs added to the college, nor did any programs leave the college during the Metcalf era, even though at the time of the 1977 NAAB visit, several schools of architecture were in the process of evolving the curriculum and research agendas to a more holistic approach to environmental design. The 1977 NAAB visiting team report criticized the college on its lack of formal attention to the historical and theoretical basis of architecture, the behavioral and experiential basis for design, and the social context of architecture. Most of the faculty chose to dismiss the criticism.

A senior faculty member, Robert Marans, however, chose to examine the offerings of the college in the context of the accreditation board criticism by interviewing faculty and students, analyzing course syllabi and other college events and offerings and reported findings, which supported the negative characterizations of the NAAB report. Soon thereafter, in 1982, a doctoral program in urban technologies and environmental planning was created within the office of the vice president for academic affairs, with several members of the college's faculty directing, creating, and implementing the interdisciplinary program.

The faculty roster prepared for the accreditation review of 1981 documents the intellectual diversification of the faculty with many of the faculty report teaching and researching in more than one subdiscipline (Metcalf, 1981).

Community service. The role of community service as a sociocultural component of the culture of the college during the Metcalf era was captured in the 1979 version of the college's mission statement. The faculty had adopted an active approach to teaching and research, and a passive approach to community service, which focused on the State of Michigan. The use verbs such as "prepare" and "advance" connote active engagement, and in contrast, the use of the verb "respond" is passive:

The mission of the college is directed toward enhancement of the quality of the physical environment, with emphasis on built environments. The mission is pursued through programs design to: 1. Prepare students for a wide variety of professional careers in architecture and urban planning; 2. Advance basic and professional knowledge through research; 3. Respond to opportunities at local and state levels for service to the public and profession in our areas of competence. (Metcalf, 1981, p. 72).

Bartlett (1995) found evidence of the faculty choosing to support historic preservation efforts during the Metcalf era as a form of community service work, she described "other schools of architecture had been promoting a cerebral, self-referential adaptation of historical styles in the design of new buildings; Michigan placed its emphasis upon a more community-oriented historic preservation. By 1975, students could specialize in Building Preservation/Conservation. (p. 103). Table 2 below lists the faculty self-reported areas of expertise for academic year 1975.

Table 2 Faculty Self-Reported Expertise (1975)

Subdiscipline	Count
Behavior/Urban Environments	1
Building Economics	1
Building Programming	1
Built Environment Evaluation	1
Community Resource Development	1
Computer Applications	2
Construction	7
Design	29
Design Theory	5
Environmental Technology	7
Fiscal Planning	1
Furniture Design	1
Gerontology	2
Graphics & Visuals	5
History	3
Historic Preservation	1
Materials	1
Photography	6
Research Methods	4
Site Planning	1
Structures	13
Third World Housing	1
Urban Design	1
Urban Planning	2

Demographic diversity. The demographic profile of the college post-partitioning did not meet the expectations of the U-M central administration for diversification. The U-M administrators were encouraging the colleges to diversify both their faculty and student body. Bartlett (1995) found that there was little change in the demographic profile of the college in response to the Black Action movement; “Despite the demands of the 1970 Black Action Movement, the college never succeeded in approaching the 10% enrollment goal promised by President Fleming to the Black students.” (p. 107). Metcalf attributed the lack of black students to the climate at the U-M, rather than any issues within the college (Bartlett, 1995).

One of Metcalf's first strategic initiatives was focused on diversifying the demographic profile of the faculty (Bartlett, 1995). Available records from the era show that the faculty was predominantly male and of European descent. Three post-professional fellowships designed to challenge the intellectual stagnation perceived by the NAAB accreditors in their 1977 report, and to increase the representation of women and minorities on the faculty were launched during this period. At the end of his tenure as dean, the demographic profile had become more diverse, with three women faculty members and seven minority faculty members out of 30 full-time and 21 part-time faculty, or 41 full-time equivalent faculty (Metcalf, 1981). As senior faculty members were retiring, the college was diversifying the appointment types as well. In academic year 1976-77, 91.2% percent of the faculty were tenured, this declined to 80.4% in academic year 1980-81. In 1984 the college, initiated a fellowship program seeking to attract younger practicing architects as members of the faculty. The hope was that these architects would infuse energy into the design curriculum, while working on their own research objectives.

Metcalf's strategies for increasing the number of women on the faculty included advertising in a feminist magazine. Gender diversity among the students showed improvement first "Female students outpaced all other underrepresented groups in their advances in the college" (Bartlett, 1995, p. 107). In 1981, reflecting on the fact that the gender profile of the faculty had not changed dramatically, and despite an enrollment of female students that had increased to 30%, Metcalf attributed the lack of females in the faculty and the profession to the demands of childbearing. There was no evidence in the college files to suggest that a study to ascertain the reason for the low participation of women had been compiled.

While not designed specifically to attract underrepresented persons to the college, the hope was that the fellowship program would both foster intellectual diversity and allow the faculty to assess the fellow's fitness for full-time positions as they became available. The fellowships were named after influential former faculty members, Walter Sanders, Willard Oberdick, and William Muschenheim.

Although goals were established during the Metcalf era to increase the number of women and minority faculty members, little success was reported. This was attributed to small pools of available candidates with no specific actions mentioned in college documents to increase pools. The NAAB accreditation visiting team (1977) remarked that the college has "a rather high proportion of the faculty that is tenured and the opportunities for increasing diversity are restricted apparently to the use of part-time faculty" (Geddis, 1977, p. 6). Further, the team observed that the overall total number of minority and women faculty members was low: "It is not apparent to the team that Michigan's location or resources would account for this. As architects must be responsive to a wide range of values and life-styles it seems especially appropriate that the faculty include minorities and women" (Geddis, 1977, p. 7).

Socio-structural influences. When adopting an organizational structure after the partitioning of the college, early attempts were predicated on some of the structures and governance norms previously used, and some elements were constructed to overcome representation concerns, which had arisen pre-partitioning.

The 1974 internal assessment described the pre-partitioning organizational structure of the college as a factor hampering the dean's ability to lead the faculty. The report explicitly called for the end to the "tri-partite" organizational structure, which the committee

believed had led to operational shortcomings. The tri-partite organization was structured as departments, with departmental Executive Committees, an all college Executive Committee, and the dean.

Post-partitioning, the faculty initially organized themselves as faculty councils. The councils consisted of faculty members who taught within a degree program, or worked within the research group. Membership in the councils was determined by teaching assignments, and faculty could hold membership on multiple councils. Council leaders were selected by the council members. The council leadership team was a parallel organization to the Executive Committee. Metcalf (1981) reported that some faculty had expressed concern that the organization of the architecture faculty into two sections, one that represented instructors in the Bachelor of Science program, and one that represented those teaching in the Master of Architecture program had had a splintering effect on the culture and holistic view of the curriculum. Metcalf (1981) explained his strategy for resolving the perceived split “A joint curriculum committee was appointed last year to ensure the consideration and coordination of educational issues across the entire architecture program” (p. 80).

This organizational structure was replaced with a program structure with a program chair in the leadership role. The program chairs worked directly with the dean on administrative matters. Curricular and faculty administrative matters were handled by program subcommittees and reviewed by the Executive Committee for procedural alignment, and then referred to the dean for final action.

Formalizing policies and procedures. Metcalf (1981) described the program structure used after the partitioning, writing, “A program is a subdivision of the college, under an administrative head, maintained for the purpose of operating either a specified curriculum or a research and service activity” (p. 19). Programs could be degree granting or non-degree granting.

Metcalf described the role of the dean of the college for the National Architectural Accrediting Board visit, “as chief executive officer of the college, the dean is assisted in policy and budget matters by an Executive Committee, and in matters of administration by an Operations Committee” (Metcalf, 1981, p. 1). Governance-related responsibilities, he wrote would generally originate in the programs, be discussed, and then approved by the governing faculty. Figure 26 depicts the changes in the organizational chart after the reorganization of the architecture program that segregated the administration of the undergraduate and graduate teaching activities.

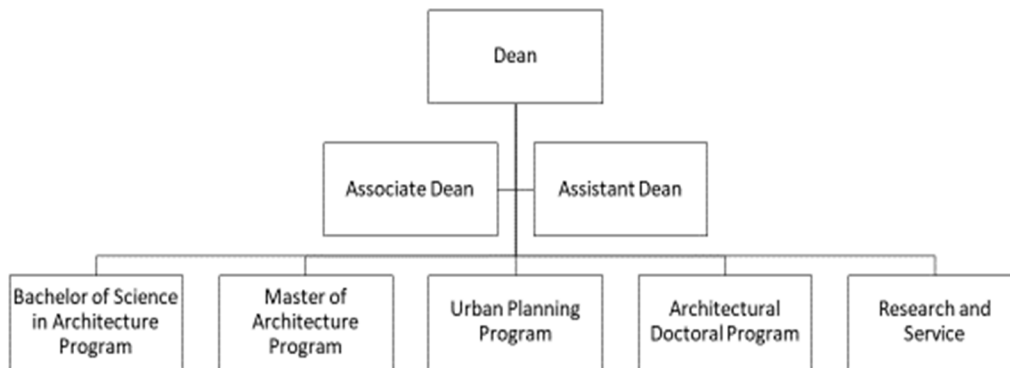


Figure 26. Organizational chart after architecture program reorganization – 1974.

The five programs within the college at that time were Bachelor of Science, Master of Architecture, Master of Urban Planning, Doctor of Architecture, Research, and Service. Each

program was governed by a program council, which was comprised of those faculty teaching in the program plus a number of student representatives (Metcalf, 1981).

Program councils were expected to select an executive member for a three-year term. The program leadership was to be responsible for performance evaluations and petitions to the Executive committee for changes in faculty status, such as promotion, tenure, and salary increases (Metcalf, 1981).

Evolving organizational structure. Subsequently, the programs in architecture merged, and the faculty worked directly with the program chair, who worked directly with the dean on matters of resource allocation, and other administrative topics. Educational policy remained the governance right of the faculty, as did several human resource functions such as promotion and tenure reviews and faculty searches. Metcalf (1981) describes the perceived value of the program structure rather than the department structure as creating an internal structure and mode of operation that could contribute "...towards a sense of unity and of membership in a communal group with shared professional and academic goals" (Metcalf, 1981, p. 19).

Leadership strategies. The strategies used during the Metcalf era for stabilizing, sustaining, evolving, and aligning the college with societal, professional, and university demands, included several innovative approaches to faculty hiring, funding, and service. Strategies employed relevant to demographic diversification reflected both internal cautiousness and institutional pressures for change. Strategies used to pursue expanding the available funding for college operations reflected internal desire to reconnect to alumni and reassure them that the college was again on a solid foundation and reaching out in service as well as to mitigate institutional reductions in funding caused by reductions in the state

appropriation. Strategies in research endeavors reinforced the college's strong position among schools of architecture and image on the U-M campus and among the profession in expanding the discipline and disseminating that knowledge, and internally refocused the faculty energy on moving the college forward and away from the governance conflicts of the past. Strategies employed for constructing a new organizational structure were iterative, collaborative, inclusive, and democratic included several innovative approaches. These strategies included the processes used for hiring and diversifying faculty, and administering faculty compensation to encourage faculty research and creative practice; and the search for external sources of funding for research and student financial aid.

Post-partitioning the strategies used for hiring new members, diversifying the college intellectually and demographically, and compensating the faculty were interwoven with strategies to incentivize research, serve the community, reconnect with alumni, and enhance funding.

The faculty were very cautious when choosing new members after the partitioning, creating an elaborate process of assessment and review for intellectual and behavioral characteristics. Where previously visiting faculty members, lecturers and temporary appointments were the purview of the department chairs and permanent appoints were often the purview of the dean, with Executive Committee support, a new process emerged. Metcalf (1981) reported that the faculty-search process developed included a multi-part review of the candidate in action. The new tenure-track faculty selection process required that design candidates come to campus and do a one-week problem with a group of students. Candidates for technology positions were asked to present lectures or seminar sessions and to participate in the laboratory activities. Metcalf (1981) provides an overview of the means by which

faculty searches engaged the community: “Consultation with student and faculty groups on the merits of the candidate is extensive, and the final decision to make any full-time or regular staff appointment must be approved by the Executive Committee” (p. 33). The process for reviewing and selecting part-time faculty and visiting lecturers, allowed that the dean could work directly with faculty in the area of a teaching need to select a person with the desired qualifications (Metcalf, 1981).

This process differed from the past processes by giving the college executive committee the final word on full-time and regular staff hires. It empowered the dean to work directly with faculty candidates on other hires. Because the executive committee was comprised of elected members of the faculty, approved by the regents, there was a belief that this process was created to mitigate previous conflicts between the department chairs, the dean, and the college Executive Committee. This new consultative method of selecting faculty members laid a foundation for a culture of collaboration over resources rather than competition. Metcalf used the strategy to calm faculty who had felt disenfranchised from college operations in the past.

Discussions about faculty compensation, the expectations of faculty members in a research university for knowledge production, the expectations in schools of architecture for designers to be engaged in professional practice and some administrative pressures from the U-M central administration for clarity of effort reporting coalesced at the College of Architecture and Urban Planning as a fractional appointment system. Metcalf (1981) explained:

Most schools of architecture permit full-time faculty to do professional work on the outside and expect them to receive remuneration for that work. In contrast, most

universities expect faculty, as part of their full time commitments, to do research designed to produce new knowledge, and salary levels include such research effort.

Because of these different expectations, architecture salaries are invariably lower than those in other disciplines. (p. 39).

The fractional appointment system, adopted by the faculty in the late 1960's, was intended to accommodate the spirit of the university's insistence on the "Total Commitment" of its faculty to the work of the university while recognizing the expectations of an architecture faculty member. The dilemma for the practicing architects was that unlike funded research work, commissions were not financially managed by the university, yet these commissions represented creative research and practice equivalent to that of other disciplines. The college had created the 80% appointment to recognize the one day per week that the Regents By-laws allowed for research

Within the college, designers with commercial commissions were able to increase their total compensation, and researchers with external funding either could receive additional compensation or reduced teaching assignments. The scholars did not have the same opportunities. The balance of compensation and recognition for contributions to the discipline was caused tensions between faculty members that would linger into the Beckley era.

Research administration. Garnering acceptance and recognition for the unique forms of research conducted by the architecture faculty was one of Metcalf's goals as dean. "The college believed that it required researchers as teacher since it was training the first generation of architects whose primary orientation will be toward architectural research" (Bartlett, 1995, p. 102). Its success over the years in generating new forms of architectural

knowledge had led to the creation of post-professional degree programs, the first professional doctoral program in the United States and international recognition for faculty members. Yet, architecture faculty remained frustrated that the definitions of what constituted architectural research were not respected by the U-M administrators. Metcalf explained

It bothers me that the design of a building is considered a mere commercial venture, and a conflict of interest, whereas the university would be happy to report that I wrote a piece of music, or a book, or painted a picture, or danced on a stage. They would probably be pleased to report I wrote some articles about the design of a house. In my view, designing is a lot more important achievement than writing about it (Bartlett, 1995, p. 108).

A strategy for garnering recognition and acceptance had to be developed in order for the new college to be recognized as a contributor in the creation of new knowledge. Metcalf (1980) benchmarked the performance of the faculty in garnering external research fundings against both U-M peer schools and peer architecture schools when explaining the status of research funding: “ A school does not build a research program overnight... our record of research performance, while peanuts compared to engineering, is outstanding among schools of architecture” (pp. 3-4)

Table 3
Research Proposal 1974-1980

Year	Proposals	\$ Value	Projects	\$ Funding
1974-75	4	\$135,210	2	\$ 97,987
1975-76	3	389,378	0	0
1976-77	9	256,327	4	151,859
1977-78	11	321,051	7	277,712
1978-79	14	891,160	6	202,495
1979-80	8	473,893	13	717,441

It appears that the faculty embraced the charge for pursuing funded research. Metcalf (1980) reported that funded research had become a major commitment of the college sharing the data contained in Table 3:

Fundraising: Metcalf turned to the Alumni for assistance in funding U-M mandates and faculty research support. His fundraising strategy included friend-raising, information sharing, encouraging alumni involvement with the students, and asking for financial support. Bartlett (1995) described some of the initiatives used to diversify the college funding profile writing "...organizing an alumni society, producing a newsletter entitled Portico, and conducting a telephone fund drive, the college managed to reach an annual giving of over half a million dollars by the end of Metcalf's tenure as dean" (p. 109).

Norms, roles, and status. Normative changes to the operating culture occurring during this era included a broadening of the conception of the work of an academic architect. The era was one that included a broader acceptance of the place and influence of research in both applied and theoretical domains, and a reconceptualization of the role of the academic architect in the public realm including the entire built environment.

Unaltered was the expectation that architecture instruction was based in the design-studio, using a case-study method supplemented by elective courses that complemented the design components. The faculty demographic profile, which was predominantly White male, changed very little, despite encouragement from students, central administrators, and the accrediting agency.

Demographic data describing the faculty in 1981 show that of the 54 faculty members appointed at the college, 50% had earned their terminal degree at Michigan, nearly 66% were licensed architects, about 20% held Ph.D. or Arch.D, 50% held masters degrees and the

average age was 49. The high number of faculty members who were U-M graduates became cause for concern in subsequent eras because of its potential for intellectual stagnation among the faculty. The 1981 demographic data indicated that openings among the tenure-track faculty, caused by retirements, were unlikely.

Metcalf's (1981) report on faculty quality noted the difficulty in finding qualified women and minorities for teaching positions as well as emphasizing the difficulty in finding qualified applicants for open faculty positions in the technical areas of architecture. No mention of strategies intended to create larger pools of qualified applicants was found in any documents, but a copy of an advertisement placed in a *MS. magazine* was found in the college archives.

The dean's role evolved post partitioning to that of chief collaborator and faculty mentor. Metcalf's (1984) pragmatic and careful attention to the resources of the college allowed him to assert, "We undoubtedly do have the leanest administrative crew on campus, and perhaps the only unit where all academic administrators teach, including the dean" (p. 1) (Metcalf, 1984). Administrative roles were altered to increase collaboration and cooperation and to allow the dean to lead the college with the support and consent of the Executive Committee.

However, the demographic diversity and the source for faculty remained homogenous. Of the 56 faculty listed on the 1981 roster, only 23 had received their final academic degree from a school other than U-M, there were very few women, and very few minorities. The majority of the women and minorities were graduates of the college's professional doctoral program. Licensed practicing architects totaled 41 and the majority held memberships in professional and academic societies. The average age was 49 and 32 faculty

members had already reached full professor status. The faculty included a wide variety of sub-specialties including designers, technicians, researchers, historians and economists.

Norms around the goals of teaching and the values being taught at U-M, were questioned by the NAAB visiting team (1977), who criticized the continuing use of the apprenticeship model for teaching in studio courses. They noted that such a program had resulted in an over emphasis on professionalism at the expense of exploration and experimentation. Geddis (1977) described the visiting team's concerns, writing, "apprenticeship approach to studio learning has continuing validity, the faculty may wish to also provide insights and information in more organized and generalized form... emphasis on 'professionalism' appears to have created too great an interest in finished products" (p. 11).

During academic year 1977-78, the faculty instituted a full-scale review of the six-year program that the NAAB had criticized. The speed of agreement and action on moving forward with curriculum changes, completed essentially in four months, compared to program revisions undertaken during the Malcolmson era, which took years, is an example of the new culture of collaboration and cooperation, which had emerged after partitioning.

After years of internal conflict, with multiple actors attempting to sway the direction of the college and control its direction, Metcalf, was appointed the first dean post-partitioning. His job was to re-stabilize the college culture, according to the architecture faculty interviewed (Borkin, 2016, Turner, 2016). Kerr (1997) has described the role of leadership during this era in higher education as that of mediator, keeping the peace but understanding that while keeping the peace that some values and ideals must not be compromised. Metcalf reportedly restored a pragmatic, rational, and collaborative spirit to the college (Borkin, 2016).

Metcalf had the advantage of both being a known quantity to the faculty and knowing the faculty culture well, since he had been a faculty member himself since 1955 and the chair of the architecture department. Demonstrating that he understood how to work within the existing culture, Bartlett (1995) found that “In his notes for his meeting with the dean search committee, he reminded himself to mention, as a candidate, the preference to move ‘governance from autocratic to grassroots,’ in the new ‘age of communications’ (p. 106). Metcalf (1981) understood that pressures to evolve the work of the faculty were sourced externally, “Changes in society, education and the profession force continuing change and search for the proper balance” (p. 84).

Summary of the transition stage. The transition stage spanned approximately thirty years and included several changes in the norms, values, and operating paradigms. The identity and image of the academic architects had evolved from that of a vocationally and regionally focused preparatory program, to one that had a broader view of the purposes and outputs of architecture as an academic discipline both in terms of content and impact.

Operating paradigms, which emerged during the transition period in response to external environmental pressures to adapt to new institutional norms at U-M, included the pursuit of reputational capital at the national level, selective admissions of students, and the pursuit of external funding sources. Changes influenced by the profession of architecture, included changes in the curriculum to meet emerging technological and societal changes, and an emerging relationship with industry relevant to research development.

Adaptations to operating paradigms, which occurred because of internal cultural forces such as changing values and ideologies, included partitioning the college into two separate academic units and the creation of a hybrid clan-hierarchical model of

organizational type. At the end of the transition stage, the faculty composition, scope of disciplinary expertise, image of an academic architect, and conception of the identity of the architecture program had been significantly altered.

Maturity Stage

The maturity stage of the development of academic architecture culture at the University of Michigan spanned from 1987 through 2016. The leadership activities of the period were characterized by the pursuit of reputational capital in both academic and professional settings, emerging technologies dynamically changing architecture pedagogy, knowledge, and professional practice norms, and amorphous and evolving disciplinary boundaries changing relationships and ways of knowing. The influence of the leadership actions that these three deans had on the culture of the faculty is contextualized with the changing social, technological, and institutional changes occurring through this period.

Evolutionary changes in organizational type, resources, enrollment, and demography characterize the period. A change in the organizational type, as described by Peterson and White (1992), occurred during the third stage of the college's evolution. The college was renamed the A. Alfred Taubman College of Architecture and Urban Planning during the maturity stage to reflect the receipt of a transformative gift from a former student.

The pursuit of reputational capital. The pursuit of reputational capital was a recurrent theme of the leaders of the College of Architecture during the maturity stage. The pursuit of reputational capital in American architecture schools required two foci: faculty quality and quality degree offerings (Mayo, 1991). Faculty quality strategies were focused on the selection of research-oriented rather than practice-oriented faculty. Degree offerings evolved at the graduate and post-graduate level, and there was a corresponding reduction of

emphasis and enrollment among the undergraduate offerings. The three U-M architecture deans also employed strategies to upgrade the facilities, the profession, and the relationships with the college's stakeholders.

Beckley's strategies included internal and external advocacy agendas. Internally, he advocated for rigorous faculty evaluation criteria and compositional changes. Externally, he advocated for an evolution in the partnership between professional and academic stakeholders to advance the goals of each simultaneously. Kelbaugh's external advocacy strategy was to engage the college faculty, students, and the profession in service activities for the City of Detroit, which leveraged college faculty talent and student learning opportunities. His internal strategies focused on expanded degree offerings in urban design and Real Estate. Ponce de Leon's reputational capital strategies were focused on providing opportunities for the faculty to be recognized on the national and international stage. Her student-support strategies focused on the development of degree programs and pipelines for enrollment.

Mayo (1991) has described how university administrators were increasingly evaluating architecture schools in the post-Vietnam war era based on funded research. Some administrators saw funded research both as a reputational capital measure and as a recognition of changing organizational resources. Mayo (1991) characterizes the dilemmas faced by architecture schools in the period as an evolution from an industrial production mindset, where student enrollment was a measure of success, to a post-industrial model, dependent upon a research-oriented faculty:

While American universities have historically been treated as a form of cultural capital, the current trend toward creating reputational capital has resulted in new work

conditions within schools of architecture. Architecture faculty, who have mainly been practitioners, are increasingly being replaced by research-oriented faculty in architectural schools. (p. 82).

Mayo (1991) notes that the underlying reason that university administrators were pushing architecture schools for the increased research production and reputational capital was economics. Operating costs were rising faster than the sources of revenue and institutions were examining ways to restructure, downsize, and create internal efficiencies to manage their new fiscal realities (Barrow, 1996). The 1990-91 recession had American higher education leaders re-conceptualizing how their institutions would be funded for the long term. Drucker and Robinson (1994) reported that a majority of the higher education institutions in this era were using four interrelated criteria in selectively reducing expenditures, including centrality to mission, program quality, student demand, and relevance to the institution's strategic plan. At U-M, the annual budget reports from the schools and colleges to the provost were asked to report on each of these values in explicit terms. The influence of this shift were cultural changes within the schools, including shifting emphases from undergraduate to graduate education, changing faculty profiles from practitioner-teacher to researcher-teacher, emerging new degree programs, and evolving evaluation criteria for faculty and the schools (Mayo, 1991).

Barrow (1996) found that federal funding for research during the period was constrained and federal agencies were told to direct funding selectively and only to areas where the United States has a clear competitive advantage in 'frontier research.' The federal policies left most practitioner-teacher architecture faculty unable to secure grant funding, especially those who would have been characterized as designers. Researcher-teachers

needed to pursue grant funding in areas defined by the federal government in the technical aspects of buildings, in competition with the engineers.

Emerging technologies. The impact of emerging technologies on the discipline of architecture, the profession, and the operating paradigms of the architecture faculty, during this period, was profound. A significant number of the faculty, who were unwilling to learn the new technologies, chose to retire. In contrast, a group of young researchers, who had been pioneering the use of the new technologies in the building technology, gained significant reputational capital for the college through research grants and pioneering use of technologies. Adoption of computing technologies for design studio required some shifting of operating paradigms and cultural norms. Many members of the faculty were initially skeptical of the efficacy of the software and hardware, especially in terms of its expense and its ability to supplement architecture education. The faculty was concerned that they would be teaching software use rather than architecture design. In contrast, students were worried that they were not being prepared for the future. Lack of early adoption by the design faculty became problematic when an accreditation review criticized the program for its shortcomings in developing students for professional practice.

In the latter half of the Beckley era and early years of the Kelbaugh period, the college offered semi-private weekend courses, taught by some of the pioneering faculty, for existing design studio faculty to help get them up to with computer-aided design and graphical information systems technologies. The Ponce de Leon era focused the integration of computerized-making and testing of architectural applications within the design studio in what came to be colloquially named the FABlab. Activating the FABlab required a considerable investment of resources in machinery and space, as well as hiring multiple

faculty members who could bridge the design-making foci of architecture education. The addition of these faculty members with their new approaches to architecture research and discovery had a significant impact on the culture of the college. Modernization of the curriculum, restoration of making as a core value, and the reputational capital gained as these new members won competitions and exhibitions around the world were outcomes of hiring these new faculty members. Ponce de Leon pioneered efforts to place teaching software and hardware utilization in supplemental workshops, so that valuable class and studio time could focus on architecture concepts rather than technology utilization.

Amorphous disciplinary boundaries. Mayo (1991) has described how many architecture schools in the era, especially those located within research universities, were having difficulties articulating the criteria applicable to creative faculty, in a manner that was acceptable and comparable to faculty in the scholarly and traditional research disciplines. Kelbaugh (2008) saw the amorphous disciplinary boundaries as an indicator of academic architecture faculty recognizing and embracing the interdisciplinary nature of the field spanning the social, aesthetic, tectonic, and materialistic aspects of the planning and designing the built environment.

In the 1990's reports from the United States Department of Labor predicted a skills gap specifically among flexible specialists and the need for higher education institutions to provide adequate training to meet the emerging needs. Barrow (1996) describes flexible specialists as possessing three key attributes: versatility to apply specialized skills to a wide range of problems and production processes, mobility to relocate as needed, and, a commitment to continuous education. Architecture educational programs, which embedded liberal arts curricula, seemed to meet those three areas of emphasis. The skill sets required an

understanding and ability to integrate the skill sets of a variety of disciplines for three-dimensional problem-solving, architecture as a globalized field, and its ever-evolving technologies and materials require practitioners to stay current in the field.

The 1992 Western Interstate Commission for Higher Education (WICHE) study reported that many higher education master plans were refining their missions to redefine teaching to include interdisciplinary skills, research as a form of societal assistance rather than for its own sake and service as public-private partnerships with government and industry. (WICHE, 1992).

This represented a shift from the societal expectation of universities professional programs serving purely a vocational preparation program to one that embraced assembly of ideas and cross-disciplinary problem solving. Crosbie (1995) reported widespread dissatisfaction on the part of architecture firms and the federal government on the quality of the skill sets of students graduating from architecture programs in the United States. A report published by the National Academic of Sciences' National Research Council concluded that most architectural graduates possessed a good understanding of the design process and broad design concepts but lacked knowledge of technical and practical aspects of construction, and project finance (Crosbie, 1995). A powerful catalyst for change, according to Crosbie (1995) is the dissatisfaction of a major client. He describes "when the largest single client for architectural services in the country detects a problem, commissions its own inquiry, and is advised not to hire graduates from architecture schools, it is time for us to sit up and pay serious attention" (p. 48)

Curiously, the missing elements of the graduates' skill sets as reported by the firms were precisely the ones that the profession was supposed to teach to new entrants to the field

based on the profession-education division of responsibility, drafted decades before at the start of architecture education in the American higher educational system. Kroloff (1996) noted that there was confusion between the differences in education and training.

When the decision was made almost 130 years ago to vest responsibility for architecture education with universities instead of technical and trade schools, the profession also tacitly accepted the mission of the universities as their own: to develop in young people the skills necessary to function effectively in society and the economy. Nowhere was there a clause demanding full or even partial technical proficiency from architecture graduates... In fact, the profession was wise enough to draw on its rich tradition of apprenticeship to set up one of the first and most innovative systems of internship: a three-year sojourn during which the architects-in-training prepare for licensure by learning the many technical particularities in which the field is rooted. The system was codified in 1978 as the Intern Development program. (p. 92).

The mitigation plan that U-M adopted offered to coordinate short-term externship opportunities for architecture students to help them to conceptualize the transition from school to office studio and encouraged the creation of business-based electives (Crosbie, 1995). U-M architecture staff members worked with Alumni in firms to create externship and internship opportunities leading to employment as a service to both the students and the alumni in practice (Berenter, 2017).

Changes in organizational type. During the maturity stage the organizational type, evolved from clan-hierarchical to market-ad hoc as the focus shifted outward and became competitive (Peterson & White, 1988). During this stage, the leadership actions of

the deans were focused on increasing the national profile and ranking for the architecture program, establishing a unique expertise among schools of architecture, encouraging entrepreneurial development of courses and research opportunities and leading technological innovation. Figure 27 depicts the Peterson and White (1988) organizational matrix and emphasizes the sectors representative of the faculty culture in the maturity phase.

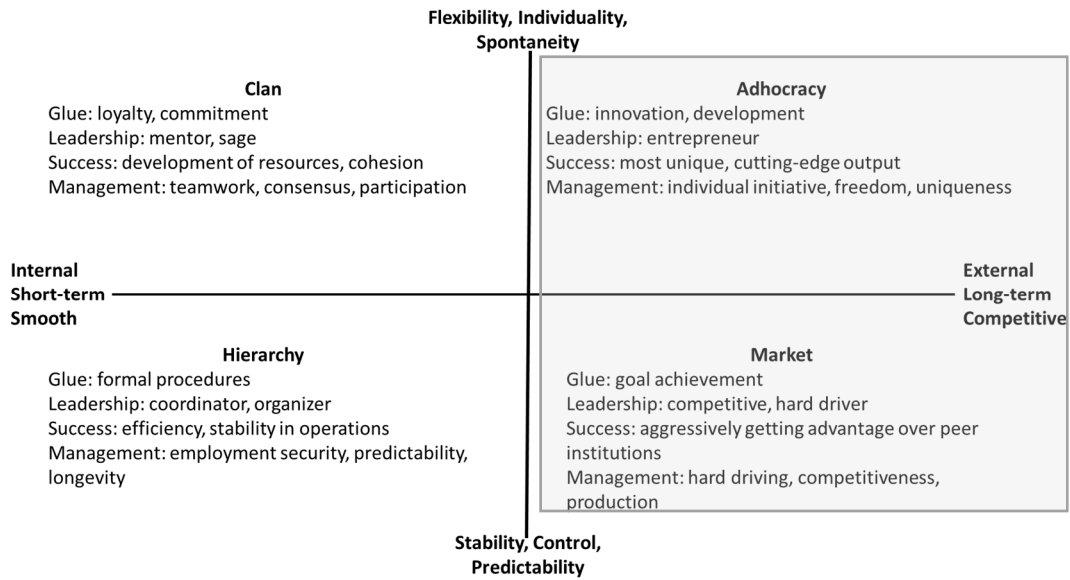


Figure 27.:Organizational type matrix (adapted from Peterson and White, 1988).

Under Beckley, the organizational success standards gradually became focused on cutting-edge research, unique and innovative approaches to architecture and architecture educating and pursuing aggressively activities that might gain an advantage for the college over its peer institutions. Kelbaugh was less confident of the college’s ability to rise in the rankings and hesitant to provide organizational support aimed at competing against other schools of architecture for prestige, prospective students or potential sponsored research. The Kelbaugh era moved the organization towards an ad-hocratic approach that focused on the unique interests and abilities of each faculty member. In contrast, Ponce de Leon leveraged

opportunities available at the University of Michigan and within the professional architecture community to build an entrepreneurial culture among the faculty with a goal of achieving a significant position in the competitive market.

Changes in organizational resources. Higher education organizations have three core resources that are deployed in pursuit of the teaching research and service mission. This includes their faculty, their funding, and their facilities. During the maturity stage, there is evidence of a steady change in composition and quantity of each of these resources sets for the College of Architecture and Urban Planning. The quality, quantity, and demography of the faculty evolved in part because of strategic efforts to develop a broader representation of the nation, and in part as a natural consequence of similar efforts at other schools of architecture. The funding of the college changed from the beginning of the period to the end of the period because of changes in the university's appropriation allocation paradigm, changes in external sponsored research interest areas and from the gift of a large naming endowment from a former student. The facilities changes during the Beckley era were minimal and designed to accommodate program and research changes. In the Kelbaugh period, facilities changes included establishing an off-site base for some operations in Detroit, and some modest internal upgrades. During the Ponce de Leon era, a substantial update was initiated which included an addition to the art and architecture building and renovation of the studios and faculty offices. The influence that these leadership strategies had on the evolution of norms, values, and operating culture of the architecture faculty are discussed in the context of each the three dean's leadership activities.

Changes in enrollment and demography. The college grew during the maturity phase faster than many of the small schools at U-M, and the enrollment shifted from

predominantly undergraduate to graduate.

Additionally, the demographic makeup of the faculty, staff, and students during the maturity stage became less homogeneous. Some of these changes were facilitated by university programs that encouraged minority recruiting and hiring, and others were because of similar efforts at other institutions and changing societal norms. Nationally, the representation of women and minorities faculty in architecture increased between 1980 and 1993. The percentage of men increased by 5.1%, but women increased by 53.5%, and minorities, predominantly women, by 56.1% (Aguirre, 2000).

By the end of the maturity stage, it appears that the academic architecture culture had evolved beyond a single identity as a professional school to an expanded identity as a professional school in a research university. This identity evolution altered the norms, values, and operating paradigms of the architecture faculty as well as its image. At the beginning of the period, the program had a good regional reputation as a producer of competent professional graduates, many faculty members were local practitioners, and scholarship, research, and creative practice were not highly valued activities across the faculty as a whole. By the end of the era, the college faculty had gained an international reputation for the quality of its scholarship and creative practice. They were presenting, exhibiting, and building at international venues on a regular basis. Significant engagement in emerging technologies for making and building had resurrected the college's reputation as a pragmatic innovator, and national rankings routinely placed the college among the top ten professional programs in the country. The opportunity to host the Association of Computer Aided Architecture Design (ACADIA) conference in 2016, as well as at the Venice Biennale, again

allowed the faculty to demonstrate their expertise to an international group of researchers, academics, and practitioners.

Although many aspects of the college's operating paradigms were changing, two fundamental values carried forward from the previous eras, the value of having practitioner-faculty as well as scholar-faculty as members of the community, and the value of having faculty members who represented the humanities, the arts, and sciences broadly. The *College Rules* (2012) include the following statements on the value of interdisciplinary approaches and professional practitioners:

Some college faculty pursue artistic or scholarly paths... They create works of art, do historical studies, develop or extend theories, test theory against empirical data, or develop and improve analytic methods. Their primary creative work may appear in published form in books, in journals of either the disciplines or the professions, or in works of aesthetic significance. For faculty whose advanced degrees are from fields other than architecture or urban planning, however, their capacity to share the mission of the planning and design professions is what makes them valuable to the college. They necessarily are differentiated from colleagues in their original disciplines by the questions they ask, their styles of work, and the products of their efforts, which must be focused on questions critical to architecture and planning. (Faculty, 2012, p. 25).

Robert Beckley (1987-1997): From regional to national reputation. The theme of the Beckley era was profile raising. Architecture deans in the United States in the late 1980's were under increasing pressure by university administrators to produce additional reputational capital for their schools, and many achieved this growth through hiring research faculty, encouraging scholarly publishing, and by upgrading degree offerings (Mayo, 1991).

Beckley understood, from his early experiences at the University of Michigan and from his experiences as a senior administrator at the University of Wisconsin, that profile-raising activities required him to advocate for changes within the organizational structure, faculty composition and the culture of the college as well as with influential members of the professional architecture community. Beckley (2014) described his motivation to take on the dean role "...what motivated me the most was moving the college from being a good regional school to one that could compete with national peers" (p.1). As dean his role, as described by the provost, was to change the culture of the faculty to better align with the norms of the university.

The faculty culture, under Beckley's leadership evolved from its localist-technical professional-practice focus, geared toward creating good professional practitioners to one that focused on design, which embraced scholarship production and dissemination and new ways of integrating research into the academic activities of the college.

Beckley worked to build upon the strengths of the college and implemented a range of strategies to address problems and concerns highlighted in the strategic assessment the faculty had prepared before his arrival. The strategies Beckley chose to accomplish these goals included ones that had been used successfully used by previous deans as well as a few that were original to his deanship.

Beckley employed additional strategies including expanding the types of instructional faculty appointments, developing a fundraising strategy that included the development of a relationship with a wealthy former student, and re-integrating research activities within the academic programs rather than administering them as separate entities. The combined influence of these strategies, plus the retirement of several senior faculty members, allowed a

new faculty profile and new faculty culture to emerge. The new culture was more design-focused, based on the ratio of designers to other subdiscipline members. The re-positioned core curriculum in the professional program, improved graduate quality. The faculty had become more nationally engaged, based on conference attendance and published articles and books, as well as, more diverse, based on demographic data.

When Beckley arrived at U-M as the dean, he found that the culture of the college had adapted to the leadership style and localist-vision of the previous dean. Having been a member of the faculty previously, he knew that the changes that he had hoped to implement needed to be managed by working collaboratively with the faculty. Beckley (2011) was realistic about the social relationships he would experience, writing, “Dean’s don’t necessarily have a lot of friends in the halls of Ivy they occupy...The dean is intimately involved in the pecuniary aspects of a faculty member’s life” (p. 6). Beckley described leadership as a string, understanding that you could gently pull people with you or towards you, but never push because the string between the leader and the group would collapse upon itself (Beckley, 2016). He understood that changing the faculty culture meant finding ways to bring them to a new way of thinking about the role of a faculty member in the profession and within the higher education environment. He understood that retirements of several senior faculty members who had been influential in establishing and maintaining many elements of the existing faculty culture provided an opportunity for new conversations, leading to new directions, and new operating paradigms that may result in alterations in the faculty culture (Beckley, 1995).

At the end of his deanship, Beckley was disappointed that the college had been ranked 11th in national polls, had not achieved the demographic diversity he had pursued and

that he had not been successful in securing a large endowment. A strategic assessment completed at the end of his deanship included a perceived need to improve faculty collegiality, the need for better external promotion of the image and identity of the college, and developing interdisciplinary ties with the other schools and colleges at the university. (Beckley, 1995, p. 4). Table 4 provides a list of leadership strategies that Beckley and previous deans had used to influence the culture of the faculty.

Table 4
Leadership Strategies

Beckley's Leadership Strategies		
Strategy	Goal	Previous Dean
Assume Leadership Roles in External Organizations	Influence architecture education Raise profile of college	Lorch Bennett
Specific Faculty Hires	Diversify Intellectual Composition of the Faculty, Spur Broadened Discourse and Innovation	Bennett
Stage National Conferences	Raise profile of college Influence architecture Education Spur Faculty Development Encourage Re-evaluation of college Curriculum and Operating Norms	Bennett
Encourage Dissemination	Raise Reputational Capital Increase Awareness of Peer Activities and Encourage Competition	Youtz
Curricular Revisions	Ensure currency Incorporate New Technologies	Bennett Youtz Malcolmson
Faculty Appointment Types and Expectations	Formalize professor of Practice Roles Recognize Differences in Expectations Use Peer Evaluation for Quality Assessment	NEW
Friend Raising for Fund Raising	Diversify sources of support for the college Increasing college Financial Resources	Metcalf
Organizational Chart Changes	Embed research in Professional program Additional Academic Administrators	NEW Bennett
Hiring Females in Leadership Positions	Improve Climate for Women and Minorities	NEW
Establish – Re-establish Design as the Core	Quality	Lorch, Bennett Youtz

Typology (institutional influences). The two primary institutional influences on the culture of the college during the Beckley era continued to be the University of Michigan and the profession of architecture. Figure 28 depicts the multiple internal and external

stakeholders that influence the architecture faculty culture. The university was evolving in its commitment to research as a defining characteristic of its mission as well as embracing an increasingly national profile.

The profession of architecture was experiencing challenges to its image, identity, and its professional domain, while differentiating the corporate form into a number of new types. The academic architecture culture, at U-M and across the country, was both influencing these institutions and being influenced by the changes within these institutions.

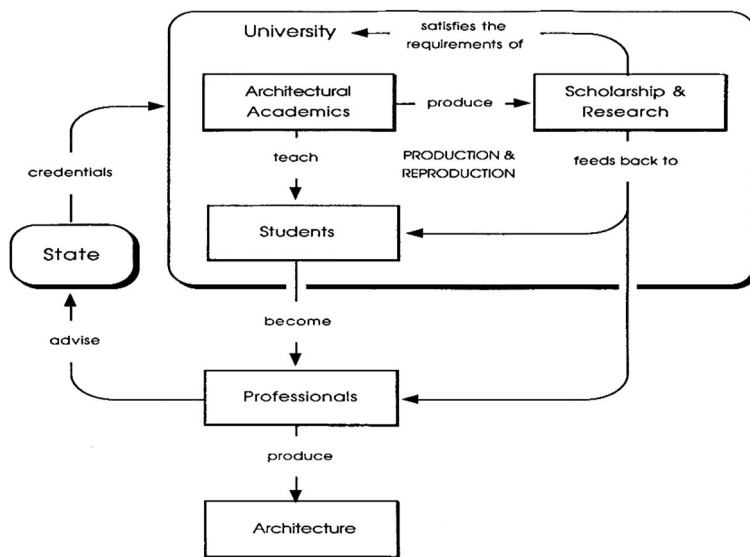


Figure 28. Institutional forces influencing architecture education (adapted from Stevens, 1998).

Robbins (2008) notes that universities create subcultures “whose primary network of social contacts, competition, and support is outside the university” (p. 258), and this was true of the professional program in architecture at U-M as well.

Stevens (1998) diagram depicts the key institutional forces acting upon architecture programs in American higher education, the university, the state, and the profession. Other forces not depicted include the regulating and legitimizing agencies, which bridge and bound the institutions to one another, and to architecture education. Stevens (1998) depicted

professionals and academics as two separate bodies, a more accurate representation of academic architecture culture and the profession would have shown some overlapping memberships. This is a key element in understanding the architecture faculty composition, which had evolved to include faculty operating in the professional, creative, technical, and scholarly realms. When Beckley was appointed as dean, he reported that one of his challenges was determining how the faculty identified themselves --- as practitioners, researchers, scholars, instructors, or some combination of each (Beckley, 2014). Uncovering the source and dominance of the institutional influences on the operating paradigms became a sub-text of his leadership strategies.

University influences. University influences on the faculty culture and leadership, during the late 1980's and early 1990's were focused on gaining reputational and financial capital for the institution (Beckley, 2015). The academic architecture culture was expected to evolve to align with the new institutional norms and values. The leadership challenge for Beckley was to achieve the university's desired realignment in concert with the values, norms, and operating expectations of the profession and the accrediting body. Lyndon (1978) describes the university as the most influential of institutions on professional architects because it determines the membership of the profession.

Duderstadt challenged Beckley to lead the college to prominence nationally (Beckley, 2015). Beckley's early goal statements, demonstrated alignment with the pragmatic views of the president and provost as well as recognition that the role of a dean at U-M was to foster profile raising activities, assure alignment with university expectations, and encourage the demonstration of influence that the college had on the discipline and beyond.

The institutional culture of the University of Michigan and that of the College of Architecture and Urban Planning had been influential in Beckley's decision to join the college, first as a faculty member, and then later to return as its dean. Beckley (2011), remarked that the values he most prized were embedded in the fabric of the University of Michigan: "there was an obligation to society that I never found in interviews or reviews at the Ivy's" (p. 3). Beckley cited President Shapiro's view of the mission of the University of Michigan as service-oriented as compelling "it is important to look specifically at the nature of our educational and research programs. Are these programs adequate to support the traditional dual roles of the university as society's servant and society's critic? (Shapiro, 1987, p. 113). Beckley echoed Shapiro's concepts, repeatedly challenging the faculty by asking them "Are we really preparing people for the way the world is going to be in twenty-five or thirty years?" (Friendly, 1997, p. 31).

The University of Michigan was known for its research production (Steward, 1988), a fact that was influential in changes to the faculty culture during the Beckley era. American schools of architecture were adjusting to their institutions expectations for funded research. The challenge according to Gutman (1985) was more acute for the designers than the technologists among the architecture faculty. Gutman (1985) noted that a tension, emanating from a growing dominance among American universities that posited that research advances should be evaluated, based on the scientific method was at the heart of the dilemma for architecture faculty:

On the one hand, they are under pressure to make their principles explicit and to act like the educators of professionals whose skills are grounded in the sciences. ...at the same time, of course, the educated designer and critic knows that the architectural

disciplines grounded in the science do no more than support the exercise and application of the architectural imagination. Architectural education is really a version of aesthetic education. (p. 458).

One consequence of this paradigm was the devaluing of the professional degrees held by the architecture faculty. Federal funding, which provided the most significant source of sponsored research dollars for architecture related research in the era, often required the principal investigator to hold a PhD. The goals of the research universities were fostering an internal conflict within architecture schools between the professional practice preparation track and the research track faculty and interests, forcing administrators who were hiring faculty to select new faculty who brought a research orientation rather than those with substantial professional experience and qualifications (Steward, 1988).

Steward's point about hiring persons holding a Ph.D, was particularly salient for the U-M architecture program, which valued the professional degrees – the Master of Architecture (M. Arch) or the five year Bachelor of Architecture (B. Arch), as the terminal degree. At the time, the college was offering a Doctor of Architecture (D. Arch) degree program, which was an advanced professional degree, not an academic doctorate. Changes in the faculty composition to support a shift to hiring persons with the academic doctorate threatened the standing of those with the Bachelor of Architecture degree, the Master of architecture degree and the Doctor of Architecture degree as their terminal degree. The faculty needed to choose whether to change the terminal degree expectations for their colleagues to align with the other disciplines in the university or continue to support the professional degree as the expectation of faculty who taught in the core program.

The dilemma which the leaders of architecture schools of the period faced, when trying to incorporate these new institutional expectations within their organizations, were philosophically centered on the primacy of design-based instruction, technical knowledge, and scholarship. schools with faculty who placed an emphasis on design studies, which valued the professional degree (M. Arch) over the research degree (Ph.D.), were less likely to acquire external sponsorship making them less 'central' to their university.

The profession of architecture. The ways that the profession of architecture, its professional organizations, and its accrediting body influenced the culture of the architecture faculty during this period seem to have been at odds with the influences of the university. Sutton (1993) contextualized changes in the architecture profession in the period in terms of the commodification of real estate by venture capitalists and the relegation of the profession to a servant role after several failed federal housing projects. The influence of this shift in orientation on the leadership activities and culture of the faculty was seen later in the maturity stage with the development of real estate certificate programs and the formalizing of a donor relationship with a real estate investor.

Stevens (1998) reported that there appeared to be a general lack of engagement in the discovery of new knowledge among academic architects of the period. His criticism was based upon comparison of research production within other disciplines. Stevens (1998) blamed the lack of interest in basic research at schools of architecture with the profession, writing, "the profession of architecture certainly regards research as irrelevant or redundant...the research that is done in the schools is fragmented and takes place more within particular subdisciplines rather than the architecture milieu" (p. 154-155). Stevens (1998) asserted that new movements and research findings within architecture have

traditionally arisen outside of the academy because the profession has charged the academy with the responsibility for the production and filtration of new entrants to the field, their socialization in the norms of architecture production, maintaining the research/creativity arena as their own. Stevens found those who criticized the schools of architecture for their lack of research production were primarily among the disciplines that have historically relied on the university as a site of research production, e.g. psychology, sociology, and the physical sciences.

Gutman (1985) found that the architectural firms of the period were wrestling with the resolution of the conflict between the artistic and pragmatic sides of architecture. He believes that the profession chose to pressure the schools into choosing an emphasis on design education over research or engineering based elements of architecture education because of market driven forces. Guttmsn (1985) explains the savvy approach that architects were using in the period, “From a marketing perspective, the feature which distinguishes architecture from other buildings is its aesthetic side —if architects were going to maintain a hold on work, it is wise for them to emphasize the formal and aesthetic aspects of their production” (p. 457).

Beckley wrote extensively on the conflicting pressures endured by professional architecture schools situated in research universities, where the demands of academia did not always align with the demands of accreditors who were the guardians of the professional education standards. Beckley believed that the accrediting bodies were highly influenced by practicing architecture professionals. Beckley (1992), sought to bridge the gap between the profession and the schools, calling for a compromise between the two institutions. He writes, “The research activity conducted in academia gradually removed itself from the heart of

professional education at the same time advancing its focus and sophistication. It is so important it must be an integrated part of our academic agenda” (1992, p. 3). Beckley’s (1990) writings tried to persuade the profession to consider the value to the profession of teaching architecture within a research university setting “We face a crisis. For the architectural profession it is a crisis of credibility. For architectural education it is a crisis of relevance” (p. 61).

Raising the profile of the college, in Beckley’s strategies included working toward helping central administrators understand its value as a component of the university portfolio. Beckley (1990) challenged the architecture profession in its responsibilities for supporting this goal, noting that they had a role to play in making architecture schools central to their universities. He wrote:

I would suggest to you that the low esteem which architecture schools hold in many universities is due to more than just our ability to attract research dollars, ...If we suffer from low esteem, this low esteem has to do with the profession itself - a profession whose role is no longer clear, a profession without economic clout, a profession which responds to agendas rather than sets them. (p. 63)

Topography (contextual influences). The strategies used to raise the profile of the college among its peers in architecture and urban planning as well as among schools and colleges on the U-M campus, in Beckley’s opinion, needed to address the unintended consequences of the actions of previous deans and U-M central administrators. Among the issues he identified was the need to restore an acceptance of ideological flexibility as a norm, restore respect for holistic educational practices and a variety of research pursuits, and the need to generate professional practitioners and scholars among the graduates. All of these

issues required attention to facets of the faculty culture constructs. At the end of his deanship, Beckley (2011), noted that the previous dean had done much to establish an identity for architecture that was distinct from the School of Art and to keep the ship in good order. “Bob Metcalf was a legend within the college having been its leader as both chair and dean for more than two decades as its spiritual leader. Bob embodied all that the architecture program stood for, attention to detail, honesty and integrity...” (p. 32). Making changes in an organizational culture established by a well-regarded dean and faculty member who was not retiring, required a combination of strategies and tactics that encouraged broad and comprehensive participation of the existing faculty.

When he returned to the University of Michigan as dean, Beckley found significant, culturally based conflicts that would challenge the entire decade of his deanship. Among the most urgent of the concerns he identified was a perception that the quality, culture, and climate of the faculty lacked both demographic and intellectual diversity. It was his view that the faculty had become parochial and lacked the interdisciplinary engagement he had witnessed when the college had been located on the university’s central campus. Beckley (1990) notes that “I was encouraged to make the college more responsive as a unit within the university setting and to strengthen its administration” (p. 1). He learned that a diminished aura of collegiality existed among the college faculty. It appeared that the faculty had differentiated into three distinct types: the scholars, the practitioners, and researchers (Dandekaar, 1986; Snyder, 1986; Sutton, 1986). Faculty members reported that the use of “incestuous” hiring practices and outmoded promotion and tenure criteria, and processes, had fostered a rigid dominance of faculty interested in the technical aspects of architecture at the expense of those interested in the design and theory elements many believed were

fundamental to architecture education (Hubbell, 1986).

Beckley saw an opportunity to have an immediate impact on the culture and climate of the college through encouraging compositional changes, taking advantage of retirements and hiring new faculty. Beckley (1990) noted that compared to other schools during the previous years, the faculty body had experienced little turnover. “It was clear to me that change was in order, and it was the challenge of change and the unique opportunities which existed here which attracted me to the position” (p. 1). He reported learning of climate related issues that he thought needed to be addressed as well. Female students had complained to him that they had been counseled against entering the architecture program. Beckley (2011) shared his dismay, “This seemed unimaginable to me in the late 80’s. It took some courage for these women to approach me with this issue. I wanted to have a school that would be more friendly to women” (p. 8). The new hires allowed Beckley to address the lack of demographic diversity among the faculty, “We have taken advantage of initiatives provided by the university to build an extremely well qualified, regular faculty which represent the mix of genders and races found in our student body, the university and the rest of society” (Beckley, 1990, p. 2). Among the strategies used to foster better gender relations, Beckley hired a female associate dean, and assigned her the responsibility of leading the re-visioning efforts for the college. Beckley believed that hiring a woman to lead the efforts sent a signal to the faculty and students of his position on the role and value of women in the college (Beckley, 2011).

Tectonic (mode of construction). Beckley had been charged, by the university’s central administrators with reconstructing the image of the college. His mode of reconstructing included a combination of internal and external strategies chosen to foster and

publicize the changes. The tectonics of Beckley's plan sought to position the faculty as innovators, scholars, and thought-leaders in architecture education.

Writing to U-M President Shapiro, Beckley (1986), described the faculty as lacking focus, resting on the reputation built by the previous generation of faculty and divided into two camps: "one which argues that architecture is a science and another which argues that architecture is an art" (p. 1). Beckley (1986) believed that an American college of architecture needed to incorporate both scientific, and artistic elements with the central unifying focus on design. Beckley also saw opportunities to revisit the structure and goals of the doctoral program and reintegrate it with the professional program "the doctoral program appears to have lost its focus that is to provide opportunities for advanced theoretical work for people with strong professional interests" (p. 1).

Beckley understood that changing the college culture was to change the composition of the faculty. Crysler (1995) described the reputation of architecture schools of the period as resting on the relative value of its faculty and students in the academic marketplace. "New faculty are hired as 'players' whose texts enable the administrative sector to thicken its image/exchange identity, the increase of value imputed directly to the academic institution itself" (p. 211). Beckley (1988) described "...nearly 85% of [the college's] U-M trained faculty were hired before 1980, whereas 52% of the non U-M trained faculty were hired after 1980-81" (p. 10). He was aware that the current faculty profile was an outgrowth of a strategy that previous dean's had needed to employ to solve human resource needs of their eras, and that the unintended consequences of their strategies had caused another problem the college had faced before, intellectual stagnation, "The incestuous nature of both the architecture and planning faculty was hurting the college's reputation as other schools

developed intellectually diverse faculties. (p. 10).

As Bennett had before him, Beckley sought to raise the intellectual profile of the college by augmenting the faculty with external hires. His strategy expanded upon the one Bennett had used, in that it included the diversification of appointment types by combining both long-term commitments to tenured and tenure-track members with short-term appointments for visiting personnel (Beckley, 1988).

Complicating his ability to lead the college, Beckley (2011) reported that the changes in the university's central administration leadership team, which replaced the president and provosts who had recruited him to U-M, with faculty who had engineering and business backgrounds. The new leadership ushered in an era of administrative pragmatism and a diminution of the role of the arts at the university. Beckley (1995) shared that this new leadership paradigm required that he find a way to elevate the college's standing with the central administration while convincing the technically dominated faculty culture to re-prioritize 'design' as the core intellectual value of the college, even though this appeared to be counter to the direction desired by the new president and provost. Skepticism about the U-M emphasis on research was evident among the architecture faculty. Snyder (1986), A senior faculty member wrote:

Michigan never had the funding to be as good as the best. So, they just kept talking about being great, and demanded excellence from the faculty...Now it is the era of technology, the administration is pushing to make up lost ground in the sciences and engineering, That is where the new money goes. This leaves architecture among the low priority (U of M terms of 'centrality') professional schools, which can expect little support in the next decade. (p. 2).

The architecture program chair Hubbell supplied Beckley with some thoughts on the shared historical, cultural, structural, and value constructs he had observed at the college. Particularly embedded in the norms and values of the architecture faculty, was the tradition of training individuals to become practicing architects (Hubbell, 1986). Hubbell saw these core values and norms as having led to the program's reputation as being weak in design, yet good technically. Hubbell (1986), also expressed concern that the regional economics and pragmatism limited faculty members professional practice opportunities, seeing this as a barrier to attracting strong design faculty to the college, "This part of the country is extremely pragmatic and utilitarian...this place is also an economic roller coaster...the opportunities for outside practice are limited... Unfortunately the university will not offer such opportunities to our faculty in the form of commissions" (p. 2).

Genius loci (Spirit of place). The spirit of place that Beckley found when returning to the U-M campus caused him great concern. Several senior faculty members had written to him, describing internal conflicts, some of which he perceived as indicative of the challenges of changing expectations in research universities. The college had been on the North Campus for more than a decade when he returned to Ann Arbor, and the faculty had become isolated from the rest of campus.

The design of the north campus art and architecture building had been intentionally flexible, so that, unlike the previous architecture building, the facility could be adapted to the evolving needs. The result was a warehouse like façade and finishes that seemed to communicate a lack of image or identity and underscored the lack of cohesive culture among the faculty (Beckley, 1987). Dunham-Jones (1990) described, "Architecture informs and is informed by culture and the architect has to understand the ways in which his or her building

participates in the public realm” (p. 61). This building and its faculty were not participating in the public realm --- as Beckley had feared when he voted against the move years before.

The segmented design of the architecture building structure tended to keep faculty in separate enclaves. The building had no central gathering place for the entire college community to convene. A series of conferences, colloquia, and symposia, hosted by the college on a variety of topics specific to advancing the college profile were all held at locations on the U-M central campus (Groat, 1989). Other spirit of place concerns brought to Beckley’s attention included women and minorities reportedly feeling unwelcome within the architecture program. He also observed that the faculty had become factionalized into groups of building technicians, history-theory scholars, and the design studio instructors.

Historical, societal, and contingent influences. Beckley’s deanship coincided with demands for greater accountability through assessment, and reduced federal and state funding for core and research activities (Bole, et al., 1990). Provost Whitaker (1991) understood that revenue growth would be slow in this period, and that any funding for new must come from both increased revenues and cost containment or cost reduction.

The revenue predictions of 2% growth fostered changes in the way that the central administration worked with the schools and colleges at U-M. The provost led the university administrators and deans through a series of initiatives intended to stabilize the university without the cuts in faculty and staff being announced at peer institutions. Benchmarking and brainstorming survival strategies with other universities, undertaking “our first real university-wide steps toward enrollment planning” (Whitaker, 1991, p. 3), the creation of annual differentiated budgets with special revenue enhancements, discussions about space management and cost containment were all part of the rationalization efforts.

Whitaker (1991) saw the combination of these efforts as a significant cultural change, supporting innovation by substitution rather than growth through "...an ongoing process of evaluation of decision-making at the lowest possible level to assure fact-based customer-oriented decision making that is consistent with the organizational mission and goals"(p. 4).

The timing of these U-M pronouncements aligned with similar efforts in other American architecture schools, which were also re-evaluating architecture education. Porter (1979) has described the advent of new building types and the democratizing effects in American society as transformative influences for architecture education. Cobb (1985) saw architecture education in the university setting as riding an ideological seesaw between the needs and demands of the profession and those of the academy. Gutman (1985) saw the schools of era oscillating between emphasis on aesthetics and public service.

Influential architects and academics such as Venturi (1966) wanted the schools to focus on design studies. In contrast, the report by Geddes, Spring and the AIA (1966) wanted the schools to develop specialization tracks in architecture education. Porter (1979) and Filson (1985) proposed introducing specialization in the curriculum in recognition of the changes brought on by new technologies and new materials. Sutton (1993) notes that while other professional schools such as law and medicine created academic programs offering students subspecialty training, architecture education chose to maintain its generalist focus in the professional degree programs, splintering into other disciplines.

Cobb (1985) saw the usefulness of the university for architects shifting in this period to the sponsorship of critical discourse and interdisciplinary exchange,

Such a discourse would join the instrumental and pragmatic to the speculative and ideal...founded upon scholarship that is both reflective and speculative, conducted

with rigor and audacity that would engage the interest of other disciplines in the university. (p. 46).

In 1990, the Graham Foundation sponsored a symposium “The Liberal Education of Architects,” which sought to answer two fundamental questions: “Should students of architecture be required to have a broad and liberal university education before beginning professional training? [and] Can the study of architecture itself be viewed as an appropriate discipline through which a liberal education can be achieved?” (Domer & Spreckelmeyer, 1990, p. 1). The conference organizers noted, “These questions were posed in the context of a national debate concerning the efficacy and purposes of American educational institutions. The debate within architectural education has been infused with pressures from the professional and political establishments” (Domer & Spreckelmeyer, 1990, p. 1). Conference organizers took “...the position that any revision to architecture curriculum should strengthen the view of the architect as the enlightened and responsible generalist in the construction industry” (Domer & Spreckelmeyer, 1990, p. 2). U-M architecture program associate dean Groat (1990) described to conference attendees what she saw as three impediments to achieving a liberal education for architects. They included the assumption that the typical undergraduate curriculum would provide liberal learning opportunities, the dominant conception of graduate professional education as professional competency focused, and her belief that the discipline of architecture would benefit from a better ‘conversation’ with other aspects of cultural life. Groat (1990) described, “We owe it to ourselves to reaffirm our belief that architecture does have the power --- like other cultural artifacts --- to shape our lives” (p. 69). As the associate dean of the college, she had an opportunity to foster discourse within the college on the purposes and contents of architecture education during the Beckley era.

Gutman (1985) noted that renewed interest in architecture, from the public sector, had a positive effect on the morale at American schools of architecture during the mid to late 1980's. Public television, the newspapers, and museums were featuring and exhibiting architectural drawings and publishing architectural books.

The challenges of recruiting and retaining minority students in the professional schools as well as professionals in practice were challenged by changing policies at the federal level during the period. In 1970, approximately two percent of the 50,000 architects in the United States were black. By 1984, the total number of architects had more than doubled, but the proportion of blacks in the profession had risen to only 2.4 percent. (Freeman, 1989). Further, minority enrollment in the schools of architecture had declined from almost 10% in the late 1970's to less than 5% in 1990. He highlighted employment differences black architects faced. "The clients of black architects are not the IBM's, the GM's and the GE's...Instead blacks are focused on public projects" (Freeman, 1989, p. 28). The moratorium on federal support for low and moderate-income programs by the Nixon administration had had a significant impact on the employment of black architects, which was partially tempered by an affirmative action program, established by the transportation secretary of the era, mandating that 15 percent of all federal funds for mass transit be awarded to minority firms. However, when President Reagan took office, funding priorities were shifted to military interests and all funding for low and moderate housing was eliminated, and so were the jobs.

The Association of Collegiate Schools of Architecture sponsored a survey of women faculty in 1990 to gain an understanding of the experiences, challenges, and recommendation necessary to achieve gender equity and inclusion in the professional schools (ACSA, 1990).

The report, co-authored by U-M architecture faculty member Groat (1990), reported that women were only about 20% of the tenure-track faculty and held less than 4% of the leadership positions, and salary differences were prevalent at nearly all major universities in the 1990 survey

Sociocultural influences. The sociocultural environment of the college changed significantly during the Beckley era, mirroring changing norms, values, and operating expectations in architecture schools situated in research universities across the country. Of greatest significance to the sociocultural environment was the change in the expected faculty credentials, productivity measures and the demographic diversity. The organizational type, as described by Peterson and White (1988), evolved by the end of the Beckley era from clan to market. Beckley was trying to lead the faculty to become competitive with peer institutions of architecture, using revised faculty evaluation criteria as the glue that held the organization together.

Beckley deployed a number of strategies in order to move the culture from its local/regional practitioner focus to one that embraced evolving university expectations of its professional academic programs. These included providing financial support and incentives for faculty profile raising activities, hiring new permanent and visiting faculty, encouraging inter- and cross-disciplinary conferences and conversations about the future of architecture education, integrating architectural research into the core activities of the professional program, and establishing new expectations for faculty performance and its assessment. Tactics for advancing this agenda combined methods that previous deans had used successfully, such as creating faculty task forces and retreats to address issues, staging national conference and gaining leadership positions on national boards as well as new

initiatives such as incentives for publishing and new faculty appointment types.

Pragmatically, Beckley (1993) wrote, “A college is known for what it does, not what it says it does” (p. 4). By the end of the Beckley era, faculty values appear to have integrated research academic norms into the cultural environment. The faculty continued to value professional practice norms, and to produce graduates suitable to join the profession, but it also began producing graduates who pursued scholarship, creative practice, and integrative research. Adjustments in the way some previously held norms were contextualized and evaluated occurred to accommodate the research university lens for professional practice values. Some new norms were adopted including peer-review in evaluating scholarship and practice. Some research norms were rejected by the faculty, most noticeably the expectation that all faculty hold the research based doctorate as a credential. The college mission and the allocation of resources continued to be dominated by and directed toward the production of professionals, but the Beckley era marked the beginning of increasing attention by the faculty toward individual research agendas.

Beckley described the faculty culture operating within the U-M architecture program, at the time he was recruited as a faculty member, as exceptional among schools of architecture and planning of that period. He was attracted to the program because the faculty had embraced, as an element of their organizational identity and in keeping with the expectations of faculty at a research university, an obligation to create “new” architectural knowledge and advance the profession, not just train students mimetically for current day practices. When he returned as dean, he found a different set of cultural norms had become entrenched that were less aligned with his vision. He believed, however that he could persuade the faculty to return to the norms and values that they had held that did align with

his vision for building an architecture school that bridged the teaching within the academy with the needs of professional practice and could expand the definition of architecture research (Beckley, 2011). Beckley reported feeling confident that he could be successful in helping the faculty to raise the profile of college because there was good alignment between his philosophy of education, that of the U-M, and the architecture faculty. He described, “The University has a role to play as a change agent of society. We’re not just training people to be good soldiers in a profession. Architecture can move society in a very direct way” (Beckley, as cited in Friendly, 1997, p. 29)

This was an era of discontent within all of the major professions, and it was occurring during a time when the public was critical of all forms of public institutions (Cobb, 1985). Similarly, Gutman (1985) describes a source of general discontentment among architects during the era, low salaries, lack of professional autonomy, lack of market dominance, suspicion of current interest in the field. Gutman explains that the perceived American interest in architecture during the mid and late 1980’s was more about external elements of the building than its total design, a perception that architecture had become fashion only. “As a result, there is fear among faculty members who emphasize the importance of training for professional roles that students will not take seriously assignments about structure, user requirements, space planning, programming, and environmental control systems” (Gutman, 1985, p. 448). There was concern among the profession and the faculty who taught in the professional programs that the curriculum not be reduced to a form of fashion design for building structures.

At the College of Architecture and Urban Planning, concerns about the operating culture were brought to Beckley's attention by several faculty members, even before he accepted the position:

- practitioner-faculty members showing disdain for written scholarship;
- produced by policy-oriented, history-theory faculty members;
- continuing gender bias;
- lack of racial and gender diversity among the faculty and students;
- imbalances in sub-disciplinary emphasis within the curriculum;
- lack of integration of the professional and doctoral programs; and
- lack of interdisciplinary exchanges with others on the U-M campus.

Working with the architecture program chair, Kent Hubbell, Beckley initiated several strategies intended to resolve the perceived intellectual stagnation, program isolation, and lack of disciplinary currency as well as homogeneity of the faculty and students. Some of Beckley's strategies to address these concerns have been institutionalized as operating norms. The impact of the strategies enacted during the Beckley deanship on the faculty culture included the following:

- The emergence of a more cosmopolitan orientation among the faculty;
- Acceptance of broadened definitions of architecture knowledge creation activities;
- Increased expectations for knowledge production and dissemination;
- Reduced faculty engagement in the administration of the college;
- Greater faculty engagement in external funds seeking activities; and

- Greater representation of women and minorities in the student, faculty, and academic administrator community.

Ideologically flexible and holistic. Beckley understood that the culture of the college had been founded on two philosophical pillars; pragmatism enhanced by a broad liberal arts education. He noted that it also had always held the view that an architecture education should be comprehensive. His 10 year plan for the college included the statement “we believe that it is essential to build upon and augment these traditions. Most importantly, our intention to develop a comprehensive set of programs: pre-professional, professional, post-professional, doctoral and research, is consistent with the college’s historically comprehensive view of professional education” (Beckley, 1988, p. 6). He saw as his challenge bringing the components back into an appropriate state of balance.

When returning as the dean, Beckley learned that the norms of ideological flexibility and the holistic approach to architecture education had been suppressed under the last dean. The reasons for this change seemed to have mirrored some of the concerns found in professional practices in the period in achieving the appropriate balance between the technical aspects of architecture and its aesthetic considerations. The historical foundation of the program as one that was designed to produce competent architecture professionals seemed to be both the core problem and the way to resolve the cultural conflicts internally and with the external environment. These issues were being wrestled with in the professional practices of the era as well; “The resolution of the conflict between the artistic and the pragmatic sides of architecture is a major issue in practice...there is no easy solution” (Gutman, 1985, p. 457).

Architecture program chair Kent Hubbell, who had been instrumental in recruiting Beckley for the deanship, was very forthcoming in correspondence on the conditions at the college. Hubbell described a faculty culture that had become isolationist, inflexible and stagnant. Hubbell (1986) perceived that the faculty had become ideologically entrenched in the technological aspects of the discipline and dismissive of other intellectual pursuits. Among his challenges was the apparent inability of the professional program faculty and curricula to be integrated with the doctoral program faculty and curricula. Hubbell saw this lack of integration as an indicator of an entrenched generation of faculty who did not wish to incorporate new architectural knowledge in the professional degree program as well as a group of research faculty who did not want to teach in the professional program. Beckley (1988) believed however that “the college is in a good position to develop a competitive alternative to what is being offered at other schools” (p. 6). He carefully wove all the various faculty subdisciplines in the statement “The College will be able to offer a program in which highly-developed design skills are carefully nurtured in tandem with technical expertise and informed by detailed knowledge of history and theory” (p. 6).

The intellectually stagnant and isolationist faculty culture was attributed to the move to the North Campus, and a faculty that was predominated by men trained at the college. More than 60% of the faculty, at that time, had graduated from the college and prioritized the technical aspects of architecture education over design components (Hubbell, 1986). Similarly, a senior woman faculty member wrote to Beckley describing cultural conflicts between theoretical scholars and research technicians among the college’s faculty. She wrote, “Publishing has been labeled as self-aggrandizement in the college by the current administration. I do hope you will look more favorably on this activity and that faculty who

give publishing some importance will be encouraged in this endeavor” (Dandekaar, 1986). Beckley deployed a number of strategies intended to foster renewed intellectual diversity among the faculty, including new hires, new incentives for the pursuit of knowledge generation and dissemination. He deployed strategies aimed at reinstating the comprehensive educational foundation upon which the college had been created. These strategies were deployed using culturally based tactics focused on collaborative decision-making through task forces and faculty retreats. The first five years of the Beckley era were focused on moving these agendas forward and creating the necessary infrastructure to support the return to a flexible and holistic approach. Ultimately, faculty acceptance of the reinstatement of the norms of ideological flexibility and holistic approach to architecture education were enabled by strategic changes in the faculty composition, degree offerings, and the re-integration of the research faculty with the professional program faculty.

Primacy of design-based instruction. Architecture program chair Hubbell had described to Beckley a need to return design-based instruction to its place of primacy in the curriculum. Gutman (1985) notes that the issue for educators in the American schools of architecture during this period was “...how to emphasize design and still make certain that students will appreciate and use pragmatic skills in their projects” (p. 449). At a pragmatic school such as the U-M, this concern was demonstrated in the clashes between faculty members who continued to support the norms and values that had been established under dean Metcalf, who had pioneered the construction courses early in his career, and was still on the faculty. A senior male faculty member had written to Beckley describing the contentious atmosphere at the college “the architecture faculty endlessly debates every issue, followed by no action, and more discussion. Frustration is high among new and younger faculty” (Snyder,

1986). Mayo (1991) described similar conflicts occurring during the era at other schools of architecture, centered in the changing paradigms that were de-emphasizing the preparation of the professional-practitioner in favor of the researching scholar.

Beckley and Hubbell worked together to re-establish the primacy of design at Michigan. The formation of the Design Task Force in 1987 with the charge “taking a broad view of the college’s needs and opportunities for making the quality of the design component of the college stronger” (Beckley, 1987, p. 1), included the dean, the architecture program chair, the associate dean, and the head of the research program at the college. The task force proposed four priority areas for the college to address, including design as integral to the public profile of the college, its curriculum, teaching, and research. Specific tactics to achieve these priority areas were proposed including the development of a design symposium, design research proposals, revision of the curriculum, and establishment a core design faculty. Beckley (1987) reported, “In the area of teaching, the task force believes that it is critical that a variety of less permanent appointment mechanisms be used to enhance the capabilities of the core design faculty. Such non-permanent positions are an important device for bringing in high quality people for other areas of the country and the world” (p. 2). Examples of possible appointment types proposed by the task force included a clinical appointment model, visiting instructors and critics, a national treasure, and shorter-term fellowships.

Changes in studio instruction, aimed at integration of information technology, were adopted very slowly by the architecture faculty. A computing site, initiated in partnership with the library system, was assembled within the college to support student interest in computer-aided architecture. Working with the profession “as part of a research project, an

architectural firm purchased an Apollo workstation and hired a student to design various projects in the office and to teach firm employees to use the software” (Borkin, 1998, p. 1). Borkin (1998) notes that the integration of computing stations into the college’s design studios began in 1992:

A small space was built and this became the beginning of the general design computing support in the college’s design studios. The facility was used by one design class but also used by any other student. The success of having computers in the design studio led to the development of the college’s partnership with ITD [Information Technology Division] in 1996 which focused on the enhancement of the design computing in the college. (p. 1).

The arc of integration then supported the development of a single all technology-based studio, with computing resources made available to each student enrolled in the Borkin-led studio of 12-15 students per term. The computer policy committee was formed, with faculty, information technology, and dean’s office staff, to manage the partnership with ITD and the integration of technology into the activities of the faculty and students. Faculty members who taught in the technical and historical subdisciplines were less resistant to the changes than those who taught in the design subdiscipline.

Gutman (1985) characterized shifts in architecture pedagogy as a pendulum swinging from aesthetic emphasis to those associated with the building technician. Gutman found that many of the schools of architecture including U-M, had chosen to emphasize design studios in their formative years. Some of these schools like U-M, had moved to a studio model, which was meant to emulate conditions students encountered when entering architectural practice. In this studio model, all aspects of the process were integrated including structural

and construction considerations. These schools, according to Gutman (1985), swung back to a design emphasis as the complexity of architectural construction increased. Gutman saw these swings as a cultural resistance, among the faculty, to developing specialization tracks within the schools and colleges in favor of the generalist orientation to preparation of professional practice. Two contradictory reports were issued by architecture educators during this era, each author sought to clarify the goals of an architecture education, and both were purportedly formative for the schools of the era. Venturi (1966), called for a narrowing of concerns within architectural education and a concentration on design. In contrast, the Geddes and Spring (1967), challenged educators with the expansion and creation of specialized educational tracks, so that students would be able to work within the realities of actual practice, become adaptable to changes brought by society, economy and technology changes, and would enable students to develop an analytical framework for future decision-making. Discussion at the University of Michigan about which set of recommendations would be followed took multiple years and were interwoven with broader debates on agenda topics which had been developed from a strategic assessment of the college conducted just prior to Beckley's appointment as dean.

Ultimately, the pragmatic and ideologically flexible U-M faculty implemented aspects of both reports. Groat (1990) noted that the profession did not see the need for liberal arts training in the architecture curriculum noting that there was considerable concern throughout the profession that the tendency to build architectural curricula around concepts and methods from related disciplines had the theoretical core of architecture. This fear was reflected in the behaviors of the faculty at U-M, when Beckley supported Hubbell's proposal to restore the primacy of design-based instruction and the faculty teaching courses or

engaging in research outside of the design studio objected. The U-M solution became the re-establishment of design primacy in the professional program, with the post-graduate programs providing the students and faculty opportunities for deeper investigations in specialized areas. This solution allowed the faculty who held professional degrees to lead the professional program, and those with advanced research degrees, the doctorate, to lead the post-graduate programs. The result was a new fracturing of the faculty culture.

Disciplinary knowledge base expansion. Responsibility for expanding the disciplinary knowledge base, disseminating it within the national architectural field, and integrating new knowledge within the curriculum were intertwined in the cultural and structural issues that the college wrestled with during the Beckley era. The two most significant changes to the sociocultural components of disciplinary knowledge base expansion occurring in this era were related to the role of research and the integration of information technology tools. Research related changes in the sociocultural components of the college, which took place between 1987 and 1997, included revisions in the normative faculty output expectations, internal programmatic relationships, and mission-based allegiances to the architecture profession versus the research university. The faculty redefined expectations in the development and dissemination of research content, and its integration within the degree programs during the Beckley era in response to pressures from the U-M central administration. Architectural research, during this era, was expanding beyond historical studies, building mechanics, materials testing, and space planning to include new ways of conceptualizing, representing, and re-imagining the built environment and the policies and conditions that affect it. Faculty roles relevant to teaching and research were changing as well. Beckley (1990) wrote, “Architecture is an artistic endeavor reliant on scientific

knowledge for its execution. ...research is essential to the intellectual and creative endeavors of the architect and that research must be an important part of the advanced education in the profession” (p. 1).

Beckley’s strategic initiatives influenced the evolution of the faculty culture and they were influenced by the faculty culture. Some of these changes included

- adapting promotion and tenure guidelines to reflect new expectations for research and dissemination;
- incentive programs to encourage research investigations;
- new degree programs were developed to provide advanced students with research opportunities;
- a series of national conferences, task forces, and symposia were held to encourage engagement and discourse around the evolving missions of professional architecture programs in research university environments.

The role of research as a faculty activity within the college was being scrutinized by the university’s central administrators when Beckley assumed its leadership. Gutman (1985) notes that there was conflict in American architectural schools regarding the place of research and design and their relationship to one another. Gutman (1985) found that at research universities, where the responsibility for developing and disseminating new knowledge is an institutional norm, these tensions arose. “schools, whatever their ideological stance, are often pressed into evaluating themselves in terms of their contribution to research” (Gutman, 1985, p. 462). One of the challenges, for schools such as U-M, which both operate within a research university and have chosen to emphasize design education, was that the development of artistic knowledge does not proceed in the same manner as the development of scientific

knowledge and often is evaluated using different standards. Beckley (1992) described what was a fundamental shift in the image of an architecture faculty member, writing, “We must create an environment where every faculty member is a researcher and where every student learns that importance of research in their profession” (p. 3).

Articulating to the central administrators that process and products of architectural inquiry was equivalent to scientific research was challenging at many schools of architecture in the era. Gutman (1985) provides “It is characteristic of artistic knowledge that its development proceeds more circuitously than in the sciences, indeed, it is not progressive in the sense in which we think of scientists refining conclusion developed by their predecessors” (p. 462). Gutman notes that the nature of design, which is the product of the architects work, does not ascribe to the same developmental path of claim verification and theory testing as is used in the scientific method. This establishes scientific research and studio design as a threat to one another (Gutman, 1985). He notes that within the American architectural education system, research and design are administered separately during this period, and this had been the case well before Beckley’s arrival. Similar tensions were operating at U-M, where Snyder (1986) described the cultural conflicts operating at the college between the research and professional program factions “Worse the research does not relate well to the academic program or to the rest of the non-research faculty. Thus, there is some resentment between those who do research and those who don’t” (p. 2).

Beckley (1992) notes that perennial frustration of architecture faculty is that many products of architectural design research are never built:

Unlike many other artists and scientists, our creative endeavors are not quickly realized. Sometimes our best and often times our most influential architectural ideas

and hypotheses are not built at all. Even the representation of our ideas is often destined to be analyzed at some future time. (p. 1).

Gutman (1988) found that at most American schools of architecture in the period, that research activities and design studio functions had very little interaction “except perhaps at the level of administration ---where they compete for budgets and faculty positions” (p. 464). Beckley’s stated purpose for relocating research administration and funding within the academic programs had been the reintegration of research in the professional programs, but in reality, it was an era of constrained budget resources, and it may have been a budget management strategy in the guise of an academic enrichment strategy. Beckley (1991) wrote, “The most important aspect of this change is the broader definition of research and scholarship to include non-sponsored research and other forms of creative activity” (p. 1). Moving research from its separate administrative enclave and back into the professional program and the studio required cultural and structural changes.

Beckley’s (1991) strategy was to broaden the definition of research to include creative practice: “By broadening our definition of research I believe we will also broaden the base of support for the college’s research and scholarly activities in the years to come” (p. 1). Beckley’s rationale for bringing the professional and doctoral/research programs closer together and integrating research efforts into design studio activities relied upon three arguments; accreditation standards, national competitiveness, and the concept that a house divided cannot stand.

Beckley (1992) disseminated a position paper on the place of research in the curricula at schools of architecture in order to foster an internal dialogue on its place within the college. In it, he made the case that the design-thinking paradigms taught in the studio are

analogous to laboratory investigations in the hard sciences “architects must be both reflective and anticipatory in their inquiries. Architects must be bred with Vitruvius’ hindsight and Alberti’s quest for absolute truths in order to build a better future” (p. 2). He posits that “...the new breed of educator sees the studio as a research laboratory...The studio courses which search for answers rather than teaching answers are seen by the best of today’s students as the most challenging” (p. 2).

Gutman (1985) shared a possible cultural effect of the research agendas of the period, “Perhaps just because the work of the building researchers does not often address aesthetic issues, the building researchers are more at home with the scientific models than other factions in the school” (p. 462). Beckley’s (1992) response recognizes the traditional view of architectural research using the scientific method and adds, “But let us not forget that there is a time-honored tradition of architectural research which is closely linked to design. Research which is based on the precept that design originates with critical inquiry” (pp. 2-3).

Beckley (2011) noted that a structural element of the college, a policy implemented in the 1970’s, which was intended to encourage the faculty to pursue research and creative practice opportunities, had established full-time appointments at the 80% level, and reinforced the factionalization of researchers versus non-researchers within the faculty culture:

The distinction between the research faculty and the ‘others’ was complicated by the fact that the entire faculty had been given 80% appointments...this was a university anomaly but it was done to encourage faculty to pursue funded research. They could receive a bonus of 20% in their nine-month academic salary in addition to summer employment if they brought in funded research. The 80% appointment was

championed by the research faculty who saw faculty with professional practices pulling down additional income through their professional work. A third category of faculty could be called scholars, though this faculty generated not much scholarship. If success was measured by one's ability to generate supplemental income then this sector of faculty was indeed at a disadvantage. It was easy to see the barriers that existed to generating 'an aura of collegiality' within the college. Remuneration in those days was a measure of one's 'value.' (p. 5).

Nearly midway through Beckley's deanship, in 1993, a task force established to review doctoral/professional program partnerships reported that there were essentially two divergent perceptions, held by college faculty, about the relationships between the professional and doctoral programs: "Some appear to be unaware of the doctoral program's existence; others are disinterested in it and find its research activities too technical or not applicable to architectural design" (Groat, Parker, Barnett, Pastalan & Aliyar, 1993, p. 1).

The task force ultimately recommended the development of an intermediary post-professional degree program Master of Science, the creation of a thesis option and consistent emphasis throughout the degree programs of interdisciplinary topics

Despite achieving changes in the doctoral programs and the professional architecture program, Beckley believed that there was still a gap in the offerings of the college. The development of a set of post-professional degrees was inaugurated during this organizational period. A demonstration of bridge building between the doctoral and masters level faculty was the development of a research-oriented post-professional Masters of Science degree in architecture, which launched during the 1993-94 academic year. The degree program was conceived of as a post-professional degree, which could complement existing doctoral

program offerings and create important opportunities for the college to address the architectural profession's need for post-professional education. The program was intended to both support the educational needs of mid-career professionals and as a research-training platform for students with professional degrees seeking to improve their research scholarship as a foundation before entering into doctoral studies. The new degree program allowed advanced students access to the college's faculty and resources, and "this allowed the college to admit students who might be groomed for entry into the PhD program and gave faculty without PhD's the opportunity to engage with these advanced students" (Beckley, 2011, p. 10).

Borkin (2016), who had been pioneering the integration of information technology applications in architectural research when Beckley arrived as dean, believes that the re-positioning and subsequent de-funding of the research program as a stand-alone administrative unit undermined those faculty members ability to advance architectural research. Borkin asserted that the cultural impact of the structural changes did not achieve the de-factionalization that Beckley sought; it just changed which members of the faculty were engaged in what types of research. Pastalan (1991) worried that the college had lost ground in generating research dollars and attracting support from private industry sources because of these changes. Pastalan (1991) described his frustration with the changes "...teaching loads and committee assignments are the measure of rewards such as merit increases and efforts to develop research proposals and related research development activities are not rewarded" (p. 2).

The sociocultural impact of integrating information technology within the teaching, research, service, and administrative dimensions of the college affairs also challenged

behavioral norms during the Beckley era. Beckley shared that Presidents Shapiro and Duderstadt brought to his attention the need to consider how information technology was affecting and influencing the research, teaching, scholarship, and administration of the university. Faculty members had been using and developing applied information technology in the college's research laboratories for several decades, but its integration into the teaching and administrative realms lagged behind other schools and colleges at the U-M. The saga of the slow adoption of computing technology, by the senior members of the architecture faculty, is one that demonstrates the cultural challenges of the era for the dean, the junior faculty, and the research faculty.

Resistance from senior faculty unfamiliar with computing applications for architectural applications and as a communication tool delayed the integration of computing into the design studios (Borkin, 2016). Discussions of integrating computers in architecture education were underway in 1987 as correspondence from the architecture program chair to the dean suggested that a college wide strategy for adopting computing as a teaching and practice tool be formulated. The architecture program chair, Hubbell (1987) pushed the new dean to prioritize funding for information technology as a teaching tool.

Obviously, the computer is having a profound impact upon the profession and our students need basic fluency in the use of this new tool. Our faculty need to know how to use the computer if they are to be credible and effective teachers in the next decade. Our so called peer institutions are investing heavily in this area and I think that any lead we may have in the field is quickly eroding. (, p. 1).

The impact of new technologies on the schools of architecture in the United States was the subject of a survey distributed during spring 1988, by the Association of Collegiate

Schools of Architecture (ACSA). The goal of the survey was to develop an understanding of the rate of adoption of the technology, the perceived development of both hardware and human resources to effectively work and teach with technology, and interest in possible educational offerings being coordinated by the association. Approximately one-third of the member schools responded. Personal computing had not yet become pervasive based on the data shared by the ACSA. The schools reported experiencing student demand that significantly exceed capacity in their ability to provide instruction in computing skills, computing techniques and computing concepts. (Solomon, 1988)

Borkin (1991) described to the dean a plan to move computing from the specialized facilities located in small pods throughout the art and architecture building to its integration within the design studio. As Hubbell had done in 1987, Borkin (1991), relied upon the premise that students needed to learn with the new technologies in order to be career ready;

“The college has had an active role in the development of computer aided architecture through the research and teaching of several faculty members. This has evolved into a two part program that addresses the needs of students who wish to develop and manage computer aided design software and those students who want to use computers in the design process” (p. 1).

The importance of adopting information technology tools and integrating their use in the architecture program was highlighted during the accreditation site visit in 1994. Beckley (1994) reported that the site visit team viewed the lack of integration of computing technology throughout the curriculum as placing the program out of step with professional practice and academic expectations. The college had to respond both by purchasing and

installing the equipment and software and by arranging for the faculty to be trained in their use.

Faculty quality. The university was assessing its academic programs based on centrality within the university mission, student demand, program quality, and relevance to the U-M institutional strategic plan. Beckley focused his leadership efforts on increasing the quality and prestige of the faculty. Beckley led efforts to undertake a comprehensive redefinition of the expectations of the faculty skills and activities. This included redefining the college's hiring criteria and measures for achievement toward awarding tenure, promotion, and annual pay increases.

The quality of the faculty, the history of hiring recent graduates and the economic conditions of the region had all been identified as possible reasons that college faculty lacked luster, were entrenched in established patterns of teaching and research and lacked demographic or intellectual diversity (Hubbell, 1986; Snyder, 1986). Changing institutional norms arising from both the profession and the academy were influential on the composition of the faculty and its productivity expectations. Beckley (1993) asserted:

We will need to continue to debate the character and composition of our faculty and take the necessary actions to maintain the subtle balance of academic skills our college needs to have in place, at the same time finding people to join the faculty who are committed to making scholarly contributions to the field through their research and creative activities. (p. 5)

Mayo (1991) describes this as a time when practice-oriented faculty were feeling threatened by the university expectations to have achievement and quality measured by the ability to secure external grant funding: "With practice-oriented faculty not typically being

prepared to obtain grants and to do research, they can easily be assessed by administrators and research-oriented faculty as the lowest level of professionalism within a school of architecture” (p. 83). The ability of the schools to gain reputational capital on the work of practicing architecture faculty was perceived to be a riskier than one, which relied upon hiring faculty with research degrees and could pursue funded research. The process of hiring faculty members capable of raising the reputational capital of the program through research and scholarship can be a slow process, but Mayo (1991) notes that the methodical dean might reorient the faculty through these incremental hiring decisions.

Among the outcomes of these efforts, which can be seen in the cultural and structural components of the college today, are the expectations that faculty will have higher credentials than most had when Beckley first became dean. All new hires and promotional decisions had to undergo external peer-review as part of the promotion and tenure process and the faculty was encouraged to participate in appropriate profile raising activities such as conferences, publications, exhibitions, and competitions. Many of the faculty teaching at the college when Beckley became dean had ended their collegiate education with the professional B. Arch degree. When the college adopted new degree programs, including the post-professional degree master of science, and the D. Arch, the graduate school was not in support of having faculty with the B. Arch as instructors. This internal conflict was managed over time through attrition and new credential requirements, which required the M. Arch degree for studio instructors and a doctorate for instructors in the post-professional programs.

In a deal with the devil to get the D. Arch converted to a PhD it was agreed with the Graduate school that only faculty with PhD's could chair dissertation committees.

This was a blow to the faculty who had been the backbone of the D. Arch program

but who did not own doctoral degrees. It also sent a message as to the qualifications that would be needed for new faculty hires in the areas of doctoral studies. (Beckley, 2011, p. 9).

Beckley (2011) reported that among the faculty those who had the D. Arch degree or a traditional five-year professional bachelor of architecture degree, which was no longer offered at the college, were particularly opposed to the creation of the three-year option. The terminal degree needs for the faculty teaching in the 3+ master's program were also upgraded to the M. Arch. Up until this point a significant number of faculty, who had been graduates of the college, held the B. Arch as their terminal degree.

Among the most controversial of the hiring program changes Beckley led was the expansion of the visiting faculty and fellows program. Some senior faculty opposed the practice because the relative value of the contributions of faculty who were brought to the college for short periods was not commensurate with the investment of financial resources and perceived that the strategy could represent a possible a threat to the tenure system and tenured positions (Pastalan, 1991). In contrast, Metcalf and Hubbell saw the fellowship programs as contributing fresh perspectives to the design faculty. Beckley (1990) described experiencing some disappointment in the college's ability to convert retiree lines into appointments occupied by junior faculty capable of leadership, "While this has infused the program with young blood, it has not produced new young leadership for the program" (p. 4).

Demographic diversity. A sociocultural theme, which had emerged during the Metcalf period and continued into the Beckley era, was the need to improve the climate and representation in the college of women and minorities. The U-M President Duderstadt had reaffirmed his commitment to diversity during the Beckley era describing the goal of

diversity in the U-M community as an imperative that the university move forward aggressively on its new agenda to achieve racial and cultural diversity on campus (Duderstadt, 1987). Additionally, architecture schools of the era were concerning themselves with the impact of globalization. The lack of demographic diversity among the students and faculty of the College of Architecture and Urban Planning was identified in the strategic assessment as an area of concern for the faculty. The establishment of a task force to address the issues was one of the first steps Beckley took to try to discover how to improve the enrollment and retention of women and minorities in the program. Diversity in the profession of architecture is challenged by implicitly exclusionary definition of architecture as a gentlemanly art (Sutton, 1992). Similarly, Groat (1993) believes that the rational-empirical view of architect-artist versus architect-technician conceptions is partly to blame for the continued existence of these exclusionary practices. Groat and Ahrentzen (1996) assert that the centrality of studio pedagogy in the design schools, such as Michigan's architecture program, was promulgating, as part of the hidden curriculum, the source of architecture diversity challenges.

Given the studio tradition's historical link to the master-apprentice model... this mode of teaching/learning may have a differential impact on female and minority students; not only is the master nearly always a mister, but women may be less comfortable with a format that privileges persuasion over dialogue, and minority students resent the Euro centric design emphasis that 'channels students into becoming custodians of the status quo. (p. 167).

Based on what he saw and heard after his arrival in Ann Arbor, including female students sharing that they had been counseled against enrolling in architecture, Beckley

established goals aimed at fostering climate changes as well as increasing the representation of women and minorities in the college community. His tactics sought outcomes that could address climate issues holistically rather than simply focusing on student and faculty head counts. Beckley appointed a task force and hired a woman into a senior leadership position in order to signal to the college community that a new era had begun.

The 1987 Task force on diversity, which included senior faculty from both the architecture and planning programs, formulated goals and value statements, which they believed could lay the foundation for the necessary changes in the college. Membership on the task force included the newly appointed female associate dean, an African American faculty member, two senior white males, one mid-level white female, and one other. The task force identified the need to acknowledge racism

Particularly as it affects the participation of Black students, faculty and staff --- as its highest priority. In seeking to 'overcome racism' here at Michigan, the task for many is not so much one of achieving social comfort, as it is one of having opportunity to build self-confidence and self-assurance necessary for a highly competitive pursuit of excellence. (Chaffers, 1987, p. 2).

This group described, as a fundamental belief of the college's faculty, that the professions of architecture and planning were central to the manifestation of community and that community required representation. Three goals were described in the task force report; increase representation of women and minority students, increase representation of women and minority faculty, improve the climate (Chaffers, et al.1987, p. 5).

They proposed a set of action intended to increase the diversity of faculty including active recruitment of women and minorities, the creation of targeted positions, and the

development of a nurturance program. Climate strategies included diversifying the invited lecturers, promoting social engagement with minorities in practice, developing design challenges that address equity, ethics, diversity, cultural heritage, and administrative routines during orientation and other quasi-social events. The efficacy of these strategies is difficult to measure in terms other than quantitative comparisons to modern day enrollment and the faculty demographic profile, which show some modest gains in minority representation, nearly equal enrollment of men and women, but a lack of equivalent status or representation on the faculty.

One strategy, which was designed to address barriers to enrollment for women and minorities through revisions in the curriculum, did become embedded in the college's operating norms. Some data indicated that women and minorities did not consider architecture education until after the completion of their undergraduate programs. The creation of a three year Master of Architecture program, which could support interested students who had not taken architecture courses in their undergraduate program, seems to have been successful in attracting greater numbers of women to graduate architecture education, and has had limited success in attracting greater numbers of under-represented minorities. The three-year Master of Architecture program was structured to attract those students who had not pursued architecture education in their undergraduate programs by providing the extra course worker needed for the professional degree. The two-year Master's degree option had been a barrier for enrollment for those students from attaining the master of architecture degree because of missing studio prerequisites. Faculty engagement in these efforts appears to have been limited, and championed by women and minority faculty. One

faculty member posited that the use of the term “minority” was a barrier to successfully attracting and retaining non-White students at the college (Chaffers, 1987).

The University of Michigan was among many schools of architecture during the period that created such programs, which are credited with providing an increasing pipeline of female and minority faculty to the schools. By 1997, the strategies for increasing the diversity of the architecture program were embedded within the overall enrollment strategy. The architecture program chair, Brian Carter (1997) described a three-pronged approach, which included recruiting at high schools and community colleges; recruiting students already enrolled in the University of Michigan; and developing specific plans to recruit students of color and from non-traditional backgrounds.

Among the new initiatives Carter developed was a summer immersion program for high school students, which he saw as providing an additional benefit to the enrolled students who could be asked to participate by providing instruction. Carter also believed that “Participation in university-wide events and active service within the university community by students, faculty, and staff from the program was critical” (Carter, 1997, p. 1) in promoting the program as was inviting critics and guest speakers from historically black schools and colleges and successful alumni who were among the underrepresented minority population.

Beckley (1989) discusses in his memoirs these attempts to increase the demographic diversity of the student body, describing them as having generated positive results initially but having eventually petered out. One such initiative, announced in 1989 was a joint agreement with Morehouse University that allowed the Morehouse students to complete their senior year at the University of Michigan, earning an undergraduate degree from Morehouse

and one year of credit toward a professional degree in architecture at U-M. Beckley (1989) explained, “This plan represents an opportunity for Morehouse to move its highly qualified undergraduates into professional schools and careers. It also represents an opportunity for the U-M to meet its objective of interacting more with the nations historically Black institutions” (p. 11). It appears that efforts to maintain and administer these pipeline programs were not embedded within the administrative structure of the college, but reliant on the efforts of individuals whose interest waned or who left the college. Rather than formalizing the commitment to diversifying the student body through the maintenance of these programs or the adoption of other efforts, Beckley (2015), reasoned that the inability of the college to diversity was the fault of the architecture profession, which lost aspiring professionals to other higher paying professions such as medicine and law.

Beckley (2015), noted that during his administrative era the college registered an increasing number of international students, which he attributed to the recruitment efforts of graduates who had enrolled in the D. Arch program, returned to teaching programs in their home countries and then promoting the college. Their impact on the college culture became more significant in subsequent eras.

The challenge of assuring that the climate at the college was welcoming and supportive to women and minorities was outlined in the 1987 diversity task force report. The members of the task force described the inclusiveness they believed could foster equitable and ethical relationships, suggested curricular revisions, but the proposal lacked specific actions for the faculty or students to undertake. Beckley (1989) understood that the climate of the college was an important factor, which needed to be addressed. “In addition to just

recruiting, we are going to have to give serious consideration to creating a climate which would again make architecture an attractive profession for Black students” (p. 1)

Socio-structural influences. Structural changes in the college’s policies and processes during the Beckley era were driven by changing institutional norms, values, and expectations within both the U-M environment and the profession of architecture. Significant changes in socio-structural components of the college had been negotiated by the end of the Beckley era. The next dean inherited a significantly different organizational structure, degree program structure and internal relationships, faculty credential expectations and performance evaluation standards, and strategies for funding the college than that which Beckley had been hired to lead. The influence of each of these changes can be seen in academic architecture culture operating in the college today, which is much more cosmopolitan, comprehensive, and diverse. Beckley (1990) described a structural component of his leadership strategies “A part of strengthening the administration of the college has been a plan to give greater autonomy to the programs...” (p. 1).

Beckley relied upon leadership tactics that had been successful for other deans at U-M when initiating discussions with the faculty around structural changes he perceived were needed to accomplish the goals established by the U-M central administrators. The architecture program chair Hubbell (1986) had shared with Beckley before his arrival the faculty’s apparent willingness to focus on structural issues rather than on self-development. Beckley inferred from these conversations that work on structural changes could be best the approach to leading the changes he sought for the college (Beckley, 2014).

Organizational structure. Beckley’s organizational strategies included adding academic administrators and delegating authority for decision-making, using institutional and

organizational structures to bolster efforts, increasing the rigor of the selection process for program chairs, expanding the types of faculty appointments to align the needs of the college's human resources with its instructional and administrative needs. Beckley combined these structure-changing strategies with culture changing strategies as he pursued greater demographic diversity in the college's leadership positions.

Among the first additions to the organizational chart was the position of associate dean. The faculty administrative task force had recommended that an associate dean position to oversee research, service, scholarship, and publications be deployed. (Beckley, et al., 1987). Writing to the faculty, in 1987, the college administration task force, which included Beckley, the program chairs, the research chair, and the associate dean, described the changing conditions, which were precipitating the need to discuss alternative administrative relationships. The task force members describe as the impetus for proposed restructuring, the changing economic conditions higher education institutions were facing. The associate dean would plan, lead, and manage the collaborative processes that could enable strategic changes for the college. Beckley (2014) saw the role as encouraging research activities for every faculty member, "The appointment of an associate dean helped to promote the idea that all faculty were responsible for producing work that advanced their field of inquiry" (p.1). Placing a new associate dean in charge of research, structure, and degree development allowed dean Beckley to focus on raising the profile within the profession and among architecture educators as well as participate in fund raising activities. Because the addition of the associate dean position meant changes in the performance expectations of the dean, justification for the additional administrative position was sent to the faculty from the dean and U-M president to the faculty

Economic pressures have led to increased activity in both development and external relations. With the increased administrative workload and the current dean devoting more time to development and external relations, the provost and vice-president for academic affairs agreed to support the appointment of an associate dean. The duties of associate dean include the administration of academic programs, assistance in academic planning and development of academic initiatives. (Beckley & Duderstadt, 1987, p. 1).

Feedback during Beckley's interim review, specifically addressed the perceived negative consequences of this structural change. Some senior faculty perceived that the sociocultural losses incurred by not having a dean present and engaged in architecture faculty activities was not counterbalanced by the gains of his promoting the college and raising funds. The transition from a very familiar dean Metcalf, to this more corporate model dean was for some an unwelcome change (Pastalan, 1991)

During academic year 1993, mid-way through his first term as dean, both the architecture, and urban planning programs were led by interim program chairs. In the case of architecture the midterm resignation of the chair, was made more challenging because the college had not formalized procedures for finding a replacement. Beckley saw these appointments as critical to the future success of each of the academic programs. Noting that the successful candidate in these positions would be evaluated on two different sets of criteria, that of a faculty member and that of an academic administrator, was a change from the lens that the faculty had previously used when selecting their leadership.

Beckley (2011) understood that the architecture program needed a chair that could help it navigate changes that might result from significant turnover in its aging workforce.

The leadership challenge for Beckley was to block internal candidates who he was concerned could be more interested in protecting the status quo than advancing the agendas established for the college, while selecting a candidate that the faculty would still view as an insider. He used two strategies to achieve his goal, both of which recognized the cultural expectations of the faculty. First, he placed prospective internal candidates on the search committee, effectively blocking them from consideration, but including them in the decision-making process. Second, the selected candidate was already known to the faculty who had previously selected him as a member of the fellows program created by the previous dean and program chair as part of their stagnation mitigation and prevention strategy, Brian Carter. In addition, Carter brought credibility as a practitioner and a scholar, having worked at a prestigious international architecture, and engineering firm. Carter's interests in design and technology, it was thought could help move the profile of the faculty to a more cosmopolitan and future oriented discovery phase (Beckley, 2011). By selecting Carter as the architecture program chair, Beckley had added a faculty member who could help the transition to a design emphasis, and yet communicate effectively with those emphasizing the technological components of the architecture curriculum to his leadership team.

The controversial dissolution of the Architectural and Planning Research Laboratory, precipitated by both budgetary concerns and a desire to find a way to integrate the professional and post professional program activities appears to have successfully accomplished reintegrating research in the activities of the faculty and provided the impetus for profile raising outcomes. The emergent cultural changes included increasing recognition of the faculty's academic and scholarly contributions, key appointments to boards, and requests for keynote addresses at major conferences (Beckley, 1994).

Evolving degree programs. Significant revisions in the degree programs of the college were undertaken during the Beckley period. The stated goals of the revisions included academic focus shifts, structural alterations, and expansions and consideration of new degree offerings. The catalyst for the structural changes included a desire for better institutional alignment and changes in the disciplinary composition of the faculty. The processes used to achieve the changes included the participation of internal college members plus external members from the university and the profession, as well as architecture educators from peer institutions.

The review, analysis, proposal, and implementation of the changes incorporated information from several sources including environmental scanning, benchmarking, tasks forces, faculty retreats, and finally previously defined governance activities. Changes to the curriculum and degree programs, presented to the faculty during the Beckley era were often challenged by other faculty members on academic and cultural bases and the disagreements reportedly fostered strong sentiments. Beckley (2011) shared that some proposed changes were in response to diversity goals, some to institutional norms, and some to gaps in the existing offerings. As a component of the socio-structural environment of the college, these changes affected structures, policies, and processes and were an element of the overall goal of raising the profile of the college in a holistic manner.

Master of Architecture program. The master of architecture program, an accredited two-year graduate degree program which lead to a professional degree had been constructed as a 2+2+2 program. Conceptually, the first two years of the program were reserved for undergraduate students, who were taking liberal arts courses, the second two years as introductory architecture courses leading to a Bachelor of Science degree in architecture.

Students with a bachelor of science degree could be considered for admissions to the master's program, which provided them with the remaining academic courses needed to complete the professional degree as part of the licensure process. Students without a bachelor of architecture degree were not able to enroll in the master of architecture program. The development of the master of architecture three-plus program allowed students with a bachelor's degree in another subject area to pursue the professional architecture program as graduate students. The creation of the new degree option was intended to create new opportunities for women and minorities.

In the 60's and 70's an increasing number of students would decide later in their academic career to consider architecture as a professional endeavor. This was particularly true for women and minorities who were never given high school counseling that would suggest a career in architecture, a bastion of white male supremacy. But some were undaunted..." (Beckley, 2011, p. 9).

In many cases, women and minority students first expressed a desire to enter the professional program as graduate students, but were unable to be admitted because of missing studio prerequisites available only in the undergraduate curriculum. The creation of the 3-year option for the professional degree allowed persons who chose to pursue architecture after completing a different undergraduate degree an option for admissions.

One of the outcomes of the 1986 faculty retreat was agreement among the faculty to reconsider post-graduate educational offerings. Newly hired associate dean Groat was selected to chair a national symposium on post-graduate education. Among the outcomes from the symposium was the development of a shared vision for a research oriented doctoral program that could supplant the practice-oriented program, which the college had pioneered.

In consultation with the dean of the Graduate school and faculty members, Beckley envisioned changes for the doctoral programs that would have a long-term impact on the composition, culture, and identity of the college. Snyder and Hubbell had suggested that a comprehensive review of the architecture doctoral program be undertaken, and when D'Arms, the dean of Rackham also suggested changes that could broaden the scholarship beyond its practitioner-applied focus, Beckley launched a faculty task force to investigate and recommend action. The outcomes of these actions included converting the D. Arch, a professional doctoral degree, to a research oriented PhD. The task force reports indicated that the faculty believed that these changes could also help to foster better integration of the research activities of the college with the professional programs of the college. Reflecting on his deanship, Beckley (2011) described the leadership dilemma he faced:

The D. Arch program had become an anomaly. Initiated in the late 60's it was seen as a program that would lead its graduates to research positions in professional offices. It was a pioneer in architectural doctoral education and one of the first to offer this advanced degree in subjects other than history... Graduates of the doctoral program found opportunities teaching in universities but professional firms did not value the credential. (p. 7).

Subsequently, the associate dean worked with the faculty to create other post-professional programs and the expanded professional graduate architecture program. Barnett(1991) reported to the faculty the Educational Planning Committee had reached consensus on the need to propose a small post-professional program that could fulfill different goals for a different audience than the professional program and the doctoral

program. “We see such a degree offering to fill an important gap in providing post professional educational opportunities for the architectural community” (p. 2).

Leadership strategies. Beckley’s leadership strategy portfolio focused on defining, creating, and implementing changes that would advance the national profile of the college. The university was evolving to embrace its research identity while addressing both revenue enhancement and cost containment, and maintaining or enhancing quality (Boles, 1990). Simultaneously, the architecture profession was evolving and discussions of its relevancy, relationships with allied professions, new corporate forms and the impact of information technology as well as strategies to enhance the productivity of the firms was receiving significant attention at national professional meetings. The faculty of the architecture program was expected to be contributors to the evolution of these larger institutions. Beckley believed that re-establishing the architecture program faculty as valued members within both of its parent institutions could raise the profile of the college.

The provost’s charge to raise the profile of the college was the driver of several socio-structural changes accomplished during the Beckley era. Beckley’s leadership strategies addressed both internal and external opportunities for the faculty. Similarly, Mayo (1991) reported that efforts to increase reputational capital were the focus of administrators in architecture schools in the late 1980’s and early 1990’s. Many chose similar methods to those used at the University of Michigan including the selective hiring of research-oriented faculty and expanding graduate and post-graduate degree offerings. The college strategies needed to go a step further in order to accomplish the cultural changes that Beckley and the provost sought.

Beckley (1988) saw possibilities for creating a new culture within the college's existing pragmatic ideology and reputation. He sought a way to catalyze the reconnection of those faculty members who identified as designers with those that identified as researchers "I see Michigan as being a place where we can make technology and design come together again... We think of design and technology not as two things but as one" (pp. 5-9),

Beckley (1989) described to Provost Vest one of the goals the faculty had established collaboratively in its strategic planning efforts "enhancing the comprehensive quality of the school and the strengthening of our doctoral program offerings" (p. 1). The addition of spring and summer term offerings both for remediation and for advanced study supplemented revenue sources for the college, as well as allowing the college to secure a central campus outpost, which helped to reduce the perceived isolation caused by the north campus location.

Faculty quality. The provost's mandate to raise the profile of the college and align its operating paradigms with that of a research university catalyzed changes in the definitions, expectations, and assessment of the faculty during the Beckley era. Some of the turnover was the result of increasing expectations and promotion that is more rigorous and tenure criteria. The image of the architecture faculty member expanded to embrace research and scholarship paradigms in addition to its professional school mission. Outputs expanded to include publications, exhibitions and competitions as well as the products of professional practice. Peer-review of faculty work became a norm, and research became an integral part of the design studio. Each of these changes influenced the academic culture of the architecture faculty, which among other changes began moving from a localist professional practice group paradigm to a more individualistic cosmopolitan research, dissemination, and practice paradigm.

In order to advance the question of defining, measuring, and acquiring quality faculty, Beckley relied upon the guidance of a faculty activities task force. This group assumed responsibility for developing a proposal for measuring faculty productivity and a means of evaluating and enhancing that productivity. They also evaluated the appointment structures, all in the context of the overall mission of the college (Brandle, Dandekaar, Groat, Kowalewski, 1987). The most long-lasting outcome from this task force was the creation of a faculty activity report and process for sharing and evaluating the contributions of the faculty each year.

Beckley understood that the faculty culture had developed during a period that was focused on supporting the education of professionals who could serve the State of Michigan, and that the core of the faculty were local or regional practitioners (Beckley, 1988). Changing institutional norms and expectations were broadening the definition of the mission of the professional schools at the University of Michigan in the 1980's and 1990's, requiring the U-M professional schools to broaden their conceptualization of their organizational purpose. The ability of the architecture faculty to adapt and adopt the new institutional norms was, in part, dependent on their willingness to adjust their criteria for gauging faculty quality.

Kerr (1979) notes that this was an era when many higher education institutions were concerned about the aging faculty, recruited in the 1960's and 1970's which had become distant from the latest developments in their fields. Beckley believed that the evaluation of quality in architecture extended beyond the more traditional forms used to evaluate the faculty in the classical disciplines. He described the ways in which the academic-architect demonstrates contribution to the discipline:

Faculty is expected to make a creative contribution to their chosen field. This means scholarship. It also means built work, competition entries, funded and non-funded research, and theoretical projects. Peer review is critical when the work of faculty is evaluated.... In this way, teaching and practice are closely related. The qualifier is that the educator/architect is expected to make a creative contribution to the field at a high level and to show evidence that his or her work is considered a contribution to the profession of architecture. Thus, built and unbuilt work must be published and reviewed, or entered into competitions, or presented at conferences. (Beckley, Waldrep, 2014, p. 131).

Changing performance expectations for a group of tenured faculty clashed with norms established under the previous dean. During the Metcalf era, Beckley perceived that a diminished the sense of responsibility for increasing the more abstract theoretical body of knowledge concerning their field had become the norm (Beckley, 1986). External pressures to assure that the faculty were both continuing to produce profession-ready graduates, and becoming national leaders in knowledge creation and dissemination were real, and deans were expected to address these concerns. Changing how quality was assessed in this new era was a conflict-bound undertaking, especially in the context of defining expectations for tenure (Beckley, 2011).

Each culture has its measures and perceptions of quality and success and members determine how activities will be measured, “The determination of success is achieved internally within each cultural sphere; that is those who are integral to the culture tend to control, to some extent, the discourse with the culture and to be most responsible for any articulation of the criteria for success” (Budd, 1996, p. 159). Changing the criteria and

thresholds for measuring success to meet the new university expectations required building internal consensus.

Attaining legitimacy, by way of sponsored research production, was the topic of many documents found in the college archives in the Beckley era. Budd (1996) describes ways that leaders in higher education have changed the cultures of their organizations around research initiatives in the 1990's through both persuasion and imposition. Persuasive techniques included collaborative goal formation, incentive programs, and retention efforts. Impositional methods included hiring new faculty, and role realignment.

Discussions in the profession during the Beckley era around the legitimacy of architecture and architectural education, especially within the context of research universities. Beckley notes perceiving pressure from U-M central administration to demonstrate ways that the college faculty was engaging in research that could add prestige to the university as well as provide additional sources of funding. At the provost's request, Beckley (1993) described anticipated changes in the college's research agenda. The list of areas submitted demonstrated the breadth of topics which architecture and urban planning faculty were engaged in during this era. Beckley (1993) reported and anticipated

- increased emphasis on environmental research;
- sustainable design and planning;
- minority, gender and special population issues;
- improving the delivery of health care and related public services;
- transportation;
- applied information and building technologies;
- globalization;

- terrorism and urban security;
- renovation and adaptive reuse of old buildings;
- developing new methodologies for generating, analyzing, and classifying/indexing architectural form and space.

Challenges to the college's criteria for promotion and tenure by central administration tested Beckley's leadership within the college and externally. The college faculty members were aware that the university administration was reviewing the processes used for recommending faculty members for tenure before Beckley's appointment as dean.

In his memoir, Beckley (2011) reflects upon his management of a promoting and tenure case of a particular, well-loved, and highly respected faculty member. The faculty member was not awarded tenure by the regents, even though the case had been supported by the college's promotion and tenure review and executive committees. The case came before the review committees at a time when the provost was questioning the criteria for promotion and tenure within the professional schools, and a tightening of the processes intended to avoid de facto tenure cases.

This meant that the culture of the faculty, which had promoted faculty based on teaching alone, had to be revised and aligned with the university's expectations for research and scholarship, which advanced the discipline. Beckley (2011) notes that three structural changes to the *College Rules* resulted from this failed case: promotion and tenure standards; robust interim review processes; another tier of faculty appointment types. Beckley (2011) shared that pressure from the provost was one catalyst for the evaluation criteria changes:

Whittaker told the deans in no uncertain terms that it was the dean's responsibility to only make recommendations for tenure that could be approved by his office. He did

not want to be the one to stop the tenure promotions. That was the job of the dean's. I struggled with what the criteria might be for promotion. The university administration was putting more weight on the evaluation and comments made by neutral outside reviewers. It seemed simple enough. Faculty had to produce work that could be presented to outside reviewers who would be unknown to them. Their work had to be viewed as a contribution to the field. The bar was raised...work needed to have the substance to be reviewed by one's peers from outside the school. (p. 13)

Promotion and Tenure committee composition also changed because of these new performance expectations. The new processes for forming the committees is depicted in Figure 29.

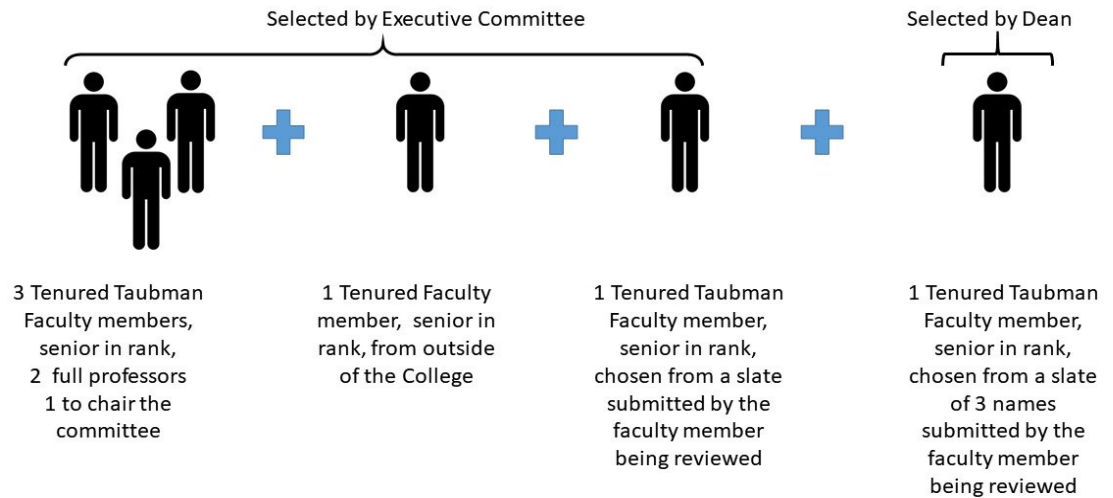


Figure 29. Promotion and tenure committee formation

In 1990, Beckley announced that the selection process for tenure-track faculty candidates would become more public than the previous practices that had been used by programs chairs and the dean. The change in practice had been requested by the Executive Committee who felt that each candidate should give a lecture or brown bag presentation,

followed by informal contact sessions (Beckley, 1990). Beckley and the Executive Committee perceived that this new process could improve transparency around the selection of new colleagues and make explicit the new criteria that were to be used for choosing a new faculty member.

The culture of the faculty was evolving as senior faculty members retired. Hubbell and Chaffers (1992) noted that since the 1980's more than 20 senior faculty members or about 50% of the faculty had retired or left the program. Strategies for faculty recruitment and selection during the late 1980's through early 1990's was focused on searches for core faculty, distinguished visiting faculty, entry-level visiting faculty and regional rotating adjunct faculty (Hubbell, 1992). The visiting and adjunct hiring strategy served the purpose of bringing new voices and perspectives to the architecture program and fill gaps in the instructional ranks during a period of budget constraint. Changes in the faculty composition brought on by the faculty retirements and temporary appointments meant that by the end of the Beckley era, the architecture faculty as a group were less homogeneous than in previous eras and the friction between certain factions appeared to be reduced (Beckley, 1990).

The use of visiting appointments for short periods allowed the college to bring both emerging and well-established faculty members to the college to supplement or fill gaps as needed and helped to add breadth to the intellectual discourse of the college. The visiting appointment program did not significantly improve the demographic diversity of the college however as depicted in Figure 30.

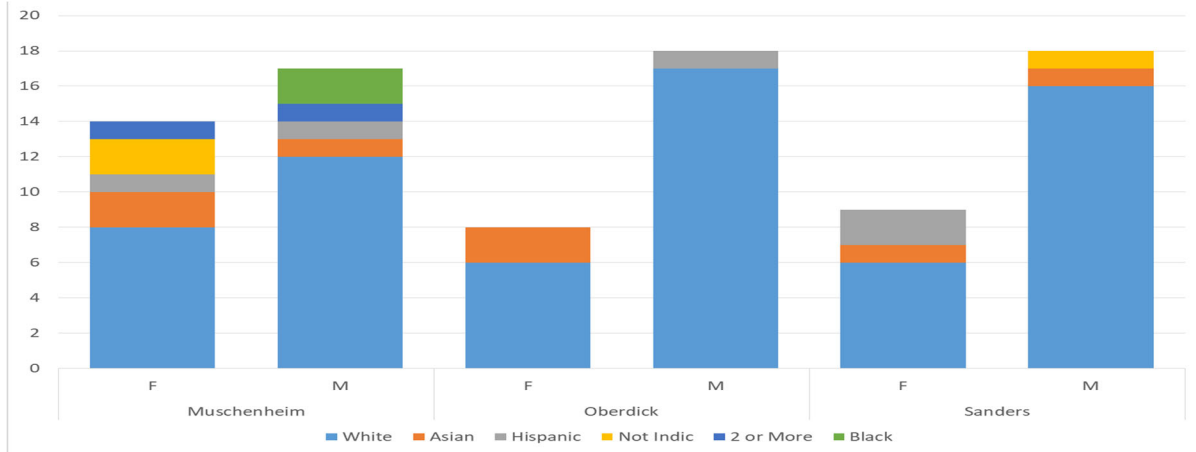


Figure 30. Demographic representation of named fellowships 1985-2016

Another one of Beckley's strategies to increase the external profile of the faculty was providing support for staging conferences and symposia on campus that were intended to both stimulate national level discourse on architecture education topics as well as bring new voices to campus. The conference of greatest significance to the cultural evolution of the college, led by new associate dean Groat, focused on the development of postgraduate education.

Other forms of faculty development and dissemination support included funding for the dissemination of research findings and scholarly writing. Beckley was aware that there were influential members of the faculty who did not value scholarship that was not specifically practice oriented. Allocating a portion of the operating budget to support faculty attendance and conference participation as well as engagement at professional societies and with faculty at other institutions helped to legitimize scholarship as among the valuable and accepted activities. Changes in *College Rules* relevant to research and an expanded definition of research to include creative practice were cited by Beckley (1991) as a change that had had significant impact on his work with the faculty culture.

This change in the Rules represented the formal recognition of operational realities over the past year or two; Indicative of the success of this approach is the number of invited papers, which our faculty have presented. Invited or refereed papers have nearly quadrupled and have contributed substantially to the college's improved national reputation. There is a growing sense on the part of all of the faculty that they have both the responsibility and the opportunity to engage in scholarly activity. (p. 1).

Engagement strategies. Beckley's strategies for increasing the reputational profile of the college and the architecture program through internal and external engagement included structural changes, policy and practice changes, and changes in the incentive systems. The impact of these engagement strategies, on the academic architecture culture at Michigan, included increasing emphases being placed on peer-reviewed evaluations of faculty quality in research and dissemination and declining emphasis on an assessment of teaching. In order to achieve alignment with institutional norms of the University of Michigan, the faculty constructed policies, and practices which more often relied upon peer-review as a form of assessment of faculty quality, and established external networks of researchers and practitioners in their sub-specialties for dissemination, exhibition and legitimization of their contributions to the discipline of architecture.

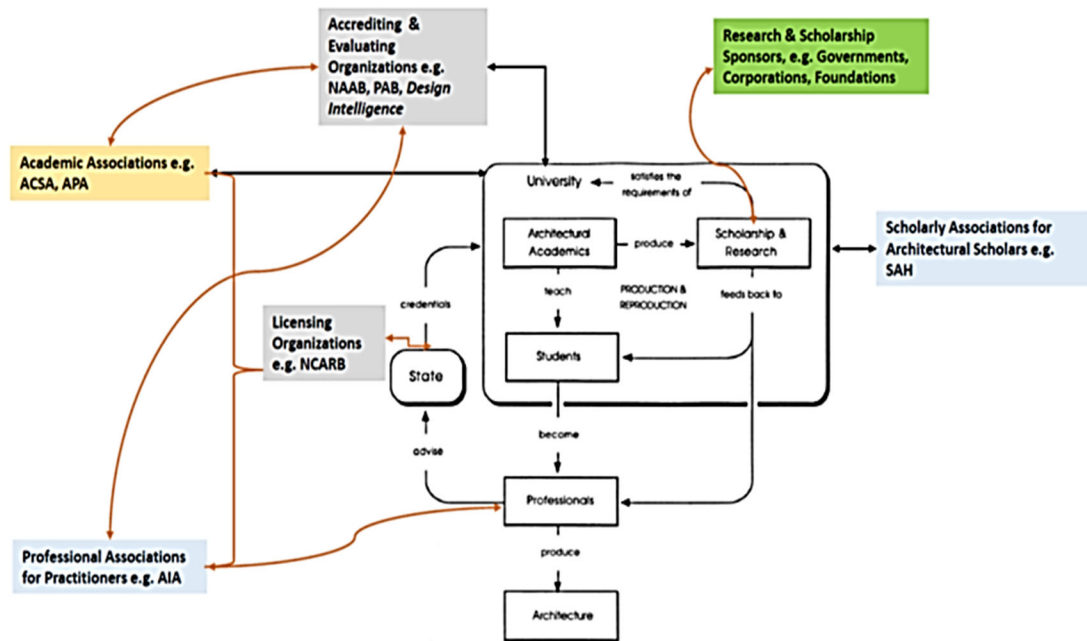


Figure 31. Institutional influences on architecture faculty culture (adapted from Stevens (1998)).

Beckley understood that external influencers were important to raising the profile of the college nationally and internationally and in changing the culture to better align with the new institutional norms. Figure 31 builds upon the Stevens (1998) illustration of institutional influences influencing architecture schools, by adding the network of other external organizations that may play a role on the development of faculty culture. Beckley's strategies for external engagement included those that encouraged and rewarded faculty for profile raising activities and those that involved his engagement with external influencers in a leadership role:

My own leadership responsibilities have been focused on enhancing the college's esteem and base of support. A large measure of this esteem has been the direct result of providing faculty opportunities and support to travel and organize activities for which they have a great passion. ... The more visitors we can bring to the college to

see first-hand the quality of our students and faculty, the more quickly our reputation will grow...Our biggest competition for attention continues to be our peer institutions on the coasts” (Beckley, 1993, p. 4).

Beckley served as president-elect, president, and past-president of the Association of Collegiate Schools of Architecture from 1987 - 1990. He saw this commitment as a means to influence the image of the architecture program nationally as well as participate in national level discussions about the direction of architecture education in the context of higher education institutions pressures for research productivity. He used his role to fund travel to view other schools and benchmark their offerings, meet up with alumni and market the college to stakeholders throughout architecture education (Beckley, 1990).

Internal engagement in structural changes began with changes in the organizational chart, adding the associate dean role, to oversee academic and strategic change initiatives. Policy and practice changes that required internal engagement and influenced changes in the composition and assessment of faculty included the development of incentives and guidelines for promotion and tenure practices. Beckley understood that internal engagement was necessary to lead the faculty to accept new performance expectations, activities, and measures. His experiences as a member of the faculty during the contentious Malcolmson era helped him to formulate an approach to leading the faculty to accept and implement changes that could have significant impact on the overall academic architecture culture.

Beckley used the other dean's at U-M as a sounding board for the administrative and strategic change initiatives needed at the college, especially the dean of the Rackham Graduate School. The deans helped Beckley to gather information on the advantages and

disadvantages of organizational and academic structures used in the other academic units at the University of Michigan.

Seeing as one of his most important responsibilities the need to create an environment, which was reflective, self-evaluative, curious and open to new ideas and thoughts, he planned a series of retreats and events to encourage these actions, and charged the new academic administrators with leading the discussions (Beckley, 2015). Philosophically, Beckley (1994) believed that “The college has a responsibility to embrace change as well as excellence, achievement as well as criticism” (p. vi). He thought that promoting a culture of reflection and engagement could help to resolve some of the conflict he had observed separating the design faculty and the technical-research faculty and promote some of the needed changes. The outcome of these activities enabled faculty reflection on the goals of architecture education in the new era and the development of consensus in the necessary redirection of many of the structural and curricular elements of the college toward achieving updated co-constructed norms, values and operating expectations. Beckley began the process of defining a strategic plan for the college by engaging the faculty in a format that was familiar to them, namely discussions and debates including a series of task forces each charged with a specific scope, leading to an all college retreat. Beckley used this strategy more than once, the first time was at the beginning of his term as dean, and the last retreat was near the end of his tenure.

Using a strategy, which was predicated on collaborative decision-making, Beckley, worked with the college’s senior administrators, who planned and held the first retreat in January 1988. Topics included for consideration at the first faculty retreat had been identified by the college prior to his arrival. They included faculty development, diversity, degree

development, the role of research in a professional school, and other topics that were integral to the faculty image and identity. Prior to the retreat, several faculty task forces were charged with researching their assigned topics and preparing reports and recommendations for the faculty to consider at the retreats. The use of task forces and the all-college retreat was a strategy that Beckley hoped could accomplish both the curricular change goals and re-establish a collaborative and trust based relationship between the dean and the faculty. The faculty held multiple retreats during the Beckley deanship on topics that included academic programs, advances in information technology, tenure, and promotion criteria as well as new directions in architectural research. Beckley (1994) measured the success of these meetings in terms of engaging the faculty, “Perhaps most significant amongst the outcomes of these retreats was the perception that the college must be more concerned about its very composition” (p. 4).

The second major faculty retreat, held in 1995, identified 21 actions that the faculty believed needed attention, the majority of which were socio-structural in nature. All but two of the identified actions suggested by the faculty were focused internally. Table 5 lists the suggested or subsequent actions, the frequency with which these actions have appeared over the history of the college and the status of the suggestions as of 2017.

Table 5
 Overview of Leadership Strategies Used by U-M Architecture Deans

Sociocultural Actions			Frequency	Status
Improve faculty collegiality			recurring	Occasional, informal
Bi-weekly faculty seminars				no action
Strategize for the development of a College of Environmental Design and Management			recurring	no action
Redesign the art and architecture building – design image			recurring	on-going
Develop a globalization strategy			new	variable
Develop a career placement program using alumni			recurring	established
Hire more practitioners for design-studio			recurring	established
Increase visibility of the College			recurring	on-going

Socio - Structural Actions	Frequency	Status
<i>Faculty</i>		
Review and update merit criteria	recurring	annual
Consider and construct new appointment types	recurring	unionization
Create a research incentive structure	recurring	on-going
Encourage the creation of a research center	recurring	variable
Develop a post-doctoral program	new	altered*
<i>Curriculum</i>		
Coordinate curriculum in A+UP	new	no action
Coordinate curriculum graduate design studios	recurring	on-going
Integrative program in A+UP	new	altered*
Re-evaluate curriculum	recurring	on-going
Consider freshman admissions	recurring	established
Consider 3+year graduate program	new	established
Develop master of urban design	new	established
Continuing education	recurring	no action
Spring/Summer course offerings	recurring	established

Norms, roles, and status. The Beckley era marked a period of significant changes in the expectations of the dean and faculty members at the University of Michigan. Changing

the architecture faculty culture to incorporate new norms, values and operating paradigms expected of every faculty member in a research university, required patience, and persistence “I have grown to respect the Michigan system of faculty governance. In some ways I feel this system of governance slows progress, but it is abundantly clear to me that progress is only possible with the faculty’s leadership and cooperation” (Beckley, 1990, p. 2). When accepting the position, Beckley had some knowledge of the operating norms that had been created and those that had been abolished when the architecture faculty had re-organized after partitioning from the art faculty. The expectations of deans had evolved from an “almost exclusive student focus to include a multifaceted array of roles, such as budgeting, and fund raising, personnel and work environment management, program oversight, and external public relations” (Wolverton, Gmelch, Montez & Niews, 2001, p. 6). The new organizational structure and *College Rules* had moved administrative authority for budgets and staffing to the dean away from the eliminated departments, and shifting operating norms, and roles.

Snyder (1986) described for Beckley the operating norms that had evolved for the role of dean under Metcalf, such as acting as the de facto chair of the architecture program. Snyder saw this arrangement as having disabled and frustrated the architecture program chair, Kent Hubbell’s change efforts, especially in the context of design and the integration of research into the professional program. Snyder’s (1986) correspondence also supported Hubbell’s concern that the poor quality and lack of emphasis on design instruction had an impact on the overall health of the college, “The architecture program represents the core problem of the college: declining enrollments and poor ‘design’ quality” (p. 1).

Dean role. Changing the definition of the role of the dean to better align with new university level expectations of dean’s was an operating paradigm shift for the architecture

faculty that some embraced and others complained about at the time of the dean's interim review. Managing the conflicting expectations of the faculty and the provost was one of the cultural hurdles Beckley faced as dean of the college. Criticism of his performance as dean at the time of his reappointment review demonstrated conflict between expectations of a dean as manager versus a dean as leader. At the time, the college had been restructured, to align with other university organizational structures and to release the dean to perform more of the expected profile and fund raising demands of the position. An associate dean was placed in charge of the daily operations of the college. The role of associate dean was evolving as well. During previous periods, the role had held principal responsibility for student records, recruitment and scheduling, budgets and facilities. During the Beckley era, the role of associate dean took on responsibilities for leading discussions on academic discourse and evolutions in programs and program content. Beckley chose to hire a woman from the University of Wisconsin as associate dean. Some senior faculty members were not supportive of her selection, even though there was evidence that she had organized and hosted several successful national level conferences as well as a strategic retreat and the re-visioning of the architectural doctoral program.

Not all faculty liked the additional layer of administration and changing paradigms of the dean's role. A senior member complained that this new organizational structure and the dean's way of operating was negatively affecting the faculty morale, "the college continues to drift and faculty morale continues to erode" (Pastalan, 1991, p. 2). Some senior faculty members, it appears, missed the paternalistic role personified by the previous dean.

Faculty norms and roles. The norms and roles of faculty in architecture programs were evolving and expanding beyond a normative orientation to the development of

professional practitioners to include multiple forms of scholarship. Architecture faculty behavioral norms are established in the architecture school studios (Cuff, 1991). She describes student behaviors such as staying up late and in studio sequestering themselves from the rest of the world, and belonging to a clique of other architecture students as laying the foundations for the architect's valuing peer review, professional societies, and professional awards. As a normative set of behaviors and values, these may have made the introduction of new norms of external review for promotion and tenure easier to adopt at the architecture school than in other disciplines with different cultural norms. Faculty records from the Beckley era show that the architecture faculty quickly adopted the use of external peer review in the promotion and tenure processes. The norm of faculty members constantly being in the architecture building and available to students, which had been venerated in reports of faculty in earlier periods, are not found in the records of this era.

Multiple senior faculty members wrote to Beckley describing the behavioral norms operating in Ann Arbor, including the techniques some faculty used to block any proposed changes to norms and operating paradigms, describing a climate that was humorless and combative. A senior woman faculty member wrote, "a negative quality permeates many of our collegial exchanges and up-ends the possibility for creative change. ...Infrequently do we attempt to negotiate a larger objective that would allow the many different value systems within the school to cross-fertilize" (Sutton, 1986, p. 1).

One reported cause of the combative atmosphere appeared to have been founded in the way the subdisciplines of architecture were to be evaluated and reviewed under the new promotion and tenure criteria. The dominant group of faculty at this time was the practice-based faculty members, and the state of the economy was resulting in fewer opportunities to

practice. Fewer opportunities to practice meant fewer opportunities to have their work reviewed by national level peers than those faculty members who studied and wrote about history, theory, and policy for peer-reviewed venues. Scholars at other American schools of architecture during the period were also describing wrestling with this change in the normative values and expectations of the faculty (Mayo, 1991). The economy was making it increasingly difficult for faculty to sustain their professional practices and teach fulltime, many faculty members were accepting part-time support roles in firms managed by non-academics. Being a practitioner-faculty member who was working in a support role at a firm reduced the possibility that design credit, the basis of reputation capital, would be theirs to claim. Without the ability to gain reputational capital for professional practice, their ability to accrue additional resources within the academy was reduced. Mayo (1991) found this to be true throughout American schools of architecture and described, “As a result, many architecture faculty are unable to convert their creative labor into forms of reputational capital now demanded by university administrators, and these faculty members receive fewer job rewards at the university than their research-oriented colleagues ” (p. 83).

This new paradigm for professional practice as a form of scholarship created internal conflicts within the faculty at U-M and other architecture schools. Ockman (2012) found that many practitioner faculty chose to define what they produce in terms of art rather than construction, making its assessment less accessible to the dominant science and technology paradigms of many research universities. The non-economic advantages for practicing architects teaching in schools of architecture was articulated by Cobb (1985), “We teach because involvement in a professional school helps us to gain...a critical distance from our

practice” (p. 45). It remained a norm to have practitioner faculty teaching in the design studio.

Faculty retirements, a revisioning of the roles of dean and associate dean and the decision to hire a woman as associate dean overseeing academic and strategic initiatives had the greatest influence on the evolution of the architecture faculty culture driven by individuals rather than institutions during this era. Architecture program chairs Hubbell and Carter worked with the faculty to foster academic initiatives and research directions that aligned with profile raising expectations of the U-M and the educational interests of the profession.

Changes in the expectations of a dean required that Beckley focus his efforts on profile and fundraising for the college, with both internal and external allies. Groat, hired as an associate dean focused her efforts internally, on gaining support for collaborative decision-making, informed by national level discussions about the future of architecture education. Her responsibilities included establishing the administrative foundation for changes in the practices and policies, which could legitimize the cultural changes needed to align the college with both university and professional practice expectations. Hubbell’s role in reinforcing the design ideology and Carter’s role in legitimizing scholarship and creative practice, created new appointment types and fostered discourse on emerging practices and theory. These initiatives helped to move the academic architecture culture from its narrow focus on creating professional practitioners to one that embraced the breadth and depth of architectural academic discourse.

Linda Groat was the first female associate dean of the college was expected to lead the strategic planning and champion for strategic initiatives, especially those addressing

changes in the post-graduate programs. Previously, the role had been more transactional than strategic and focused on management and administration rather than strategy, vision and direction for the college. Hiring a female in a leadership role was a culture-changing strategy Beckley chose to foster acceptance of women in the college.

Douglas Kelbaugh (1998-2008): Evolving disciplinary boundaries. The Kelbaugh deanship period included significant changes in the ways that the university worked with its schools and colleges to manage financial and space resources, and the way it communicated with and supported students. The period included significant turmoil in the public sector caused by acts of terrorism, and challenges to the profession of architecture and its allied fields caused by recessions (Clarke, 2015). Declining state appropriations, which decreased by 30% on a per student basis between 2000 and 2013, limited funding for new initiatives and fueled enrollment growth strategies (Jen, 2013). By the end of the era, only about 25% of the general operating fund came to Michigan universities through the state appropriation.

A review of the budget proposals submitted during the Kelbaugh era revealed that the uncertainty in the greater environment for the future of funding in higher education, and the challenges in the architecture industry, were underlying factors in his conservative hiring and spending strategies (Kelbaugh, 2008). Budget balancing strategies Kelbaugh chose included increasing student enrollment to gain additional revenue and increasing the percentage of less expensive part-time and non-tenure-track faculty members for instruction.

Two program chairs led the architecture faculty during the Kelbaugh era. Carter helped the program to develop a publishing outlet for interested faculty and students and invited a range of international speakers to the college for the weekly lecture series. Buresh brought a re-energized emphasis on design-build activities on campus, and helped to unite

and stabilize junior design faculty who had been hired after a significant number of faculty, hired during the Metcalf era, chose to retire.

Kelbaugh's academic agenda emphasized sustainability and an obligation for architects and planners to provide community service relevant to the built environment in the region. His accomplishments included developing degree and certificate programs in urban design and real estate, expanding community engagement initiatives through design charrettes, and expanding the student's exposure to world conditions and exemplars by bolstering travel funding.

The Architecture Program Chair Brian Carter (1999) described the U-M approach to architectural education in the accreditation report as "Problem-solving through critical thinking, synthesis, and analysis is emphasized and brought to bear on societal challenges of our time" (p. 6). Wineman (2007), who was hired during the Kelbaugh era as associate dean for research and chair of the doctoral program in architecture, described the interrelated and complementary research approaches used for teaching and the dissemination of new knowledge relevant to the disciplines of the college when writing:

Taubman College provides a rich setting for both individual and disciplinary responses to this rising demand for design and planning of the built environment. Our mission is based on thoughtful agility. We seek to understand, interrogate, and advance these related fields within the context of exciting new global geographies, technologies and ethnographers, focusing on both the exalted and unsung aspects of everyday life. In pursuit of this ideal, the college offers complementary array of degree programs and a dynamic mix of expertise, resources, and events. (p. 1)

At the end of his deanship, the Taubman College academic administrators, at the request of the provost, undertook a strategic assessment of its programs, human and physical resources, and intellectual directions in order to conduct a comparative analysis of the college against peer institutions. The report included sections written by the dean, program chairs, directors, and the associate dean for research and included aspirational goals, demographic data, physical resource and financial resource reports. After completing the internal strategic assessment, the university invited two review panels to assess the college. The first panel was comprised of administrators and faculty at other schools and colleges within the university. The second review panel was comprised of faculty and administrators from other schools of architecture and planning. The findings of the two review committees suggested further investment in the college's tenure-track faculty and its facilities was needed to enable further intellectual growth and profile-raising activities.

Typology (institutional influences). The university and the profession continued to be the primary institutional influences on the culture of the architecture faculty.

University influences. Three significant actions, which occurred at the university during this period, were influential on the evolving culture of the architecture faculty. The University of Michigan President's Office shifted its interests from the arts to the life sciences, a union for adjunct and temporary contract faculty was formed, and there was a heightened awareness of equity, diversity, and inclusion issues among the students and professoriate.

Kelbaugh became dean of the College of Architecture and Urban Planning at a time when changes in the management of academic units were underway at the University of Michigan, providing the deans with greater financial autonomy and increasing fiscal

accountability. The University of Michigan ceased using an incremental approach to allocating financial resources to the academic units in favor of an appropriation methodology, which reflected the financial impact of decision-making in the schools and colleges. The new methodology, initially labeled value-centered management, was intended to incentivize good fiscal management at the highly decentralized university. Accountability for financial management and all its inputs and outputs meant that the schools and colleges needed to develop capacity to evaluate planned activities using a strategic lens that incorporated both academic and financial implications. The need to evaluate alternative courses of action in terms of the possible impact on unit-level resources provided the schools with the benefits of enrollment growth and sponsored research productivity and cost containment. The academic administrators of the Kelbaugh era needed to learn to evaluate alternatives in terms of their impact on the academic goals and financial resources.

Early in the Kelbaugh administrative period, the University of Michigan was in the national spotlight for its stand on affirmative action policies used to determine admissions. President Lee Bollinger, a constitutional scholar and outspoken advocate for diversity and affirmative action in higher education, was the defendant in a Supreme Court case that challenged the university law school admissions decisions. Additionally, Bollinger had supported the development of several internal initiatives that sought to integrate the arts within the university. In contrast, the life sciences initiative was the focus of the subsequent university president, Mary Sue Coleman, as was the Michigan Difference capital campaign that raised \$3.2B for the university. The college did not benefit from the president's interest in expanding life sciences but was able to report a significant gift during the capital

campaign, when it accepted a \$30M naming gift from real estate entrepreneur and former student A. Alfred Taubman.

Other U-M influence during the Kelbaugh era included the 2002-2003 establishment of the Lecturer Employees Organization (LEO), a union intended to support the workplace interests of non-tenured faculty. The impact on the architecture culture by the creation of the LEO union was minimal, in part because *College Rules* provided a means by which part-time and non-tenure track faculty were afforded governance rights and access to many other benefits of faculty membership, such as research seed funding. The most significant gain for the non-tenured faculty was greater assurance of continuing employment contracts.

Changes in state appropriations and growing expectations of each dean's sound fiscal management of their academic units provided the impetus for significant changes in the budgeting methodologies used at the University of Michigan. Fiscal challenges significantly impacted Kelbaugh's deanship, as described by Courant (1998), "Beginning in fiscal year 2002-03, the University of Michigan experiences a series of one-time rescissions, base appropriation reductions and delayed payments of enacted appropriations leading to considerable uncertainty in building and retaining budgets" (p. 8). The creation of the new budget methodology, initially modeled after responsibility-centered accounting, renamed first value-centered management and then "University Budget Model" combined activity-based budgeting with provost's discretion in the calculation of a school or college's annual general fund appropriation.

Distribution, within the college, of the annual budget appropriation was at the discretion of the leadership of the U-M's academic units. At Taubman College, this practice gave the dean and Executive Committee, which by *College Rules* advised the dean on

matters of budget, significant financial flexibility. What had once been a negotiation between the deans and the provost for funding college initiatives now became an opportunity for the dean, Executive Committee, and faculty, to choose which initiatives to support or eliminate. The consequence of enrollment growth or losses was now the responsibility of the college, and administrators had to learn to incorporate financial factors into the decision-making activities. These changes in budget methodology allowed the faculty to undertake entrepreneurial approaches to new course development and interdisciplinary discovery. Some faculty felt challenged by newly established course enrollment requirements and saw the movement as too focused on finance, but others, especially contract-faculty, saw opportunity for growth. The changed budget methodology allowed the development, most often by junior faculty, of new spring travel courses that took students to new regions across the globe and provided incremental income for both the college and the faculty. Proposals for new courses had to demonstrate both academic and financial viability.

Kelbaugh (2007) observed that the influence of the university superstructure on the culture of a professional school, such as Taubman College, was tempered with an interest in social justice among the college faculty members:

Our culture is based on thoughtful critique and agile reform. Industrial production, respect for craft, and a commitment to social ideals are deeply rooted in this geographic region... For all these reasons, the college has long held the position that research, technology and social justice are intrinsic to design and planning (p. 9).

Architecture profession influences. The profession of architecture during the Kelbaugh deanship saw the rise of the starchitect, diversification of the profession with the entrance of greater numbers of women and minorities, and a spirit that encouraged rising

enrollments in graduate architecture programs across the country. Intellectually, Buresh (2007) observed that fluctuations in the profession, driven in part by technological advances, were requiring adjustments within the schools: “As much as any time in history the architectural profession is in flux. Developments in computation, new and sustainable technology, out sourcing, etc. will require an agile curriculum and engaged faculty and administration” (p. 5). Timberg (2012) notes, that there was high optimism in the profession of architecture during the Kelbaugh era, which he described as the glamour profession of the creative class and with several big names becoming artistic rock stars.

Stylistically, late modernism and deconstructivism were fading styles and sustainable architecture and ‘blobitecture’ were emerging forms during the Kelbaugh era. Some writers (Lynn, 1998; Muschamp, 2000; Waters, 2003) have asserted that the sustainable architecture movement, and ‘blobitecture’, which is based on organic and amoebic like forms, required modern technological interventions available in computer-aided design. Andia (2002) reported that the explorations of design were happening predominantly in the schools of architecture, and their use in private practice was primarily limited to efficiency gains. Other observers of the architecture profession have noted the impact of emerging information-based technologies on the profession and the unleashing of the architectural imagination in ways not available to previous generations (Frampton, 2001).

Professional dominion over the building industry by architects continued to slip as greater numbers of commissions were assumed by construction and engineering firms. The college operating context, during the Kelbaugh era, included faculty and program chairs who understood that its historical roots were based in making. Buresh (2007) continued this practice when he was appointed as program chair. He wrote, “Engaging the innovative

practice of what some have called 'putting lab coats in the studio,' Michigan's mid-century architecture faculty blended scientific research with traditional studio design pedagogy in a manner that shaped architectural discourse internationally" (p. 1).

Pressure from both the U-M and the professional associations to diversify appear to have had limited influence on the profile of the U-M architecture faculty. Data on the diversification of the profession was collected by the National Council of Architecture Registration Boards (NCARB). They reported that 25% of those completing the Intern Development program in 2000, one of the required steps in licensure, were women and that by 2007 participation reached 22% for racial and ethnic minorities (Massie, 2015). These results represented significant change for a profession that had long been dominated by white males. The inclusion of women and minorities by the profession, mirrored trends reported in the schools and colleges, where enrollments of women were approaching 50%.

Topography (contextual influences). Contextual influences on the academic architecture culture during the Kelbaugh era included turnover of the program chair position, significant turnover among the faculty, and the impact of the Taubman gift. Kelbaugh's influence on the college's faculty culture is most apparent in the hires made during his deanship which changed the demographic profile of the faculty and broadened its scholarship to include urban design, a discipline complementary to the college's other disciplines, architecture and urban planning.

Transitions in architecture education. Transitions in architecture education during the decade of Kelbaugh's deanship included similar ambitions and challenges as those found in the general higher education literature. Article topics covered in the *Journal of Architecture Education* included issues of diversity, especially gender, professional

autonomy, studio instruction, environmental sustainability, and internationalization of the curriculum. The impact of information and digital technologies on the practice of architecture and architectural academia was described by Andia (2002). He notes that professional practices used the new technologies to improve efficiency measures, while academia was using them to expand the disciplinary knowledge base. Andia (2002) reported multiple interrelated themes in the discourse among academic architects of the period related to the integration of technology within design methods: intelligent design, software development, Computer-Aided Design (CAD), visualization, paperless architecture, information architecture, and virtual studios.

Andia (2002) makes the point that the initial approaches used among academic architects from the 1950's through the 1970's with the adoption of computing technology was for problem-solving or systematic methods development, similar to the approaches used for researching among the computer scientists of the era. The early 1990's saw CAD courses becoming integrated within the core curriculum of architectural education. The continued evolution of computing hardware and software as well as collaboration tools and connectivity during the Kelbaugh decade catalyzed the integration of design visioning into the academic architects' skills set. Andia (2002) notes that changes in how faculty worked aided the adoption of computing technology, "...virtual collaborative studios using telecommunications technologies and the Internet began to emerge as a fifth model on how computers could be implemented in academia" (p.11). Cultural impact forecasted by Andia (2002) on architecture education environments included greater internal-external collaboration and expanded discourse.

One indicator of changes in the culture of the faculty during the Kelbaugh era was a growing perception of the differences in the approaches that the core disciplines were using in the pursuit of knowledge. The strategic assessment undertaken by the college's senior academic administrators in 2007 described the faculty as "two and a half tribes" with architecture and urban planning faculty representing the core disciplines and the newly established urban design faculty as a bridging discipline. Figure 32 was used in the college's strategic assessment documents to describe the means and methods each of the core disciplines were using, illustrating how far apart they had grown from one another. Kelbaugh (2007) described how the disciplinary differences "compare the qualities and modalities of our two academic cultures and their ways of knowing and acting in the world" (p. 3). The depiction of the architecture faculty as primarily employing qualitative measures and intuitive means demonstrates how the building and technology faculty, who rely upon quantitative measures and logical means, were less dominant than the designers and historians among the architecture tribe in Kelbaugh's estimation.



Figure 32. Two and a half tribes (Kelbaugh, 2007)

The urban design degree program was developed as a Detroit-centric effort inclusive of studios, charrettes, research, and outreach shared within U-M and other universities. Kelbaugh's leadership in developing the program, he hoped, would influence the culture of the architecture faculty to engage in more acts of civil service. When the new degree program

was proposed, there were no other urban design degree programs offered in the state of Michigan. The creation of this academic program, Kelbaugh thought, could strengthen the college's abilities to achieve its diversity and outreach goals, infuse the college culture with new intellectual direction, and create discourse on the complete built environment (Kelbaugh, 1999). One of the faculty retreats conducted at the beginning of the Kelbaugh era had identified broadening community outreach efforts and instituting design charrettes. Kelbaugh has described these community design charrettes as illustrated brainstorming intended to develop proposals to address the needs of the community in the built environment

Recognizing that the urban planning faculty and architecture faculty were taking different disciplinary directions and developing greater distance in their basic values, Kelbaugh saw urban design as providing a possible intellectual bridge across the two core programs. New faculty members were brought in to lead and direct the offerings, and existing faculty and courses were used to round out the academic offerings. The urban design (UD) program was developed as a post-professional program. Kelbaugh (2008) described his vision of the ideal relationship between the college's disciplines as they worked to create the built environment:

Ideally, urban planners would organize the metropolitan area and inform its policies and systems, such as transportation/accessibility. Urban designers would work at the district and neighborhood scale, setting up the framework, building and street typologies, and guidelines for architects, who would realize site-specific and unique form, from simple background to spectacular foreground buildings. (p. 5).

Its integration into the life of the architecture and urban planning programs was not as successful during the Kelbaugh era as they had originally hoped it might be, even though the

UD studio was stationed within the architecture design studios. Instead, the urban design faculty created a third smaller faction of faculty and students who worked in intellectual isolation from the two larger programs. The faculty teaching in the program was specifically hired for urban design, with the exception of the dean and a senior distinguished member of the faculty, and the students and faculty had few opportunities for formal integration within the architecture or urban planning faculty. This may have been because the post-professional program was “a distinct discipline, serving as a crossing of architecture, urban planning, landscape planning and other fields.” (Strickland, 2017).

Similarly, the goal of the real estate certificate program, established in 2004, was to reshape the real estate industry by promoting compact mixed-use, walkable, transit-oriented, sustainable, and inclusive places. A multidisciplinary program, in its earliest years it drew enrollment from architecture and urban planning, plus business, law, public policy, social work, natural resources, and engineering. Its impact on the culture of academic architecture faculty was minimal. The program leadership did not attempt to integrate intellectually or socially with the faculty, students, or studio-community of the architecture program. The creation of the urban design program, the real estate certificate program, and the design charrettes were successful strategies used in raising the profile of the urban design program and improving relationships with politicians and community leaders in Detroit. However, the lack of significant participation from the architecture faculty in any of the activities of these programs, meant that programs goals, faculty, and students, had very little influence on the culture of the academic architects at Taubman College.

Kelbaugh chose strategies that focused on supporting the professional development of the faculty, including instituting research seed funding and nurturance leaves which were

course releases granted to tenure-track faculty members who had successfully completed their interim reviews. These initiatives enabled junior faculty to develop research portfolios that raised the profile of the college. The transition from a regional to a nationally recognized program, begun during the Beckley period, was evident in reports of faculty during the Kelbaugh era as they increasingly competed and earned awards for research, creative practice, and service to the profession.

Perhaps because of the increasing number of women in architecture schools, an increasing number of faculty recruitment and retention efforts included consideration of spousal or partner hires. During the era, 45% of research universities had developed dual career couple recruitment support policies (Wolf-Wendel, Twombly, & Rice, 2000). They found that the core reason that higher education institutions were willing to help dual-career couples was that doing so could support their ability to achieve their recruitment and retention goals. They also found that the presence of employment opportunities near campuses had an influence on an institutions willingness to aid with dual-career hires, as did its desire to appear to be family-friendly. Women in architecture and minorities were found in the Wolf-Wendel, et al., (2000) study to be a beneficiary of these recruitment strategies.

Dual career couples became more common at Taubman College as several architecture faculty members being recruited, had spouses or partners who were also architects or academics in other disciplines. Several were added to the college faculty roster in a non-tenure-track positions, as either lecturers or professors of practice, or to the rosters of other U-M schools. The practice of providing employment for spouses included both U-M architecture program chairs, whose spouses were also appointed within the college.

Tectonic (mode of construction). Significant actions and events in the construction of

the college culture during the Kelbaugh era included a series of public events to highlight the faculty, the Taubman gift, shifts in architecture education brought on by the variability in the market for practitioners, and adoption of new technologies. Unlike Beckley, Kelbaugh did not list in any strategic documents attempts to change the culture of the faculty through hiring initiatives, but, because of retirements and other attrition, he had an opportunity to have a significant impact on the culture of the college through hiring. Kelbaugh's leadership efforts were directed toward degree programs and sustainability initiatives.

Constructing the intellectual direction of the college during the Kelbaugh era followed a pattern that had proven successful for previous deans. Kelbaugh led the development of a series of meetings, symposium, retreats, and colloquia, some of which were designed to increase faculty engagement in gap resolution and others were designed to foster critical discourse focused on the new dean's initiatives. The impact on the culture of college might be evaluated, according to Tierney (1988), who believes that culture and ideology shape in tandem the definitions of what constitutes knowledge and how knowledge is constructed, by noting the processes and outcomes of these events. The first set of faculty retreats conducted during the Kelbaugh period affirmed the faculty's desire to enhance the national profile and identity of its programs. Specific objectives reported in 1999 included:

- diversifying and expanding the student body as well as the faculty;
- lowering the student/faculty ratio in design studio;
- improving intra-college communication on curriculum;
- student-advising;
- long-term planning;
- empowering faculty and students in governance;

- enhancing opportunities for entry-level faculty;
- initiating an urban design degree program;
- improving the intellectual rigor of the graduate architecture program;
- revitalizing the doctoral programs with strong new faculty hires;
- improving the quantity and quality of research;
- broadening community outreach efforts including instituting design charrettes (Kelbaugh, 1999).

Impact of the Taubman gift. Significant to the period, and the cultural evolution of the architecture faculty, was the receipt of a pledge for \$30 million in endowment funds from A. Alfred Taubman, a former student. Notes from the era hint that the donor was interested in investing in the college, but reluctant to provide funds until he was assured that the administration would use them to transform the college in meaningful ways (Bollinger, 1999). Kelbaugh (2000) described how he went about gathering community input for the use of a significant gift, “Discussions in college cabinet meetings and ongoing faculty discussions for the last year and a half have focused on identifying the areas of greatest need” (p. 10). Taubman had been courted by the previous dean for nearly a decade before committing to creating an endowment at the college. As a real estate investor, Taubman’s hesitancy to commit to funding that college, may have been alleviated by the selection of a new dean with a deep interest in real estate development and the American City as an intellectual development focal point. Subsequently, new programs in urban design and real estate were initiated, attracting new faculty and students to the college.

Because the donor put very few restrictions on the use of the funds, a committee was organized to assure that the impact of the gift would be transformative. Determination of the

best uses of the funds was placed in the hands of a Taubman gift committee in 2003. The committee, appointed by the dean and Executive Committee, was comprised of faculty from each of the disciplines and a senior staff member. They were asked to evaluate “Has our use of the money so far been properly transformative (to use the language from the gift itself) and how might the growing income be best utilized in the future?” (Fishman, 2003, p. 1). The outcome of the discussion included the recommendation that the earnings from the gift be equally divided to strengthen the faculty and the student body. The committee’s recommendations for the use of the funds to enhance the faculty allowed for the creation of several visiting fellows and professors, Taubman professors, and for special initiatives that might emerge over time that could be transformative.

Changes in the college culture arising from the integration of technology into the design studios, shops, and workspaces of the college intensified during the Kelbaugh period. The influence of technology extended beyond the making functions into the visualizing, analyzing, and conceptualizing realms of architectural knowledge. These new modes of constructing architectural knowledge using computer aided technologies, which initially had primarily been used by researchers and tectonics faculty, was being noticed even in the design studio. Faculty who had learned using traditional methods needed to either retire, learn the new technology, or discover a way of teaching and evaluating learning that focused on the architecture education and not the technology (Turner, 2016).

New equipment, software, and output devices were changing the way that research and educational problems were constructed and investigated. In some cases, these changes precipitated the retirement of senior faculty unfamiliar with the technologies and unwilling to learn and Kelbaugh provided retirement incentives to ease their transition to life outside of

academia. In other cases, faculty members who had been pioneers in the development of architectural applications became ‘secret’ educators to other faculty members, offering Saturday workshops to aid their colleagues in acquiring skills the students were bringing to the college (Borkin, 2016). The culture of the faculty changed, providing a new status for the faculty who had been early adopters of technology as a research tool as a valued resource in the educational realm. By 2002, the integration of technology into the college environment required a faculty task force analysis of support needs. “After six months of intensive discussion, the college has decided that it is better off investing in the network and centralized output capacity, while suggesting that students purchase their own computers” (Kelbaugh, 2002, p. 14). Hiring a new program chair for the architecture program precipitated other changes relevant to technology, “Our new architecture program chair has alerted us about how far the college has fallen behind some of our competitors in this area... we have gone into high gear on improving our physical and cultural infrastructure in information technology” (Kelbaugh, 2002, p. 14). The architecture program chair noted that technology was rapidly changing the profession once again and new opportunities were on the horizon, “...potential in parametric or building information modeling and we will need to act quickly”. (Buresh, 2007, p. 4).

Understanding that many of the students did not have the necessary resources to purchase personal computing with adequate horsepower to run the complex architectural programs of the era, the college’s computer policy committee, supported the development of two computing ‘clusters’ of machines for student use at the end of the 1990’s. Kelbaugh (2000) described one unintended consequence on the studio culture of the new computing clusters; students were using the clusters, and therefore not in studio. This shift was of great

concern to the studio faculty who were still operating under a paradigm that expected the students to be in the studio for long periods of the day. The studio faculty preferred a plan that might integrate the traditional studio desk with greater technological capacity.

Actions undertaken during the period to manage greater integration of technology within the operating paradigms of the college included searching for faculty with the requisite skills in architecture and information technology, developing a web presence and staff to support its maintenance, partnering with other U-M units, upgrading facilities, and creating a computing commons for doctoral student research. Further actions included initiating a digital ‘shop’ in partnership with the School of Art & Design and the U-M Chief Information Office. The impact of these changes and shifting paradigms are described by Buresh (2007) where “faculty members once developed software for decision support systems, most students and faculty today build communities of practice around group communications, online courseware and shared project data as well as visual production” (pp. 7-8).

Genius loci (spirit of place). Kelbaugh aspired to move locus and focus of the spirit of place of the college during his deanship. Intellectually and physically, Kelbaugh used the leadership position to attempt to align the faculty activities and the college facilities in ways which, he believed, could provide sustainable growth of the college and focus efforts to embed sustainability in the curriculum, research and the administrative activities of the college.

Intellectually, Kelbaugh saw serving the needs of the city as a focus that could combine the interests of each of the subdisciplines of the college. He sought to move the intellectual focus of the faculty from its intense attention to design and policy to a more

pragmatic emphasis on the needs of the American city generally and Detroit specifically. He expands on this principle to embrace all of the built environment in writing, “No technical imperative or societal mandate is more pressing than designing buildings and planning cities that add to, rather than detract from, our natural and cultural wealth” (p 2).

The manifestation of this mission focused on *place* established aspirational goals for the college’s role in the total built environment as inclusive of both design/build activities and advocacy through design activities. He invited leading design/build practitioners to lecture at the college and encouraged the college faculty to compete in a national competition sponsored by the Department of Energy National Renewable Energy Laboratory to build a solar energy supported home to encourage a commitment to sustainable systems strategies.

Another leadership initiative which gained traction during this period focused on addressing the place in which the college conducted its core functions and its influence on the overall spirit of place. This involved both assessing the facilities needs and recapturing some of the abandoned artifacts from the college’s previous locations. The college had nearly outgrown its half of the art and architecture building by the time that Kelbaugh joined the faculty as dean and sought authorization from the provost to seek design architects to create a schematic design for an expansion to the facility. Faculty dissatisfaction with the North Campus location, surfaced again when the possibility of addressing facilities needs were presented. “The question of moving back to central campus remains a titillating but seemingly distant dream, short of a second magnanimous gift. Nonetheless we should keep that idea on the table” (Kelbaugh, 2000, p. 5). Kelbaugh’s expansion plans sought to add greater space to the architecture studios and to create better office spaces for the faculty.

Kelbaugh had noted that during his deanship, there was a slow shift among central administration regarding the purpose for the North Campus. He observed indicators that the view of the campus was moving from one focused on its use as a research park to one that embraced a campus village identity (Kelbaugh, 2003). This shift in view allowed for new developments and new alliances to be formed with the neighboring schools on the North Campus with an understanding that developing the social aspects of the campus might help to build community.

As a way of celebrating the centennial of architecture education offerings on the U-M campus, Kelbaugh pursued an opportunity to re-unite some of the Lorch courtyard artifacts that had been left on Central campus when the college moved to the North campus in 1974. He began a campaign to raise funds and to garner administrative approval to bring a large column to the Bonisteel entrance and have it restored to its original height. The majority of the funds provided for the column relocation were from alumni, the Lorch family and the dean himself. Kelbaugh (2005) saw this as a way, “To imbue the Art and Architecture Building with a greater sense of history, we will be moving the Lorch Column from behind the former Architecture and Design Building on central campus in time for our 100th anniversary in 2006-07” (p. xii).

Progress on the possible addition to the college side of the building was reported at the December 2006 Executive committee meeting. Kelbaugh’s scheme entailed adding studio space to the third floor above an existing flat roof. (Executive Committee, 2006). This addition to the studio could have added significant square footage to the studio that already “offers 30,000 square feet of continuous workspace and is the largest academic studio in the

world” (Haar, 2016, p. 49). Kelbaugh’s desire, for reasons of environmental sustainability, was to minimize the footprint that the new addition would have on the campus.

Although a firm had been selected and work on the schematic design for an addition had begun toward the end of the Kelbaugh period, all work was put on hold when the university selected Monica Ponce de Leon as the dean to succeed Kelbaugh, “Dean Kelbaugh reported that the project was on hold for 10 days to two weeks while dean-elect Monica Ponce de Leon seeks additional input from faculty” (Executive Committee, 2008, p. 1).

The overall impact on the culture of the architecture faculty of the changing focus at the dean’s level of ‘place’ from designing buildings to conceptualizing at the city scale was an emerging perception of growing intellectual distancing of members of the subdisciplines within the college. Faculty members complained that they felt a loss of community, which they most often attributed to increased enrollment and full-time staff. At the Strategic Planning Retreat held toward the end of the Kelbaugh era, a dawning realization of the distinct ways of knowing, focus of sub disciplinary interests and alignment with supra disciplinary approaches emerged, as did the understanding that the community had changed in composition (Harris, 2015).

Historical, societal, and contingent influences. The historical societal and technological influences on the college during the Kelbaugh era, which had the greatest impact on the culture of the architecture faculty included:

- increased globalization of communications, architecture practices, and education;
- changes in the profession relevant to size, autonomy, focus, and locus;
- influence of sustainability and lean management movements;
- challenges to affirmative action policies;

- incorporation of new technologies for making physical and virtual artifacts.

Kelbaugh (2008) observed that a major shift in the population had occurred during his deanship with the potential to influence the culture of academic architecture, the migration of people to the city. He noted that 2008 was the year that the planet's population became more urban than rural, suggesting that a major transformation for our species, on a par with our evolution from hunter-gatherers to herders and farmers to an industrial society, was now underway (Kelbaugh, 2008).

Sociocultural influences. The architecture faculty culture, at the time of Kelbaugh's selection as dean, was reportedly fractured intellectually and demographically (Bizios, Combs-Dreiling, Rudy, & Livingston, 1999; Borkin, 2016). The ideological core, which had been established as a professional architecture program, viewed pragmatic design as a core value. They had weathered the expansion of the intellectual profile to include theory and history scholarship, and the dissolution of the materials research agenda under Beckley's leadership (Borkin, 2016). During this period, leadership voices that were the most influential on the architecture culture and activities appear to be the program chairs and the NAAB accrediting team.

The locus of activity in the architecture program, its intellectual and social core continued to be the design studio, a 3/4 of an acre-sized room which held more than 450 studio desks, student lounges, student computing bays, two primary review areas, and immediately adjacent, the majority of the design faculty offices. The design studio was available to students and faculty, twenty-four hours a day, seven days a week, and three hundred and sixty-five days a year. Its concrete floors were always cold and littered with scraps from models and drawings, which custodial staff were trained to leave there until the

end of semester. Trash and recycling cans were frequently overflowing, sinks often plugged from students ignoring warnings about the disposal of plaster and resin, and the spray paint fume hoods frequently left on so students could sneak a cigarette late at night. The adjacent faculty offices were situated along a long corridor, offices for senior faculty had windows. The rooms were less than 100 square feet each; the historians and theoretician's offices were filled with books, slide catalogs, and prints lining the walls, the designer's offices are filled with flat files of drawings, artifacts, and models, plus exemplar books in their offices. Most of the technical faculty had their offices on the first floor near the machine shops, two floors away from the design faculty and the design studio. The second floor was primarily used for teaching and administrative activities with some urban planning and architecture doctoral program faculty offices on the periphery. The first floor was primarily designated for the technology-based faculty, their offices, their classrooms, and a large high-bay workspace for research and testing.

When Kelbaugh arrived, he perceived the faculty to be guarded and lacking a cohesive identity. He speculated that this was in part because the previous dean, Beckley, and the interim dean Snyder, had negotiated, a number of retirements of senior faculty members who had been actively engaged in governance activities (Kelbaugh, 2008). Additionally, a number of recently hired assistant professors had not yet established themselves individually or collectively (Buresh, 2002). The remaining tenured faculty included a block of full professors who had strongly held ideas about governance, research, the curriculum, and their responsibility to maintain certain norms and values. Kelbaugh (2000) described leadership goals that were very similar to those of the previous dean, improving the national standing through strengthening the faculty, improving the demographic diversity of the college

community and assuring that the appropriate resources were available to accomplish these goals.

Kelbaugh (2002) characterized his vision for the college as “a devotion to place as a dual commitment to tectonics, the art, culture, and technology of construction and urbanism” (p. 1). Kelbaugh’s vision was not in perfect alignment with the original vision Lorch had established for the program but reflected many of the themes under discussion at American schools of architecture and in the profession. Allen (2012) noted that the professional and scholarly architecture journals of the era had shifted away from critical theory to building culture, often featuring architects who both taught and practiced internationally.

There was a recognition that a broadened intellectual platform required a significantly different faculty than that chosen at the time of the program’s establishment, nearly a century earlier. The architecture program required faculty who brought a wide variety of intellectual perspectives to the college (Faculty, 2012). It now included theorists, sociologists, historians, technicians, and engineers as well as designers who practiced. The forms of practice were also evolving to include objects, publications, and urban areas.

Kelbaugh (2005) perceived the climate of the college as convivial and relaxed. Despite the assertion that it was a harmonious place to be, he was not able to move his strategic initiatives of sustainability, urbanism, and civic engagement successfully into the core values of the faculty. Kelbaugh’s intellectual focus and attempts at leadership on sustainability rather than design scholarship, based on lack of action, was not of interest to the design faculty, the largest group of academic architects. The design faculty, continued to include members who had different views about the various aesthetic movements and design approaches, including several who were working to integrate digital technologies into the

practice and scholarship realms. Kelbaugh's desire to have sustainability integrated into the design studio, based on a review of syllabi of the period, was generally ignored by the faculty, except where doing so was required by accreditation. The tenured and tenure-track faculty did not pursue the sustainability agenda he put forward in any significant manner, there was not a revision of the curriculum, and there was not a new emphasis in relevant research. Kelbaugh was unable to gain significant traction among the faculty for his initiatives and reported that the college was lagging its competitors because of internal divisiveness, "Faculty searches in this area have been contentious and divisive, with faculty members differing on the priority and degree of urgency" (Kelbaugh, et al., 2007, p. 27).

A small group of non-tenure-track faculty and advanced students did pursue sustainability of materials and methods in a studio that included an entry into a national competition for an energy efficient home during the period Kelbaugh led the college, but this was self-directed and only lasted as long as the contract employees remained at the college to champion the program.

Shortly after Kelbaugh's arrival as dean, the National Architectural Accreditation Board (NAAB) program review team visited the school to perform an assessment of the faculty, resources, curriculum, and outputs of the architecture program faculty. Their final report highlighted the ways in which the college had made progress on developing a curriculum that was more inclusive of non-Western thought and minority and gender issues. The report also addressed the perceived isolation issues for the program because of its North Campus location and some of the facility challenges encountered during their 1994 visit. However, Bizios et al., (1999) report highlighted cultural issues that they perceived was negatively affecting the program including communications and governance issues.

Ideologically flexible and holistic. The U-M architecture faculty remained committed to their cultural value of ideological flexibility as they transitioned from Beckley's leadership to Kelbaugh's deanship, "Culturally, we've always been about place - in form, in substance and in spirit. In recent years, this commitment and enthusiasm have been even more central to our intellectual consciousness and collegiate mission than ever. Student, faculty, and staff morale seems high despite recent budget cutbacks" (Kelbaugh, 2005, p. 1). Buresh (2002) underscores this commitment to flexibility describing his view of the purpose of architectural education as "...a medium for breaking apart exhausted conventions of practice in favor of more malleable and developing forms of practice, a discourse where multiple possibilities flourish, where differences are brought into such sharp focus that the inevitable friction kindles intellectual ferment... We aim at an architectural production both focused/probative and critical/grounded" (Buresh, 2002, p. 6).

Kelbaugh noted that the design faculty retiring during the era had held a modernist orientation and made way for new hires with a post-modernist orientation to architecture education. Cultural conflicts based on architecture ideology were rare during the Kelbaugh era. The emphasis on making continued to be a foundational element of the college ideology, whether the focus was on actual or virtual designs, materials, or innovative construction research. Wineman (2007) described the core making-based ideology as "studio pedagogies at Michigan, while methodologically diverse, all emphasize project-based learning, strong design fundamentals, the intelligent exploitation of (and experimentation with) new digital media, and a healthy skepticism toward unquestioned, entrenched and conventional attitudes" (Wineman, 2007, p. 4).

As both the director of the architecture doctoral program and the associate dean for research, had a unique vantage point from which to assess the intersection of pedagogy and practice activities of the faculty. Wineman (2007) commented on the breadth of scale, as one of the dynamic aspects of the college, through which the faculty were working: “The results of this creative work are diverse and range from the design of sustainable furniture and award-winning interior installations to building projects, urban landscapes and proposals for regional development” (p. 4).

Ideological flexibility and its impact on the culture was criticized by the NAAB visiting committee in the early part of the Kelbaugh deanship but was touted as a positive value in the strategic assessment completed at the end of the period. The strategic assessment completed in 2007 detailed some of the perceived benefits of remaining ideologically flexible and holistic, and of having urban planning and urban design faculty within the college. Kelbaugh (2007) describes the faculty climate in positive terms, “Despite some distinctive and expected dichotomies, which would hold true for any school of architecture and urban planning, the social chemistry between TCAUP’s two major disciplines is positive, productive, and collegial” (p. 3).

Balancing between the production of graduates ready for professional practice roles and those who might go on to research or academic careers, the architecture program chair wrote “In response to new patterns of design practice that emerge out of mutually reinforcing effects of societal and technical change, we emphasize premise and process as well as product...(Buresh, 2007, p. 8)”. The larger goals of the architecture faculty extended to the built environment “We view the ultimate outcome of our efforts, not as our graduates themselves, but as the richness of environment they might imagine, one in which individuals

are culturally engaged for their own very distinct reasons” (Buresh, 2007, p. 8). The commitment to being regionally attuned as well as aligned with the institutional values was described in the 2007 strategic assessment as well, “Our efforts to interrogate architecture’s cultural and political contexts place Michigan in a leadership role among architecture programs nationally” (Buresh, 2007, p. 7). He described the faculty’s core values as “not only to making the program culturally relevant, but also to upholding an ethical commitment to help fashion a better and more equitable world” (Buresh, 2007, p. 7).

The program faculty point of pride, its lack of a concretized ideology, was perceived as having undermined its cultural cohesion by the NAAB visiting team, which recommended better integration, “The existing diversity of individual backgrounds and intellectual viewpoints must translate into the curriculum and program in direct and beneficial ways” (Bizios, et al., 1999, p. 15). Specifically, the visiting team urged the creation of a new strategic plan that embedded comprehensive assessment of both the academic and financial status of the program, “Past efforts of strategic planning have only partially identified critical distinguishing qualities. With new leadership and faculty involvement, there is a unique opportunity to develop and inspiring and distinctive vision for CAUP...” (Bizios, et al., 1999, p. 15).

During the Kelbaugh era, the locus of activity for the architecture program continued to be the design studios, “In our distinctive open studio space, the culture of criticism is lively and publicly engaged” (Kelbaugh, 2007, p. 37). The pedagogical methods used in the studio were garnering notice across the U-M as its central administrators were promoting interdisciplinary studies frameworks, “Architecture’s studio culture, with its focus on forging

inter-relationships among a vast array of creative and technical concerns, has become a model for cross-disciplinary inquiry across the university” (Buresh, 2007, p. 1).

Not only did the design studio provide a platform for integrating the intellectual content and creative and technical concerns from multiple disciplines, but also its role as a social and public space was significantly expanded during the Kelbaugh era when Buresh moved a key activity of the college from the classrooms to the studio: the end of term reviews, opening up the reviews to students of all levels and faculty from all disciplines. Rather than studio reviews being held individually in classrooms, they were held in the 3/4-acre studio, and located on the periphery of the studio desks, where students and faculty could roam, view, and participate. This change in location of the reviews made a significant difference in the climate and culture of the academic architects as it encouraged transparency, sharing, and discourse.

In addition, Buresh broadened the representation of invited reviewers to include emerging architects and faculty from other institutions and made the review period, an intense time of year for students and faculty, a social event. Buresh became a frequent visitor to the design studio, participating in instruction and desk-crits, hosting social events in the studio and the college gallery, and fostering a sense of community, especially among the untenured faculty. The result was increased faculty collaboration on scholarly and professional projects, experimental research efforts, and the emergence of a dynamic energy between faculty and students.

Disciplinary knowledge base expansion. Changes in the academic profile of the college during this era included the addition of a master’s program in urban design, a certificate program in real estate, and some refocusing in the post-professional programs. The

research profile of the faculty as a whole was relatively stable throughout the Kelbaugh era. As a making-based discipline in a research university, the faculty described architecture in the annual *College Bulletin* as a culture that prided itself on having accumulated a long history of aesthetic and technical creativity and virtuosity.

Buresh (2007) described the transitions in faculty interests as a response to the changes the profession was experiencing at the societal level. Buresh (2007) characterized the architecture faculty as innovative in their resilience in the face of the economy of the period. “Today, perhaps symptomatic of the paucity of professional opportunities for faculty, we see a concentration on speculative design, theory, developing multiple forms of practice, and an interest in developing and sustainable technologies” (p. 3). Buresh’s (2002) leadership interest in pushing the curriculum, the faculty, and profession of architecture to the next level was shared among the faculty. “There seems to be a really strong sense that everyone wants to be part of getting the school and the profession to the next level” (p. 36). Harris (2002) observed changes occurring in the culture as result of these pushes to get to the next level via technology, “An increasingly clear vision of technology in our college reflects a paradigm shift in our professional culture from one which was primarily individual based to a more shared, collective, interactive experience made possible through enhanced connectivity” (p. 1).

The architecture program faculty reviewed the efficacy and intended outcomes of the postgraduate programs during the Kelbaugh deanship, which included the Master of Science program and a doctoral program. The Master of Science program had been designed and launched, in the late 1990’s, as a one-year research intensive program to help students who had obtained their professional master’s degrees, to acquire the research skills necessary in a

doctoral program. The doctoral program, which had evolved from a professional architecture doctorate, the D. Arch, to a research-based doctorate, the PhD, had created a number of differentiated tracks for students to pursue. The reviews of these two programs noted that the Master of Science had become less desirable as a recruiting tool and gateway to the research-based doctorate, and often ended up being a consolation degree for students, admitted to the PhD program, who chose not to complete their dissertations.

Wineman, who was both the associate dean for research and chair of the doctoral program during the Kelbaugh era, described the goals of the doctoral faculty in relation to the disciplinary knowledge base expansion in terms of the regional imperative for craft and social engagement. Wineman (2007) described the connections that the doctoral faculty saw with the mission of the university: “The University of Michigan is a major research university with a distinguished tradition in which technology plays a major role. Industrial production, respect for craft, and a commitment to social ideals are deeply rooted in this region” (p. 1).

The doctoral program faculty, who represented less than 20% of the total architecture faculty, worked toward streamlining the curricula. They redefined the paths that doctoral students could pursue as technological focused, history and theory focused, or design-studies and sociologically focused. Similarly, the Master of Science program was restructured as an independent research-intensive preparation for students interested in design research, with a focused curriculum. Because the architecture undergraduate, professional, and doctoral programs shared faculty, and doctoral students were often graduate student instructors for the other programs, this redesign effort engaged a majority of the faculty in discussions about the future of both professional and doctoral education.

In winter 2007, the dean convened a group of faculty members to discuss better integration between the doctoral programs in architecture and urban planning. The task force was charged with identifying and preparing a set of recommendations that might increase and enhance collaboration between the urban and regional planning and architecture doctoral programs. Suggestions and recommendations could include, but were not limited to, joint faculty appointments, joint courses, space and facilities utilization, administration, and extra-curricular activities (Campbell, 2007). The task force reported that cultural and ideological differences held by members of the two program faculties, and therefore their research methods and ways of discovering new knowledge, was the greatest barrier to the creation of a consolidated doctoral program for the college. The task force members observed that the subdisciplines within the architecture program, technology, history/theory and design studies made program administration more complex than that of the planning faculty. Campbell (2007) described the cultural differences between the two faculty groups, "...we observed that planning faculty (from a smaller, more homogeneous academic background) could more readily speak with a single voice on strategies for planning-architecture collaboration than doctoral architecture faculty (from a larger, more diverse set of backgrounds)" (p.2).

Campbell (2007) included a comment from "a former dean" in the task force report that helps to describe some of the cultural challenges operating within the college at the time of the study, suggesting that any efforts to instigate change might have a greater likelihood of success if it began with the students rather than the faculty. "If a more collaborative spirit is to emerge, it probably needs to begin with the students from each program. Finding ways for them to meet and exchange ideas, both formally and informally, would go a long way to building that relationship" (p. 3).

Curricular diversity. Acknowledging a lack of diversity in the curriculum as well as the demographic profile of the architecture faculty, efforts at expanding the disciplinary basis for the architecture program from its Western focus to be more inclusive of other scholarship, was addressed by searching and hiring faculty who might bring broader perspectives to the program. The college faculty had agreed to support initiatives to widen the international experience for students, and to find creative ways of integrating diverse populations into its teaching, research and service activities. Faculty members recruited during the period included a number of women who studied gender issues in architecture, as well as those who sought to expand the ways that diversity was embedded in the curriculum. Efforts at broadening the intellectual perspectives of the program beyond an American perspective included international recruiting and hiring. These efforts were shared with the provost in the FY2006 annual report, which listed faculty hires from Argentina, Brazil, China, Germany, Greece, India, Italy, Switzerland, and the United Kingdom (Kelbaugh, 2006, p. 12).

The effectiveness of those hires, on changing the culture of the college and diversifying the viewpoints, was short lived. Only four of the faculty recruited to bring diverse international perspectives to the college remain as of 2018, one of whom is an urban planner. The other three remaining international faculty are white males from European countries, one teaches in the technology area, and the other two in design studio. Faculty who left the program went to peer institutions; many have since visited the college as invited lecturers or studio critics.

Interdisciplinarity. The University of Michigan strategic initiatives in support of interdisciplinary approaches to research, teaching and service, promoted by the U-M president and provost, was reportedly well received by the college faculty. The strategic

assessment of the college, undertaken in 2007 highlighted “Taubman College can boast an unusually diverse and complex mix of faculty representing ten different disciplines” (Kelbaugh et.al, 2007, p. 2). They listed faculty strength in architecture, business, engineering, history, landscape architecture, law, public policy, sociology, urban design, and urban planning. Kelbaugh (2000) responded to a request for comment on provost Cantor’s “Self-study report on Collaborative, Integrative, and Interdisciplinary Research and Learning” by describing the reaction of the college Executive Committee as impressed by the signaling of a changing administrative policy and ideology from the central administrators, which Kelbaugh characterized as more revolutionary than evolutionary.

Similarly, the architecture program chair Buresh (2007) described a vision of the goals of the architecture program which seemingly aligned with the U-M interest in encouraging interdisciplinary approaches to solving problems, “vision starts with a conviction that design is the soul of the architectural discipline and profession, and that design thinking and design practice transcend disciplinary boundaries” (p. 6). Buresh (2007) saw the value of interdisciplinary connections for architecture, “Our discipline is strengthened not only through robust exposure to related practices and expertise, but also through seeing design challenges where others have not. Physical infrastructures, social networks, and natural systems all become issues for architectural investigation” (p. 6).

No active programming, incentives for interdisciplinary activities, nor recognition for engagement, appears in any college literature from the period. Despite the lack of active incentives, Kelbaugh (2007) observed, “There is a pervasive appetite among faculty and students for more interdisciplinary teaching within courses and more interdisciplinary courses” (p. 71). The lack of strategies to support interdisciplinary initiatives may have arisen

from Kelbaugh's perspective that the disciplinary culture of architecture was already an interdisciplinary endeavor, and as such was a value of the program not in need of additional attention or acclaim.

Faculty quality. Ensuring and increasing the perceived faculty quality, was a priority of the college and the university, during the Kelbaugh era. Kelbaugh's leadership strategies included diversifying the variety of voices among the faculty through visiting appointments, developing an understanding of the unique developmental needs of the junior faculty and seeking ways to meet those needs, enabling the infusion of knowledge from industry leaders, and creating public opportunities for engagement and discourse beyond the design studio. Table 6 lists Kelbaugh's strategic initiatives to improve faculty quality.

Significant faculty turnover during this period included the retirement or resignation of many of the faculty members who had opposed the profile-raising changes that former dean Beckley had tried to implement. The subsequent hiring of multiple junior faculty members who were focused on achieving tenure under the new strict review protocols from the provost, as well as new minority and senior women faculty recruited from other institutions changed the composition of the architecture faculty and the climate of the college. The heated debates in faculty meetings at the end of the Beckley era, which often focused on topics of governance, were not in evidence in this new era. Kelbaugh's faculty meeting topics were more often informational, sharing changes from the provost. An example of just how far the faculty had evolved from the group that had focused solely on the professional training of architects, this quote from the program chair was included in the descriptive material for the program, "At Michigan we privilege teaching architecture over training architects" (Buresh, 2007, p. 1).

Further, changes in the academic leadership of the architecture program which transitioned from a program chair hired by Beckley to one hired by Kelbaugh, played a role in the restabilization of the culture and climate of the architecture program and a return to a primary focus on design. The two program chairs who led the architecture faculty during Kelbaugh's deanship had distinctly different intellectual and social interest for architecture education. Carter, like Beckley, promoted raising the profile of the college through publishing, and inviting international scholars, and practitioners to the college to lecture, teach, and advise. Buresh's efforts, in contrast, focused on building faculty collegiality, promoting junior faculty success through mentorship and opportunity alignment, and social functions. Buresh was also credited for aiding the integration of technology into the design studio (Kelbaugh, 2000).

Growth in enrollment during the period necessitated additional faculty hires. Kelbaugh's hiring strategies were primarily focused on achieving his internationalization agenda and recognizing that the college needed to bolster the integration of emerging information technology within the architecture program faculty. Searches were conducted nationally and internationally for permanent positions as well as for several named visiting positions, enabled by the Taubman endowment. In concert with university support geared toward demographic diversity, the college faculty composition was radically altered by the end of his deanship with a greater number of junior faculty than senior faculty, more faculty engaged with experimental and alternative practices, and greater representation of women and minorities.

Table 6
Kelbaugh's Strategic Initiatives to Improve Faculty Quality

Strategy	Goal
Creation of Limited Term Appointments for Industry Leaders	Expanded Discourse Increased Intellectual Diversification Faculty Development
Creation of Additional Visiting Appointments for Emerging Faculty Talent	Expanded Discourse New research Interventions New Dissemination Pathways
Nurturance Leaves for assistant professors	Release time for preparation of tenure packages
Detroit Design Charrettes	Community Engagement Portfolio- Experiential Opportunities
Conferences and Symposia	Expanded Discourse Increased Intellectual Diversification Faculty Development Profile Raising Opportunities

Kelbaugh (2003) notes the hires made during his deanship included only two who were graduates of the college. The strategic assessment report lists faculty who completed their terminal degrees at Harvard, Massachusetts Institute of Technology, Cornell, Rutgers, University of California - Berkeley, University of California - Los Angeles, Rice University, Temple University, and European and Canadian universities.

The composition of the faculty changed significantly, especially in terms of the distribution of senior, mid-career, and early career faculty. At the beginning of the Kelbaugh period 62% of the faculty were tenured compared to 32% at the end of the deanship. In 1998, 23% of the positions were not on the tenure track, and by 2008, 44% were on short-term contracts. In FY 2000, the college had four faculty members on retirement furlough and searches were underway for new members. Kelbaugh was encouraging the faculty search committees to think more broadly, and to seek individuals who might be able to contribute to more than one teaching or degree area. "Some of these searches may result in joint appointments within the college and possibly with other units on campus... In total, these

current searches could result in a 20% turnover in college faculty” (Kelbaugh, 2001, p. 4).

Table 7 details changes in faculty composition by rank over the course of the Kelbaugh deanship.

Table 7
Changes in Faculty by Appointment Type 1998-2007

Faculty Full Time Equivalent by Rank	1998	2007	Change
Professor	23	10	-13
Associate	12	15	+3
Assistant	8	20	+12
Lecturer Track	12	30	+18
Practice Track	1	5	+4

The shift in appointment types influenced the college profile in several ways. First, the non-tenured positions were predominantly held by younger faculty members who had not yet gained a national or international reputation required for a tenured position, and a significant number were women. Many of these junior faculty members were recent graduates of architecture schools across the country, seeking to combine an academic career with a small autonomous design practice. The diversity of educational experience, intensity to build professional portfolios and climate of change within the college fostered the use of a different lens for evaluating the dissemination of architectural knowledge. Many of the junior design faculty created professional portfolios of public exhibitions, alternative forms of built work, such as furniture and playground equipment. The definition of scholarship expanded to include these alternative forms of dissemination as well during this period. Awards from external authorities increasingly became a way of validating the contributions of those whose work was not in the form of written publications (Kelbaugh, 2007). Building a portfolio worthy of a tenure-track position, and eventually a tenured role, for the design faculty, was

aided by validation through exhibition and professional awards. These evaluation methods were increasingly accepted as appropriate tools for assessing faculty quality.

Faculty in technology and history/theory still relied upon publications in peer-reviewed forums, participation in public lectures series and other dissemination venues for validation of their work. Once the junior faculty had built adequate portfolios, the college was vulnerable to losses of these faculties to other universities. Kelbaugh's (2001) sense was that the junior faculty was restless and that the losses were attributable to salaries that were below peer institutions, "The college has been able to fund market adjustments for junior faculty and a retention package for a senior faculty member. The salary enhancement program for our "restless" junior faculty has helped morale considerably" (p. 2).

The salary increases Kelbaugh was able to implement in 2001 did not stop the exodus of talent. In a 2006 mid-year funding request to the provost, a highly unusual practice at U-M, Kelbaugh blamed low salaries as the reason faculty were leaving the college as he reported that 12 faculty members had left to accept positions at other universities and three had returned to professional practice over the past seven years (Kelbaugh, 2005). However, all of the faculty losses were to higher ranked universities that were more prestigious or to professional practice, suggesting that salaries were not the only reason so many faculty left U-M.

Four of the faculty members leaving the college in FY 2005 were married couples. The recruitment and retention of married couples was a new wrinkle in the faculty development matrix during the Kelbaugh administrative years as greater numbers of women were completing architecture school and establishing professional profiles of their own. Additionally, all the faculty members who left the college in FY 2005, including those

returning to private practice went to locations on either of the United States coasts. The program chair's challenge was to find ways to recruit and retain faculty who might thrive in a Midwestern location. Buresh (2007) described this challenge, "Our location remains a hurdle for urban and coastal-biased faculty and students. This is especially critical when recruiting practice-based faculty where neither the opportunities nor the culture for more challenging or speculative work exists" (p. 5). In contrast, Kelbaugh's (2007) lens was focused more closely on demographics than on the needs of the faculty and faculty development. He described his hiring activities over the previous nine years in terms of demographics, with an emphasis on gender and ethnicity, noting that 42% of the hires had been women and 24% minorities.

The strategy for staffing the program became building strength through the fellowships program first established by Kent Hubbell several decades earlier. Buresh (2007) noted, "The architecture program has recently garnered a reputation for talented junior faculty. The task will be to nurture and retain them" (p. 5). Developing practitioner faculty members in the Midwest was a challenge for Buresh (2002), who had come from the west coast where speculative design was an integral element of the built environment., "I don't think it's a matter of encouraging the faculty; in fact, everyone that I've talked to wants to be more involved in practice. It is more like helping them find a way to do that" (p. 32).

Buresh expanded on the program by offering the recruited faculty member a two-year contract. During the first year, they could hold the fellowship title and benefits of a reduced teaching load, and in the second year, the faculty member would teach a full load. This change helped to reduce the perception of constant turnover about which more senior faculty and some students often complained. It also helped the program to stabilize its temporary instructional faculty and curriculum coordination efforts.

At the end of the deanship, Kelbaugh (2008) reported positive results for improved faculty quality in terms of scholarship and professional practice writing, “you’ve published more books in the last decade than were published during the previous 9 decades of the college” (p. 1).

Demographic diversity. Sociocultural issues around the demographic diversification of the Taubman College community became of increasing concern and received increasing attention during the Kelbaugh era. A 1999 faculty retreat established diversity goals that included both the faculty and student populations. Among the approaches to improving the demographic diversity of the college community, which was described in Kelbaugh’s first annual report to the provost, was the search for additional targeted financial aid, and the continuation and enhancement of a Martin Luther King, Jr. Visiting Lecturer, or Critic. (Kelbaugh, 1999).

Kelbaugh (2002) described the ways he was attempting to lead the college and initiatives he was championing, “The College has attempted to address diversity and gender issues, through its pedagogy, research, and service” (p. 8). “Our priority and our goal is to reach a point in academe and in the profession, where gender is simply a non-issue” (Perdomo, 2003, p. 27). The college’s approach to overcoming its diversity issues to look beyond head counts expanded in 2005, “Over the last several years TCAUP has broadened its approach to diversifying its community beyond a program of recruiting to include events, programming and international opportunities” (Kelbaugh, 2005, p. 12).

Efforts at diversifying the faculty by former architecture program chair Brian Carter’s 1998 proposal was for the creation of a visiting critic appointment within the architecture program. The proposal sought to invite minority practitioners to the college to supplement

the studio teaching and review processes, “The appointment of a Martin Luther King (MLK) visiting critic in architecture will bring an added diversity of voices and experience to the college” (Carter, 1998, p. 1). The first recipient of the visiting Critic appointment was a 1991 graduate of the undergraduate program, Kenneth Faulkner, a practitioner at an international firm. Lesley Lokko a Ghanaian-Scottish, architect, academic, and novelist was invited to the college as the MLK visiting critic in 2000.

Conflict erupted in 2006 over the participation of women and minorities in an all-college centennial conference programmed by Kelbaugh and Buresh. The women faculty perceived a lack of willingness of the conference organizers to establish a program that had broad representation and sent a call to action to the faculty. Dewar (personal communication, November 27, 2006) wrote,

A group of women have been discussing the gross underrepresentation of women and the apparent nearly complete lack of minorities (not including international people) on the agenda of the centennial conference. ...Six of 22 speakers are women; no respondents are women. The moderators are the members of the conference planning committee. The only member of the committee who is not a moderator is also the only woman on the committee. ...I have been citing numbers, but this is not just about numbers and probably can't be resolved just with changing numbers. What the program communicated in a 'hidden curriculum' is, first, that when Doug and the committee think of the “high flying”, “high octane,” “best,” “top” people in our fields, they just don't or can't think of women and minorities. Further, only men are important enough to be in the company of these elite stars, thus all male moderators as the face of the college for this event. (p. 1).

The frustration with a lack of action on the part of the dean toward achieving the goals the faculty had defined in the strategic retreat relevant to diversifying the college at the beginning of his tenure was reinforced with this call to action from the women faculty. Dewar (personal communication, November 27, 2006) called for substantive change, "... we want to see next fall's college lecture series organized around a theme of diversity... This would be a series that could broaden many of our ideas about how our fields can engage diversity" (p. 2).

Subsequently, Kelbaugh and the other conference organizers met with the faculty to discuss the topics of the planned conference and the process that had been used to select speakers. Kelbaugh (2006) declared, "This meeting is called to try to address, as constructively and honestly as we can, what changes can be made at this point in the program, especially in the diversity of the speakers, respondents and moderators" (p. 1). During the meeting, Kelbaugh revealed the list of participants that had been discussed and contacted. Because he and the committee envisioned this conference "Global Place, Politics and the Polis" as being international in focus "accordingly, we focused on inviting Indian, Chinese, Japanese, Hispanic, African speakers, rather than Chinese-American, African-American, etc. We tried to be mindful of gender, age, geography, profession or area of expertise, but did not do so well on all accounts" (pp. 1-2). Kelbaugh's rationale for the selection of the respondents only reinforced the Dewar assertion of bias, "Obviously, there are many faculty that have ideas that would make them interesting respondents, but the committee was attempting to get the very best for the centennial" (p. 3).

During the Kelbaugh deanship, plans to address building a pipeline of students to the academic programs were underway. Working with interested faculty, a motivated donor, and

students programming for summer and after school activities for Detroit High school students, was initiated during the Kelbaugh era: “We’ve established community design and high school programs at the University of Michigan’s Detroit Center, which our college played the leading role in establishing, in a city we care about and are committed to” (Kelbaugh, 2008, p. 2). The concept was intended to foster high school student and parent visioning new career pathways through immersive workshop experiences for Detroit students. No tenured nor tenure track members participated in supporting this program.

Demographic diversity. Changes in the demographic profile of the architecture faculty during the Kelbaugh era, reflected new initiatives at the university to be more inclusive in the recruitment and retention of a more diverse faculty. Changing the hiring paradigm to accomplish budgetary and diversity goals changed the culture within the college, making the school more diverse and less entrenched as faculty turnover among the non-tenured positions increased. Using an increasing number of short-term appointments, resulted in the selection of faculty members who were more cosmopolitan, came to Ann Arbor for short curriculum vitae building stints, and left for the coasts to set up professional practices or accepted positions at schools in regions that provided greater opportunities for professional practice than Ann Arbor. Additionally, an increasing number of faculty members who were in personal and/or professional relationships with one another joined the college during the Kelbaugh deanship.

Socio-structural influences. Changes in the socio-structural elements of the college during the Kelbaugh era that had an influence on the culture of architecture faculty, included changes in the academic portfolio, the organizational chart, policies, and resource allocation. Kelbaugh believed that these structural changes would foster the sociocultural changes

needed to advance his strategic goals. Socio-structural changes influencing the demography of the faculty included creating a broader variety of appointment types, as well as increasing efforts to recruit women and minorities.

Kelbaugh established five themes on which to base strategic decision-making during his administration of the college. Using a strategy, which had been successfully employed by previous deans to gain consensus for their leadership agenda, Kelbaugh planned a series of four faculty retreats. These retreats were held during the first year of the Kelbaugh deanship, one for each of the major degree programs and a final all-college retreat identifying specific objectives for the college to pursue in the next five to ten years. These new academic initiatives included: diversity, outreach, quality, and governance-related objectives. They were described as creating sustainable buildings and cities; leveraging the information revolution; redeveloping the American city, Detroit and beyond; widening the international experience; and developing good places through the Real Estate program (Wineman, 2007).

Academic portfolio. Changes in the academic portfolio of the college, undertaken between 1998 and 2008, were largely tangential to the architecture program but of great interest to Kelbaugh. The establishment of a Master of Urban Design degree and a real estate development certificate was a manifestation of Kelbaugh's commitment to expanding the portfolio of architecture as a set of disciplines that addressed the entire built environment. The addition of these two academic programs had minimal impact on the culture of the architecture faculty, perhaps because there was no concerted effort to engage intellectually or socially. Gutman (1985) has noted that during this period the pursuit of funding sources for architecture schools began to expand beyond traditional development campaigns and federal grant appeals to the real estate industry:

Pressure from university administrations in favor of fundable research is likely to reinforce an interest in broadening the scope of architecture again. The same effect is likely to follow from university development campaigns that try to tap the only major funding source that has any connection with architecture, namely the real estate industry...Many of the wealthiest and most powerful developers now regard the architectural profession, and therefore its schools, as potentially useful to their ambitions. (pp. 469-470).

Kelbaugh (2001) described what he saw as the faculty coalescing “around the twin foci of tectonics and urbanism” (p. 1). This represented a significant shift from the reported design studio emphasis of the faculty during the Beckley period. However, the pendulum had not completely swung in support of Kelbaugh’s proposals despite new programs and staging national conferences on urbanism. Because he perceived resistance from the faculty for these new initiatives, Kelbaugh (2000) reported that he had secured external funding for each of these initiatives. “I am happy to report that none of the new initiatives that I have started or events that I have organized has cost the architecture program, urban and regional planning program or the doctoral program in architecture any money ” (p. 3). One example of new funding provided by the provost’s office was support for a joint appointment with the School of Natural Resources in sustainability. The goal of joint appointment was to bridge the interests of the two schools on the topic of sustainability (Kelbaugh, 2002). The position was filled for two years with visiting faculty members from other universities but never gained internal integration. Subsequently the funds for the position were redirected to hire studio faculty for the architecture program. Kelbaugh hoped that, by broadening the intellectual base of the college to include topics on urbanism and real estate, he might be able to

“...loosen the proverbial faculty deadlock between those who see architecture more as pure and autonomous art and those who see architecture more as a problem-solving, sociocultural tool” (Kelbaugh, 2000, p. 1)

Organizational chart. Structural changes to the college’s organizational chart during the Kelbaugh era included both administrative and faculty appointment types. Changes in the administrative section of the organizational chart included adding and deleting associate dean roles and responsibilities, with no substantive impact on the operations or culture of the college.

Initially Kelbaugh did not see the need to appoint an associate dean to oversee research. He reversed his decision during the search for a doctoral program chair. Jean Wineman, a college alumna with a Master of Urban Planning and a Doctor of Architecture degree, was on the faculty at Georgia Technological Institute and identified as a strong candidate for the role. At the time, Wineman was the director of the architecture doctoral program at Georgia Technological Institute and had just chaired a national conference sponsored by Architectural Research Centers Consortium and Georgia Technological Institute. She edited the proceedings entitled “Doctoral education in architecture schools: The challenge of the 21st century.” Wineman joined the U-M college in 2000 as director of the doctoral program in architecture and associate dean for research. Under Wineman’s leadership, the doctoral program academic offerings were streamlined to three concentrations, which reduced the administrative burden of managing the student records but had no consequential effect on teaching, research, or admissions.

Most significant of the changes made to the organizational chart by Kelbaugh may have been the appointment of women in the academic administrative leadership roles. In

2000, the college research administration was overseen by associate dean Jean Wineman and the academic affairs by associate dean A. Melissa Harris. Neither of them led significant initiatives that had an impact on the culture of the college during their time in these roles, but their presence in these leadership positions signaled a change in the perception of women as leaders in architecture education. The associate dean for academic affairs position was eliminated to accommodate budget cuts to the university in 2002, and the responsibilities were distributed among the program chairs and the research associate dean. Additionally, the associate dean for research and the Urban Planning chair appointments were reduced from 12 months to 11 months), with no change in administrative responsibilities, to aid with the budget reductions (Kelbaugh, 2002. Figure 33 diagrams the organizational configuration in use during the Kelbaugh deanship.

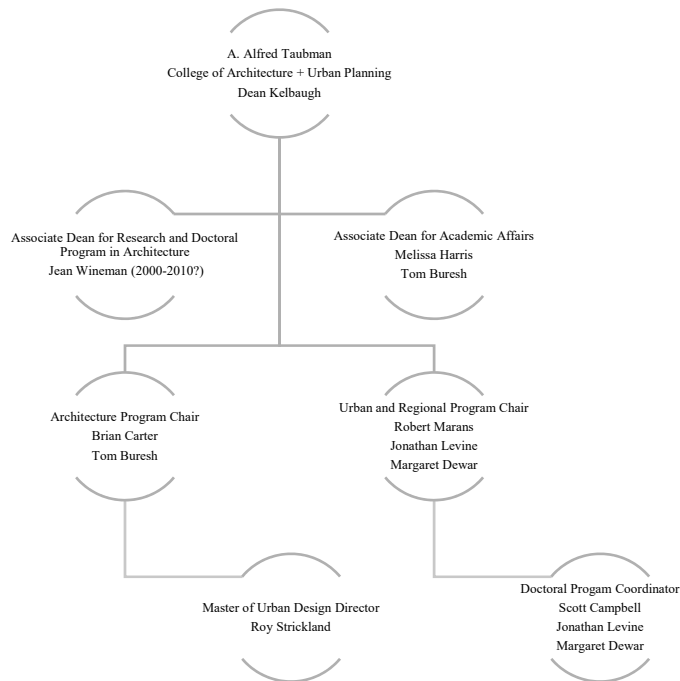


Figure 33. Organizational chart during Kelbaugh era

In 2005, the organizational chart for the college reflected an administrative anomaly that came under scrutiny by central administration. Two of the senior leadership roles had combined associate dean and program chair responsibilities. The program chair for the doctoral program had been given the associate dean for research title as a recruitment incentive. Similarly, the program chair for architecture was given an additional title of associate dean for academic affairs as a retention incentive. The provost's office asked the next dean to make changes to this structure to separate program leadership from all-college administration fearing a conflict of interest in the roles.

Structural changes in the types of faculty appointments during the Kelbaugh era included the establishment of additional visiting professorships, a 'professors of practice' track, and an increasing reliance on lecturers. The creation of visiting professorships had been a successful strategy for diversifying the design faculty during the Metcalf and Beckley eras, and Kelbaugh continued the tradition with funding coming from a new endowment. The intended goal of the Taubman visiting professorships was to add greater levels of discourse complexity to the college and expand opportunities for faculty and students to work closely with high profile faculty for short periods. The professorships were named for successful faculty and architects who had been previously affiliated with the college such as Charles Moore, the Saarinens, and Colin Clipson. The new endowment also allowed the college to hire 'transformative' faculty members who had attained significant recognition in their subdiscipline and could reinforce academic or research initiatives of the Kelbaugh deanship.

Faculty quality. The structural strategies employed during the Kelbaugh era were focused on improving the overall quality of the faculty. They included hiring for specific subdiscipline areas, seeking senior faculty with strong academic portfolios in gap areas, and

managing overall growth of the faculty. This was accomplished through the creation of non-tenured appointment types as well as retention and retirement incentives. In previous eras, efforts to improve the overall faculty quality had focused on acquiring talent. During the Metcalf era, the emphases had been on diversifying the talent pool using fellowships. During the Beckley era, the emphases had been on creating policies and practices, which encouraged faculty to engage in research activities and disseminate their findings. In the Kelbaugh era, the policies and practices developed spanned the life cycle of faculty from identifying talent and nurturing development to encouraging outreach and dissemination and finally to creating retirement incentives. The result of each of these actions was a faculty whose scholarship and creative practice was increasingly rigorous, achieved critical acclaim, and was more likely to be part of academic discussions at the national level. The architecture faculty culture was no longer aged and regionally practice-focused. Now they were youthful, exhibiting, and disseminating at national and international venues. There was a balance of scholarship and creative practice emphases.

A perceived need for financial flexibility caused by uncertainty in funding sources fostered an environment that encouraged the development of new faculty appointment types. Two non-tenure contract-based faculty appointment types were formalized in the professors of practice and lecturers. These two appointment types were expected to contribute to the college portfolio in a manner that was different from faculty on the tenure track. The expectation was that the culture of the college, and the architecture program, could be changed with this modification. The creation of these two new appointment types was meant to accomplish budgetary objectives while filling skills and quality gaps in the architecture faculty.

New faculty appointment types. The professor of practice faculty track was constructed to mirror that of the tenure track with similar dissemination and impact on architecture and planning expectations. These faculty members were given multi-year contracts and flexibility to negotiate their level of engagement with the college from year to year.

The failure of a well-respected instructor and local practitioner, to achieve tenure because the university's tenure standards were geared toward publishing rather than professional practice had brought the possibility of creating this new track to the attention of the Executive Committee during the Beckley era. Action on creating the track was delayed until the Kelbaugh era, in part, because the definition of the expectations of the position and an expansion of the definition of research to include creative practice needed to be negotiated between the dean and the provost. In describing the essential nature of the professor of practice role for a professional school of architecture, included that "project-based and professional disciplines especially benefit from crossover between practice and university life... architecture programs admire and benefit from individuals who design, build, and teach" (Executive Committee, 2007, p. 1). The Executive Committee (2007) described the professor of practice as seeking individuals whose contributions arose primarily from their professional practice expertise rather than scholarship or research. When creating the appointment track, they embedded many of the expectations for quality control that were expected in the tenure track, including peer-review and a ranking system for appointment levels. The basis for promotion within the professor of practice rank was described as "...professional expertise and professional practice at a high level of achievement and

demonstrated recognition for exemplary, critical, reflective and/or award-winning work as the basis of promotion” (p. 1).

Adjunct faculty at Michigan unionized during the Kelbaugh era and formed the Lecturer Employees Organization (LEO), requiring procedural changes for hiring, evaluating, and assigning work. Creating an evaluation process and evaluation criteria was challenging in this professional school, in part, because the LEO contract fundamentally described the role of the lecturer as instructional. This lens was problematic for the adjunct faculty and fellows in architecture who viewed themselves through a professional-practice lens. Some members, who had been recruited through the named fellowship programs, felt that the new appointment type rules precluded them from being evaluated on their scholarship and creative practice and diminished the value of their total contributions to the college. Strategies to mitigate these perception problems included moving some of the lecturers to the professional practice track, providing access to faculty development seed funding from the University of Michigan’s Center for Research on Teaching and Learning, as well as developing evaluation protocols overseen by the program chair and tenured faculty that provided for developmental feedback. One way of measuring the lecturers dismay at being unionized was the challenge of getting them to sign up to pay for union or service dues. Several months after the contract had been implemented, 11 of the 21 faculty members affected by this change had not yet paid their union fees (Frumkin, personal communication, November 18, 2004).

The numbers of faculty appointed to the lecturer track increased steadily during the Kelbaugh era. Lecturers were appointed for periods that varied from one academic term to multiple academic years, which meant that there was great variability from term to term in

the numbers of lecturers and their aggregated skills and experiences. The majority of the appointments made in the architecture program was in the design studies area and often included recent graduates of peer institutions. Full-time lecturer faculty in the architecture program taught in a similar pattern to tenure-track faculty who were assigned one studio per term plus one elective course per term. The key structural drivers for hiring lecturers were enrollment needs, tenured or tenure track faculty on leave of absence, and budget flexibility.

The addition of increasing numbers of lecturer-type faculty was the impetus for the creation of a studio coordination role. The tenure-track faculty member appointed as the coordinator by the program chair would oversee and coordinate the projects and activities of a category of studio to assure the quality of instruction across the topic was consistent. This new coordination role provided tenure-track faculty some experience and insight into the challenges of administering faculty activities. The coordination role was considered a service activity for the tenure-track faculty, often relieving the coordinator from other program-level committee assignments.

Policy and practice changes. College-level policy changes in support of developing faculty quality included the creation of nurturance leaves for tenure-track faculty and design of the emerging hiring and management dilemma: the dual career faculty family. Simultaneously, university-wide policies supporting retirement furloughs for eligible faculty members aided the dean and program chair in resetting the faculty resources of the college.

The nurturance leave program, developed during the Kelbaugh era, was modeled after one in use at the U-M College of Literature, Sciences, and the Arts. The leave provided assistant professors with a two-course release from teaching, available after the successful completion of an interim review.

For faculty in the closing phases of their careers, a University of Michigan policy, available to professorial rank employees hired before January 1, 1984 who met the eligibility requirements for retirement, enabled a terminal furlough year before official retirement. The furlough year relieved the faculty member of teaching and institutional service obligations. Many faculty used the terminal year to complete outstanding research projects, ease doctoral students closer to completion and transition from a full-load academic life to other pursuits. These retirements enabled the dean and the program chair to replace the positions with faculty able to address the topics described in the dean's vision statements.

One other cultural attribute, which re-emerged during the Kelbaugh era, was the formation of several professional practice partnerships among the faculty. Two reasons for this condition were noted in the earlier years of the Kelbaugh deanship: the economy and public interest in professional architecture. These enabled small professional practices led by faculty with similar interests to become active. Newly-recruited faculty members were requesting positions for spouses as part of the hiring negotiation, perhaps as a consequence of the graduation of greater numbers of women in architecture. Both of these conditions required the creation of administrative procedures designed to reduce the possibility of conflict of interest, especially in regard to performance reviews, merit increases, and the use of student labor.

Resource strategies. Resource management, as a strategy for raising the profile of the college during the Kelbaugh deanship period, was impacted by the benefits of a large naming gift from a former student and the challenges of reduced federal and state funding for higher education, especially for research relevant to architecture. Financial, physical, and human resources were all elements of the strategies that Kelbaugh had to manage strategically, and

each played a role in the development of the architecture faculty culture.

The U-M strategy for managing financial resources transitioned from an incremental budgeting system to one which was based on the revenues and expenses generated by each activity-based unit during a given period. For the first time in its history, the college was credited with the full value of the resources it brought to the university and responsible for the full value of its expenditures. In addition, some central expenses were attributed to the college to recognize the use of central services, and some supplementary funds were provided, at the discretion of the provost, for academic initiatives (Courant, 1999). This change in appropriation methodology influenced faculty culture in several ways.

For example, decisions about program offerings, course scheduling and new initiatives needed to be analyzed through both the academic/research and business lenses. Decisions to approve or delay programs, ways to generate new revenue, and strategies to reduce expenses for operations became part of the conversation of the college. Course enrollments were reviewed for profitability and lower enrollment courses were considered for consolidation. Minimum enrollment thresholds were established, and supplemental funding for extra-curricular activities was increasingly funded by donors. This meant faculty had to be sure to comply with donor restrictions. Faculty members, who had been largely shielded from the economics of administering the college, were now asked to engage in revenue seeking and cost reduction activities. Faculty had to achieve certain enrollment thresholds in experimental courses, participate in recruitment and matriculation activities, and seek sources of funding for research (Kelbaugh, 2007).

Entrepreneurial initiatives were encouraged, such as the one developed by the architecture program chair which provided a summer program for high school students who

were curious about architecture as a career (Buresh, 2007). Training sessions were established to aid faculty in the development of external funding proposals. Programs to help the faculty understand the budget implications of opening their courses to enrollment of students from other schools, applying to sponsors who offered indirect cost recovery, and cooperative relationships with other researchers to share equipment were all new concepts for the faculty to learn. Requests for support from the provost's office for base and one-time funding needed to be justified on both academic and financial-need bases, and often the bases used were benchmarked against peer institutions resources.

Requests to the provost for funding faculty equity increases was a theme found in the annual budget requests written during the Kelbaugh era, as well as support for classroom, and infrastructure-related improvements (Kelbaugh, 1999, 2000, 2003). Internal reallocations were used to support faculty development initiatives. During times of budgetary rescissions, the faculty salaries were protected as core to the mission of the college. Discretionary funding for social events, publications, and staffing were vulnerable to reduction (Kelbaugh, 2006, 2007). By the end of the Kelbaugh era, the college had the leanest faculty to staff ratio on campus (Kelbaugh, 2007, 2008). Understanding how serious the budget challenges became during this period, the architecture doctoral program faculty formed committees in fall 2004 charged with seeking funding for a named faculty position and strengthening ties with other campus units.

Resources for faculty research were significant and reflected in the technical faculty productivity and its facilities resources (Wineman, 2007). She noted that the college faculty had access to research laboratory space, including the high bay space, equipped with a variety of fabrication and testing equipment. Wineman (2007) shared her concerns about the

status of research productivity for the other subdisciplines of the college. She saw potential for greater success in the pursuit of externally funded opportunities. “Roughly a third of our faculty engages in conventional scholarship, including funded research... Despite dramatic progress in funded research, we remain behind some of the more research-oriented schools of architecture and urban planning” (p. 3).

A new \$30 million endowment provided by a former student, A. Alfred Taubman, allowed \$5 million to be used for significant infrastructure enhancements. As an architect, Kelbaugh knew the upgrades needed at the art and architecture building would significantly exceed that funding. He believed that upgrades to the college’s space could have a positive impact on the productivity of the faculty. Kelbaugh (2007) described the facilities needs as he sought support, noting that the college had undertaken, at its own expense, a number of interior renovations. In his opinion, the seventy-five-year-old building was no longer fully adequate to serve the teaching and research mission. “The addition is proposed primarily to accommodate the college’s growth over recent years, which has resulted in studios, faculty offices, research space, and classrooms that are chronically overcrowded” (p. 1).

The provost approved funding for external studies aimed at improving the instructional space only. The project that was defined by external architects would have added significant space to the design studio of the college. The project design was approved by the U-M regents, but was canceled by the next dean, before construction began (Executive Committee, 2008).

Engagement strategies. Kelbaugh, like Beckley before him, worked with the program chairs on engagement strategies to raise the profile of the college. The strategies used provided the faculty and students with research, service, and practice opportunities that

enhanced their experience at the college while simultaneously increasing awareness of the activities and capacities of the college. The influence on the culture of the architecture faculty was a reawakening for some of the faculty of the underlying value of design culture's role in the public sphere. Other forms of engagement were intended to create a more collaborative environment that welcomed a diversity of ideas, approaches, and plans intended to foster the development of the discipline.

Among the strategies for gaining program visibility, increasing practice opportunities for junior faculty and high potential students, and serving the university was the development of a design-build program. First initiated under architecture chair Brian Carter, this program also provided much needed facilities upgrades for the college and other academic and administrative units on the campus. Perhaps of even greater benefit to the college culture was the appreciation garnered from other academic and administrative units of the contributions that the junior faculty and senior or graduate students made to the campus. Buresh (2007) described on-campus strategies the faculty were using to expand creative practice opportunities with "The program's reputation for innovative design and construction is enhanced by faculty/student design build opportunities both in the A/A Building and elsewhere on campus" (p. 5).

The culture of the architecture program was challenged by its lack of agreement about the direction of some activities under chair Carter and the resulting atmosphere of distrust showed in tense faculty meetings. Strategies to change that paradigm were the subject of subsequent chair Tom Buresh's statement at one of his first faculty meetings where he "...hoped that this (and subsequent) faculty meetings will take on a different tenor. Plans are to distribute pertinent news items though e-mail or print and to use the meetings for a better

discussion of the structure and direction of the program” (Buresh, 2002, p. 1). In a move to correct the perceived lack of engagement of the core faculty with the decision-making in the architecture program, Buresh constituted an advisory group to brainstorm curriculum issues, the future of the pre-architecture program, graduate student pedagogy, and program content. He noted that the resignation of some construction faculty opened up possibilities for renewal in the curriculum as did an evaluation of the integration of technology, which lagged behind peer institutions. Buresh (2007) also promoted interdisciplinary opportunities for faculty as a means of internal engagement, “we also draw on the university’s broad array of educators and researchers, believing they can potentially contribute in significant ways to Michigan’s design culture” (p.6).

Kelbaugh envisioned external engagement in terms of events and facilities and saw this engagement as a means through which faculty and students might connect theory to practice (Kelbaugh, 2007). His strategies for raising the national profile of the college focused most intensely on urbanism. Kelbaugh initiated a national symposium on new urbanism; negotiated a lease for a facility in Detroit; developed and led a series of design charrettes held in conjunction with other schools, community leaders and members of the community on regions of Detroit; and hired a staff member dedicated to the administration of all three forms of external engagement. “The college’s core vision has been primarily but not exclusively directed at Detroit, a world class city with world class problems and opportunities. The city and metropolitan region need, deserve, and, under the right circumstances, want our help” (Kelbaugh, 2000, p. 8).

Kelbaugh brought the concept of university-engaged, community design charrettes to the college as an annual function, which supported the three missions of the university for

teaching, research, and service. His goals for these events included achieving profile raising and building interdisciplinary, collaborative, community service synergies. Often these had a fundraising component as well. He described the purpose and method of these events as an illustrated brainstorm. “One of my favorite descriptions is that a charrette is the best way to get the most creative proposals for the most challenging problems from the most accomplished designers in the shortest period of time” (Kelbaugh, 2004, p. 1).

As a function of his profile raising and community series strategies for the college, Kelbaugh saw the charrettes as one way that the college could integrate disciplinary explorations of redeveloping the American city through the engagement of national thought leaders, city representatives, students and faculty from across the college and the region. Using the charrette format as a culture-building event, Kelbaugh constructed teams with a variety of disciplinary and professional representatives in order to foster greater understanding and problem solving. Kelbaugh (2004) describes the activities, “Most teams tended to operate like temporary offices with the professionals and faculty members acting as design partners and the students as the design and production team, although the roles were fluid and other collaborative modes were used” (p. 1). When Kelbaugh’s deanship ended so did the charrette initiative.

Kelbaugh (2002) led efforts to gain support from the provost for the development of a U-M presence in downtown Detroit for academic units to carry out their teaching, research, and service mission. At the time, the U-M presence in Detroit was diffuse, with academic units and administrative units gaining short-term leases in different sections of the city. Kelbaugh advocated for a single space with appropriate services. Working with the deans from several of the schools and colleges as well as U-M undergraduate admissions, Kelbaugh

lobbied for the outpost as both cost-savings and profile-raising activity for the university. Although the U-M did ultimately identify a space and develop collaborative guidelines for its administration, the architecture faculty rarely used the space for teaching, service, or research. The dean tried to bolster its use by providing funding for the cost of transportation from the Ann Arbor campus to the Detroit Center with minimal results. A short-lived community design center occupied the space, and was overseen by two lecturers. The program was closed when the university decided to re-purpose the space. A lack of funding and seeming lack of interest among Detroit community members to maintain the community design center also underscored the need to end the service program.

Norms, roles, and status. Collectively, the norms, roles and status changes, which influenced cultural changes among the architecture faculty during the Kelbaugh deanship, mirrored changes in many of the top ranked architecture schools in the country. An increasing emphasis on scholarship and creative practice, increasing demographic diversity, and expanding permeability of the disciplinary boundaries through the integration of computer-aided design was demonstrated through the number of publications, awards, and exhibitions given the faculty. Changes in the norms, roles and status of the academic administrative team do not have appeared to influence the culture of the architecture faculty significantly. Attempts at clarifying the image and identity of the college with the Kelbaugh era seem to have been of concern to the faculty committee appointed to search for a leader to succeed Beckley. Other topics relevant to the evolving culture discussed in the dean search committee meetings included concerns about the influx of international students and their impact, or lack of impact, on the direction of the curriculum and the limited pools of domestic under-represented minority student applications. (Dean Search Committee, 1996, p.

1).

During the Kelbaugh era, the core values of the architecture faculty did not appear to have changed. They did integrate greater numbers of demographically diverse faculty, create faculty appointment types with different foci than that of the tenure-track faculty, and integrate technology into the design studio. Roles during the era for academic administrators evolved to meet the demands of U-M central administrators relevant to financial resource management and student extra-curricular needs. The status of the architecture program, as measured by external authorities, was receiving increasing attention from U-M regents, central administrators, and others. Kelbaugh (2007) described his view of the use of external rankings, “Academic rankings are, at best, an inexact science. However, they are also an unavoidable trend in higher education. Thus, we attempt to learn from them while maintaining a critical perspective” (p. 7). Figure 34 appeared in the 2007 Self-Assessment report on the state of the college and includes a list of the various external sources of program rankings.



Figure 34. Benchmarking data (adapted from Kelbaugh, 2007)

When Kelbaugh began his deanship, a publishing initiative was well established and expanding beyond student journals to include faculty designed and edited monographs. The monograph series, initiated by the architecture program chair Brian Carter, provided faculty who were having difficulty establishing professional practices in the depressed economy with an intellectual outlet for their design ambitions, and promoted the college lecture series because the monographs focused on the work of visitors. The series features were unique among schools of architecture, “These monographs, based on important lectures and debates hosted at the college are sold in bookstores worldwide” (Kelbaugh et al., 2007, p. 7). The faculty-based publishing program was abandoned after Carter left to assume the deanship of another architecture school. The student-based efforts continued, under the leadership of a faculty member who had been mentored by Carter, both as an undergraduate student, and then as a professor of practice.

This initiative catalyzed the formation of a subculture of theorists and architectural authors among the architecture faculty. The *Michigan Architectural Papers* (MAP) series was based on lectures given at the college, by famous and emerging architects, honoring famous architects who had had an association with the college. Carter worked with junior faculty on the design and editing of the monographs to provide them with experience and a creative outlet for their research agendas. The series won numerous awards, raising the profile of the faculty and the college, including the 1998 AIA Series Award, the 2001 ACSA Creative Achievement Award, an ID Award in 2003, the 2003 AIGA 50 Books award, and a PRINT Magazine Design Regional Award in 2008. Plattus (2012) noted that after 1968 publications in architecture increased remarkably. Many focused on a broader view of the responsibilities of an architect to the built environment which created a new industry and scholarship arena

for academic architects. “Indeed, the theoretical revolution of this period might just as accurately be described as an urbanism revolution, with the appearance of a host of important books focused on the phenomenon of the city” (p. 246). Plattus sees these publications as artifacts of the period, not just in the quality of the texts but also as object design. He notes that the transformations in architectural publications from drawings and engravings, to photography to digital imaging and critical discourse have influenced the representation of architecture. Carter’s inauguration of a program at Michigan to develop this creative outlet for the faculty and students of the era allowed this form of cultural artifact to be produced as a representation of the period.

The tradition of bringing lecturers to campus expanded during this era to include international voices and under-represented minorities, “Discussion about architecture has rarely respected national boundaries. Rather, they have thrived on the free exchange of ideas and the energy of young architects to provoke the predictable and question authoritative statements offered by established practice” (Carter, 1998,p. 5).

Buresh, who joined the faculty as the economy was rebounding for architects, and after the departure of a significant number of traditionalist faculty, focused his efforts on the development of junior faculty design-build activities and re-establishing the family-like atmosphere of the past. Studio culture was important to Buresh and he spent significant time in the studios, helping both faculty and students. Buresh (2007) describes the studio as the cultural heart of the college when he says, “In our distinctive open studio space, the culture of criticism is lively and publicly engaged” (p. 6). Buresh described the climate and culture of the architecture faculty in writing, “Relationships are collegial, communication is easy, and mutual respect abounds... faculty members are deeply committed to their teaching and

research... The culture of the program is centered in the design studio and the activities that revolve around it” (p. 3).

Buresh (2002), articulated the conflict felt by the architecture faculty as they seesawed between creating graduates for architecture practices as they existed and as they might exist in the future. “I’m not so much interested in training people to be architects, but I’m very interested, and, in fact, dedicated to exposing them to the potential of architecture... That’s a little tricky because it puts the university in a position critical of where the profession is right now” (p. 33). He also articulated the influence that academia and the profession have on one another when he wrote, “I think it’s a very fine line between being critical to the point where you actually make proposals for new practices and new spaces that actually take on normative ways of understanding and making things” (p. 33). Buresh’s (2007) focus on care of the culture of the architecture program was detailed in his reflections at the end of the Kelbaugh period where he noted the themes of connection, community, and making that had emerged in a series of strategic analysis meetings. “Remarkably, the defining characteristic that emerged from these many events, discussions, and self-examinations was the strength of the relationship that binds students, faculty, staff, and alumni in our college” (p. 3). Note that the language used at an architecture school contextualizes these themes as constructed elements. “Yet it is understood that these relationships are constructed, and they are constructed not top down but bottom up — on trust and mutual respect. Building real communities is neither smooth nor easy...” (Buresh, 2007, p. 3). He notes that, at a deeper level, the connections which are fostered within the architecture program are founded on making a better world. “It’s also the pleasure of making, it’s working with and next to people who share a conviction for imagining a better world, no matter how that may be defined. We

are, after all, fully engaged in a discipline concerned with potential, both indescribable and real” (Buresh, 2007, p. 3).

Monica Ponce de Leon (2008-2015) Emerging technologies. Monica Ponce de Leon was appointed dean of the college in 2008. She was both the first female dean and first minority faculty member to be appointed to the leadership role. She resigned in December 2015 to become dean of Princeton’s School of Architecture. The stock market crash of 2008 had a significant impact on the resources of the University of Michigan, the enrollment of the college, and the architecture profession. Ponce de Leon’s opening address to the faculty described the three critical issues she believed that the faculty needed to address: sustainability, emerging technology, and the cultural impact and relevance of the profession of architecture in society. Of these three initiatives, she had the most success with integrating technology into the daily lives of the faculty and students. No initiatives directed at her other two stated areas of interest are documented in the college archives.

At her first faculty meeting, she shared an interest in the pursuit of excellence and in creating things that matter (Drew, 2008). She described what she had observed of the college’s operating culture with, “I know of no other college of architecture and urban planning where distinct modes of thinking have not only co-existed, but thrived through-out its history... It is this proven track record in academic diversity that will ensure we continue to advance in our fields” (Ponce de Leon, Drew, 2008, p. 3). Nevertheless, like the other deans before her, Ponce de Leon described this diversity of thought, the cultural core of the Michigan architecture program, as a challenge rather than an advantage. She saw the need for “...capitalizing on the heterogeneous character of the school and turning it into a clear vision for the future” (Drew, 2009, p. 2)

In her first year, Ponce de Leon established faculty task forces to look at the some of the issues and opportunities that had been identified in the strategic assessment report compiled before her arrival. These task forces included art and architecture building environmental issues, space planning; technology, interdisciplinary initiatives, and Detroit (Drew, 2009). Subsequent budget reports and annual goals statements list globalization, technology, diversity, and interdisciplinarity as her core leadership initiatives.

Among the culture influencing initiatives that Dean Ponce de Leon established were several intended to remove interdisciplinary and pedagogical barriers. She established a program that provided supplemental funding to encourage seminar and studio instructors to teach together, re-merged the professional architecture and research degree programs under one administrative head, established a research incentive program for designers to reinvigorate creative practice, and created a hiring program that helped to both diversify and stabilize the faculty profile. In 2010, her vision of the college was “to develop an interdisciplinary curriculum at the core of the education of Architects and Planners” (Ponce de Leon, 2010, p. 1). Administrative leadership structure and personnel changes also helped to shape her vision for the college and change some aspects of its internal culture, as did her expansion of the visiting lecture series, staging of several national conferences and an international exhibition, and redirection of the building renovation and expansion program established by the previous dean.

By the end of her deanship, the college had moved up in the national rankings, elevated its reputation nationally and internationally, diversified demographically, and planned to launch a building renovation and expansion program.

Typology (institutional influences). During the Ponce de Leon deanship the two most

significant sources of institutional influence on the evolution of the architecture faculty culture at the University of Michigan continued to be the University itself, and the profession of architecture.

University influences. Significant changes at the university, including several changes in leadership positions, an increasing focus on investments in the life sciences, shifting enrollment paradigms, and budget challenges exacerbated by the recession, were influential on the architecture faculty culture. Personnel changes within U-M central administration included the provosts and president, several U-M deans, the chief administrator for the hospital, and the chief financial officer for the university. These all worked to unsettle the established relationship between the college and central administration. Changes in the executive officer positions meant changing visions, goals, and objectives for the university. During this period, it appeared that schools that focused on the arts and professions were not provided with the same level of support as those associated with the life sciences. The impact on the culture of architecture faculty was to look externally for support, opportunity, and validation. This meant pulling away from the issues and interests of the provosts and presidents of the era.

Presidents Mary Sue Coleman and Mark Schlissel led the University of Michigan during the Ponce de Leon era as well as Provosts Sullivan, Hanlon, and Pollack. Coleman who had been described as being very rational, very practical, and having a lot of common sense was in office at the time of Ponce de Leon's hire (Rudgers, 2006). Coleman's background and marquis programs were associated with the life sciences. Apart from substantial help in securing the Taubman funds for the new wing and renovation, President Coleman was not engaged in the affairs of the college.

Provost Teresa Sullivan, a sociologist by training, from whom Ponce de Leon perceived to be in support of her initiatives and the direction she was leading the college, had hired Ponce de Leon in 2008. Concerns of the university leadership in this era included declining state funding, diversity matters, and digital initiatives. Affordability, transparency, diversity, and collaboration were the social themes addressed by the University of Michigan provosts during this period, as well as the structural issues of faculty development and digital and engaged learning. Each of these areas was reflected in the annual goals and budget request documents submitted by Ponce de Leon to the provost. The provost's focus during this period was on cost cutting to mitigate the impact of the reduction in state funding on U-M operations (Smilovitz, 2010). When Sullivan resigned in 2010, she was succeeded by Philip Hanlon, a mathematician by training, who was a long-time faculty member at U-M and had been an associate dean for budget in the university's largest college. Hanlon inherited an operating budget that was challenged by declining state funding and had little room for tuition growth. Hanlon worked with university administrators and the deans to reduce the overhead costs of the university and redirect investments toward the academic enterprise. Cautious messages were sent to administrators asking for restraint in spending.

The impact on the culture of the architecture faculty from these transitions was minimal and indirect. Investments by central administrators in the life sciences left the architecture faculty support needs out of the equation. The architecture faculty was also frustrated by their inability to compete for university building design contracts because of restrictive policies in use at the time. As provost, Hanlon sought to improve the transparency of the budgeting process, even teaching an undergraduate course in the mechanics of the budget in the hopes of improving the climate around decision-making at the U-M

At the time of the architecture programs re-accreditation visit in 2011, the support of the university for its core academic programs was highlighted in the NAAB visiting team report as an asset and a favorable factor in the culture of the faculty: “The team was impressed with the strategic commitment of the university administration to the program. The engaged interest and support of the dean and her initiatives, the faculty, and the facilities contribute to the building of an outstanding program” (p. 1).

The budget challenges grew worse when the state appropriation for academic year 2012 dropped by an additional \$70 million from \$325 million to \$255 million (Walsh, 2011). The leadership challenge was managing faculty expectations for support in a period where financial resources were less flexible because of the reduced state aid and declining numbers of domestic applicants; the choice made was to increase the enrollment of international students.

Hanlon was succeeded by Martha Pollack in 2013, a computer scientist by training, who had served as a faculty member, dean, and associate provost. Cost cutting continued as a theme during the Pollack years. She led an effort to streamline centrally provided administrative services, rationalize classroom utilization, and provide incentives for interdisciplinary hires and projects. The college benefited from the programs, hiring several faculty with the partial funding for interdisciplinary scholars.

Strategies to assess and encourage faculty productivity was the focus of the provost’s taskforce in 2010: “In short there has never been a time when faculty productivity has been more of an issue, particularly for elite research universities” (Ascione, 2010, p. 3). The group sought information on mentoring programs, faculty annual reviews, third-year reviews for

tenure-track faculty, and training for faculty members involved in the promotion and tenure processes as well as development programs for associate professors.

The group's charge included assembling definitions of productivity, gathering information about faculty productivity measures, and the use of the faculty productivity data. The group reported that developing campus wide standard criteria for evaluating faculty productivity was problematic given the variations in knowledge creation and dissemination methodologies used by the various disciplines of the university. They recommended, "A desirable practice would be to encourage each academic unit to develop a set of 'normal expectations' for faculty productivity that should be published and shared with all faculty in that unit" (p. 5). They noted that the standards should be flexible enough to account for variances over time in the environments in which each discipline operates. The group reported having consensus that the faculty evaluation systems used in the units were ineffective in dealing with both productive and non-productive faculty: "Although most associate professors at U-M progress to full professorship, some seem to be stuck at the associate professor level. There appears to be a lack of an effective mechanism to make all associate professors more productive and successful" (Anderson, et al., 2009, p. 5). Outcomes of their report included the creation of incentive and seed programs to encourage faculty to pursue research and, in some cases, retirement.

Profession of architecture. Ponce de Leon described what she perceived to be significant shifts in the field of architecture arising from changes in construction, technological changes, and the relationship of professional architects to wealthy clients: "The time has come to examine these issues and to begin to chart a course for the future. This will

require new approaches to cultural engagement and for architecture to re-write its own rules” (Ponce de Leon, 2009, p. 1).

The profession of architecture was finding new ways to present itself to the public during the Ponce de Leon era. The urgency of doing so was underscored by Department of Labor reports indicating that employment at U.S. architectural firms declined from 224,500 to 184,600 between July and November 2009 (Timberg, 2012).

Brooks (2014) described 14 trends in the architectural profession that emerged in the latter half of the Ponce de Leon era that altered the traditional conception of what it meant to be an architect. Rotating and wooden skyscrapers, undulating bridges, indoor parks, ‘green’ power plants, sponge parks, invisible and inflatable architecture, 3D printed interiors, and organic bricks were some of the trends architects were following.

Emerging technologies and globalization were influencing the profession of architecture in this period, and the architecture faculty were interested and engaged in these initiatives. Faculty interested in exploring the possibilities for research and teaching with emerging technologies were pursued with vigor, and the college hired a staff member whose academic credentials were in instructional technology to support their efforts. Greater demand for graduates fully able to work with the new software and hardware used for research, design, and assembly was creating new opportunities for architecture educators to develop degree programs and research agendas that aligned with this demand. Practicing architects/educators were reportedly struggling for work as the recession-dampened opportunities for speculative practices. Many found creative outlets in architecture criticism, furniture and interior design, or at the urban scale. The new college initiatives in postgraduate

education, fabrication and manufacturing technologies, and materials sciences engendered a positive culture among the faculty engaged in these initiatives.

Topography (contextual influences). The strategic assessment reports on the status of the college, prepared by two separate committees, one comprised of faculty members from other University of Michigan academic units and one of architectural educators affiliated with peer architecture schools, provided context for Ponce de Leon's charge as dean and her response documents. Strengths to build upon, weaknesses to correct, opportunities to leverage, and threats to mitigate were documented and verified in these two reports. The resources used by the two assessment committees included the college's own self-assessment report and interviews conducted with faculty and students. The cultural markers, such as operating norms, values, and expectations, were identified within these three documents. The findings included norms of long work hours and high commitment, appreciation of flexibility, value of physical resources, benchmarking against other American architecture schools, the importance of professional practice opportunities for faculty, perception of a lack of transparency in leadership decision-making, and imbalanced resource allocations.

Strength's. The committees concurred with the college's assertions that the faculty and staff were strong and committed to the success of the college, that it had enrolled strong students, that the university and all its resources were a valuable component of the strength of the college, and that the college facilities and physical resources added value to the programs. An external assessment committee report, commissioned by the provost in 2008, restated the impact of the region on the college. Being within a manufacturing center of the country known for industrial, furniture, and fabrication activities, shaped the school and the college faculty who had a reputation for making in the 1950's. They challenged the faculty to

consider the region a strength rather than a deficit and saw a potential way forward “reinvigorating its fabrication and material research programs using state of the art digital technologies that are not always available in other schools of architecture” (Hack, van Lengen, Moudon, Speck, 2008, p. 4).

Each report reinforced the perceived value of expanding the college’s physical footprint, through an addition to the art and architecture building while mitigating space-related deficits, as important to the college’s future success. Both assessment committees noted that the college held a substantial endowment compared to other schools of architecture, which provided significant flexibility for future innovation and transformation.

Weaknesses. The lack of a clear image and identity for the college was highlighted as a weakness growing out of an outdated vision for the future of the college. The external

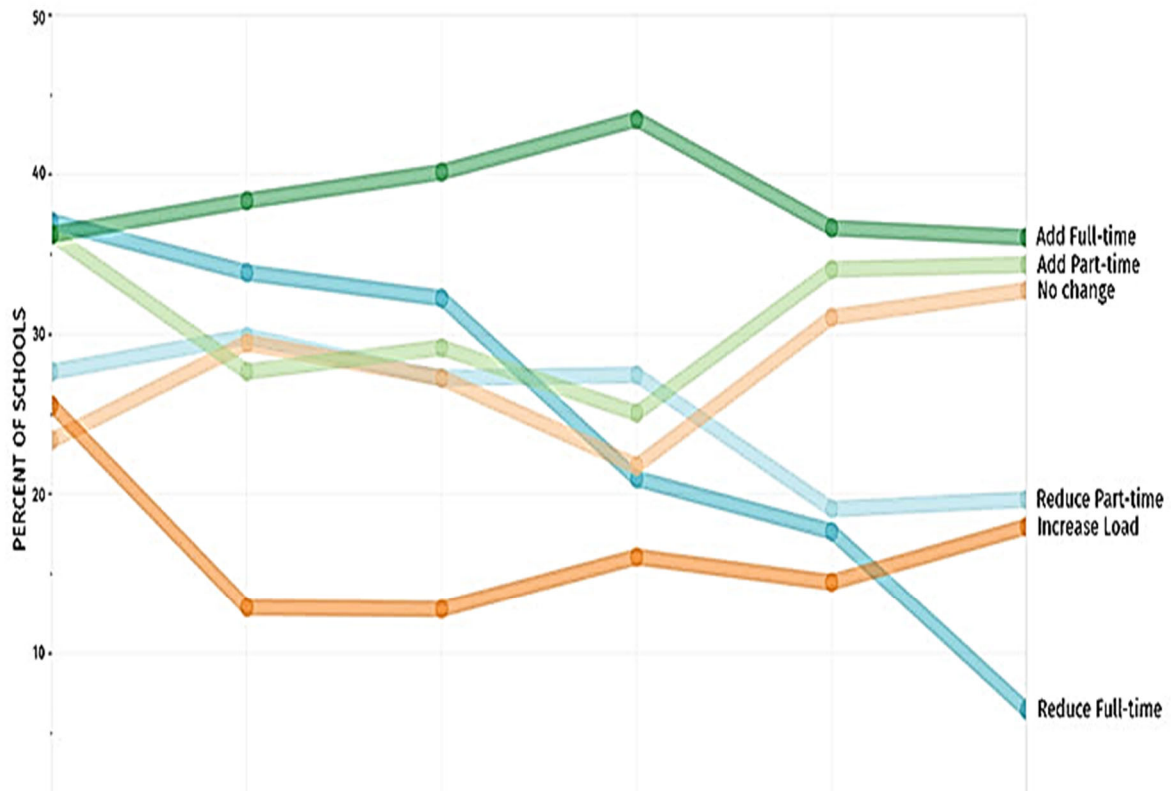


Figure 39. ACSA Survey of Faculty Staffing Trends 2010-2016, Nicholson (2015).

assessment committee suggested that the college needed to do a better job increasing its visibility and public image by encouraging faculty to expand their presence at conferences and in the community. Also, they should update all communicating modes to explicitly broadcast the vision and direction of the college. It was the opinion of the two review committees that the structure of faculty appointments in the college relied too heavily on temporary and contingent appointments to the detriment of consistent highest quality teaching, despite this being a norm at many ACSA schools as depicted in Figure 39.

The internal assessment committee report highlighted internal conflicts surrounding the definition, responsibilities, and expectations of faculty members as well as the balance between needs for design studio instruction and research production. These comments underscored the tensions of professional school faculty in a research university:

There is a desire to hire faculty who are strong researchers and also can teach design to further foster integrating, yet few such candidates are found or have been hired. We were told that the bottleneck is not the lack of a talent pool out there, but a combination of internal reasons (e.g. push back against candidates, push for design faculty, etc...). (Adriaens, et al., 2008, p. 4)

Other structural weaknesses highlighted by the internal review committee focused on the perceived lack of transparency and decision-making: “The dean has significant power, and it is not clear what the role of the Executive Committee is beyond Promotion and Tenure recommendations to the dean” (Adriaens, et al., 2008, p. 3). The effect of this advisory status led to “...a perception that both the programs and the Executive Committee are in a position to react to rather than to initiate or guide action” (Adriaens, et al., 2008, p. 3). The internal review committee reported that the impact of this governance structure was causing morale

issues among the faculty: “Beyond the EC, there is a sense among the faculty of a larger lack of transparency about college decision-making structures and policies that contributes to unnecessary anxieties” (Adriaens, et al., 2008, p. 3). In addition to governance issues, the two review committees perceived that declines in enrollment at the undergraduate level were undermining the quality of both the undergraduate cohorts and the pipeline to the graduate programs.

The committees reinforced the concern expressed in the self-assessment document that the lack of professional practice opportunities for designers created a challenge for faculty recruitment and retention that schools on the coasts do not experience. Additionally, the committees reported the long-held norm of working long hours for faculty and staff may have had long-term negative consequences. Facilities concerns highlighted in the reports focused on inadequate space for research, social and contemplative functions, and the isolation on the North Campus from the liberal arts schools.

The self-assessment reports noted that support for interdisciplinary initiatives at U-M might provide opportunities for the faculty and students to bridge intellectually and physically with other programs to raise the profile of the college with the campus as a whole. The committees saw possibilities for the college in the development of technology-aided design and fabrication tools, their connections with Detroit and Grand Rapids, and the historic identity and image of the college in making (Adriaens, et al., 2008; Hack, et al., 2008).

The self-assessment report emphasized the negative impact on the college’s image, as well as its ability to attract external funding, because of the lack of appropriate research, design, and fabrication spaces. The poor quality of the faculty offices and crowded studio

space was underscored as having a negative impact on the ability of the college to attract and retain faculty and students. Also, the quality issue could be an underlying cause of the low productivity of some tenured faculty. The reports underscored the threat to the culture of the college from its lack of demographic diversity among faculty and students. The committees also noted that the lack of ‘traction’ among the university units had caused members of the college to be left out of important university level discussions (Kelbaugh, 2007; Hack, et al., 2008; Adriaens, et al., 2008).

Ponce de Leon’s strategic initiatives sought to leverage the strengths of the university and its opportunities for interdisciplinary research and teaching. She initiated programs intended to address the weaknesses in the faculty appointment structure and create policies and practices to raise the faculty productivity and national/international profiles. Recognizing the historical strengths of the college, she worked to re-engage and re-invigorate the maker and community service ideologies prevalent among the faculty and sought new strategies to deal with the threats arising from inadequate facilities, demographic deficiencies, and enrollment trends (Ponce de Leon, 2016).

Tectonic (mode of construction). During this period, the faculty and leadership of the college were both seeking to maintain previously constructed core norms, values, and operating paradigms while actively evaluating their efficacy for the future of architecture education and the profession. Dean Ponce de Leon’s influence on the construction of the faculty culture included obtaining additional funding for faculty and facilities, finding opportunities for national and international recognition for the work of the faculty, and working to re-construct the faculty and curriculum to meet what she perceived to be emerging demands in architecture education.

Her leadership activities focused on providing a foundation for the faculty and students to excel. Figure 40 depicts the strategic themes she selected for her leadership agenda. Among the most significant changes Ponce de Leon made, were those that altered the composition of the faculty through new hires and incentivized retirements. She also garnered funding to construct both a robotic fabrication laboratory and a new wing for the art and architecture building, two of the most significant facilities projects undertaken since 1974. (Ponce de Leon, 2016). In support of her interdisciplinary initiatives, Ponce de Leon provided new incentives to encourage faculty to use multidisciplinary problem-solving approaches in research and teaching.

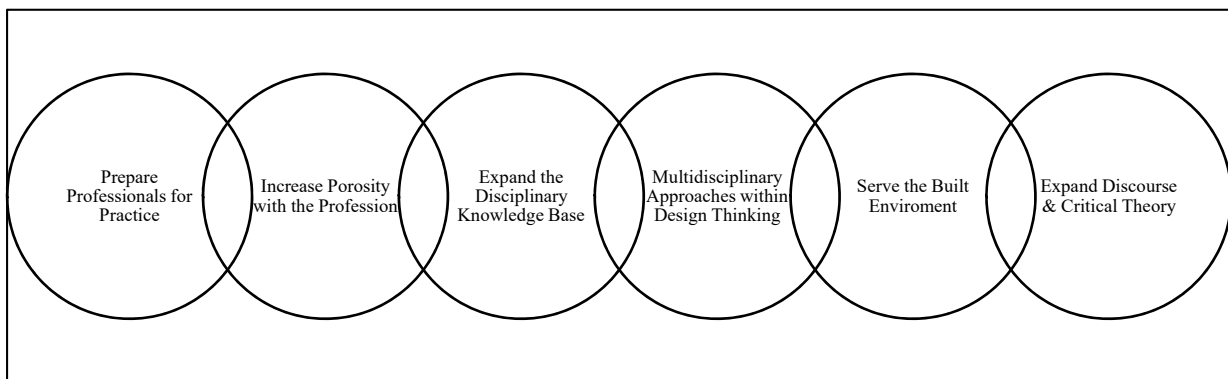


Figure 40. Ponce de Leon's strategic goals

Simultaneously, Ponce de Leon was encouraging the faculty to see the need to revisit the structure and pedagogy of architecture education, its impact on diversity and discourse, and their normative values around teaching 'good design' (Ponce de Leon, 2015).

Ponce de Leon's original roster of enhancements, supported by funding she had received when negotiating her contract with the provost, included investments in the facilities, faculty, curriculum, and students (Ponce de Leon, 2008). She provided the vision and funding for the creation and staffing of a digital fabrication program, a research incentive

program, enhanced visiting professional, and lecture series. The impact on the culture of the architecture faculty was significant. Hiring new and emerging talent in digital technology and design and altering teaching assignments shifted the conversation on research and teaching.

Facilities. One of the earliest actions that Dean Ponce de Leon took after being appointed was the cancellation of a building project that had been initiated by the previous dean. She reported to the faculty that the criteria for cancellation of the previous plan had to do with cost, potential construction-related disruption, and what she determined was too narrow of a building program (Ponce de Leon, 2009). In order to evaluate the space-related issues, she appointed a committee led by former dean Beckley. The Space Planning Committee submitted its report to the dean and Executive Committee in February 2010 titled “Transformation needs of the A. Alfred Taubman College of Architecture and Urban Planning” (Asiesen, et al., 2010). The report describes the revitalization goals that could be supported by renovation of existing space and the construction of additional spaces in the context of an evolving pedagogy and growing student and faculty body. The Committee reported five unmet challenges of the current facilities that negatively affected the college’s culture and its teaching, research, and service missions. The challenges are unwelcoming facilities which do not reflect its aspirations; an inability to support current pedagogical methods; lack of research space; growing community; and obsolescence of building infrastructural elements (Asiesen, et al., 2010, p. 3). The Committee also described the perceived need for a space that would positively affect the *Genius Loci* of the college:

The building needs to have a unifying ‘architectural space’ a space that lifts the spirit, is strongly identified with architecture and planning pedagogies, and gives character to the school. The building needs to be turned into a symbol, a landmark that will

distinguish it from other buildings on the North Campus, and represent the Taubman College's unique role in teaching and research in architecture and planning (Asiesen, et al., 2010, p. 7).

The report noted that many peer schools had recently updated facilities as well: "These schools have found that up to date physical plant is essential for their recruitment of quality students and faculty and for achieving recognition in the national polls that rank schools..." (Asiesen, et al., 2010, p. 4).

Other facilities-related initiatives that were key to constructing the culture of the architecture program during the Ponce de Leon era included acquiring space proximate to downtown Ann Arbor for faculty research and space in downtown Detroit to support a high school pipeline building program in collaboration with the Detroit Public Schools. Acquiring these two spaces allowed faculty to explore and expand their teaching and research activities in ways that could not be supported in the overcrowded art and architecture building.

In March 2010, Ponce de Leon announced that, with the approval of the Space Planning Committee and the provost, warehouse space located near downtown Ann Arbor had been selected for the architecture faculty's research activities. When presented at the faculty meeting, some culture-based concerns were raised by the faculty including the potential impact of separating the faculty by building. Faculty members were allowed to request space in the new facility, which was originally described as being assigned based on project needs. Drew (2010) reported that this solution was recognized as being a temporary compromise to address the college's need for faculty offices and research space.

Faculty members who relocated to the new space in downtown Ann Arbor had access to a 16,000 square foot warehouse-like space with concrete floors, few amenities, and nearly

floor to ceiling windows on three out of four of the exterior walls. These faculty members were all designers and makers. In contrast, faculty members who used the space in downtown Detroit were mostly interested in research and creative community-based practices and projects, which relied on engagement with Detroit communities.

Ponce de Leon's influence on reinvigorating the faculty and changing the cultural paradigms that limited the definitions of research to tectonics, building sciences, and other governmentally-sponsored efforts began with the construction of policies and practices which could normalize other forms of knowledge investigation and dissemination, such as the design architects creative practice initiatives and materials explorations. Using funding from the provost's office, she was attempting to reinvigorate the college's fabrication facilities by building upon its research legacy and articulating a commitment to interdisciplinary problem solving. Ponce de Leon (2010) asserted that her leadership was leading to a renewal of research and the development of interdisciplinary work related to advancing sustainable design of the built environment. Leveraging existing facilities and the historical reputation of the college, Ponce de Leon's legacy included a practical approach to reclaiming the college's position as a leader in research among schools of architecture. Ponce de Leon (2010) described her outlook thusly, "From a practical perspective I am committed to expanding the college's existing facilities and engaging these facilities in the development of such projects, specifically where research is enabled through actors of innovative making, building and fabrication" (p. 1).

Noting that external funding for making projects, such as those pursued by professional architects and designers was largely unavailable, Ponce de Leon provided a competitive research-funding program for makers. Named "Research-through-Making", she

constructed the application process as a competitive program by inviting external panelists to help select the winning proposals. The impact on the architecture faculty culture was swift. Projects derived from winning entries provided the foundation for faculty who had never entered competitions or exhibitions to garner awards, accolades, and acclaim while publishing more papers and receiving more invitations to participate in conferences and symposia. In general, the design faculty became more active in their professional development and a spirit of innovation became pervasive among the design and making faculty.

Genius loci (spirit of place). The spirit of place operating in the Taubman College of Architecture and Urban Planning during the Ponce de Leon deanship was described as being on an emotional roller coaster (Harris, 2016). Before her arrival, the internal assessment committee (Adriaens, et al., 2008) described the college faculty as enjoying a positive social chemistry, but “to the considerable disappointment of many, students in the colleges programs are more distant and sometimes negative in their relationships across disciplines” (p. 7). The external strategic assessment report shared a sense of optimism attached to her arrival. At the end of her deanship, the chair of the search committee for the next dean excluded any faculty and staff who had been positively associated with the Ponce de Leon deanship from participating on the search committee (Dewar, personal communication, 2016).

Dean Ponce de Leon weathered multiple personal, professional, and academic highs and lows during her tenure, and each influenced the culture and climate of the college. The faculty had grown weary of Kelbaugh and his somewhat singular focus on sustainability, urban policy, and practice issues. As indicated in the strategic assessment reports, they were

leery of his decision-making methods and a perceived lack of transparency in his administration of the college. The internal assessment committee (2008) reported that “as indicated in several of our discussion with faculty, lecturers and students, the qualities for the next dean are less about his/her specialty than about being inclusive and willing to explore broadening the research (and teaching) themes” (Adriaens, et al., 2008, p. 10).

In the earliest stages of her deanship, Ponce de Leon seemed focused on helping the faculty to look beyond the college for its projects, responsibilities, and opportunities. Her vision statement “Engaging the World” described architecture and urban planning disciplines as experiencing a pivotal moment in their developmental trajectories. “Environmental degradation, housing shortages, the erosion of infrastructure, require a new generation of practitioners who possess both impeccable skills and a global perspective, professionals who understand the interdisciplinary dimensions of every new challenge and take a collaborative approach” (Ponce de Leon, 2011, p. 1).

Ponce de Leon joined the college with a successful and award-winning architectural design practice, a fact that the faculty initially found positive. Over time, resentment from faculty about the perceived amount of time she spent conducting the business of her practice rather than the business of the college grew and was reported to the provost. The faculty’s support of the direction she was leading the college and her immersion in the daily operations of the architecture program began to shift with the acrimonious dissolution of her award-winning professional practice, which received coverage in the national press (Dyer, 2010). Faculty complaints about the amount of time she was away from the college presumed that she was focusing on establishing a new professional base for her creative practice. These complaints were taken seriously by the provost, who required an accounting of her time and

learned that she was lecturing, recruiting, meeting with donors, and attending campus committee meetings at a level appropriate for a dean. Some faculty asserted that these complaints were professional jealousy that her professional practice was continuing to thrive while she was dean of the college. After the provost inquiry as to her time utilization, Ponce de Leon had a full-length window inserted into the dean's suite private offices so that passers-by could see her working in the office. Ponce de Leon was responding to the call for transparency literally and with architecture as her communications medium. Wineman (2016) commented, "Built space can be defined as a field of structured co-presence, co-awareness, and encounter. The boundaries that divide and the connections that re-unite built space organize the way in which behaviors, activities, and people come together or remain apart" (Wineman, 2016, p. 1).

Governance conflicts between the dean and Executive Committee are documented in the meeting minutes and had an impact on the spirit of the place during the Ponce de Leon era. Assertions that the college had grown too large in terms of enrollment and numbers of faculty and lost its family-like feel were a new complaint often repeated by senior faculty who had been at the college a significant number of years (Harris, personal communication, 2015). In contrast, there was a new energy not seen in the college for a number of years, which emerged predominantly among groups of new junior faculty who were working collaboratively on research and professional partnerships. Many of these junior faculty members were hired by Ponce de Leon and many chose offices at the Liberty Research Annex, a warehouse on the outskirts of downtown Ann Arbor.

Changes in the organizational structure during the Ponce de Leon era, which are discussed later in this document, appear to have had a favorable influence on the spirit of

collaboration among the architecture doctoral program faculty. Zimmerman (2016) reported that the formerly insular faculty now believed that interdisciplinary outreach to other U-M faculty could be beneficial and stated, “We should also continue outreach to non-doctoral Taubman College faculty that has been carried out systematically throughout the last three years, through admissions consultations, through the Doctoral Colloquium, and through the regular inclusion of non-doctoral faculty on doctoral committees” (p. 2).

The growth of the faculty, and a new and relatively inexperienced architecture program chair, was the impetus for the creation of a short-lived organizational restructuring experiment. The architecture program chair selected two senior faculty members to aid with program administration tasks by creating a directorship for the undergraduate and graduate programs. The directors were to help with course scheduling, admissions, advising, coordination, and other tasks while the program chair was concentrating on preparing the materials needed for the upcoming accreditation process.

Historical, societal, and contingent influences. Among the most significant of external influences on the culture of the architecture faculty during the Ponce de Leon deanship was the economic recessions the United States and developed nations endured between 2007 and 2012. Economists have noted that collapses in the real estate market and banking industry, as well as net losses in the United States gross domestic product during the period, had a significant impact on several of the markets for architectural practice including housing. These economic conditions had a profound impact on both professional practice opportunities for the architecture faculty and the graduates of the architecture schools, as well as fostering challenging environments for the schools of architecture in terms of achieving their enrollment targets.

American architecture schools during this period began recruiting faculty and students and seeking research, teaching, and service activities internationally. At U-M, this strategy resulted in the highest enrollment of international students ever, as well as the hiring of several international faculty from Austria, France, Mexico, and Spain. The faculty already included international faculty from England, Germany, Korea, the Middle East, and Russia. The cultural impact of the enrollment and faculty recruitment strategies included internal debates among architecture faculty members about the suitability of the admitted students, and biases held by faculty members instructing students who did not speak English as their first language. Figure 35 depicts the changes in Michigan economic activity during the 2000-2012 period.



Figure 35. Michigan economic activity index, 2000-2012 (adapted from State of Michigan, 2012).

When Ponce de Leon came to U-M, the economy of the State of Michigan had been in steady decline since 2001, the stock market crash of 2008, and subsequent recession, had worsened those conditions. Fears about the Michigan economy made recruiting students and faculty to the U-M architecture program challenging and the faculty supported adding additional professional staff to help support student recruitment. A turnaround in Michigan's economic activity began in early 2009, and by early 2012, ahead of the national average,

Michigan’s economy recovered nearly a decade of losses. The influence of this economic volatility on the architecture faculty culture was a wariness about professional practice activities, especially in the Midwest, that equated to a general reluctance among any prospective faculty to move to Michigan. Existing faculty were finding it necessary to find creative ways to maintain their local practices, and some were able to win competitions for buildings overseas. The dean set up small professional practice offices for her own practice in three cities: Ann Arbor, Boston, and New York.

Employment opportunities and the impact on enrollment. Similarly, the impact of the downturn in the national economy on the architecture profession equated to employment challenges for graduates. Prospective students during this era were concerned about the viability of a degree in architecture; a fact that was exacerbated by a *New York Times* article published toward the end of the recessionary period, entitled “Want a job? Go to College and Don’t Major in Architecture”. The article featured the unemployment rates for recent architecture graduates (Rampell, 2012). Figure 36 depicts the employment outlook data presented in the 2012 article.

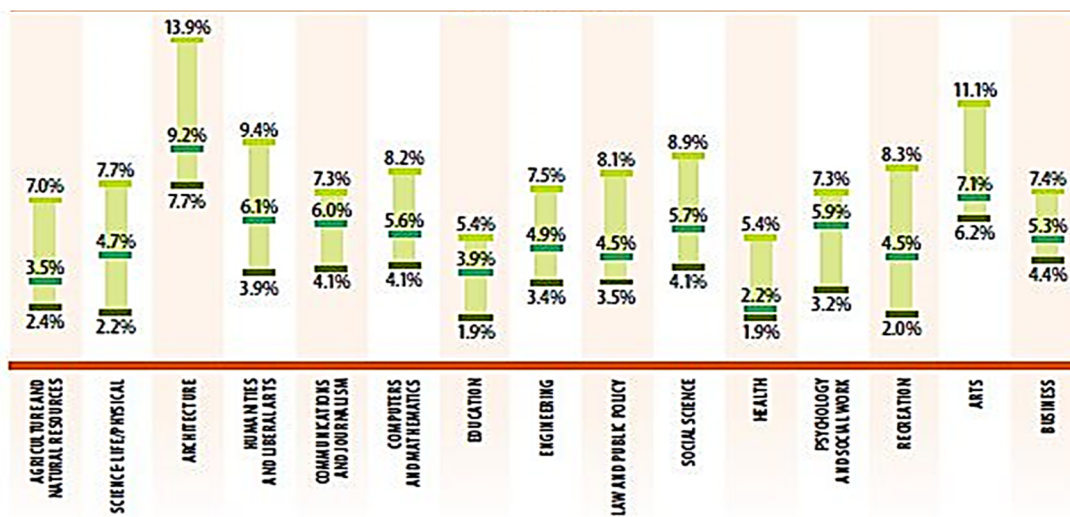


Figure 36. Employment by degree and discipline (adapted from Rampell, 2012)

In contrast, just after the end of the Ponce de Leon era, *USA Today* was promoting an architecture education as a very employable major (Bancalari, 2017). Figure 37 depicts the employment rates Bancalari (2017) reported. The influence of these swings in employability of aspiring architects was evident in the enrollment data, which indicated a decline in the undergraduate population at U-M and other American architecture schools. The trickle-down effect of this swing in architecture employment may have been seen in the commissions that faculty members were able to secure in their private practice and shifting instructional demands. Some faculty during this period asked for reduced appointments in order to manage external projects, causing temporary spikes in hiring of temporary lecturers.

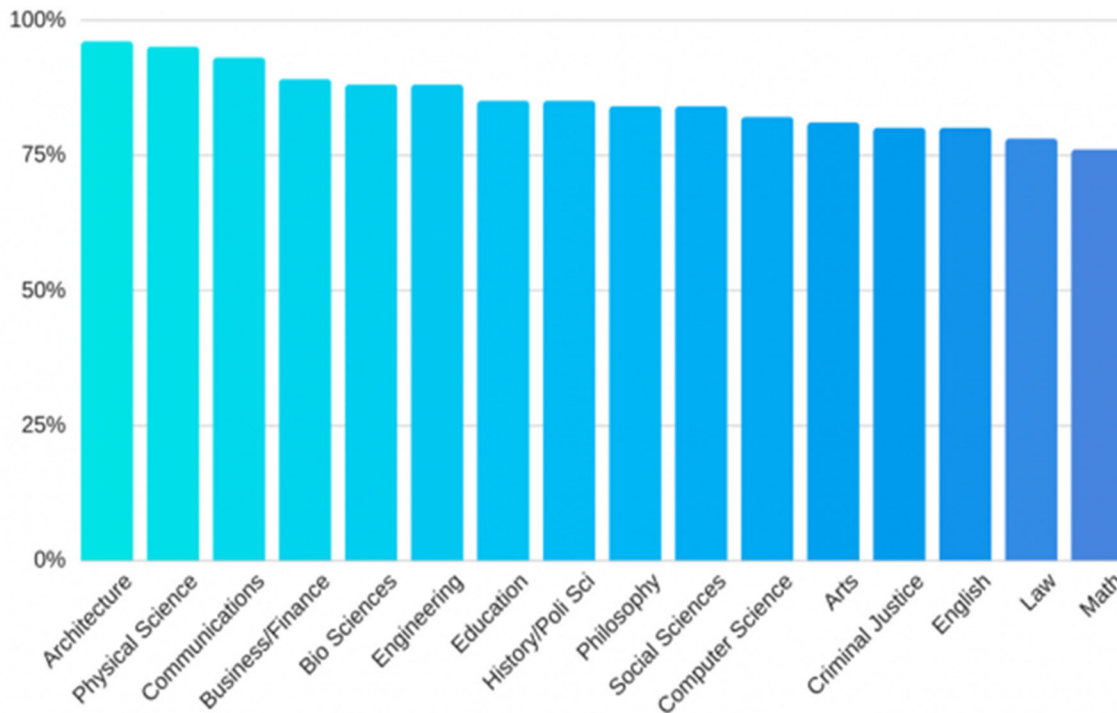


Figure 37. Employment by major 2007-2017 (adapted from Bancalari, 2017)

Enrollment challenges during the period were reported by a majority of ACSA schools. An ACSA admissions survey comparing 2013 and 2014 data found that applications for pre-professional undergraduate programs were down at 58% of the schools and applications for the professional masters of architecture program were down at 52% of the schools. During this period, the volume of applications for the graduate program at U-M was steadily increasing while undergraduate applications were decreasing. With declining state funding, and decreasing enrollments in the college's other degree programs, the graduate architecture program was enlarged to help maintain the college's primary sources of revenue. This shift resulted in the need to hire additional faculty for architecture and provided the established faculty greater opportunity to work with graduate students, which many preferred over teaching undergraduates. The negative consequence was a diminution of the quality of teaching at the undergraduate level that was left to lecturers and faculty who had not kept current with emerging technologies (Haar, 2016). A growing concern among the senior faculty and program administrators was the relative inexperience of the faculty applying to teach in the graduate program, many of whom were themselves recent graduates of architecture schools.

Table 8

Application Volumes by Year and Degree Program 2009-2016

Applications	2010	2011	2012	2013	2014	2015	2016
Freshmen				350	197	200	270
Undergrad transfers	37	57	65	51	26	29	28
Cross-campus Transfers	95	68	61	55	48	23	22
Other Graduate and Doctoral	423	451	459	366	381	386	376
Master of Architecture + Master of Urban Design	817	733	852	822	740	819	958

Enrollment growth in the Master of Architecture program was the impetus for the college hiring a significant number of young designers as studio instructors. In many cases,

and because of changing paradigms in architecture schools where women were achieving enrollment parity, these young designers were women and/or couples. Faculty recruitment discussions shifted to include consideration of the employment needs of the candidate's spouse. Increasingly, in order to hire the selected candidate in the tenure-track position, employment for the candidate's spouse in a non-tenure-track position was required. During the Ponce de Leon era, the hiring activities for one of the architecture program chairs, and approximately 25% of the new hires involved spousal arrangements. The increased availability of newly graduated architects for teaching positions was a response to the poor economic conditions of the era. Timberg (2012) found that the diminution of available funding for professional practice was the catalyst for some architects of the era to venture into alternative forms of practice, including accepting teaching positions.

Evolving image of the architect. Other architects describe establishing practices during this period that purposefully attempted to embrace an agile underlying professional ethic, adjusting to social and behavioral pattern changes as opposed to the previous era norms that assumed continuing projects of similar types (Korody, 2017). The influence of adjusting to these new images of professional architecture practice on the culture of the architecture faculty was most often seen in the types of projects and research investigations undertaken by the faculty on the tenure-track. Projects took on more of a speculative nature; many leveraged emerging technologies and new materials and pushed at the boundaries of the architectural discipline. One indicator of the movement among academic architects to alternative forms of practice was evidenced through a survey of the articles published in the 2009 *Journal of Architecture Education* issues, which placed primary emphasis on architectural criticism rather than design, construction, and its value to society.

Globalization. At the university level, there was increasing interest in international opportunities for teaching and research. The economies of China and India continued to grow during this period, making them opportunities for outreach and development by the University of Michigan President Mary Sue Coleman. Coleman traveled to China in 2010 to sign a collaborative research agreement with Shanghai Jiao Tong University (SJTU) and Peking University focused on developing research partnerships studying renewable energy and biomedical topics. Coleman was building on the legacy established by former U-M President James Angell, who had encouraged Chinese students to attend the University of Michigan in the late 1800's. The enrollment of Chinese students at the U-M in fall 2009 exceeded that of any other foreign nation (Lessnau, 2010).

Similarly, the U-M architecture program and its competitors were welcoming the influx of applications from international students to help combat the decline in applications from domestic students. Although the college had previously hired several European faculty and taught European travel studios, the beginning of a shift in interest among the faculty toward teaching, research, and creative practice efforts in less developed areas around the globe, especially South America and China, was documented in their annual faculty activity reports. Faculty offered spring travel studios to locations in Africa, the Middle and Far East, as well as South America during the Ponce de Leon era. She reported to the U-M provost that the college offered study opportunities on every continent. (Ponce de Leon, 2014).

The Association of Collegiate Schools of Architecture reported that by 2015 approximately 24% of the total student population at NAAB accredited and candidate schools of architecture were international. Figure 38 depicts the increasing enrollment of international students in American architecture programs. The impact of the growing

international population on the culture of the architecture faculty was beginning to be a topic of discussion in architecture program faculty meetings. Here concerns about language barrier, student preparation, and cultural norms were perceived by some senior faculty to be unsettling and problematic (Luke, 2015).

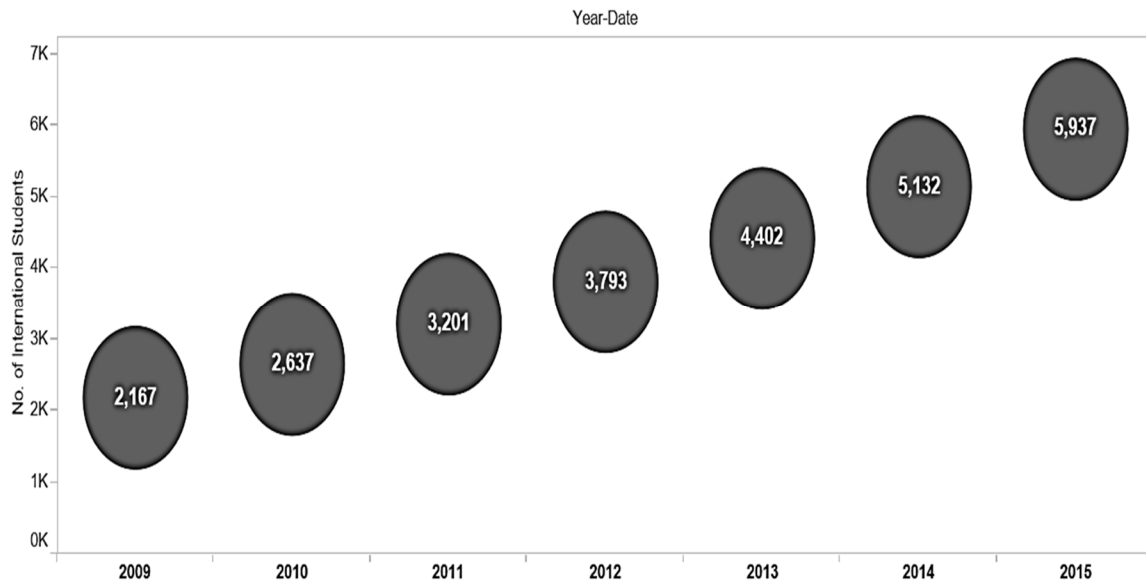


Figure 38. International student enrollment in American Architecture schools 2009-2016 (adapted from Nicholson, 2016)

The culture of the architecture faculty was influenced by these historical, societal, and technological changes. At Michigan, there was easy and broad acceptance of some changes, such as the integration of women in the design studio and the fabrication laboratory. In other cases, the changes caused internal strife and disharmony. There was pushback against accepting the increasing numbers of international students and concern about the evolution of the hiring paradigms.

Sociocultural influences. Sociocultural changes that influenced the development of the architecture faculty culture during the Ponce de Leon era included: shifting of faculty and student demographics; a maker pedagogy that was evolving from traditional modes of

production to those digitally-supported; a stated desire by the faculty for greater administrative transparency; inclusion in decision-making; broader engagement of the faculty in national and international teaching; research and creative practice environment; as well as evolving information technology use for production and dissemination.

The values of ideological flexibility, pragmatism, professional-practice, and focus on the built environment remained as constants. Operating norms included long hours for students and faculty; messy studio and laboratory spaces with the litter of student and faculty projects surrounding them; wearing black clothing; public reviews/critiques/juries at the end of the terms; faculty who were engaged in creative practice; material explorations; and community service through the built environment. Seeking evidence of both evolving and static norms, values, and operating paradigms within the architecture faculty culture during the Ponce de Leon era, archival documents, the college website, social media dissemination sites, and event listings were reviewed.

The transition from the Kelbaugh era to the Ponce de Leon era was aided by the completion of a strategic assessment. The process, loosely structured by the provost's office, required the college to perform a self-assessment and to undergo two reviews. One of the review committees was conducted by a group of faculty from other university academic units and the other was conducted by faculty members from peer schools of architecture. Ponce de Leon prepared a response and plan document for the provost and faculty. These documents were shared with the college community and the new dean upon her arrival. Normative values highlighted in these documents included: continued commitment to a school that was ideologically flexible, pragmatic, and based in making-craft tradition of the region; a commitment to having practitioners as members and leaders for the college; a commitment to

developing emerging talent; and the flexibility to bring in new voices to refresh the college when needed (Adriaens, et al., 2008).

Dean Ponce de Leon's earliest reports to the U-M central administration describe key values and norms of the architecture faculty in the context of her planned initiatives. She hoped to address the administrative burdens the faculty were carrying relevant to committee work, lack of formal mentoring, and opportunities for the design faculty to practice professionally (Ponce de Leon, 2010). She also noted that both of the review teams signaled a need for unifying the two core cultures of the college, Architecture and Urban Planning, with a goal of achieving a single understanding of design. She wanted to be sure that each of the faculty cultures maintained its discipline-driven unique features. "The college must reinforce the scholarship of each field while simultaneously benefiting from interdisciplinary models" (Ponce de Leon, 2009, p. 1).

As her deanship progressed, changes in the sociocultural realm of the college included enriched expectations for faculty productive and recognition at the national and international level, increases demographic diversity of the members of the college community, and diversity of faculty appointment types. Other norms and values, established in previous era, continued to be part of the operating environment of the architecture faculty.

Faculty composition and development. Discussion in faculty meetings, Executive Committee meetings, in reports to the provost, and in the policies and practices implemented during the Ponce de Leon deanship frequently focused on ways of developing, encouraging, assessing, and retaining faculty quality. The means by which the dean, program chair, and Executive Committee chose to pursue the goal of elevating the quality of the faculty included evaluations of the faculty composition, selection criteria, measures and means of assessing

quality, incentives, and dissemination avenues. The sociocultural components of each of these factors aid in understanding the normative values the faculty adhere to in decision-making during faculty searches, mentoring, promotion, tenure reviews, and the annual merit review process of the college.

Faculty composition. Both the internal and external review teams had highlighted the ratio of permanent to contingent faculty as an area of concern in their assessment of the college's resources. As a sociocultural issue, the composition of the faculty was a concern to the dean, program chair, and Executive Committee because of the implications for internal cohesion, curricular stability, and investment in the development of faculty quality. Conversations concerning the provision of financial support to contingent faculty for developmental opportunities during times of budget stringency challenged the faculty and leadership to choose between pragmatic against egalitarian values. Ultimately, the dean chose an egalitarian approach to research seed and dissemination funding that would provide all categories of faculty equal access to support (Ponce de Leon, 2008). Additionally, the turnover among the contingent faculty, whose short-term contracts were dependent on enrollment volumes, budget, and tenured faculty taking leaves of absence, meant that the collaborative and cooperative relationships that might form across ranks were less likely. This had a chilling effect on the relationships of tenured faculty to contingent faculty and the overall culture of the faculty. Structural changes, which enabled a greater number of tenured faculty and a reduced number of contingent faculty to be hired, helped to mitigate the instability that the earlier position churn had had on the core culture..

Ponce de Leon reported to the Executive Committee in 2010 that the total faculty head count equivalent was 85.38, with 36% tenured, 19% on the tenure-track, and 3% in

professor of practice appointments; the remainder was in visiting appointments or members of the lecturer employee's organization. The dean negotiated with the provost for the additional funding needed to re-balance the ratio for tenure and tenure track appointments to contingent appointments. The impact of this change was a re-stabilization of the faculty, an improvement in the morale of the younger faculty members who had been on year-to-year contracts and were now on tenure-track and an increase in productivity of the faculty as measured by the awards and honors earned (Ponce de Leon, 2016). One of the faculty quality challenges the architecture program struggled with during the period was recruiting strong faculty in environmental building technology; "We are having particular difficulties in recruiting in the area of Environmental Building Technology. With the international emphasis in sustainability, academic institutions and professional firms are competing for the top talent in this specialty" (Ponce de Leon, 2009, p. 1)

Selection criteria. Using the selection of an architecture program chair as a lens through which to view the values of the faculty and its expectations of leadership during the Ponce de Leon era was aided by the search committee reports on candidates brought to the campus. The search committee comments included in these reports documented several of the internal conflicts the faculty was wrestling with in recommending a candidate for program chair, including administrator versus designer, designer versus scholar, professional versus scholar. Additionally, the premise that "As it is in all fields, peer review is critical to CAUP faculty evaluation" (Faculty, 2012, p. 26) is demonstrated in the comments reported for this selection process as well. Several themes emerge from reports generated by search committees during the Ponce de Leon era including the continuing view of the primacy of design, a need to balance professional preparation for graduates with the development of

scholarship/theory and technology, an understanding of the role an architecture school plays in the larger world, as well as the importance of having ideological and pedagogical flexibility.

Borum, et al., (2009) reported the dilemma of searching for a new faculty member while the program is contemplating making fundamental changes in its make-up and direction. They reported feeling divided between the objectives of using the search as a means of speculating change in the make-up of the design faculty, or as a means of reinforcing current paradigms.

Similarly, comments in the Executive Committee (2010) report on recruitment activities highlighted the unique challenges of administering a school of architecture and some of the cultural markers important to the faculty in that era. Some espoused values shared among the architecture faculty were the importance of design and the visual representation of ideas, maintenance of a professional and/or scholarly portfolio, and an ability to balance the program to achieve both the preparation of professional architecture students and future scholars. For example, the search committee was critical in their assessment of this candidate's use of visual representation: "The strategic delivery of an image-free scholarly lecture was alternately seen as a provocation regarding the dominance of the image in current architecture discourse, or as a strategic error in reading faculty and student expectations for leadership of a design-dominated discipline" (Architecture Program Chair Search Committee, 2010, p. 3).

In contrast, the search committee found a second candidate to have the desired design knowledge and the ability to balance the demands of preparing future professionals and future scholars. "One of the major strengths of [the candidate's] presentation was to

underscore the value of design and design thinking as a specific set of skills and type of knowledge that is crucial to the education of an architect. ...” (Architecture Program Chair Search Committee, 2010, p. 8.)

It appears to have been important to the search committee to note that one candidate was able to position architectural pedagogy as neither trivial or unrealistic while being responsible to both students and the larger public sphere.

[The candidate] presented an articulate vision for architectural research as independent of, but inextricably linked to, professional practice — a stance that allows faculty who engage in research and scholarship outside of design practice to discover their work’s relevance in relations to the construction of the built environment and the professions that orchestrate it...implied that we are not simply responsible for teaching our students, but we are also responsible for teaching larger publics about the role that architecture, space and building play in daily life.

(Architecture Program Chair Search Committee, 2010, p. 8.)

Although searching for an administrator, one of the candidates for architecture program chair position was criticized for their immersion in administration, while allowing their relevance in architecture education and the profession to lapse:

It is clear that [the candidate] is an efficient and capable administrator who has implemented numerous administrative initiatives that have brought clarity and transparent structures to procedures...These strengths are also seen by most as [the candidate’s] greatest weakness. [The candidate’s] immersion in administrative struggles over the last ten years has left [the candidate] unproductive as an academic and as an architect. (Architecture Program Chair Search Committee, 2010, p. 7.)

On the other hand, the architecture faculty saw an overemphasis on architectural education as an unwelcomed attribute for a chair candidate as well.

It was clear that the value that [the candidate] places on preparing students to enter the profession also leads [the candidate] to view the primary role of architectural education as serving the professional realms of architectural practice. This of course, could be seen as a positive attribute to a professional program, yet it shoots well below the ambitions set by our program. (Architecture Program Chair Search Committee, 2010, p7.)

Other cultural indicators assessing the alignment of a program chair candidate with the college's historical foundation of ideological and pedagogical flexibility were found amongst the search committee report from 2010 of these two candidates:

[The candidate's] approach to architecture is seen by some faculty as too narrow and insulated within its own silo. A review of the references in [the candidate's] writing (both in essays and course syllabi), the lists of invited lecturers at [candidate's home institution] (where [the candidate] has been in charge of the lecture series for several years) and the lists of speakers at conferences that [the candidate] has organized reveals a repetition of similar figures that contributes to what some refer to as narrow bandwidth... a majority of faculty members had difficulty imagining [the candidate] as a galvanizing character in a program that values diversity of intellectual and pedagogical approaches. (Architecture Program Chair Search Committee, 2010, p. 4.)

The lack of ideological flexibility of this candidate was limiting and unwelcome by the Search committee members: "The lack of intellectual range through which [the candidate] approaches this relationship would undoubtedly limit our students' initiative to

motivate the profession in new directions as they challenge the entrenched models of normative architectural practice” (Architecture Program Chair Search Committee, 2010, p 7.)

Faculty assessment. Other insightful comments, depicting sociocultural components used when assessing architecture faculty quality were found in promotion and tenure reports from the period. Expected measures, which had been reported in previous periods, included publication in peer-reviewed journals, books, awards, and being invited to prestigious exhibitions. This traditional description of the values the search committee used to develop selection criteria was found among the search committee reports early in this period, as exemplified with “our final deliberations included evidence of potential to produce a solid body of work and teaching that will enable the candidate to contribute effectively to the existing curriculum, successfully pursue tenure, and participate in the life of the school” (Mitnick, 2011, p.1).

The college’s re-emerging reputation for developing new talent, a widely held value of the architecture program faculty, is described in the promotion and tenure report of a candidate reviewer in 2009. The committee appears to value the candidate’s success as measured by awards received

The work had garnered many awards and has received significant attention in a wide number of publications... were one of ten design firms selected by Architectural Record for the Annual feature “Design Vanguard”... they were selected as one of six firms in the annual Young Architects Forum of the Architectural League of New York... Recognition in either of these venues would place [candidate’s firm] in the upper echelon of emerging design practices of their generation. (Tenure and Promotion Committee, 2009, p. 3).

The challenges of being successful in achieving significant acclaim, while on the tenure track, in both creative practice and scholarship were challenged by one reviewer and are described and contextualized by the review committee. “Nonetheless, the body of writing that [the candidate] has produced in [the candidate’s] six years on the tenure track extends beyond the accomplishments of other design faculty in the college who have recently been granted tenure” (Tenure and Promotion Committee, 2009, p. 5).

Values of balancing scholarship and creative practice are described “We commend [the candidate’s] ability to strike a balance between the practical and the theoretical in a range of research projects that find their most compelling expression through [the candidate’s] creative practice” (Tenure and Promotion Committee, 2009, pp. 6-7). Similarly, this phrase was found reinforcing the crosscutting ability of a faculty member in a nomination for the Lorch professorship. “...moves freely between the visual and scholarly arenas that sometimes divide our program into separate units, and [the candidate] has excelled as both a design practitioner and a scholar, an increasingly unique feat in this time of increasing specialization” (Mitnick, 2009, p. 1)

Faculty development. Incentives for research, creative practice, and the dissemination of works through exhibitions, publications, conferences, and awards were examples found of both structural and cultural norms used at the Taubman College of Architecture and Urban Planning during the Ponce de Leon deanship. The dean’s announcement sent to all faculty just weeks after the beginning of her appointment laid the groundwork for faculty development by reminding them of opportunities for supported travel for exhibitions, conferences and other forms of dissemination (Ponce de Leon, 2008).

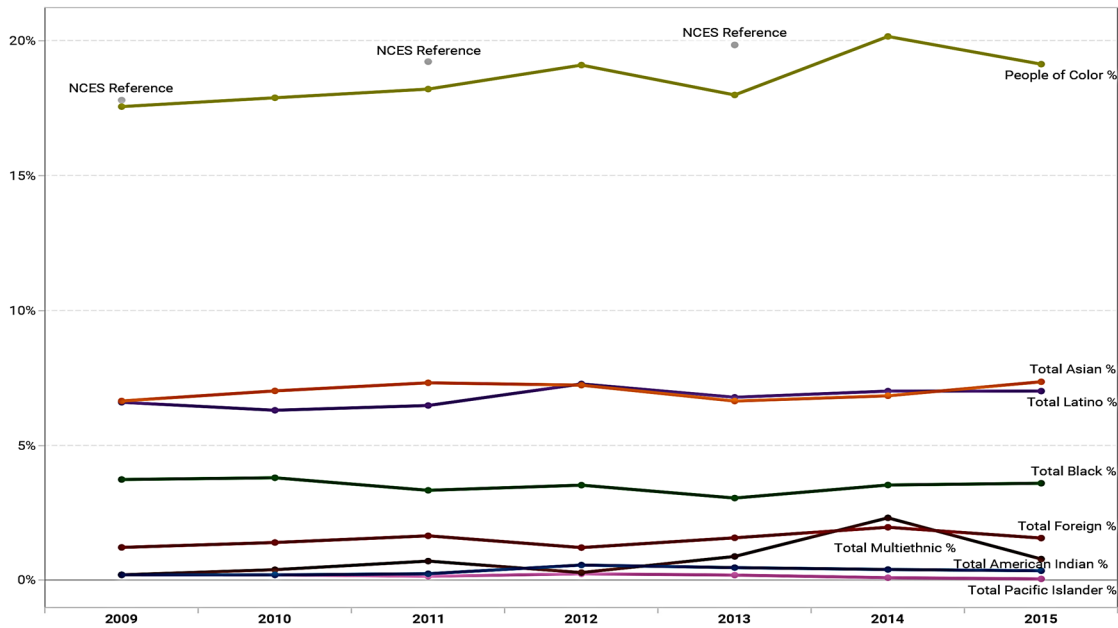
Lorch collegiate professorship. During the Ponce de Leon era, three faculty members held the distinguished title of Lorch Collegiate Professor: Tom Buresh, who was the architecture program chair; Caroline Constant, a practitioner and scholar of high regard; and an urban planning faculty member. Nominations for the award were solicited from among the faculty. The criteria for the award includes holding a tenured position with the college, international recognition in one's field, a distinguished record of teaching and research, and the support of faculty colleagues. The nomination process provided the faculty with an opportunity to expound upon the qualities they most admired among their colleagues. The nominations for the two architecture faculty members who were selected during this period in the college's history spoke about the faculty member's academic qualifications at length, but also documented the sociocultural contributions made for the good of the college. Both the Buresh and the Constant nominations described at length their commitment to faculty mentoring, development, and morale

Demographic diversity. Sociocultural concerns about the lack of demographic diversity in the Taubman College community were a continuing issue for the faculty and leadership. Ponce de Leon established early in her deanship the goal of achieving a faculty community whose ethnicity more closely represented that of the general population. At the same time, no initiatives or actions directed specifically at accomplishing the goal were implemented during her deanship.

During the first term of her deanship, Ponce de Leon appointed a task force of faculty, staff, and students charged with gathering information to make recommendations on improving the college's culture, climate and recruitment and retention efforts aimed at students, faculty, and staff of color, females, and applicants from other countries (Ponce de

Leon, 2007). The task force held a series of meeting during the fall term to collect ideas for addressing the lack of diversity. No formal report from the task force was found in the college archives. However, Ponce de Leon's budget requests and goal statements, sent annually to the provost as well as her annual *State of the College* presentations to the faculty, documented her continuing commitment to increasing the representation of minorities at the college. The strategic assessment provides some clues as to the culture of the faculty and its difficulty in working toward becoming more diverse--- describing the perception of 'insularity' as a behavior that needs to be examined for the deficits it has caused in the development of the college.

Improving the diversity of the college through hiring faculty from diverse backgrounds was a strategy encouraged by the architecture professional associations as well as the leadership of the U-M (Schlissel, 2018; Anthony, 2002). Data collected by the Association of Collegiate Schools of Architecture (2015), shown in figure 41, demonstrates that there was interest among the member schools in improving the demographic representation among the faculty.



"People of Color" is the number of people who are nonwhite and whose race is known. It includes those who are two or more races; it does not include "Nonresident aliens."

Figure 41. ACSA (2015) Faculty Diversity Report (adapted from Nicholson, 2015)

At the University of Michigan, several programs were available to facilitate faculty hiring that might improve its diversity. At faculty meetings, the dean noted that hiring was not the sole strategy that the faculty should be considering in the context of improving the demographic diversity. She suggested that they should plan to "... invite reviewers, jurors and lecturers who would provide minority students with role models, and to extend our reach in all of our activities to be inclusive" (Drew, 2009, pp. 1-2).

Shared during her final *State of the College* presentation to the faculty, figure 42 below depicts the changes in the ethnicity of the faculty during her deanship.

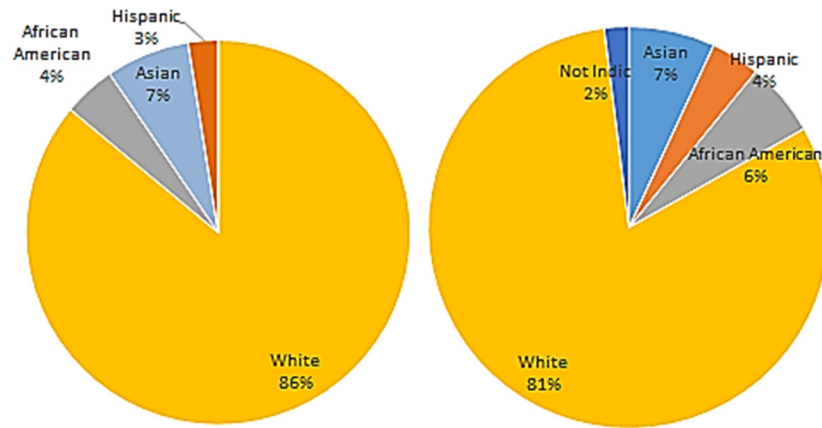


Figure 42. Taubman College faculty ethnicity changes from 2008 to 2015

Facilities. The effect of the facilities on the shaping of the college culture was highlighted in the Space Planning Committee (SPC) report from 2010. The committee led at first by a faculty member whose specialty was in architectural history and then by a former dean, holistically reviewed the needs and resources of the college, in the context of achieving the transformational goals established with the naming gift received from real estate entrepreneur A. Alfred Taubman a decade earlier. Among the deficits, affecting the architecture faculty culture, highlighted in the SPC report was the building's lack of indoor communal gathering space, appropriate teaching and research spaces for an evolving discipline and pedagogy, and a lack of interior 'readability' and navigation (Asiesen, et al., 2010). The SPC perceived that the art and architecture building, which had been constructed in 1974 for program described as three rectangles connected by two corridors, and designed for ultimate flexibility, had never established a 'readable' program. Too many entrances, no central meeting/communication space, no obvious logic to the intermingled location of activities of the two schools that occupied the building had led to a perpetual sense of anomie in the building program, which was spilling over to the culture of the faculty.

Before arriving on campus, and with the approval of Provost Sullivan, Ponce de Leon worked with the U-M Architecture, Engineering, and Construction Team members to analyze the program and costs associated with the building project that former dean Kelbaugh had launched. The Kelbaugh project was halted during the analysis period and eventually canceled (Executive Committee, 2008b). Understanding that there were unmet facility-related needs, Ponce de Leon pursued two strategies to provide the faculty and students with the space needed to advance the college. The first involved leasing a large warehouse located near downtown Ann Arbor and relocating many of the ‘maker’ faculty to this rough warehouse space. The second involved re-constituting a space analysis committee, led by former dean Robert Beckley, negotiating with the college’s namesake Alfred Taubman for an additional \$12.5 million and central administrators for an additional \$4 million and championing a new wing and renovation project that would add 50% more space to the college’s main location. In addition, she championed a new location for college activities in Detroit to be used primarily for a joint-venture pipeline program with the Detroit public schools.

The identity of the college, according to the Asiesen et al., (2010) report, was hampered by the physical layout of the art and architecture building, resulting in a fractured culture. They asserted that the building lacked a soul as well as a place that might be identified as its heart. This report emphasized the need for a common space was a phenomenon beyond architecture education and affected the social experience of educational facilities:

Space Planning Committee documented pedagogical shifts influencing the facilities used for instruction in both studio and elective coursework and the reciprocal influence of the

space on the faculty culture and the evolving culture on the spaces and pedagogy. The pedagogical shifts described in the report were characterized as a movement from passive to active learning. “Over the last 35 years architecture and planning education has evolved in complex ways. Once dominated by the studio and lecture hall where students played a passive role in absorbing knowledge, current pedagogical agendas demand much more of students and faculty” (Asiesen, et al., 2010, p. 4). Asiesen, et al., (2010) reported that instructional spaces needed adaptation to new media and modes of learning and a newly perceived need for informal unstructured learning paradigms: “Instructional space must also accommodate the collaborative work of students in break out discussion sessions and classrooms, like the studio, should provide for casual un-programmed use by students and faculty outside the normally scheduled class time” (Asiesen, et al., 2010, p. 5). A desire for a changed paradigm is apparent in the statement about access to spaces which were previously locked when not scheduled to protect audio-visual equipment from theft. The SPC describes classroom needs in the context of these pedagogical shifts noting the need for greater interactivity of students, faculty, and technologies than that found in settings that are more traditional.

The reported evolution of the studio facilities mirrored many of the same issues and concerns of the other spaces of the building including the need to support emerging technologies with access to power and data lines, maker space, display and review areas. The studio was still seen as the dominant fixture of the college; “it now must provide not only space for drawing, but space for model making, space for laptop computers and technical supports such as printers, work spaces for collaborative projects, space for full scale mock-ups and space for reviews” (Asiesen, et al., 2010, p. 6).

Challenges found in the 2010 existing facilities, included the lack of appropriate research space for the new forms of research being undertaken by the architecture faculty. Flexibility in design of research spaces were listed as an expectation with reference to the changing uses of the area of the building colloquially referred to as the ‘high-bay’ area. The committee noted that the high bay had previously been occupied with equipment that aided with solar data testing, now obsolete, and replaced with digital fabrication equipment: “Advances in research tools will undoubtedly continue, and the college must be prepared to adapt to the use of these new technologies and the evolving research programs of the faculty and students” (Asiesen, et al., 2010, p. 7).

Cultural deficit descriptors included in the 2010 report pointed to the integration of teaching and research in the same space and the evolution from a wood shop to the inclusion of three-dimensional machines for making and constructing architecture projects. It described new tools for prototyping and digital fabrication used by both faculty and students, which had taken up most of the flexible space that was one used for faculty research purposes. Research and learning activities had merged in the space devoted to this new hardware and software. The implication being that the new equipment was displacing faculty from the building, a fact underwritten by the move of many researching designers to the new space acquired on the outskirts of downtown Ann Arbor that the faculty named Liberty Research Annex.

Cultural clues about the architecture faculty were highlighted in the 2010 review of the facilities. “Office assignments are generally made on the basis of seniority, even though some of the senior faculty use their offices less than junior faculty” (Asiesen, et al., 2010, p. 8). The poor condition of many of the offices as well as the lack of offices necessary to

accommodate the entire faculty had resulted in many offices being assigned to multiple faculty members.

All the faculty offices generally fall below the University standards for faculty office space - and overcrowding - the doubling up of office occupancy -exacerbates their deficiency even further. Many faculty choose to do their office and scholarly work at home in a more supportive environment, reducing the amount of collegiality among faculty...Even the faculty lounge on the second floor and the faculty resource room on the 3rd floor have not been able to make the building a more attractive placed for faculty. (Asiesen, et al., 2010, p. 8).

The underlying assumption here was that the poor office conditions drove faculty to work from home and undermined the chances of collaborative or social engagement, thus lowering morale and engagement with each other and the college.

Disciplinary knowledge base expansion. The sociocultural values shared by architecture faculty members during the Ponce de Leon deanship are evident in both the expansion and revisioning of academic offerings and in professional development activities undertaken by the faculty members, which is the responsibility of architecture educators (Gannon, 2016). Ponce de Leon's leadership in recognizing these gaps in the offerings and bringing compensating programs to fruition-required engagement of significant portions of the faculty. The continuing cultural value to the faculty of these re-evaluations was characterized by an associate professor:

The value that is implicit placed within architectural education... It's not simply abstraction, but the value placed on - the open ended, the questioning, the allowing for multiple possibilities to stay alive, that value on the shear act of exploration and

generating alternatives and spinning them out and inhabiting their realities and even expanding the means by which we could imagine ourselves in alternate places and scenarios (Harris, 2016).

In this vein, Gannon (2016) has described architecture as an outcome of culture, a maker of culture, and itself a cultural construct and accepts that evolution within the schools is also a responsibility of the faculty. “Understanding architecture as having to do with how rather than what makes it easier to see that architecture is, like all academic disciplines, a cultural construct” (Gannon, 2016, p. 1). He also supports continuing evolution in the construction of architecture education: “Of course, those techniques, histories, habits, and conventions also can be developed, transformed, thrown out, and replaced as needed. Such activities rank among the most important work that takes place in architecture schools” (Gannon, 2016, p. 1).

Academic degree development. The faculty undertook several explorations of program development, which represented the expanding base of disciplinary knowledge and scope of architecture knowledge. The development of multiple new concentrations for the Master of Science post-professional degree provided insight into the cultural components the architecture faculty negotiated while creating these new tracks. The dean asked the associate dean for academic affairs and strategic initiatives to take the lead on the development of these new tracks. He established a task force and encouraged members to seek input from fellow colleagues in the architecture program and colleagues within the university with whom they may collaborate or pursue joint research and academic initiatives. When presented to the faculty, Curry, the associate dean for academic affairs and strategic initiatives, argued that the development of these tracks was an institutional imperative, necessary for the college to

maintain its position relevant to peer's programs and as a way of creating learning opportunities that captured new and emerging architectural knowledge not programmed into the professional program pedagogy. The development of these new offerings was also described as an engagement and development strategy for the architecture faculty to prevent stagnation and encourage new research and knowledge dissemination: "to add to the diversity of the existing student body...it seems intellectually productive to introduce a new kind of student into the mix - post-professional architecture students with an interest in emerging areas of architectural specialization" (Curry, 2011, p. 15).

Research development. During the Ponce de Leon era, the role of associate dean for research (ADR) transitioned from Jean Wineman, a graduate of the college who had also overseen the architecture doctoral program for a number of years, to Geoff Thun, an associate professor with an active portfolio of 'maker' projects. Some culture-based misconceptions about the nature of research conducted by the two core cultures of the college and their fit within the broader U-M community were documented by the 2008 U-M-appointed internal assessment committee. They reported a lack of consensus among the faculty on the definition of research and its relationship to design: "...The effect appears to be that some architecture faculty and students see research as inimical to design. Others see research as an important basis for design but those who think of research in this way are divided into four very different topical areas" (Adriaens, et al., 2008, p. 8)

In his role as associate dean for research (ADR), Thun worked to integrate the college into the University's research environment by creating numerous alliances with other academic units. He participated on university-wide committees for emerging topics relevant to research that might be done by members of the Taubman faculty and provided written and

personal guidance to faculty who were developing research portfolios. His proactive approach to the ADR role, following the passive approach of the previous ADR, infused new energy into the faculty.

Thun's contribution to the profile-raising activities, beyond the administrative tasks assigned to the role, included his own awards, recognition, and active research portfolio. Late in the Ponce de Leon era, his active engagement in the national Association for Computer Aided Design in Architecture (ACADIA) consortium brought the annual conference to the college and put the faculty members researching and teaching in computational architecture on the national stage. Thun's mentorship of several faculty members in this subdiscipline aligned developmentally with efforts funded by dean Ponce de Leon to re-establish the college's leading position in fabrication and digital fabrication through robotics. Thun's leadership in developing this research trajectory, underwritten for him and several other faculty members who were awarded research-through-making grants, enabled a new cohort of faculty developers to coalesce around digital fabrication and manufacturing to garner awards, prizes, acclaim, and raise the profile of the college. Taubman College again became known as a leading producer of research and scholarship in an emerging field within architecture, engendering interest among prospective faculty and students in the facilities, programs, and research underway by the architecture faculty.

Architecture faculty members provided examples in their promotion and tenure reports and search committee reports of activities which help to expand the disciplinary knowledge base of architecture. Examples of boundary spanning, boundary expanding, and crossover functionality from scholarship to creative practice frequently appear in both personal statements and committee assessment reports. A continuing value evident in these

reports was respect for the methodological and ideological flexibility for the knowledge creation frames which have characterized the architecture program faculty culture since its inception. Found in a search committee report, the following statement values the candidate's potential to expand the disciplinary knowledge base: "Given the school's stated commitment to exploring practice at the disciplinary boundaries of architecture, the committee believes that [a candidate] could continue to make a strong contribution to the culture of our school" (Mitnick, 2011, p. 5).

Similarly, a faculty member presenting their interim review case described her commitment to expanding disciplinary knowledge in the context of spanning the two sides of an architecture faculty responsibility: "These last few years at Taubman College have been instrumental in solidifying a dialogue between my academic and practice-based research and have reinforced my commitment to teaching" (Sirota, 2011, p. 1). Similarly, this statement was also found in an interim review package:

The University of Michigan tenure-track position represents the opportunity for me to take my research and pedagogical approach further under the support and guidance of a vibrant institution. I have greatly appreciated the generous intellectual and funding support from the university and I sincerely hope to continue to be a contributing member of this collegial community (Lee, 2011, p. 3).

Socio-structural influences. Changes in the academic portfolio, the organizational structure, faculty appointment types, policy changes, and resource allocation changes initiated by dean Ponce de Leon had a significant influence on the development of the architecture academic culture. Ponce de Leon believed that these changes could support and legitimize the sociocultural changes she believed were needed to raise the profile of the

college nationally and internationally (Ponce de Leon, 2008). Support for socio-structural changes had been provided to the dean by way of the 2008 strategic assessment report that included:

- creating aligned coursework (will require addressing scheduling and staffing issues);
- issue-oriented faculty meetings;
- proactive interest of deans and chairs in content and quality of faculty research and teaching;
- re-visiting the structure and management of the PhD program. (Adriaens, et al. 2008, p. 3).

As was true in the Bennett and Malcolmson eras, conflicts between the college Executive Committee and the dean over socio-structural components of the college such as governance roles, *College Rules*, policies, and practices occurred during this period. Ponce de Leon's actions to promote and elevate the national profile of the college required several socio-structural changes. The processes for developing and approving changes in the academic portfolio, expanding faculty appointment types, and overhauling the administrative leadership organization chart were examples of the topics debated in the Executive Committee meetings with the dean. The Executive Committee meetings focused on topics of administrative scope of authority and alignment with *College Rules* and procedures rather than the substantive content of the actions that the dean wanted to take.

The cumulative effect, of the socio-structural changes made during this period on the culture of the architecture faculty appears to have accomplished her goals of raising the national profile of the college as measured by its changing position in the national rankings of architecture programs. Sociocultural changes fostered by the socio-structural changes

included: engagement in post-graduate academic programs; technology-aided architecture research and education; an increasing normalization of a variety of external forms of dissemination and review; a rebalancing of the types of faculty positions and formalizing the role of professors of practice in their own appointment type; and a greater recognition of the need to share the leadership roles to accomplish group goals.

Enrollment. Enrollment changes in the architecture program, beginning during the Kelbaugh deanship, and continuing into the Ponce de Leon era, trended toward greater numbers of graduate students and declining numbers of undergraduate students. The trend was caused by declining applications in the undergraduate program and, in part, by the greater number of admitted students to the graduate program used by the college to maintain its funding base. Furthermore, graduate students admitted to the architecture program during this period were increasingly coming from international schools, especially China. The impact on the culture of the architecture faculty included more examples of faculty from the subdisciplines working together in teaching, research and service projects, and the beginning of discussions about supporting the needs of international students on the faculty.

Changes in the enrollment mix during the Ponce de Leon era reflected broader national and international trends in higher education enrollment generally and architecture education specifically. In March 2011, the college began to investigate the processes, issues, challenges, and benefits to enrolling freshman students, enrolling its first class of freshmen since the 1970's in 2013. Figure 42 depicts the dispersion of accredited schools of architecture versus the anticipated changes in high school graduation rates for each state. This information was used by Ponce de Leon as she developed enrollment and recruitment strategies. Multiple strategies were employed during the Ponce de Leon era to address the

declining applications for undergraduate enrollment, but two had the greatest influence on the external perceptions of the U-M architecture program. The first was the development of a cooperative agreement with the Detroit public schools on a pipeline program called Arc Prep. The second was an initiative to bring back freshmen admissions to the college. The influence of the DPS/Arc Prep agreement on the architecture faculty developed more slowly than the freshman admissions initiative, in part because the DPS/Arc Prep activities took place in Detroit and the Freshmen admits were on the Ann Arbor campus.

Academic portfolio changes. Among the socio-structural changes that had the greatest impact on the culture of the Michigan architecture faculty were those that Ponce de Leon sought to make in the academic portfolio of the college. Her approach included reviews, analyses, and adjustments within the existing professional and pre-professional program; support for more interdisciplinary collaborations; the expansion of the post-professional degree programs; and the development of a series of extra-curricular technology workshops designed to get the teaching of software out of the coursework while still providing learning opportunities for students.

Extracurricular technology workshops. Ponce de Leon led efforts to create an innovative set of extracurricular workshops for students and faculty in the use of information technology. Fundamentally, she believed that the faculty should teach how to make, create, analyze, or design architecture with software, not how to use software. Hiring a staff member, Jeanette Turner, with advanced credentials in instructional technology, they pioneered a series of workshop offerings that spanned from geographic information systems to complex three-dimensional design programs. The influence on the architecture faculty culture was a release from the drudgery of skills building in software to discussions about

designing, researching, and developing architecture with students already versed in the newest emerging information technologies. These technology workshops also aided the implementation and integration within the design studios of new output technologies, which included both two- and three-dimensional forms. Moving technology instruction as software skills building out of the instructional course window and into an extracurricular workshop framework was soon copied by peer institutions (Turner, personal communication, January 9, 2018).

Restructuring Master of Science degree. A second effort at reconstructing the Master of Science postgraduate degree offerings was initiated in 2009 (Ponce de Leon, 2009). The outcome included a new set of concentrations proposed to the architecture program faculty in the fall 2010. These specialty area offerings were seen as filling a gap in the graduate curriculum and were unrelated to National Architecture Accreditation Board accreditation requirements in emerging areas of the disciplines. Justification for creating the advanced degree programs were described by the dean: “Students are expressing a desire for more professional expertise and firms are seeking individuals with specialized expertise” (Executive Committee, 2011). Five new areas of concentration were proposed to the college faculty in academic year 2011 and included digital technologies, advanced material systems, industrial design, design and health, and conservation. Initially, Ponce de Leon asked the associate dean for Research to spearhead the efforts to organize the faculty to develop and launch the programs. The email below provides context to the internal and external consensus building and resource acquisition activities the dean undertook before announcing the new thrusts for the degree program to the architecture faculty; “...I plan to tell the architecture faculty that I would like to expand our offerings in the Master of Science.

Possible themes I would like to put on the table: 1- Historic preservation 2- Industrial design (possibly as a joint degree with Art and Design) 3- Digital technology 4- Design and Health” (Ponce de Leon, 2009, p. 1). Ponce de Leon appointed a program chair with advanced credentials, and a distinguished record of professional practice, John McMorrough, as a strategy that she hoped would help to meld the doctoral faculty culture with the design studio faculty culture to support the integration of these new offerings.

In the original conception, the new concentrations were not studio-based. There would be limited additional courses added to the college’s portfolio, and students entering the Master of Science concentration would have one shared seminar and select from the many electives already available at the college to round out their degree. However, the faculty had different ideas about creating a new curriculum, new course offerings, and new requirements for the post-professional program. The administration of these post-professional programs was assigned to the associate dean’s portfolio, which, given the organizational structure of the faculty, caused conflicts with the professional and doctoral programs administered by the architecture program chair. The architecture faculty did not report to any one program, many of them taught in multiple programs in architecture, and some taught in urban planning or other university units. Faculty engaged in the development of the new concentrations preferred to teach in the new courses rather than the pre-professional or professional architecture program. This scenario caused tension and conflict between the architecture program chair and the faculty, as well as between the program chair and the associate dean. The architecture professional program-tenured faculty had a long history of asking the faculty which courses they preferred to teach, and pushing back against program chairs who assigned them elsewhere. Often, the solution for the architecture program chair was to seek

additional funding to hire temporary lecturers to fill-in required courses in the architecture program.

After several years of running the new concentrations, the burden of administering six post-professional programs (one of which was Master of Urban Design) proved unsustainable and a new administrative structure, which added director roles for each of the concentrations and the UD degree program, were added to the organizational tree of the college. The post-professional degree directors now reported to the architecture program chair rather than the associate dean for academic affairs.

High school pipeline programs. Significant changes, spanning from high school pipeline programs through post-professional degree offerings were made in the architecture program's degree portfolio during this period. Ponce de Leon saw these changes as advancing her vision of implementing teaching and learning methods that could enable future generations to view and design holistically. Multiple strategies were employed during the Ponce de Leon era to address the declining applications for undergraduate enrollment, but two had the greatest influence on the external perceptions of the U-M architecture program. The first was the development of a cooperative agreement with the Detroit public schools on a pipeline program called Arc Prep. The second was an initiative to bring back freshmen admissions to the college. The influence of the DPS/Arc Prep agreement on the architecture faculty developed more slowly than the freshman admissions initiative, in part because the DPS/Arc Prep activities took place in Detroit and the Freshmen admits were on the Ann Arbor campus.

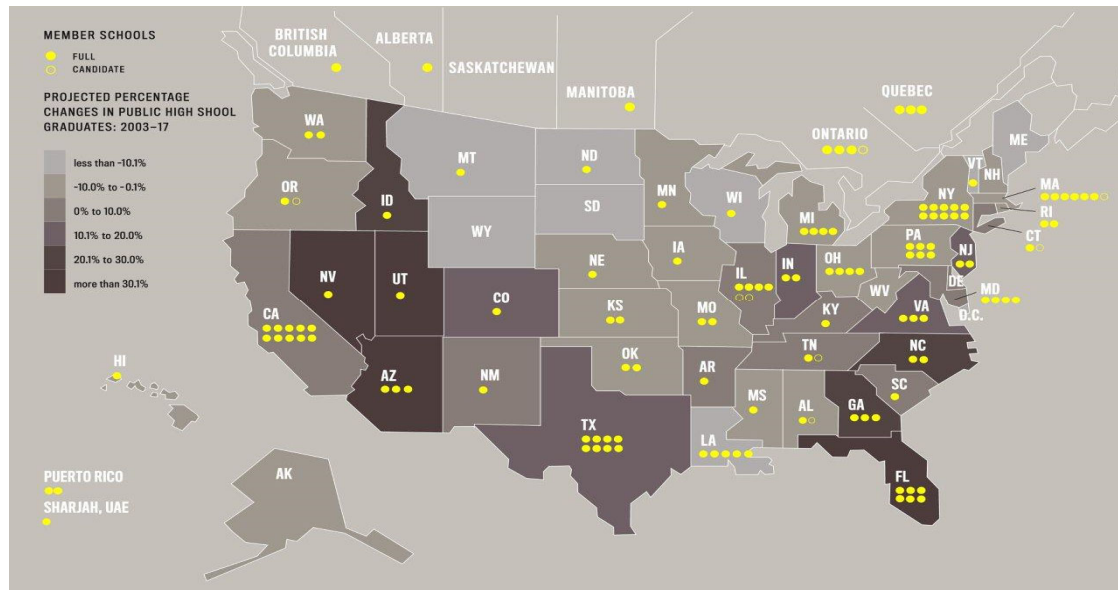


Figure 43. ACSA (2011) Accredited schools vs change in high school graduates (adapted from Nicolson, 2011)

Summer immersion program. When joining the college in 2001, architecture program chair Tom Buresh had been dismayed that a summer immersion program for high school students was being offered at the college, by an external vendor. Buresh developed a replacement program that engaged exceptional graduate students, interested in developing a teaching portfolio toward the eventual establishment of an academic career, in working with the high school students. The revised program was launched in 2008, enrolling a small cohort of local high school students in a three-week course and named Arc Start.

Expanding on the concept of offering immersion opportunities to high school students, a small after school program, running at the U-M Detroit Center, was gaining some traction among Detroit public schools. The success of the after-school program led associate dean Curry to assemble the funding, infrastructure, and internal support to launch a school year-based immersion course located in downtown Detroit and in cooperation with Detroit public schools called Arc Prep. The Arc Prep program, an innovative academic program for

high school students interested in exploring architecture as a professional pursuit, was launched in December 2014 under the guidance of associate dean Milton Curry. The initiative represented a collaborative effort between the college, the U-M School of Education, the Detroit public schools, the City of Detroit, and the Museum of Contemporary Art Detroit with funding provided by the Andrew W. Mellon Foundation, Kresge Foundation, Community Foundation for Southeast Michigan, as well as many alumni donors. The students were given design instruction by teaching fellows five days a week for half of a day plus career counseling. After Curry left U-M, the program leadership responsibilities were transferred to Professor Anya Sirota, who had an established community-based practice in the city of Detroit. Sirota's leadership of this program brought junior faculty to the Detroit location to work with the high school students and used the Detroit location as a venue to encourage engagement between the architecture faculty, the students, and Detroit community. Bringing these groups together in an active and ongoing way opened up new cultural learning opportunities to the faculty and the students. The Arc Prep program was designed to offer high school students from underrepresented groups an immersive experience in architecture, design thinking, and visual arts. The goal had been to provide opportunities for prospective students to engage with professionals and get support for college applications and interviews (Curry, 2018).

The addition of these high school pipeline programs to the architecture program portfolio appears to have had an indirect rather than direct impact on the culture of the architecture faculty. The Arc Start program initially relied upon exceptional graduate and doctoral students for teaching, and eventually lecturers, under the mentorship of the program chair. During the Ponce de Leon era, the instructors in the Arc Prep program were hired

specifically for that program and had very little interaction with the faculty based in Ann Arbor.

Freshmen admissions. Ponce de Leon's changes to the undergraduate offerings of the college included working with the provost to reinstate freshmen admissions in 2013. Freshmen admissions to the college had ceased in the early 1970's once the development of an agreement with the College of Literature, Science, and the Arts to provide the liberal arts components of the degree to architecture students had been formalized. From that point, students were admitted to the undergraduate architecture program only at the junior level. Ponce de Leon told the Executive Committee in 2011 that the perception among prospective students that the path to an architecture undergraduate degree, which required a preliminary two years in the College of Literature, Science and the Arts before being admitted in the junior year was confusing and off putting. She was alerting the Executive Committee that she was investigating the possibility of freshmen admissions and its implications for the operations of the college.

In the proposal to the provost, submitted in 2011, Ponce de Leon outlined three objectives, including increasing the competitiveness in the applicant pool for the architecture undergraduate program, increasing the demographic diversity of admitted students, and increasing the total number of applications to the architecture undergraduate program. She noted that the admissions data on the current method of gaining admission to the program, in the junior year, indicated a minority application rate of just 9% when the National Architecture Accreditation Board was reporting that nationally domestic minority enrollment in pre-professional programs had reached 33%. Ponce de Leon's report shared anecdotal data from recruiters on the confusion high school students and their parents reported at the two-

step process of getting into the program and dismay at the manner in which undergraduate admissions reviewed their applications, which excluded their portfolios of artistic work (Ponce de Leon, 2011).

The applicants dismay at having their artistic portfolios excluded from review resonated with the design faculty who, during admissions review processes, often rejected applicants whose qualitative measures of assessment, such as grades and standardized test scores, were acceptable but whose artistic works were sub-standard. The faculty supported the change to freshmen admissions. The provost was cautiously optimistic about the efficacy of the freshmen admissions proposal, ultimately allowing the college to admit only twelve freshmen, the size of one standard studio, in the first year. Because the college had committed to providing an unaltered curriculum, the dean developed an elective seminar to help orient freshmen to architecture education. This socio-structural change to the architecture programs portfolio had ramifications for administrative and academic staffing. Ponce de Leon's stated reasons for the reviving the freshmen admissions program focused on the programs perceived ability to recruit a more diverse student body, and recruiters' reports of meeting with greater numbers of career-oriented applicants who did not want to risk delayed entry in their junior year (Ponce de Leon, 2011). The strategy of reinstating freshmen admissions was intended to provide both a greater pool of diverse applicants to the architecture program and an opportunity to re-balance the enrollment of the college that had become increasingly graduate student based. The impact of the gradual shift over the years of a program that had been predominantly undergraduate to one that was increasingly dominated by graduate students on the culture of the faculty was a concern for the program chair and dean. The program chair was concerned about the architecture program's ability to

attract and retain faculty capable of providing graduate level instruction, impact on the faculty of the additional demands inherent in graduate instruction, upon faculty research, and the quality of instruction in general.

Interdisciplinary initiatives. Inter- and cross-disciplinary educational experiences were the core Ponce de Leon leadership initiatives and were aimed at improving the architecture program student and faculty experiences. To that end, she wanted to import expertise from other campus units into core courses, for example evolving individual teaching of environmental technology courses to team teaching utilizing faculty from the College of Engineering and School of Natural Resources with the architecture faculty. The faculty was not open to this proposal based on the lack of engagement, and it appears based on the teaching data that she was unsuccessful in convincing most of the deans of the other schools to participate in this new teaching paradigm in a meaningful way. During her deanship, there was only one example of a core course being taught by a faculty member from the College of Engineering. “Reinventing an entire pedagogy is no small undertaking. In this case, it requires nothing less than a paradigm shift --- from a model that promotes silos of specialization to an approach based on interdisciplinary collaboration” (Ponce de Leon, 2011, p. 4).

Ponce de Leon (2010) saw encouraging the faculty to participate in greater interdisciplinary activities as a way to begin to define the college on the national stage. She encouraged them to conceptualize course content, research investigations, and partnerships with faculty from other disciplines as a professional development opportunity. Ponce de Leon had described to the faculty and Executive Committee a vision of architecture and planning education, which placed interdisciplinary emphasis at its core: “My intention is to create a

vision for Taubman College through the transformation of architectural and urban planning education by developing a unique interdisciplinary pedagogy” (p. 3).

One of the strategies she used toward achieving this goal was providing incentives to faculty who were teaching electives to pair with those teaching studio courses, providing funding to pair external experts with studio instructors, and negotiating shared teaching relationships with the College of Engineering and the School of Natural Resources and the Environment. Examples of this team-teaching included a historian pairing with a designer, a designer pairing with a building technology expert, and a designer pairing with faculty in fabrication.

The development of a comprehensive set of concentrations within the Master of Science degree program was intended to provide postgraduate students with an opportunity to research and study one of five area specialties in architecture. During the Ponce de Leon era, there was renewed interest among the architecture faculty, for reviewing and renewing its objectives. The first of these efforts was led by faculty members who advised the doctoral program. Their goals were to provide a bridge program that could aid students who had completed a professional degree, the M. Arch, to obtain research skills enabling them to be successful in either the doctoral program or other forms of alternative practice (Executive Committee, 2008c).

Faculty composition. Describing faculty composition in terms of appointment types, demographic variables, and subdisciplinary expertise provides a snapshot of the faculty at a particular time. Changes in the faculty composition during the Ponce de Leon era were focused on demographic diversity and the balance of tenured and tenure-track appointments to other appointment types and creating a formalized role for practitioner faculty.

Understanding whom the college faculty aspired to be as individuals and as a collective was available in the guidance documents they relied upon for governing activities. Perhaps because of the interdisciplinary nature of the U-M architecture program, which had been founded on a liberal arts base rather than as a purely professionally focused program, the faculty created policies and practices that encourage the development of a college which is intellectually diverse. Examples of this desire for intellectual diversity were found in the *College Rules*, promotion and tenure reports, faculty search reports, and nominations for distinguished professorships. The *College Rules* are often cited in search committee, promotion, and tenure reports describing a desire for compositional diversity as of critical importance:

We need diversity in breadth of knowledge, in range of professional experience, in representation of disciplines, in professional productivity and alignment. ... Few faculty fit these pure types; rather they represent a mix of two or more of the types. The special value of many faculty to the college often lies in their ability to link diverse pursuits (Faculty, 2012, p. 26).

Definition of the structural make-up of the faculty and their participation in governance activities is described in the *College Rules*, which define the governing faculty as the legislative and policy-making body of the college. These rules note the roles and appointment levels or years of service that each faculty type must have provided before becoming a member of the governing faculty (Faculty, 2012). The 2008 strategic assessment report prepared before Ponce de Leon's arrival had pointed to the positives and negatives of the structural composition of the faculty, namely the balance of tenured and tenure-track faculty positions versus non-tenure-track positions. On the positive side, the report stated,

“The appointment of short-term lecturers provides a valuable opportunity to expose students to the work of diverse practitioners, though we note that a large number of the college’s lecturers have worked full-time for the college for many years” (Kelbaugh, et al., 2008, p. 3). The strategic assessment team noted that this condition was particularly evident among the architecture program faculty in the core studios: “The proportion of lecturers in the college is high and concentrated in the architecture program. This is explained in part by the unique teaching requirements of the studio courses in architecture and the faculty-student ratios mandated by professional accreditation requirements” (Adriaens, et al., 2008, p. 5). The cause of this structural challenge was explained by a cultural component of academic architecture culture by Ponce de Leon when writing to the provost. She noted that the faculty continued to see value in having active practitioners on the faculty, but the weakness of the Michigan economy made retaining faculty challenging: “Because it’s important for our students that they are taught by faculty with active practices, this is a challenge we need to stay on top of to remain a top tier institution” (Ponce de Leon, 2014, p. 5). The lack of local practice opportunities translated into challenges in attracting tenure-track faculty and a resultant need to provide temporary faculty positions with full time appointments. “We are concerned that our reliance on limited-term lecturers for studio instruction causes losses in educational continuity, consistency, and commitment which may result in sub-optimal outcomes” (Ponce de Leon, 2010, p. 1). Working with the Executive Committee, the dean drafted expanded guidance for administering the professor of practice appointments and hired several new faculty or converted appointments from the lecturer role to professor of practice role to recognize the contributions of this type of faculty member.

Faculty hiring. Once Dean Ponce de Leon had secured additional funding from the provost for tenure-track faculty positions, structural changes to rebalance the composition of the faculty got underway. Other significant socio-structural actions relevant to faculty hiring were found in the protocol used for hiring the program chair and faculty. The procedures used and the stated goals of each of the searches provide insight into the academic architecture faculty culture during the era.

For example, when the search committee for the architecture program chair was formed by the dean in October 2009, it included faculty representing each of the programs subdisciplines as well as students, an alum and program staff. After the initial recruitment efforts were complete a pool of thirty candidates submitted applications, and the committee invited eight to campus to present publicly before faculty, students, staff and other community members. Ultimately, the dean hired two of the applicants, one for the architecture program chair position and one, after consulting with the Executive Committee, as associate dean for academic affairs and strategic initiatives, a position that the previous dean had eliminated because of budget cuts. Similarly, faculty search committees often, but not always, included faculty and students.

Faculty searches. Faculty searches during the Ponce de Leon deanship, which most contributed to perceptions of strengthening the quality of the faculty, could be characterized as reflective of socio-structural concerns described in the strategic assessment reports, specifically increasing the number of permanent or semi-permanent positions and reducing temporary instructional positions. Two significant search types were undertaken --- one that focused on tenure track hires, especially in the design sub-specialty and a second form focused on professors of practice. In both cases, a majority of the faculty who were selected

to join one of these two ranks during the Ponce de Leon era were identified from among the existing instructional staff in the temporary lecturer appointments.

The strategic assessment conducted in 2008 proposed that increasing the number of tenured faculty was the solution for increasing faculty quality. It did not address the cause for the emergence of the imbalance during the Kelbaugh era, namely a concern about the status of available funding to the college during the periods of economic uncertainty and reductions in state funding to the university. Kelbaugh had approved the gradual increase in the number of temporary lecturer positions to preserve maximum budget flexibility for the college. The use of lecturers for temporary hires was consistent with prevailing practice in the nation's top schools of architecture during the period (Kelbaugh, 2017).

One structural element was required in order to achieve her objective of improving faculty quality by increasing the number of tenured and tenure-track faculty members on the architecture program faculty; the dean had to acquire additional salary resources for the college. Ponce de Leon was able to negotiate additional funds for six faculty positions, equivalent to the difference between the salary for the average lecturer and the starting salary for the average tenure-track design faculty member. Once the funding commitment had been secured, she could charge a committee with searching for candidates to meet the college's needs. "After discussions with the dean, the committee formulated its charge to be the pursuit of talented design faculty at the early phases of their professional and teaching careers" (Mitnick, 2011, p. 1). In 2011, with the support of the provost's office, Dean Ponce de Leon charged a faculty search committee with hiring up to six tenure-track faculty members, to teach in the design studios. A search committee reviewed applicants that included members of the program's existing temporary instructional staff. The outcome of the search process

was a recommendation that the college hire six faculty members who were already teaching at the college. None of the final selected candidates was external, and the committee did not engage in any recruiting for additional candidates. Two external candidates were reviewed, but not offered positions. The committee reported conversations relevant to both cultural and structural components of their deliberations on the two candidates:

There was a consistently high regard for their respective abilities to produce publishable work, but questions arose about its specific value to the collective enterprise of the school. In other words, would the two of them be able to effectively relate their work to existing studio culture, or merely create islands of relatively hermetic interests (Mitnick, 2011, p. 2).

Professors of practice track. During the Ponce de Leon era, the Executive Committee undertook a review of the description of the expectations and obligations for professors of practice. Among the more stabilizing changes enacted was clarification of the length of initial contracts for these faculty members. Unlike many of the lecturers, who had one-term or one-year contracts, faculty members appointed to the Practice-track could have renewable contracts of up to five years. Once the Executive Committee had established a common platform upon which to evaluate candidates and incumbents a search was launched. The impetus for the search was described by the professor of practice search committee: “The search for up to five professors of Practice came out of two initiatives. One was from the architecture program to increase engagement with professional practice. The other was from the provost’s Office to increase the number of clinical faculty, drawing, if appropriate, from qualified lecturers at the University of Michigan” (Soo, 2011, p. 1). The search committee noted that they began conceptualizing the ideal candidate by evaluating the models relevant

to the three faculty members currently appointed at the college in the Practice-track, who were "...each hired and teaching under very different circumstances that represent three current models for the position" (Soo, 2011, p. 1). They noted that two of the three were teaching non-studio courses. One practiced internationally, one had retired from a regional practice, and one no longer practiced but conducted research in Ann Arbor: "This search committee was charged with investigating alternative models for professors of Practice that included the ability to have a practice and teach design studio in a manner that draws on that practice, but also to contribute to the life of the college in substantive ways, including though committee work. This committee approached the term 'practice' in the broadest sense of the term, reflecting the changing nature of the discipline of architecture" (Soo, 2011, p. 1).

Because this search was launched simultaneously to the tenure-track searches that year, the committee noted that several candidates applied to both searches and the two committees had to formulate a plan to manage this situation, ultimately deciding that the candidates could only be considered for one position and not both. As the committee evaluated the Practice-track candidates, frequent attention was given to the candidate's reputation for practice and teaching: "His designs have received numerous awards from organization representing architecture and graphic design, but also commercial associations..." (Soo, 2011, p. 3). Ultimately, the college hired three current lecturers to fill the professor of Practice appointments.

Faculty quality. Ponce de Leon's approach to addressing faculty quality included evaluating both the composition of the faculty, and its productivity, as well as practices relevant to each. Compositional analysis included evaluating the types of faculty appointments; the recruitment, retention, and retirement policies; and practices that might be

used and the impact on the overall quality of the faculty. Productivity analysis included a review of the means and measures used in the recruitment; mentoring; development of faculty; and the promotion and tenure review processes. Documentation of the structural, procedural, and compositional ways that the leadership sought to recruit and encourage the retirement of faculty members during the Ponce de Leon era were found among committee reports, *College Rules*, and updates to the annual faculty review processes. The impact of these reviews, and the processes and practices that were put in place as a result, on the evolving culture of the faculty included changes in the operating expectations, values, and norms.

Discussions about measures, processes, and procedures for evaluating faculty quality during this era included reviews of both the annual and interim processes that were in use. The processes used for the annual evaluation of the faculty included self-reporting by way of a faculty activities report (FAR), followed by a meeting of the Executive Committee, program chairs, dean and associate deans, during which individual faculty members' productivity was discussed and ranked. Subsequently, the dean would assign merit increases. This process was observed annually during the Ponce de Leon period but was not described as a process in any official college documents. The FAR form was structured as a series of questions and tables which the faculty was asked to complete and submit by a date soon after spring graduation. The question topics included teaching, research and service components.

Executive committee meeting minutes (2011) included reference to suggested changes to the forms the faculty members were to use to report their collective annual contributions to the college, the discipline, and the profession. These changes, it appears, were intended to foster greater understanding of the contributions that each faculty member

had made during the year; “This year it was decided to place the Overview Statement in the number one spot and to ask faculty to take the time to respond with a comprehensive and thoughtful statement that clearly articulates their primary contributions” (p. 1). The Executive Committee also felt the need to remind the faculty of the review policies, practices, goals, and objectives.

Faculty reviews. Reports submitted during the Ponce de Leon era frequently describe the committee composition, the process, the materials reviewed, a short bio sketch of the candidate, and the rationale for the evaluation of the candidate under review. These reports often used excerpts from external reviewers, the architecture program chair, and student feedback as the basis upon which the committee drew its conclusions and recommendations. The reports were organized under headers that specified processes and substance including the candidate’s background, teaching, research, creative and scholarly work, service, and final conclusions and recommendations. These reports were submitted to the Executive Committee and the dean. *College Rules* specified that the role of the Executive Committee in the promotion and tenure process is to assure that the review was conducted in a manner that aligned with *College Rules*. In the case of the interim reviews, the committee often provided feedback on how the candidate should structure their work, how to achieve peer-reviewed awards and publications, and the dossier and portfolios submission for the subsequent review. The emphasis often was placed upon successfully achieving critical acclaim, prescribing the possible acceptable sources of such acclaim over volume of production. For example, “Though at least one external reviewer suggested getting more work built, the most important goal is to get the work recognized. Seek peer-reviewed, national, or international venues for

creative output and continue to seek design awards for unbuilt or built work” (Levine, 2009, p. 6).

Several of the promotion and tenure reports and nominations for distinguished professorships submitted during the Ponce de Leon era comment on the ability of some design faculty members to integrate successfully theory and scholarship with creative practice. In contrast, an attempt to recruit and hire a faculty member who might combine the architecture subdisciplines of technology and design repeatedly failed. Job postings for positions which focused on technology often noted that the PhD was desirable, whereas postings for design studio faculty did not mention the terminal degree expectations.

This search follows similar searches in environmental technology conducted over the previous two years with significant differences of focus in each of those years. This year the focus shifted from last year’s emphasis on design and sustainability to a broader focus on fundamental teaching in environmental technology, particularly passive and active building systems and building systems integration. Some emphasis was placed on the candidate’s ability to impact the design studio culture but without the expectation of the previous search for teaching design studio. (Borum, 2009, p. 1).

A major concern at the U-M during the Ponce de Leon era was the stagnation of professors in the associate professor rank. In addition, just as hiring new tenure track and Practice track faculty to increase the representation of permanent faculty was a quality issues, encouraging faculty who were no longer productive to either increase their productivity or retire required some changes in the socio-structural components of the college. Two strategies were employed, the development of mentorship plans and the development of retirement incentives. Dean Ponce de Leon reported engaging in mentorship activities with

several associate and full professors who had not achieved at levels that raised the college's national profile or rankings.

While I have worked hard over the years to mentor and move these faculty members along, I have seen little action on their part to do the things we talk about. I hope that the provost's office will move swiftly in this regard, since this has a tremendous impact on our budget, quality of instruction, and ultimately student recruitment. If not, I hope to be given the green light to proceed with a retirement incentive and to receive some support in this regard. (Ponce de Leon, 2014, p. 5).

Faculty development. In order to develop the design faculty, Ponce de Leon constructed annual, competitively-based, research incentive programs.. Submissions were evaluated by external peer reviewers to increase the legibility and legitimacy of the projects selected for funding (Ponce de Leon, 2008). These programs supported the development of a new culture of design innovation that garnered significant external recognition for the faculty who were enabled to develop and exhibit their projects (Ponce de Leon, 2015).

The enhanced visitor and lecture series brought new voices to the college, some from practice and others from industry or academia. The "Experts in Studio" initiative helped to create a new sensibility and acceptance of the viability of architectural research in making and creative practice (Ponce de Leon, 2015). Technology workshops were added with the intention of removing teaching software from the courses (Ponce de Leon, 2015). A series of national conferences on the future of architecture and planning brought new voices to the campus, which helped to reinvigorate the faculty interested in design, history, planning, and technology.

Organizational chart. The changes in the organizational chart during the Ponce de

Leon era were made in response to the needs of an evolving curriculum and vision for the college. The college's organizational structure as described in the position description used for the Ponce de Leon hire read, "The college is headed by a dean in collaboration with two associate deans who also serve as program chairs, one additional program chair, one program director, and one program coordinator. There are 76 full-time faculty members of which 43 are tenured or tenure-track. Five have practice appointments, and 28 are lecturers" (Deans Search, 2008). Figure 44 depicts the organizational structure of the college at the beginning of the Ponce de Leon deanship.

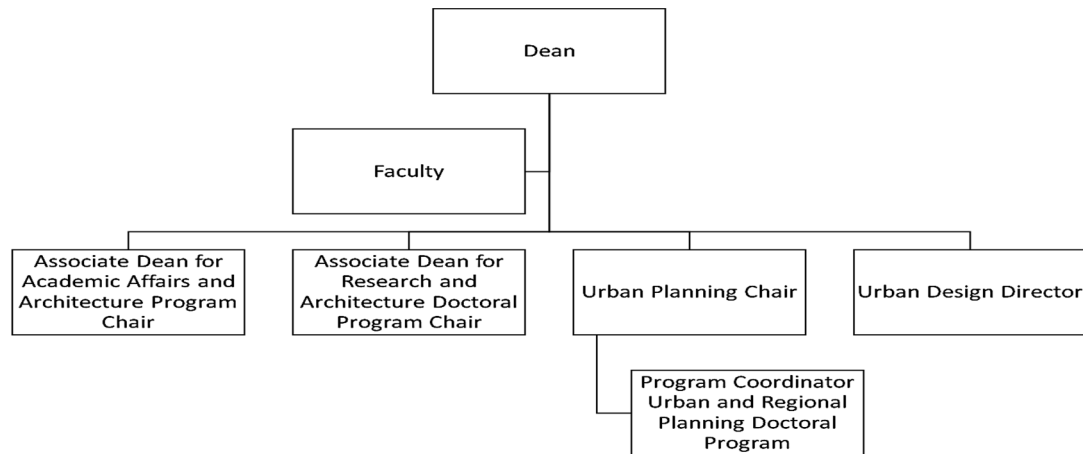


Figure 44. Taubman College organizational chart FY 2008

Merging the doctoral program with the architecture program. After years of being administered as two separate degree programs, discussion of a possible merger of the doctoral program with the professional architecture program was the subject of meetings and reports in fall term 2008. This effort built upon those begun during the Beckley era to embed research in the professional program. The window of opportunity had been provided by the resignation of the associate dean for research and doctoral program. Discussions among

Drew (2008b) reported: “The intent of this merger is to emphasize the commonalities among the programs in architecture and the continuity of the curriculum... Traditionally, the distinction has been based on ‘professional’ education as separate from ‘research’” (p. 4).

The Executive Committee saw value in administering the professional and doctoral programs under one head, as long as it was supplemented with a coordinator for the doctoral students.

Meeting notes, modified with input from the Executive Committee, on possible redistribution of responsibilities, crafted by professor Lydia Soo after consultation with other doctoral program coordinators, moved many of the administrative tasks for the doctoral program to the professional program chair. These included budgeting, marketing, faculty assignments, student health, grievances, as well as physical resources. The academic coordination was to be assigned to a doctoral program coordinator who could oversee student’s degree progress, mentorship, advising, and awards. Additionally, they would assist with recruiting and admissions activities and graduate student instructor appointments.

The PhD degree in architecture will be granted by the architecture program faculty.

The chair of the program will be charged with bringing and maintaining coherence and mutual support among the various degree curricula within the program. Under the chair, doctoral studies will be administered by coordinators serving the needs of the concentrations while promoting interdisciplinary collaborations when appropriate.

(Executive Committee, 2008, p. 3).

A motion to amend the *College Rules* was presented to the faculty in March 2009 and approved by all but one faculty member, who abstained from the vote (Drew, 2009).

In 2010, Tom Buresh resigned to accept a leadership position at the University of California at Berkeley, and the college had an opportunity to reconsider its organizational

structure. Ponce de Leon reported that the provost had expressed concern that the leadership positions of associate dean and program chair were being held by the same individual.

Reportedly, Provost Sullivan was concerned that this organizational structure created the potential for conflicts of interest in governance and preferred that the roles of program chair and associate dean be held by unique individuals (Ponce de Leon, 2008).

Reconsidering the roles needed to administer the college, the dean proposed a reorganization that was endorsed by the Executive Committee in 2010. The organizational chart below depicts a new role for the associate dean for academic affairs, which now included responsibility for strategic initiatives and placed the postgraduate program in UD within that portfolio. This revision of the organizational chart also depicted the merger of the research-based doctoral and professional programs in architecture under one program chair. The 2010 changes to the organizational structure moved responsibility for oversight of the architecture doctoral program from the associate dean for research, who had been serving in a dual role as doctoral program chair (Soo, 2009). Among the normative changes, resulting from this reorganization was agreement on the admissions of doctoral students as a cohort rather than by sub-specialty - which had been a major source of cultural conflict between members of the doctoral program faculty for several years. Zimmerman (2016) described the advantages of the merger: “Perhaps for the first time, we have an incoming cohort that moves between our sub-specialties in a way that better reflects the current state of the field” (p. 1).

The doctoral program faculty members were supportive of the organization structure changes but desired further autonomy (Zimmerman, 2016). Their desire for greater administrative autonomy it seems was predicated on the intrinsic differences between the goals, vision, and mission of the architecture professional and post-professional programs.

Zimmerman (2016) reported some frustration in the defined limits of authority that had been vested in the coordinator position. One example of her frustration focused on an inability to shape the program in relation to competitor programs, another claimed concern that the architecture program chair was unaware of the operating restrictions imposed on the doctoral program by the Rackham graduate school. Additionally, the new architecture program chair, seeking to create a more inclusive governance and administrative environment, created two director positions to oversee the pre-professional and professional programs in architecture. The 2010 Administrative organization is depicted in Figure 45.

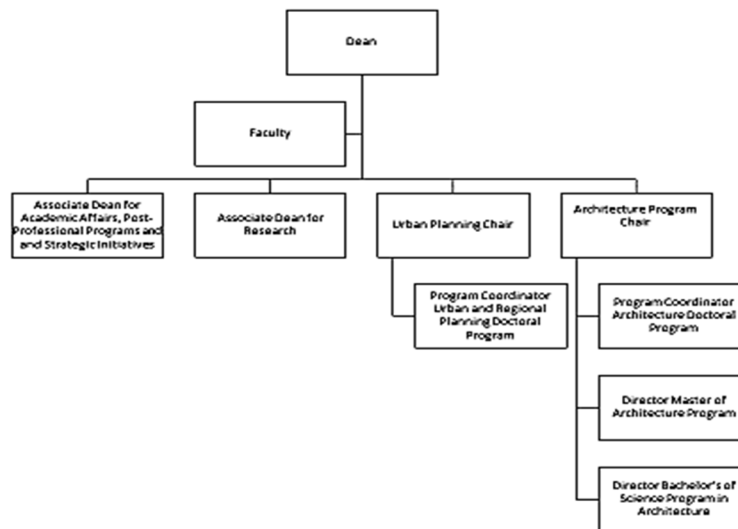


Figure 45. Taubman College organizational chart FY 2010

The director positions for graduate and undergraduate programs in architecture were eliminated after one year, once the new program chair gained greater familiarity with the U-M administrative procedures and structures. The 2011 organization chart reflected a new view of the UD program, as a post-professional program, adding it to the associate dean for academic affairs portfolio.

In October 2009, Dean Ponce de Leon began the process of introducing discussion of substantial changes in the Master of Science post-professional degree programs (Ponce de Leon, 2009). Initially the new concentrations within the Master of Science program were managed in the portfolio of the associate dean for academic affairs. Daily operations, however, were hampered by a bifurcated approach to managing the post-graduate positions with the associate dean managing admissions and financial aid, and the architecture program chair managing student needs and faculty teaching assignments. In fiscal year 2015-2016, the college adopted a model that recognized the need to provide special leadership to the expanding interests and degree programs relevant to technology and fabrication. The associate dean for postprofessional degrees and technology engagement position was intended to pull these interests under one administrative umbrella. Figure 46 depicts the changes in the organizational chart that took effect in fiscal year 2016.

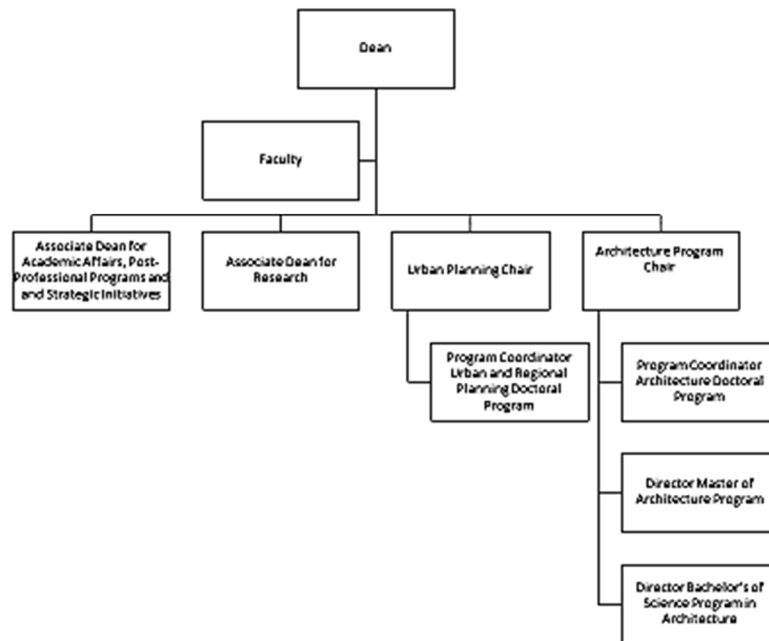


Figure 46. Taubman College organizational chart FY 2016

In fiscal year 2017 another change in the organizational chart took place, caused in part by the resignation of the associate dean for post-professional degrees and technology engagement. The 2017 organizational chart is depicted in figure 47.



Figure 47. Taubman College organizational chart FY 2017

Policies and practices. Significant policy and practice changes, which may have had an influence on the evolution of the architecture faculty culture during this period, included those relevant to dual career hires, general research incentives, specific research grant programs, retirement incentives, and nurturance leaves.

Dual career hires. It became increasingly necessary to accept as a practice the consideration of dual career hires when recruiting architecture faculty. Numerous examples of the dean negotiating support from the provost's office for dual career hires in architecture were found among the college archives including for the recruitment of the architecture program chair, associate dean's and several design faculty positions. While no specific documents describing the college's practices for dual career hires was located, statements on the provost's website clarify the U-M support for this recruiting strategy. "Having long

recognized dual career partner assistance as a crucial element in recruiting and retaining its excellent faculty, the University of Michigan has developed one of the strongest dual career programs in the country” (University of Michigan, 2016). Among the outcomes of the acceptance of dual career hires and increased faculty couples was a change in the practices for scheduling classes and events. For example, efforts were made to have all classes end by 6:00 pm to allow faculty members with small children to be home in the evening and to avoid scheduling classes over the lunch hour so that faculty meetings might be held during the normal business day.

Research incentives. Incentives intended to spur research and the dissemination of its findings were among the first announcements that Ponce de Leon sent to the faculty during her first fall term as dean. In FY 2010, Ponce de Leon announced a new research grant program to enable the design faculty to conduct funded research projects. Titled “Research through Making”, the program was intended to enable faculty to engage in architecture research or creative projects that are predicated on making. Outcomes of the competitive grant process included increased recognition for the faculty research and design work, increased dissemination and exhibition invitations, and generally raising the profile of the college. The incentive program was described as “one of the most innovative architecture research programs in the country, and provides important funding that allows students to work with faculty on innovative research projects and bring that knowledge back to the classroom and into their futures as designers” (LaCroix, 2017).

Retirement incentives. Ponce de Leon worked with the Office of the General Counsel and the associate vice provost for academic affairs in 2009 and in 2016 to construct a retirement incentive policy to encourage retirement-eligible faculty to transition from active

to retiree status. She perceived that these efforts could encourage less active faculty to leave, freeing up budget and space for emerging talent. Ponce de Leon described the aging of the faculty to the provost. Nearly 20% of the faculty was 60 years old or older and eligible to retire by 2020: “In order to maintain or enhance our competitive position we need to address the issues that naturally occur with an aging professoriate in terms of productivity, currency, and contribution levels” (Ponce de Leon, 2016, p. 7). She contextualized the incentive program to the faculty as a way to mitigate against the impact of state budget cuts on the college resources. The incentive plans offered to the retirement-eligible tenure-track faculty were identical in 2009 and 2016. In 2009, only one associate professor in architecture out of eight eligible faculty members accepted the offering. In 2016, one professor of urban planning, one professor of architecture, and one associate professor of architecture out of twelve tenured faculty members accepted the incentive plan.

Engagement strategies. Ponce de Leon conceived of and staged a series of conferences on the future of topics relevant to architecture and urban planning in order to spark conversation, raise the college’s profile, and bring leading thinkers to the U-M campus. The first conference was called The Future of Design and was staged in 2008 on the U-M central campus. The conference brought 30 designers, critics, and provocative thinkers together to brainstorm evolving issues, solutions, and concerns across various disciplines, including architecture, landscape architecture, interactive, industrial, and interior design. The speakers presented their views in 15-minute segments, which were taped and disseminated via *YouTube*. A panel discussion after grouped presentations, often led by Taubman College faculty, helped to integrate each speaker’s presentation into a cogent whole. Subsequent conferences included the Future of Urbanism in 2009, Future of Technology in 2010, and

Future of History in 2011. The conferences allowed the faculty to interact with leading thinkers from academia, industry, and business in an accessible forum. They could negotiate topics and solutions relevant to research, service, and teaching interests while gaining national exposure. Activities initiated by Ponce de Leon to help the college create a shared vision, national profile, and identity included a series of conferences entitled “Future of...”. McMorrough (2011) describes the purpose of these conferences to the NAAB Board as a component of long-range planning. “New leadership at both the dean and chair levels (Dean Monica Ponce and Chair John McMorrough) since our last accreditation visit coincides with timely self-reflection and opportunities for mapping our future” (McMorrough, Schulz, et al., 2011, p. 33).

The conferences and their intended outcomes were organized in a manner similar to those that had been held in the Bennett era. Bennett had staged the conferences to enliven the discussion on Michigan campus and provide a forum for thought leaders to convene and brainstorm amongst themselves, not creating a dissemination means for the conference. In contrast, Ponce de Leon’s conference series sought to influence the national perception of the college and its faculty by taping and distributing the conference conversation by way of social media. This unconventional means of disseminating the proceedings of the conferences raised the stakes for faculty members who participated as presenters and moderators. This strategy immediately raised the profile of participating faculty members and provided a forum where the college became known again as a place where thought leaders in architecture convene to present, debate, and disseminate research and theory on emerging topics in architecture.

Norms, roles, and status. The norms, roles, and status of the architecture faculty and their leaders changed during the Ponce de Leon era as measured by several key variables. Demographically, the faculty as a whole became younger, more diverse, and more international in origin. Appointment types and distribution of types evolved to provide greater stability in faculty appointments during this period, and more faculty exhibited and practiced nationally and internationally. The profile of the faculty rose as a greater number of faculty won national awards and more faculty became engaged in program administration and development roles. The roles of the faculty within the governance of the college evolved as more post-professional degree programs were created, and new opportunities in fabrication and research opened up additional leadership roles. The status of the architecture faculty as measured by national awards, program rankings, and other forms of external prestige rose during the Ponce de Leon era as well.

The norm of valuing faculty who could both practice and teach remained a constant during the Ponce de Leon era. A representative sample of faculty self-descriptions found in the college archives included statements like: “My interest in teaching is rooted in my experiences as a practitioner, primarily in the role of project manager in various New York City architecture firms for over seven years” (Lee, 2011, p. 1), and “Building a practice and being active in scholarship are both important to me, and I see these two activities as essential to my role as an architect... Teaching has become an important mode of research to explore ideas in design” (Sheih, 2011, p. 1).

Several faculty members (Abrons, 2016; McMorrough, 2016; Miller, 2016; Moran, 2016) shared the advantages of being a member of the architecture faculty while practicing architecture professionally. Chief among these was the opportunity to engage in intellectual

discourse that helped to inform their practices in ways they perceived would not have been possible if they had been working in more isolated circumstances or commercially driven situations. Moran (2016) noted that teaching the discipline of architecture required teaching historical styles as well as speculative capacities, and that, as a former construction worker, his ability to use both past knowledge and create future knowledge was enabled in a research university environment. Borum (2016) described the enabling effect of having a tenured position on his ability to take on speculative professional practice projects.

Faculty demographics. The demographic profile of the faculty is often described in terms of physical characteristics such as gender, country of origin, and ethnicity. Interesting changes in the demography of architecture faculty during the Ponce de Leon was the emergence of faculty who had undergraduate degrees in areas other than architecture (figure 49). Twelve out of the 50 tenure-track faculty members who submitted updated curriculum vitae reported that they had undergraduate degrees from programs in disciplines other than architecture or engineering, such as the arts, biology, environmental studies, general studies, sociology, and urbanism (illustrated in figure 48). This is a significant change in the faculty profile in comparison to the founding or transition stages and represents changes in the normative path that architecture educators might take to becoming an architecture academic.

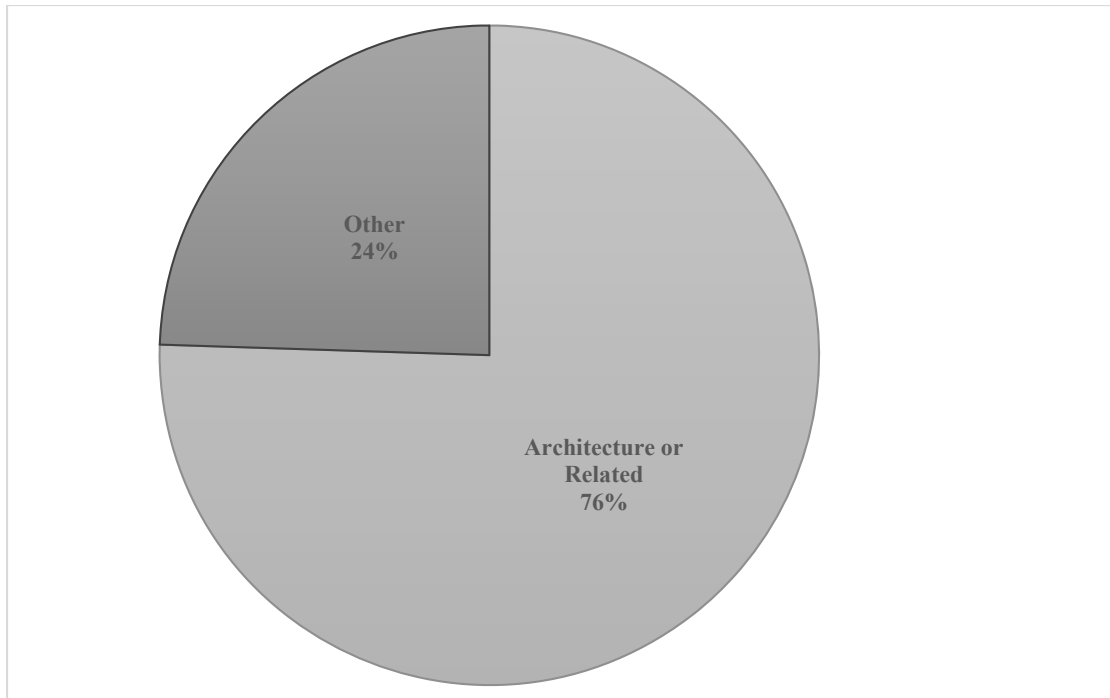


Figure 48. Tenure-track faculty undergraduate degrees 2016

The changing profile of the faculty during the Ponce de Leon deanship was measured in terms of appointment type and ethnicity. Figure 49 depicts the changing appointment types held by the college faculty. Ponce de Leon presented to the faculty at her final all-college faculty meeting this graphic to demonstrate success in increasing the percentage of tenured and tenure-track positions and reducing the percentage of lecturers.

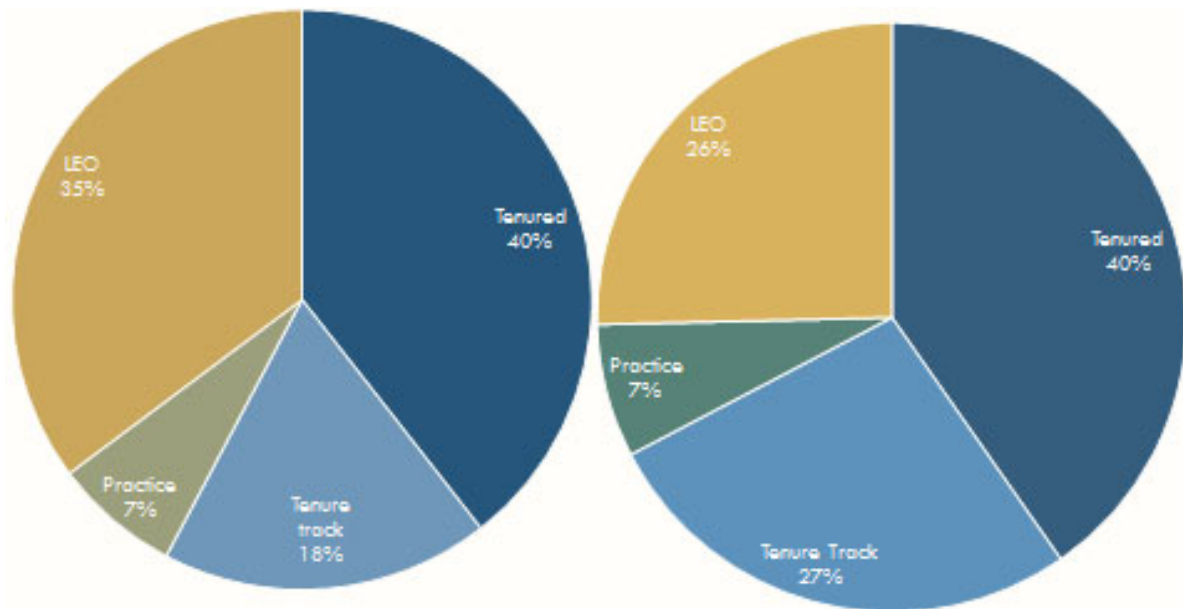


Figure 49. Taubman College changes in faculty appointment types 2008 – 2015

Ponce de Leon also displayed figure 50 at the final all-college meeting to show the evolving faculty profile within the tenure track and the number of hires that Ponce de Leon oversaw during her deanship.

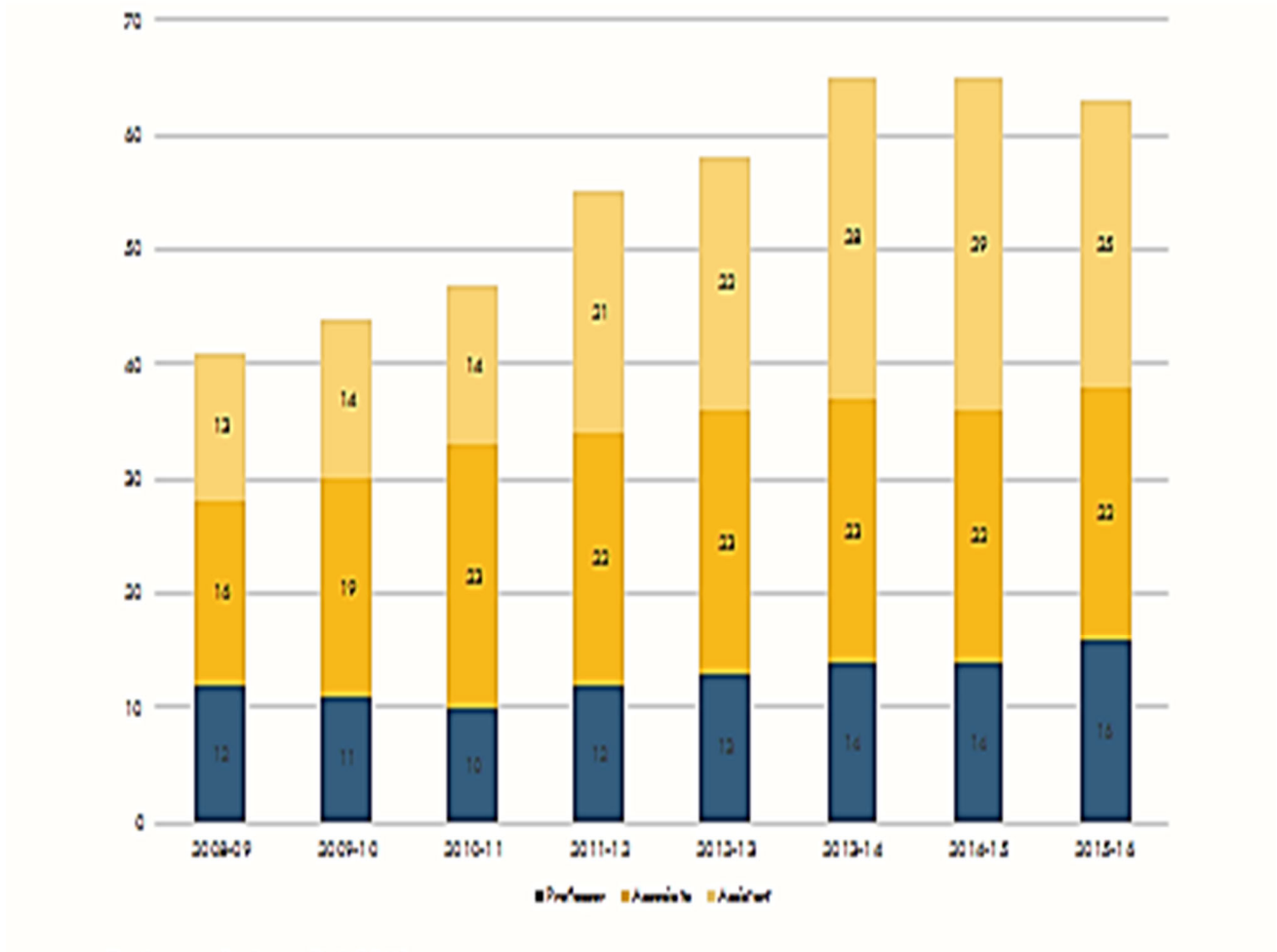


Figure 50 Taubman College changes in tenure-track profile 2008 – 2016

Faculty hiring efforts aimed at diversifying the faculty had some impact as seen in Figure 51.

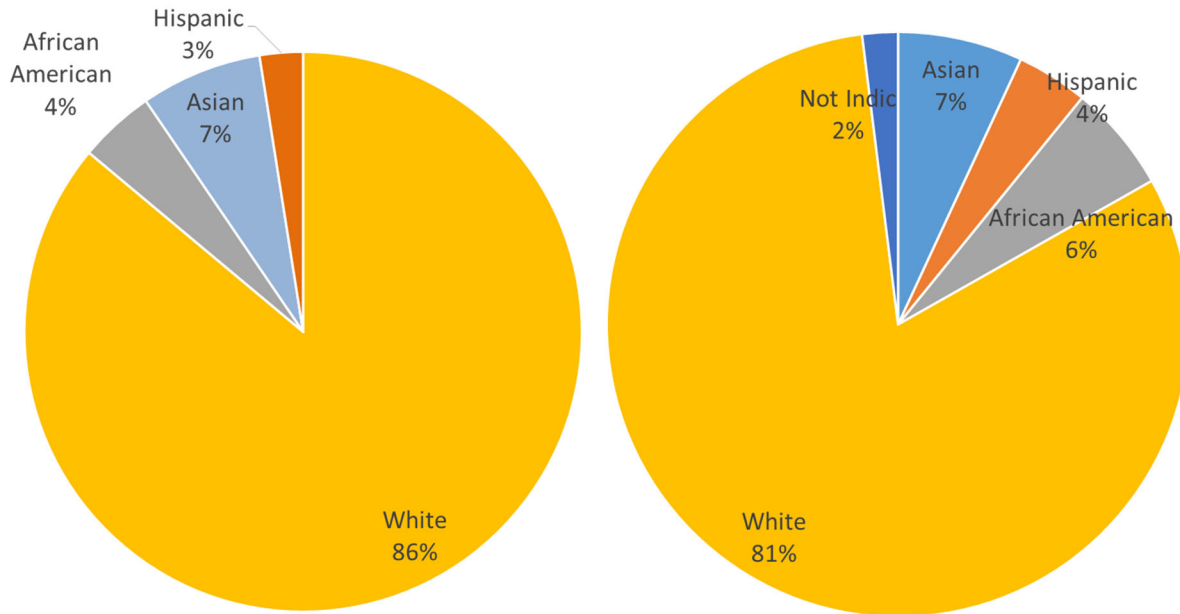


Figure 51. Taubman College changes in faculty ethnicity 2008 – 2015

Increasingly the college recruiting efforts for tenure-track faculty members involved negotiations of dual career couples. Funding support for some dual career hires, those who had academic aspirations, was available through the provost's office. In many cases, dual career hires were both architects, and the search committees, along with the Executive Committee, needed to evaluate the potential of both candidates. In some cases, both partners were offered tenured or tenure-track positions. In some cases one faculty member was offered a tenured or tenure-track position and the other either a practice-track position or a lecturer position. A 2008 report on the needs of dual career couples in university environments found that one-third of the faculty worked in departments with their significant others (Schiebinger, 2008). The influence of the increasing number of dual career hires on the culture of the architecture faculty included insuring faculty members in relationships were

not on each other's review committees, the creation of risk mitigation strategies for resource allocations, and increased planning for family leave-related needs of dual career faculty.

Norm of support. Ponce de Leon embraced the U-M practice of developing junior faculty through the creation of several incentive programs described in the socio-structural section of this era. In addition, a culture of support, with some senior faculty providing mentorship to junior faculty, was one norm cited in several reports found in the college archives. A junior faculty member explains that the socio-cultural environment operating in the Taubman College was conducive to junior architecture faculty development when writing:

Michigan has provided a unique intellectual and academic environment: the faculty operates at a very high level while maintaining, even actively cultivating, collaboration. Most importantly, the mutual support amongst junior faculty and mentoring by senior faculty is always directed toward the furthering of each individual as an independent practitioner, thinker, and researcher. (Sheih, 2011, p. 1).

Other examples of the faculty valuing the norm of support they found from senior faculty members included the following excerpts from nominations for for the Distinguished Collegiate Lorch Professorship: "Always made time available for discussion of my performances and to help me improve" (Roddir, 2009, p. 1), "certainly helped raise my confidence and abilities as a lecturer" (Roddir, 2009, p. 1), and "is a delightfully unconventional administrator whose ethos is marked by tolerance, possibility and the desire to cultivate community" (Pachikara, 2009, p. 1).

During the Ponce de Leon era, leadership roles were evolving both because of changes in the expectations of leaders in higher education and because of junior faculty

interest in participation in administrative decision-making and leadership development. As noted in the socio-structural section of this document, the organizational chart of the college changed multiple times during the Ponce de Leon era as the faculty and administrators experimented with different configurations.

Leadership positions. During this period in the college's history, job descriptions for leadership positions evolved to include specific expectations relevant to administrative ambitions, and the demographic make-up of the faculty holding these positions began to include more women and minorities. Highlights from the position description used to search for the dean in 2008 included the following lengthy list of desired characteristics:

Articulate and represent a distinctive intellectual, aesthetic, and educational vision for the college, driven by a broad-based, transparent, and collaborative strategic planning process ... Demonstrate a keen appreciation of and commitment to excellence in teaching, scholarship, and research and recognize the importance of wise acquisition and integration of technology in each. Embrace an entrepreneurial spirit...; foster and encourage an environment where multiple visions and voices within the programs flourish; Possess a national/international reputation which is an asset in recruiting, retaining and negotiating with the very best faculty world-wide as well as mentoring junior faculty in the college; Celebrate the college as both a professional school and a scholarly academy; Promote an educational philosophy that emphasizes a cooperative, interdisciplinary approach, which properly reflects sustainability.

Expectations articulated in the architecture program chair contract were more pragmatic, listing mostly coordinating and oversight responsibilities such as teaching assignments, curriculum development, accreditation activities, faculty recruitment and

development, research portfolio development, and academic integrity of the programs (Ponce de Leon, 2013).

In contrast, the associate dean for research's expectations were described in his appointment letter more conceptually than the program chair: "Providing leadership for research matters for the faculty, managing the affairs of the research office, planning and oversight of research policies, advising the dean and chairs on administrative and professional matters that pertain to that office, and assisting with other college leadership tasks as needed" (Ponce de Leon, 2014, p. 1).

Status changes for the architecture program as reported by *Design Intelligence* magazine during the Ponce de Leon era raised the ranking of the program from eighth in 2008 to first place in 2011 and back to sixth place at the end of her term. Other ways of evaluating status changes in the Ponce de Leon era include the record of external awards, exhibits, and prizes garnered by the faculty during the period. The "Research-through-Making" incentive program, which was juried by prestigious external authorities, generated seven *Architecture Magazine* Research and Design Awards, three awards from the Association of Collegiate Schools of Architecture, two AIA National Awards, five Architectural League of New York, Young Architects prizes, two Rome Prizes from the American Academy in Rome, and one *Progressive Architecture* award for the architecture faculty during her deanship. In addition, 26 published articles, 10 invited lectures, two international, and eight invited exhibitions of the work resulted from the program. The architecture faculty culture had changed to embrace a new norm of external competition, exhibition, and publication.

As was true in previous administrative eras, the dean was expected to establish the vision and direction for the college, and the other members of the leadership team, had their own unique ways of influencing, administering their programs toward that vision. The associate deans during this era were charged with strategic initiatives that would implement culture-changing programs and policies, motivate changes in the college's academic, facilities, and research portfolio.

Dean role. The job description used in the dean's search which brought Ponce de Leon to the campus described the programs of the college as distinct but united in their concern for the physical, constructed aspects of the environment. The position description included clues about the values and norms embedded in the architecture faculty culture she encountered and included familiarity in each of the subdisciplines, a desire for transparency, collaboration, and

Industrial production, respect for craft, and the desire to serve are deeply rooted in the region. The architecture program emphasizes the physical realization of ideas — priority is placed not on theory or practice in isolation but in the concrete and poetic possibilities of their integration.... that value material sensibility and the process of building, as well as the history and theory of architecture and urbanism. (Dean Search Committee, 2008, pp. 2-3)

The regional interest in craft, community, and pragmatism, which had been evident in the founding of the architecture program, was reiterated in this job posting created approximately a century later. From these statements, the ability to bridge traditional and digital means of architectural research and production, and practice professionally were continuing as important normative values the faculty sought in the new dean: "The reaction

to the selection of the new dean from both the planners and the architects seems positive. Faculty indicated respect for her reputation in the both traditional and digital fabrication...” (Hack, et al., 2008, p. 2).

One source for clues about the expectations and concerns that the U-M central administrators held for the dean were found in the announcement of her selection. It appears that the provost and president were concerned that the culture of the college had stagnated and was in need of an infusion of energy and currency.

We are confident of her ability to articulate a vision for TCAUP that will position it as a leader in architecture and design education and practice on such important issues as sustainability, digital technologies, diversity, and social consciousness. We expect that she will forge relationships with other schools and colleges and will serve as an ambassador to our alumni and other constituents. (Sullivan, 2008, p. 1).

Three years later the NAAB visiting team reported that Ponce de Leon was a positive influence on the climate and culture writing.

The Team applauds the energy and dedication the dean has brought to the program. Her ability to work within the university system, inspire faculty, and encourage student involvement have dramatically enhanced the program and the University of Michigan. The Team compliments the dean and the new chair on their personal interests in the student’s education, activities, and quality of life. (Schulz, et al., 2011, p. 1).

Ponce de Leon shared with the faculty the difficulty in getting quickly up to speed at Michigan. She sought their input in developing the direction of the college and refining her vision. “Monica spoke about her first term this fall and indicated that it was a steep learning

curve. She discussed the formation of task forces and their roles and asked that they brainstorm and submit comments with regard to future direction” (Drew, 2009, p. 1). During the first term as dean, the provost expected Ponce de Leon to prepare a response to the two strategic assessment reports that had been conducted as well as an action plan. Her strategy for doing so included gathering feedback from various stakeholder groups (Drew, 2009).

Dean and Executive Committee roles. Conflict between the dean and the Executive Committee was again a norm during the Ponce de Leon era. Executive committee meeting minutes frequently reported discussions of *College Rules*, providing an orientation for the faculty joining the Executive Committee and managing disputes about who should attend the Executive Committee meetings. These conflicts were a repeat of norms established during the Youtz and Malcolmson deanships.

During the Ponce de Leon era, Thun was chosen as research associate dean and charged with creating partnerships with industry and other U-M academic units. Thun administered the research incentive programs, mentored faculty on the pursuit of funded research and re-engaged the college with research efforts at the College of Engineering and within the office of the vice president for research. His active engagement in pursuing opportunities for the faculty resulted in relationships with local corporations, such as Guardian Glass, who sponsored faculty work in making. This changed the culture of the faculty to one which was more activity engaged in research, creative practice, exhibition and dissemination of works than had been during the Kelbaugh era.

Ponce de Leon hired the first under-represented minority faculty member to serve as associate dean when she chose Milton Curry. “Curry is considered within the architecture discipline as one of the preeminent architectural scholars focusing on issues of race...”

(Ponce de Leon, 2009, pp. 1-3). Curry's influence on the culture of the faculty was most apparent in his work with faculty task forces, which re-conceptualized the post-professional programs, created, secured funding for a high school pipeline program in Detroit, and developed a Diversity, Equity, and Inclusion Strategic Plan.

Three architecture program chairs served during the Ponce de Leon deanship, Tom Buresh, John McMorrough and Sharon Haar, each had an influence on the norms and operating paradigms of the faculty. Joining the college in 2001, Buresh had already established a highly collaborative social culture among the junior faculty. Faculty feedback included "Many of my colleagues have credited Prof. Buresh with establishing the cultural pulse of TCAUP. The college is a more vibrant institution given his balanced administrative approach and insight as a teacher and mentor for many" (Adams, 2009, p. 1). The outcomes of these efforts were described as his devotion to building community among the faculty. Buresh's manner of interacting with the faculty and students and the impact it had on the culture of the architecture faculty was described as pithy - emphasizing the need for actions to matter. "Tom constantly calls students, faculty, and staff to thoughtfully engage relevant questions as only an accomplished designer could: through the creative and earnest desire to 'make something beautiful'" (Bard, 2009, p. 1).

The regard in which the practicing design faculty held Buresh is described in the context of faculty expectations for melding academic and professional practice interests. One of the design faculty described Buresh by saying, "Designers often describe Buresh as an architect's architect. Someone that more than others, inspires professionals to pursue architecture not only from the position of producing compelling spaces, but through [sic]buildings that address concerns relevant to contemporary culture" (Mankouche, 2009, p.

1). The faculty appeared to admire the fact that Buresh was still designing and building buildings while architecture program chair. “His willingness to pursue ideas regardless of market forces or dominant conservative architectural values has made Buresh a trend setter of progressive design not only in his field and in our immediate surrounds” (Mankouche, 2009, p. 1).

Summary of the maturity stage. The third stage of the evolution of the organizational form, operating culture, and leadership activities among the architecture faculty at the University of Michigan spanned from the late 1980’s through the mid 2010’s. Significant changes in the organizational type, its resources, and faculty demography occurred as the organization adapted to external pressures from the university, peer institutions in architectural education, the profession of architecture, as well as other stakeholders during the maturity stage. Faculty activities still focused on teaching, research/creative practice, and service. A modified set of norms, values, and operating paradigms, which guide leadership and faculty actions today, emerged which balance the competing demands of educating professional architects and achieving in a research university.

Organizational type. Using the Peterson and White (1988) matrix to evaluate the status of the organizational type at the end of the current stage, it appears that the normative behaviors most often reported and rewarded were most like those categorized as adhocracy. Figure 52 depicts the Peterson and White (1988) organizational type matrix and highlights the adhocracy descriptors that explain the organization at this stage of its evolution. Entrepreneurial initiatives to innovate and develop new pathways to increase resources and recognition were integral to the strategies that Beckley, Kelbaugh, and Ponce de Leon had

enacted during their deanships. Success in the research and creative practice arenas was measured through competitively-awarded grants and prizes for unique and cutting-edge approaches to problem solving and other opportunities. Faculty freedom and individual initiative were encouraged, in the context of remaining competitive and current in the discipline.

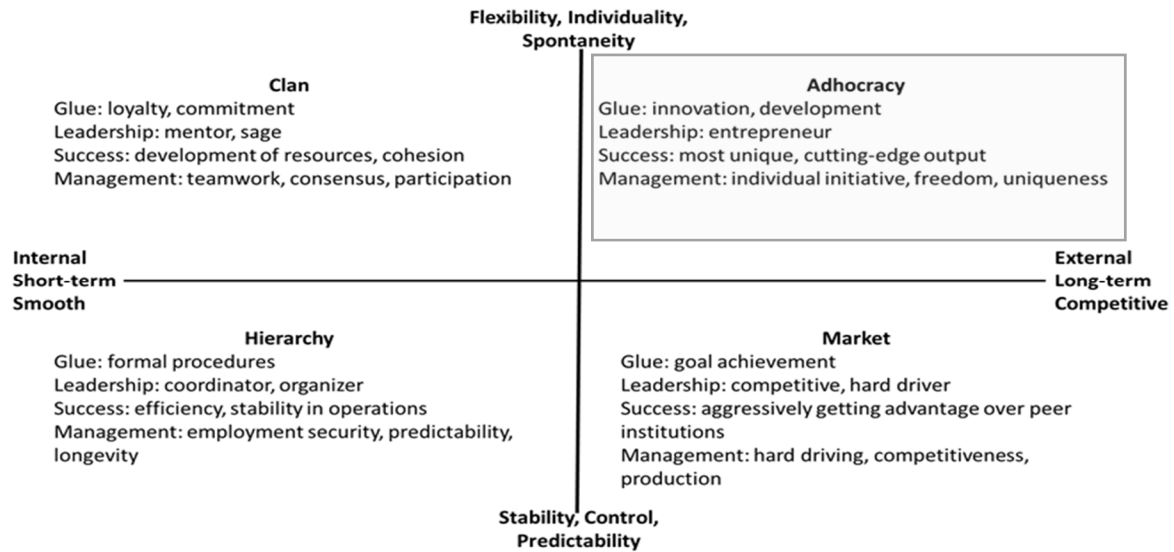


Figure 52. Organizational type matrix with emphasis on adhocracy (adapted from Peterson and White, 1988)

Financial and facility resources. Budgeting methodologies used in the maturity stage placed responsibility for the pursuit of capital and the management of resources with the academic units. The college was to be credited with the revenue derived from enrollment of students, external support for research and related activities, donations from alumni and friends, and any other entrepreneurial sources. They were also responsible for all the costs associated with managing the teaching, research, and service activities of the college.

In the maturity stage, the college successfully increased enrollment, and the number of degree programs offered garnered significant growth in tuition revenues. Figure 53 depicts

the enrollment growth by degree program during the maturity stage. During the Ponce de Leon era alone, the operating revenues of the college grew from \$18.4M to \$24.9M, with the greatest growth, nearly \$8M, derived from enrollment. Figure 54 depicts the uses of the funds generated by the college’s endowments in 2016. Having additional revenues allowed the leaders in this period to create incentive programs for faculty development and to create nurturance leaves for junior faculty. These programs helped to engage the faculty in the profile-raising activities expected of architecture programs in research-intensive universities and helped to advance the pursuit of architectural knowledge for the profession and the academy.

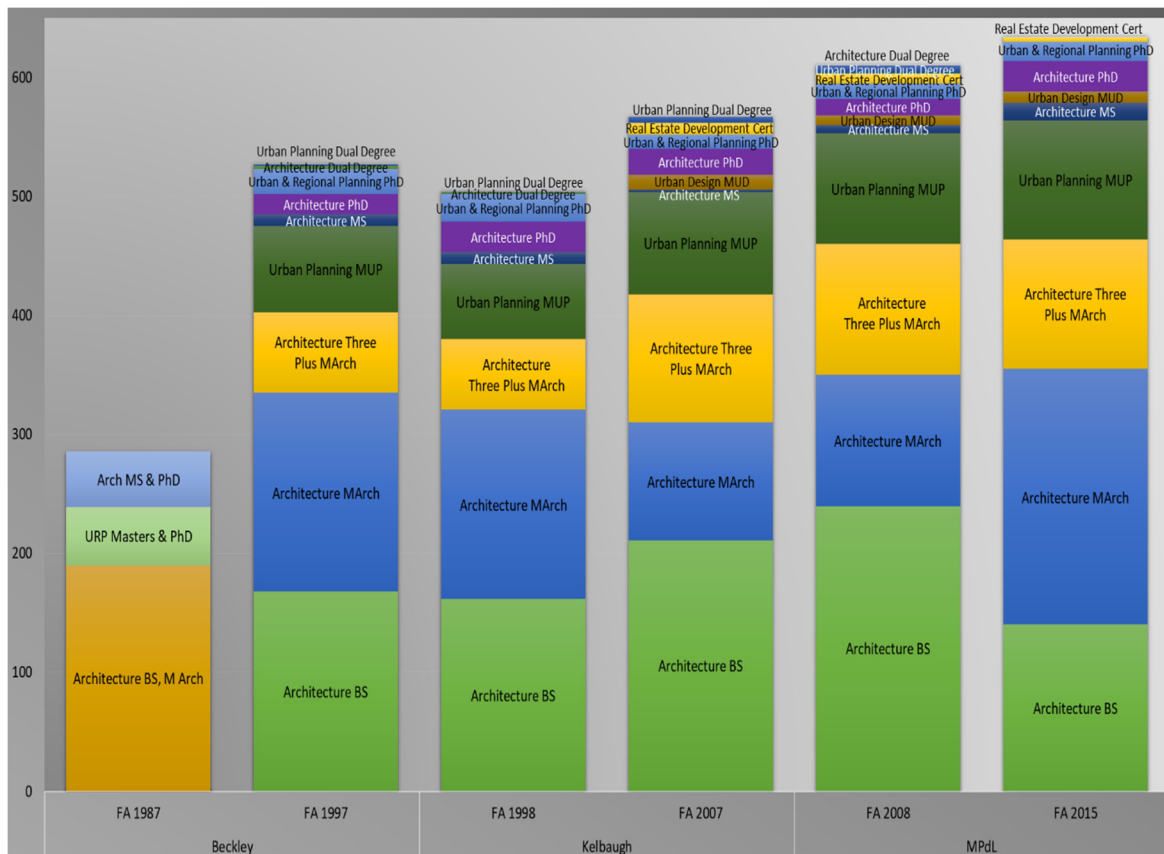


Figure 53. Enrollment changes Beckley through Ponce de Leon eras

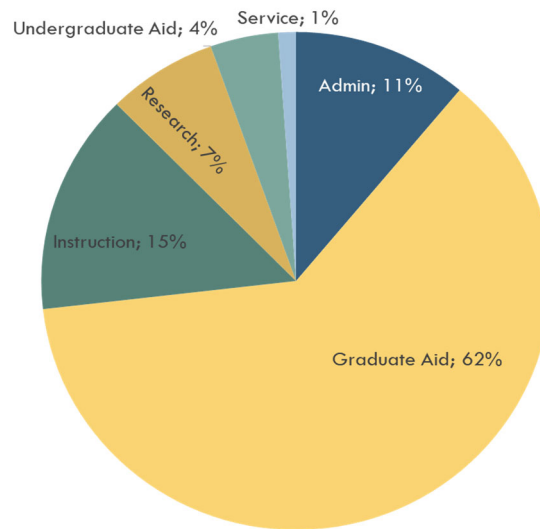


Figure 54. Uses of endowment generated earning FY 2016

Research-related revenues for the period were relatively flat, but two very significant donations to the college from a former student had a significant impact on the culture of the college and the activities of its leadership. A naming donation of \$30 Million created the largest endowment to a college of architecture in the United States and created the possibility that the students and faculty would be transformed. A second donation from the same former student allowed the construction of an additional wing to the art and architecture building. The majority of the endowment earnings are used for student aid (62%). The new Taubman endowment also allowed the college to hire some “transformative” faculty members who had national reputations and could bring prestige to the college. An urban planner, historian, and professor of practice in architecture were added to the faculty with funding from the Taubman gift, as well as several visiting professorships. It is interesting to note that the faculty did not create a unique position for a transformational architecture faculty member.

Faculty demography. The faculty members of the college at the end of the Ponce de Leon deanship were demographically more diverse than those that had been employed at the

beginning of the Beckley era. The appointment types had shifted to recognize the need for greater flexibility in hiring and professional development paradigms. At the end of the Ponce de Leon era, approximately 56% of the faculty was tenured or in a tenure-track position, 7% were in professor of practice positions, and the remaining 37% were in flexible appointment types. Whether this is the appropriate mix of faculty appointment types is a question still under discussion. Some faculty members perceive a negative impact on the culture caused by having a large group of faculty with different goals and commitment to the long-term health of the organization (Harris, 2016). Other faculty members value the churning discourse and new ideas that the turnover in the flexible appointment ranks have brought to the college, seeing it as a way to prevent stagnancy (Moran, 2016).

The desire to have a faculty population that was demographically more closely representative of the general population was a goal of the university and discussed at architecture educational conferences during the maturity stage. Progress toward achieving that goal was reported by Ponce de Leon at her final State of the College report in fall 2016. She reported that approximately 81% of the total faculty were white, 6% Asian, 6% African-American, 6% Hispanic.

Faculty activities. The faculty continued to practice professionally, teach, and research topics that map onto the three Vitruvian constructs of aesthetics, utility, and durability. They have added the pursuit of critical theory, historical scholarship, speculative work, and the built environment to their pragmatic “maker” portfolio. The leaders of this stage continued to work toward balancing the institutional expectations arising from their situation in a Midwest-located research university with those of the profession of architecture, operating within the context of societal demands and technological changes.

The actions of each of these leaders, it appears, sought to guide the actions of the faculty, staff, and students in a manner that would garner the support of alumni and friends, in order to assure the continued growth and survival of the organization.

The faculty activity reports, which are only submitted to the Executive Committee for review by the tenured, tenure-track, and practice faculty document that the faculty in this stage became active in the dissemination of new architectural knowledge through national and international awards, exhibitions, competitions, publications, and conferences. It also appears that this segment of the faculty value peer-review and assessment of accomplishments based on competition with other architects nationally and internationally. Promotion and tenure assessment reports as well as faculty search committee reports frequently highlighted faculty accomplishments in terms of the accumulation of design awards, competitions, and prizes (Mitnick, 2009; Sheih, 2011).

Leadership activities. During the maturity stage of this organization, the leadership activities mirrored many of those used by leaders in founding and transition stages. Below is an overview of the leadership activities enacted by the deans of the college throughout its history. Table 9 provides an overview of the leadership activities. The table is sorted by strategic topic, initiative type, goal, and the dean who used the strategy.

Table 9
Overview of Leadership Activities

Area	Initiative	Goal	Dean
Faculty Development	Hiring	Align faculty resource with curricular needs	All
	Diversification of Faculty Position Types	Align resources to needs Reduce intellectual stagnation	Metcalf Beckley Kelbaugh Ponce de Leon
	Increase Promotion and Tenure Rigor	Assure faculty quality Use of peer-review	Beckley
	Cluster and Joint Hires with Other Academic Units	Diversify faculty and create interdisciplinary alignments	Kelbaugh Ponce de Leon
	Nurturance Leaves	Help faculty achieve tenure	Kelbaugh, Ponce de Leon
	Research and Service Incentive Funding	Help motivate faculty to engage in desired behaviors	Beckley Kelbaugh Ponce de Leon
	Retirement Incentives	Help motivate faculty to retire	Kelbaugh Ponce de Leon
	Spousal Hiring	Securing high quality faculty hires	Kelbaugh Ponce de Leon

Table 9 *continued*

Area	Initiative	Goal	Dean
Profile Raising	Leadership in National Organizations	Influence standards Influence profession	Lorch Bennett Beckley
	Provide publication support and Conference Attendance	Influence faculty productivity Influence external perception of faculty quality Influence student enrollment	Beckley Kelbaugh Ponce de Leon
	Provide Seed Funding for Faculty Projects	Influence faculty productivity Influence external perception of faculty quality Influence student enrollment	Beckley, Kelbaugh, Ponce de Leon
	Host National Conferences	Influence faculty productivity Influence external perception of faculty quality Influence student enrollment	Bennett, Beckley, Kelbaugh, Ponce de Leon
	Community Outreach Programming	Service to the State while downturn in Enrollment	Bennett
	Summer High school program	Pipeline program for area residents	Kelbaugh, Ponce de Leon
	Develop FabLab	Establish area of unique expertise	Ponce de Leon
	Pipeline programs in Detroit	Diversify student body Establish a unique approach	Ponce de Leon

Table 9 *continued*

Area	Initiative	Goal	Dean
Financial Resource Acquisition	Development Staffing	Pursue support for students and faculty activities, new facilities	Beckley, Kelbaugh, Ponce de Leon
	Associate dean for research Position	Aid faculty in developing research agendas and pursuit of external support Develop research resources on and off campus	Bennett, Beckley, Kelbaugh, Ponce de Leon
	Associate dean for Academic or strategic initiatives	Support implementation of strategic initiatives, oversee development of degree programs and certificate programs	Beckley, Kelbaugh, Ponce de Leon
	New Building – design and/or acquisition	Support needs of Faculty and Students	Lorch Malcolmson Beckley Kelbaugh Ponce de Leon
Student and Curriculum	Establish minimum standards for accreditation	Improve the quality and consistency of requirement Serve the needs of the profession for prepared graduates	Lorch
	Participate in accreditation reviews of other American schools of Architecture	Assure alignment Benchmark Michigan program against peers	All
	Review and Revise curriculum to meet emerging needs	Assure alignment with the needs of the profession Integrate new knowledge and ways of designing and making Develop new degree paths as needed	All

Chapter 6: Findings and Future Research Opportunities

The purpose of this study is the explication of the development and establishment of the unique norms, values, beliefs, and underlying assumptions that have resulted in the emergence of the architecture faculty culture and leadership actions used at the University of Michigan in order to understand how its members engage with both external and internal stakeholders. Schein (1985) has described cultural paradigms as being comprised of artefacts, espoused values, and shared, tacit assumptions. This project sought to reveal all three levels of the cultural paradigm as it developed throughout the organization's history including how the shared and tacit assumptions, working in the institutional environment, generated the espoused values and artefacts.

To accomplish this goal, I studied the historical antecedents of architecture education, its incorporation within American higher education institutions, the founding, development, and maturation of the architecture program at the University of Michigan, as well as interviewing current organizational members.

The unique conceptual frame that I developed for this study combined the works of two architecture theorists with that of a pair of organizational theorists. The conceptual frame aided the research by providing a holistic view of the organizational evolution by incorporating external forces, internal forces, and the bridging actions leaders undertook. As a non-architect, I believe that the addition of the architecture theoretical perspective to those of classical organizational theory provided the basis for a deeper understanding of the actions of this group of academic architects.

The holistic approach used for this study included researching the emergence and evolution of the organization's sociocultural, socio-structural elements, institutional and

geographical operating context, leadership actions, *genius loci*, and the historical, societal, typological, and tectonic forces that have shaped its current form.

For this study, Chapter 1 presented the scope and purpose, background and significance of the study, and the research questions pursued. In Chapter 2, I described the research methodology used in this study. In Chapter 3, I have presented the relevant literature on architecture education, organizational culture, and architecture theory. In Chapter 4, I include an overview of the history of architecture education. Chapter 5 is organized into three distinct eras that represent significant stages in the development of the college and the organizational culture of the architecture faculty at the University of Michigan Taubman College of Architecture and Urban Planning. Chapter 6 summarizes the findings and discusses the implications of the study for leaders and internal and external stakeholders interacting with architecture faculty. The following research questions served as a guide for the study:

1. What were the historical, societal, and contingent influences on the emergence of the architecture education culture at U-M?
2. What institutional influences played a role in the emergence of the faculty culture at the U-M Taubman College of Architecture and Urban Planning?
3. What was the source of the norms, values, ideologies, strategies, structures, and other behaviors used by the academic architects at the University of Michigan Taubman College?
4. What norms, values, ideologies, strategies, structures and other actions are components of the organizational culture with the U-M Taubman College now?
5. What leadership actions were influential on the faculty culture and its evolution,

and which were ignored or rejected by the faculty and other stakeholders and why?

In seeking answers to each of these questions, the findings were developed with the guidance of the works by Frampton (1989), Vogel and Vittori (2006), and Allaire and Firsirotu (1984). Frampton (1989) provided an architectural lens that supported findings on the typological or institutional influences, the topographical or contextual influences, and the tectonic influences or mode of construction of the organization. Vogler and Vittori (2006) provided an architectural lens that considered the *Genius loci* or spirit of the place, and Allaire and Firsirotu (1984) provided a conceptual framework that highlighted the sociocultural and socio-structural elements of the organization in the context of external forces, and internal individual characteristics influence on an organizational culture. Overarching cultural themes that emerged during the course of the study included the persistence of the pragmatic maker roots, an insistence on a flexible ideology and approach to knowledge discovery and dissemination, the relationship of the organization to the profession of architecture and their evolutionary responses to changes in the external environment.

Findings

The five questions selected to frame the development of an understanding of how architecture faculty engage with both internal and external stakeholders and the implications for future engagement are presented below.

Question 1: What were the historical, societal, and contingent influences on the emergence of the architecture education culture at U-M? The first goal of the study was to understand the influence of the external environment on the emergence and evolution of the architecture faculty.

Historical Foundation. The history of the uniquely American form of architecture education has antecedents in Greek and Roman architectural training, the medieval guild organizations and the tri-partite European training systems, which included French emphasis on design in architecture, German emphasis on technology in architecture, and British emphasis on apprenticeships and mimetic learning methods. The American form of architecture education, which became embedded within higher education institutions, was initiated through a unique industry-academia partnership that distributed responsibility for the development of the prepared professional architect across the two operating arenas. The universities agreed to provide the liberal arts, technical, and design education elements, and the profession was to provide the tactical and business internship experiences needed to serve American clients.

Societal and contingent. The nearly simultaneous evolution in the American higher education industry, from a liberal arts focus with an emphasis on lecture and mimetic instruction, to one which incorporated professional education and activities that included the discovery and dissemination of new knowledge, coupled with the desire of the architecture

and construction industry to expand architectural knowledge, provided the founding American architecture educators with a window of opportunity to radically change the European-derived pedagogy. The resulting form bifurcated design and liberal arts components of training professional architects, from the practical training aspects. Higher education institutions accepted the responsibility for design and liberal arts education, and the profession oversaw the practical training components. The development of this shared responsibility for the education of architects was critical to the evolution of the architecture program at U-M, whose leaders helped to design and construct the bridges and boundaries between the academy and profession. What emerged within the American schools of architecture was an architecture pedagogy that was no longer mimetic, bound solely to client desires or available materials, and no longer required to provide practical training. This bifurcation of responsibility for the education of architects allowed the architecture faculty and other organizational resources to be directed toward research and development of the body of architectural knowledge. Architecture became a pedagogy that could be speculative, could critically analyze itself, and intrinsically valued discovery, discourse, and the porosity of ideas between the academy and the profession.

The initiation, emergence, development, and maturation of architecture as an academic discipline at the University of Michigan has been guided by nine deans with the full support of only one university president. Over its history, its members have designed and delivered a number of organizational transformations and played a significant role in the development of national architecture education accreditation standards and the professional licensing movement.

Question 2: What institutional and contextual influences played a role in the

emergence of the faculty culture at the U-M Taubman College of Architecture and Urban Planning? Two institutional forces were found to have the greatest influences on the development of the faculty culture at the U-M Taubman College, the profession of architecture and the University of Michigan.

Architecture profession. The influence of the architecture profession on the organizational culture of the Taubman College architecture faculty is most recognizable in the symbiotic and porous relationship which exists between the two entities.

As a professional school, the organizational output is, in part, the production of new entrants to the profession of architecture. The symbiotic nature of the relationship between the profession and the college is evident in the role that the profession has negotiated with bridging organizations, to help to define the pedagogical content taught to students, the role that the profession plays in accreditation regulations development and determinations. In turn, the profession provides student internships, career opportunities, and supports other advancement needs for the schools of architecture. Similarly, members of the architecture faculty were influential in the development of licensing and accreditation standards, are often members of licensing boards, and look to members of the profession for validation, legitimacy, and credibility through licensing, honors, and awards. At Michigan, the American Institute of Architects was highly influential in the establishment of the college, helped to fund the construction of its facilities, and supplies financial and other supports.

University of Michigan. The influence of the University of Michigan and the higher education industry on the organizational culture of the Taubman College architecture faculty is most evident in the leadership actions that attempted to align the college culture and

outputs with the evolving vision and goals of the U-M, and the resulting *Genius loci* of each period.

The U-M central administration strategies for selecting and managing the leaders for the architecture faculty varied over time. Each leader was selected for their congruence with the University of Michigan's operating paradigms of their era. At the time of their selection, Jenney, Lorch, Youtz, Malcolmson, Kelbaugh, and Ponce de Leon had each established a national reputation as an architect, innovator, and scholar. The central administration expected them to encourage the faculty to achieve at a similar level. In contrast, Bennett, Metcalf, and Beckley were selected during periods of significant organizational change. Their selection aligned with the existing faculty culture that emphasized pragmatic maker-quality and community service.

Expectations of the faculty and its leadership evolved as the U-M institutional goals changed. Initially, the faculty were expected to provide a pragmatic education in architecture which would supply the State of Michigan with new architects. Subsequently, they were to raise the profile of the college and the university through innovation, dissemination, and leadership among external stakeholders.

The relationship between the college and central administration appears to have been strained for most of its history. Listed as one of the expected professorates in the original documents for the founding of the university, it took 59 years before the first architectural instructor was hired. Laid off two years later, the program was not reinstated for another 28 years, and then only after extreme pressure from the Michigan AIA. The continued lack of support for the program was evident in the initial provision of poor facilities, lack of financial support for facilities, refusal to hire leading German architectural innovators fleeing from

WW II, relocation to the North Campus away from the core of the university, and exclusion from campus planning and building opportunities for the faculty members.

Causes for the strained relationship between the college and the university central administrators may have been a result of the lack of understanding of the unique cultural operating paradigms of the academic architects, which may be eased in the future by the findings included in this study.

Question 3: How did the norms, values, ideologies, strategies, structures, and other behaviors used by the academic architects at the University of Michigan Taubman College originate and evolve over time? The organizational culture of the academic architects at the University of Michigan Taubman College, originated within norms and shared assumptions passed on from the pre-American history of architecture education, modified within an American and pragmatic mid-western context, expanded to meet new expectations of its institutional situation in a research-intensive university. The shared assumptions, norms, values, and ideologies that form the foundation of the culture appear to have had antecedents in Roman architectural texts, developed in medieval guilds, refined in renaissance discoveries, and evolved in American higher education institutions to meet the needs of the profession and society. The strategies, structures developed by the faculty that provide the framework for decision-making, and the individual motivations of the members of the faculty and their leaders appear to have been responses to internal and external pressures to either conform or adapt to stakeholder demands relevant to societal expectations of academic architects. The resulting culture is uniquely attuned to the expectations of the academic architects in a research-intensive university located in the Midwestern region of the United States. This includes the preparation of architects for the profession and the pursuit of

innovative research and creative practice on the built environment that raises the profile of the college and university. A number of changes occurred between its origination in 1876 to its current form in 2017, including changes in organizational type, and structure.

Organizational type. As an organization, the architecture program at Michigan evolved through several organizational types. At the time of founding, faculty described the environment as family-like, a clan mentality, which actualized as the leader being seen as a “great man” and mentor. This created an internal view of credibility and autonomy independent of other university expertise while externally exercising authority and helping to establish legitimacy rubrics used for program accreditation and professional licensing. In the transition phase, the organization type evolved to a mixture of hierarchical and market orientation, where the faculty expected that the leader would function as a coordinator for their efforts. They developed formal procedures for governance and operations, codifying expectations for leadership and membership. The period was marked by external pressures to compete and innovate with leadership actions oriented toward market forces. Internal conflicts focused on organizational goals resulted in a fracturing of the organization into two autonomous organizations. Subsequently, the organizational type focused on hierarchical form, with a stabilizing, coordinating leader who helped to create a predictable operating environment.

The stabilizing phase of the organization was characterized by external pressures to move again toward a market-ad hoc organizational type. Leadership actions in this phase included encouraging competition and entrepreneurial activities and innovation.

Organizational members pursued individual goals independently, striving for uniqueness and competitive advantage against architect-peers external to the institution. Rankings, peer-

reviewed awards, and exhibitions as well as the pursuit of external sources of funding for research and other activities were the focus of leadership efforts during this period.

These organizational type transitions aligned with generational shifts in the purpose and scope of American architecture education, its clientele, and its technologies. The evolution in scope at the U-M included growing from a program predominantly focused on the production of practitioners to one that included knowledge discovery and dissemination. Changes in clientele included expanding from support for the architecture industry in the State of Michigan to include research and scholarship supporting the nation and international venues. Organizational responses to these changing demands and needs included evolving the basic curriculum, creating new and specialized degree programs, and embedding research concepts in the teaching operating environment. Evolving technologies for teaching, making, researching, and disseminating architecture knowledge influenced changes in organizational norms, values, and operating paradigms. Technological changes included the move from paper and pencil to personal computing to internet enabled and large format making and testing equipment. Changes in norms, values, and operating paradigms have included shifts in the educational paradigms from those focused locally on a single studio of twelve students and one instructor to one that incorporates a geographically broader and larger field of instructors, critics, and co-researchers for students and faculty. This shift from local focus to nationally and then globally enabled education and research also aided the organizational demographic transitions to greater inclusion of a more diverse set of voices influencing architecture education and research.

Organizational structure changes. Multiple changes in the organizational structure were found over the course of the history of the college. These structural changes included

changes in college governance structures, degree structures, reward systems, academic disciplines, and changes in the breadth of the mission of the college. The changes in the breadth of the mission of the college had the most significant influence on the culture of the college.

The college governance structure evolved from a single leader (Lorch) making all organizational decisions, to an Executive Committee, to multiple Executive Committees overseeing academic departments in coordination with a chair, to a dean with a single Executive Committee, aided by multiple associate and assistant deans. The changes in the organizational structure demonstrated the growing complexity of managing a discipline that was evolving and spinning off new subdisciplines. The initial organizational form was dean-centric. As the subdisciplines developed and differentiated in worldviews and ways of knowing, the faculty desired to create independent governance structures and created an organizational frame that was faculty-centric. A major fracturing of the organization in 1974 resulted in an organizational structure that was again simplified and dean-centric.

Similarly, the college degree offerings and structures also evolved over time as the breadth of architectural knowledge and its focus on different aspects of the built environment evolved.

Evaluation and reward systems for faculty saw the most significant change during the Beckley era, when pressure from university administrators to improve the intellectual rigor of the tenure and promotion system moved the evaluation of a faculty member to external peers. This catalyzed a shift in orientation from primarily focused on the preparation of professional architects to one which also embraced the research, creative practice, scholarship, and dissemination expectations of modern research universities.

Question 4: What norms, values, ideologies, strategies, structures and other actions are components of the organizational culture with the U-M Taubman College now? Among the core components of the operating expectations of the architecture faculty at the University of Michigan are the beliefs, values, and norms which provide a structure for decision-making and behaviors. These have included:

- belief in the primacy of design in the education of an architect;
- belief that the design studio is both a place of synthesis and discovery;
- belief that architecture is the ultimate interdisciplinary field because it includes elements of multiple humanities, arts, and science disciplines;
- belief that ideological flexibility rather than dogmatic acceptance of a single path provides students and faculty with the greatest opportunity to flourish;
- belief that architecture knowledge discovery occurs through prototyping, iterative cycling, and creative practice as well as through critical and theoretical scholarship;
- norm of experimentation with materials and methods for designing and constructing the built environment;
- belief that the Michigan Architecture program is founded upon a pragmatic ideology of service toward the betterment of the built environment;
- acceptance that multiple subcultures, formed by faculty who are combining other disciplinary norms, values, and operating paradigms with those of a design-based program are a healthy component of an architecture school;
- belief in intellectual and professional autonomy;
- belief that peer-review is the most legitimate form of assessment;

- belief that the goal of architecture education at Michigan is the ability to create the next great building;
- value that discourse in the academy provides a spring board for new knowledge development freed from the demands of professional practice for earnings;
- value that empathy, as in customer knowing, is fundamental to design;
- value that research is intrinsic to architecture design;
- value that the academy and the profession work cooperatively in the development of architects and architecture pedagogy;
- norm of incorporating peer-review from the earliest studio sessions;
- norm of structuring all educational activities to support the studio-based pedagogy;
- norm that faculty-practitioners are a core teaching resource;
- norm of relaxed dress standards and/or high fashion design dress for public events;
- norm of exhibits and competition prizes as equivalent to scholarly publications in the evaluation of faculty productivity.

Question 5: What leadership actions were influential on the evolution of the faculty culture, and which were ignored or rejected by the faculty and other stakeholders, and why? Understanding the impact of leadership actions, their acceptance or rejection, and the influence of the culture on those actions was a key finding of this study.

Leadership strategies used to guide the development of the architecture program and its emergence as a set of courses, degree programs, departments, and eventually an independent college have included:

- negotiating with internal and external stakeholders the domain, resources, structure, norms, values, and operating paradigms that support the purpose of the organization;
- identifying needs and acquiring resources that align with the organizational purpose in the context of higher education, the University of Michigan, the State of Michigan, and the architecture profession;
- sensing and managing the spirit of place.

Specific, successful leadership actions have included acquiring financial resources to support faculty initiatives, acquire artifacts, design and build appropriate facilities, and hire personnel. The ability to provide incentives for faculty activities that align with the vision, providing a forum for dissemination, and engaging with external stakeholders to achieve those goals was seen as positive influences on the culture of the faculty and its evolution.

Leadership actions that attempted to drive change too quickly without building internal consensus caused significant conflict. Organizational members' defensive responses most often included the imposition of additional governance structures designed to limit the leader's influence. Conversely, leadership actions that did not provide the faculty with incentives and opportunities to engage in research and dissemination appear to have resulted in intellectual stagnation, requiring leadership strategies to correct, most often through hiring faculty who were externally engaged or inviting visiting experts to campus.

Successful strategies that catalyzed changes in organizational culture included providing incentives for faculty engagement in research, exhibition, and dissemination in profile raising venues, hiring faculty who possessed the characteristics that aligned with the

evolving mission of the research university, benchmarking peer institutions, and the use of peer-review in evaluation of faculty quality and organizational direction.

Examples of successful strategies included incentives for dissemination, publication, exhibition, research seed funding, space, and equipment for research. Proof of the success of these strategies to increase productivity is the increased number of national and international awards and invitations garnered by the faculty. The cultural impact is a shift from a teaching-focused culture to a combined teaching and research-creative practice focused culture.

Benchmarking organizational actions against peers and the use of peer reviews for the evaluation of faculty quality and organizational actions was received favorably by the faculty. Peer review became a normative process used to evaluate program strategies and tactics as well as faculty productivity. The peer-review process is also used at both the university level and among architecture professional organization, strengthening its acceptance by the faculty as an efficacious tool for assessment.

Neutral strategies. Those that had no measurable positive or negative affect on the organizational culture included the development of pre-tenure nurturance leaves. The intent of these course leaves was to provide pre-tenure faculty with release time from teaching to complete their tenure package. No faculty member interviewed mentioned the nurturance leave as an attribute of the operating environment that was consequential to his or her assessment of the culture or climate.

Unsuccessful strategies. Those that did not achieve the intended outcomes or had a negative effect on the organizational culture included hiring departmental chairs who possessed characteristics that did not align with the norms, values, and beliefs embedded within the architecture culture. The most egregious example was department chair

Brownson's dogmatic stance on modernism and dismissive treatment of the work of researcher-faculty. Other unsuccessful strategies included erecting elaborate governance structures that blocked collaborative action and seeking central administrators in the adjudication of conflicts. Ultimately, these unsuccessful strategies resulted in the dismantling of the departmental structure and resurrection of a program structure, which returned leadership authority to the dean.

The *genius loci* of the college, its ambient spirit, or climate were influenced by changes brought on by the leadership. Conflicts, that negatively affected the spirit of place, arose between leaders Bennett, Youtz, Malcolmson, Beckley, Kelbaugh, and Ponce de Leon and the faculty, most often when the leader sought to change the organizational operating paradigms, norms, values, and organizational goals without building internal consensus. Conflicts during the Bennett era were characterized as having a foundation in the advancement of the disciplines, and his push to get the faculty to engage with a broader definition of the purposes and objects of architecture education. During the Youtz, Malcolmson, Beckley, and Ponce de Leon eras, the conflicts appear to have arisen from the dean's actions intended to align the college with the desires of the central administration for greater national prominence and a more cosmopolitan approach to architecture education. The Kelbaugh and Malcolmson era conflicts appear to have been founded in ideological differences.

The *genius loci* of the college appear to have greater sensitivity to the internal environment of the college than its external environment. Conflicts affecting the *genius loci* were most often reported because of leadership actions intended to change the organizational goals or mission without building internal consensus. Leaders and organizational members

seeking to initiate change activities might have greater success and positive *genius loci* by employing a strategy which seeks to build internal consensus for a given proposal.

External factors that may have had an impact on the *genius loci*, such as social movements, included the Black Action Movement's three protests on the Michigan campus, the U.S. engagement in wars, and the sustainability movement, appear to have had little impact on any cultural or structural elements of the architecture faculty as an organization. Gradual changes in the demographic composition of the architecture program seem to have received minimal attention from the majority of members.

The findings of this study provide internal and external stakeholders who may be unfamiliar with the norms, values, structures, and operating paradigms, that guide behavior of members of the architecture faculty at U-M with a source for developing an understanding of this unique group of academics. The study provides internal and external stakeholders with three critical tools for understanding the organizational culture of academic architects at U-M: a conceptual framework for analyzing an academic discipline holistically, accounting for geographical, institutional, societal and technological influences on the organizational structure and cultural systems; an explication of the developmental path that the organization followed including the external catalysts for change and internal adaptations for survival; illustrations of the development of the porous boundaries that exist between the architecture profession and higher education institutions and their influence upon the development of the organizational culture at U-M.

Implications for Engagement by External and Internal Stakeholders.

The findings of this study provide internal and external stakeholders who may be unfamiliar with the normative, regulative, and cultural cognitive systems that guide the

behavior of members of the architecture faculty at U-M with a source for developing an understanding of this unique group of academics. The list of normative behaviors, values, and operating expectations, extra-organizational sources of change, and internal adaptations used in the past provided within this study will help new leaders and community members as they develop strategies to participate successfully in organizational actions. New leaders will find examples of strategies for faculty development, resource development, and curricular changes that have been used by leaders of this program for survival, thriving, and profile raising, such as hiring new faculty, providing incentives for research, developing new degree programs that incorporate the new knowledge discovered by faculty-researchers within the architecture program. They will also learn that proposed violations of values, such as demanding that the faculty support only one ideology, will be strongly rejected, and could result in a vote of no confidence in the leader.

Those stakeholders who may be unfamiliar with the operating norms, values, and expectations of professional architect-faculty members at research universities will gain an understanding from this study, of how the evolving institutional operating expectations imposed by the University of Michigan and the profession of architecture, through its regulative bodies, have influenced the organizational operating environment. The implication of this finding is the recognition of the porous and nearly symbiotic relationship that exists between the profession and the academy, in the development and dissemination of knowledge and architecture talent.

Stakeholders who perform a bridging role between the academic architects and external stakeholders, especially those whose professional training and acculturation was founded in a different discipline, will be able to recognize the different norms, values, and

operating paradigms used by Taubman College faculty; understand the source of those differences; and tune their actions to mediate the differences in a productive and meaningful manner for internal and external stakeholders. Specifically, architecture faculty may include practitioners, theoreticians, historians, sociologists, and technicians who are focused on improving the built environment through design. They value peer-review which is embedded in the educational program as end of term critiques. The architecture faculty research new methods, materials, and modes of construction that affect the environment as well as conducting research on the policies and practice our governments impose on the built environment. Architects think through drawing and making and see the design studio as the site of synthesis, making, and culture. They believe in iterative processes for decision-making and benchmarking decisions against the actions of their peers.

Study Limitations and Lessons for Future Administrators

Study limitations. At least two potential sources of error or gaps in knowledge, which may be attributable to my position as an administrator in the college, may have limited the findings of this case study. First, acknowledging that my experiences at the college over the past decades have been filtered through my administrative lens, which could have created a biased view of the culture, documents, and other data used to construct this report. Second, the fact that I am not a member of the architecture community by training may have introduced gaps in knowledge or understanding of the unique cultural environment that has been created here. My committee, especially the dissertation chair has helped me to manage bias with reflective processes, triangulation of findings and careful analysis. This case study focused on the activities of one disciplinary group of faculty who were members of one organization in one institution situated in a Midwestern city. As a single case study, the

findings may not be generalizable to other similar disciplinary groups, organizations, or institutions. However, the research methods used to pursue this study are generalizable and might be applied to the study of other disciplinary groups to help administrators to understand the unique cultural attributes of their organizational members.

Future research. The purpose of this study was to make explicit the cultural paradigms operating among architecture faculty members at a specific university. This study has benefited from the use of architecture specific theoretical lenses in combination with organizational culture conceptual frameworks. Among the findings of this study, was the significant influence that the goals of professional architecture associations and the university have had on the development of the organizational structure, culture, norms, roles, outputs, and leadership behaviors. By explicating the influences of these institutions on the culture and structure of the architecture faculty through historical analysis, the foundation for changes in the organizational culture were more easily understood. A number of questions might guide future studies:

- Because architecture schools were historically created to support the production of graduates for the profession of architecture, what extra-organizational groups or institutions influence the development of the non-professional disciplinary cultures?
- Because the creation of architecture schools in higher education was negotiated with the profession of architecture, are there unique differences in the relationship of other professional schools with their professional associations?

- Because the architecture faculty do not perceive themselves to be central to the mission of the university, did the disciplines that are central the university experience different forms of institutional support or pressures and how did those differences influence the development of those faculty cultures?

Final Thoughts

Researching the lengthy and culture-bound history of architecture education in order to understand how to support the faculty and students has provided me with unexpected insights about the porosity of influence that is exchanged between the academy and the profession, the sources of intrinsic motivation affecting the architecture community, and the challenges of being a member of an interdisciplinary discipline.

The original purpose of this study was to document the ways the architecture faculty thought and acted differently than those of us trained in other disciplines. The outcome was a deeper and richer understand of the sources and purposes of their intrinsic motivations, discipline-derived conflicts, and perceived cultural obligations that are embedded in their culture, training, and goals.

Architects design and build the artifacts of human culture and construct our built environment. Architecture as a profession has never been a true profession, in part because they lack true autonomy. This creates a conflict between the image and identity of the profession that underlies their self-conscious determination to keep making culture. A cultural study of the leadership actions and community responses to the formation of their norms, values, and operating paradigms has allowed me to develop a greater appreciation of the academic architecture community and provided insights into the ways that I can support

decision-making for administrative activities required to advance the goals of the faculty and their leadership team.

Future research on disciplinary cultures in higher education environments may benefit from the use of the conceptual framework used for this study, which incorporated organizational theory and discipline specific theories to explicate the cultural components at the artefact; espoused values; and tacit, shared values levels. This approach to creating a conceptual framework allowed a holistic review of the available historical and contemporary resources of an academic operating culture that is influenced by both academic and professional interests.

The outcomes of this study may aid stakeholders in better understanding the artefacts; espoused values; and shared, tacit assumptions that serve as guideposts for organizational behavior. Additionally, revealed are a deeper knowledge of the influence of the two institutional environments: the academy, and the profession, on the evolution of beliefs, values, and normative behaviors among the academic architects at the University of Michigan.

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Appendix: UHSRC Determination**RESEARCH @ EMU**

UHSRC Determination: EXEMPT

DATE: March 7, 2016

TO: Linda Mills, M.A.
Department of Leadership and Counseling
Eastern Michigan University

Re: UHSRC: # 869020-1
Category: Exempt category 1 and 4
Approval Date: March 7, 2016

Title: Collegiate Architecture Culture at the University of Michigan

Your research project, entitled **Collegiate Architecture Culture at the University of Michigan**, has been determined **Exempt** in accordance with federal regulation 45 CFR 46.102. UHSRC policy states that you, as the Principal Investigator, are responsible for protecting the rights and welfare of your research subjects and conducting your research as described in your protocol.

Renewals: Exempt protocols do not need to be renewed. When the project is completed, please submit the **Human Subjects Study Completion Form** (access through IRBNet on the UHSRC website).

Modifications: You may make minor changes (e.g., study staff changes, sample size changes, contact information changes, etc.) without submitting for review. However, if you plan to make changes that alter study design or any study instruments, you must submit a **Human Subjects Approval Request Form** and obtain approval prior to implementation. The form is available through IRBNet on the UHSRC website.

Problems: All major deviations from the reviewed protocol, unanticipated problems, adverse events, subject complaints, or other problems that may increase the risk to human subjects or change the category of review must be reported to the UHSRC via an **Event Report** form, available through IRBNet on the UHSRC website

Follow-up: If your Exempt project is not completed and closed after **three years**, the UHSRC office will contact you regarding the status of the project.

Please use the UHSRC number listed above on any forms submitted that relate to this project, or on any correspondence with the UHSRC office.

Good luck in your research. If we can be of further assistance, please contact us at 734-487-3090 or via e-mail at human.subjects@emich.edu. Thank you for your cooperation.

Sincerely,

Beth Kubitskey
Chair
College of Education Human Subjects Review Committee

