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Industrial Stagecraft: Tooling and Cultural Production

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Abstract

The tooling of theatrical spectacle requires collaboration between stagecraft technicians and designers in an increasingly globalized and standardized manufacturing process. While hand skills are still used and remain useful, digital fabrication and other tools are now incorporated in labour processes in scenery manufacturing workshops, altering collaborative work in complex ways. This thesis is an inquiry into the epistemological role of software and digital fabrication tools in stagecraft practices and explores how the politics of craft labour intersect with material practices in media production labour. The technical aspects of the fabrication of theatrical spectacles and display environments, the way objects are used to think, and the ways tools mediate practices suggest how tacit knowledge is produced and reproduced in scenery manufacturing workshops that build theatrical sets and corporate display environments. The articles in this thesis draw from case study research of a community of craft technicians who work in the industry of theatrical display in southern Ontario, Canada. Each of the four articles focuses on different facets of this case study. The technician's work in labour processes in scenery workshops is compared to repair and bricolage. Autonomy or self-determination over tasks in the workshop sites is explored in its material and embodied sense. The collaboration between the designer and scenic artist is mediated with digital media and this complicates established occupational roles. A case of collective organizing exemplifies the individualistic/collective dichotomy of craft labour. Using an inductive approach, the empirical research for this community case study was accomplished with participant observation and semistructured interviewing. My analysis of interview transcripts and interpretation of field data utilizes an autoethnographic methodology to reflect on and draw from my past work experience in theatre production labour as a builder and scenic artist. In this integrated article thesis, I consider how material practices constitute culture in media production labour.

Keywords

Craft, cultural production, theatre, labour, technology, tacit knowledge, unions

Acknowledgments

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Preface

The first time I accepted a job through the local, I was late for the call. I took the wrong exit off the highway and spent time nervously circling around the maze of industrial park the scenery workshop was located in. When I arrived at the workshop, I was met in the front office by a kind woman in her fifties, the accountant and secretary who led me out on to the shop floor and over to the paint area. We approached a woman wearing overalls who didn't return my smile. She glanced quickly at my feet and greeted me with a terse: "are those steel toes?" I said "yes." Without another word, she took me up to the sewing room above the technical design office. The place was a bit of a mess, but quiet compared to the noise in the shop downstairs. I was shown the job I had been called in to do, sewing Velcro strips to a massive black piece of fabric–then I was left alone. As I sewed and pinned I listened to men in the office below me teasing each other. Every time the door downstairs to the shop floor opened a roar of shouts and machinery could be heard. I made friends with the old industrial sewing machine: it was solid, black, and had a sturdy walking foot. My boss came up to check on me after a while and inspected the Velcro I had sewn onto the fabric. A crooked smile: "happy Velcro" she commented. The day passed, more work was doled out, and my boss seemed pleased; she was able to get out of the sewing room for a while, give the tedious work to someone else and work on a drop downstairs with the painters. Over time, when I was called back there for other projects, I began to get more of a sense of the people who worked there. Many of the people who worked regularly at the shop were a few years older than I was and had been working in theatre production for many years. They all seemed to have relationships that went way back, and had worked at different shops together on other projects. The

place seemed to collect people who it seemed might not fit in anywhere else or–fit there so well they couldn't be anywhere else. The shop at times was filled with activity; there were smells of epoxy, metal and wood being cut–then after the load-out the place was empty–until the next job.

1 Chapter 1: Introduction

[A]rtists use material resources and personnel. They choose these out of the pool of what is available to them in the art world they work in. Worlds differ in what they make available and in the form in which they make it available…What is available and the ease with which it is available enter into the thinking of artists as they plan their work and into their actions as they carry out those plans in the real world. Available resources make some things possible, some easy, and others harder; every pattern of ability reflects the workings of some kind of social organization and becomes part of the pattern of constraints and possibilities that shapes the art produced (Becker 1982, 92).

You know people who design airplanes or machines, no matter how much that what they do is good, the winds of time eventually turn them into tools." Hayao Miyazaki

In a suburban office space that has had all of the cubicles removed, the floor is covered with soft paper panels. On these, several lengths of a fine, white silk fabric have been stretched and stapled to the floor. These fabrics are meticulously patterned with small vinyl stickers of various dot-like shapes. Sitting cross-legged on the floor, the technicians apply the stickers by hand, following a faded photocopy of a design that has been referred to many times in order to match each section as accurately as possible. When all the stickers are applied to create a patterned resist blocking the pigments, fine mists of dye are sprayed in layers, creating subtle gradations of tones on the fabric. The once drab space is filled with colour: soft greys and blues for the water silks, warm oranges for the banners. The worksite is a temporary satellite space rented by the workshop that has the contract for the build. Today after many weeks of work, the set designer who works for the media corporation that has commissioned these projects is paying a visit to the workspace. The set designer is touring sites dispersed across North America to oversee the progress of things being made.

This anecdote describes an example of industrial stagecraft, comprising just one link in a global production chain producing a genre of musical theatre called megamusicals,[1] in which identical theatrical productions are copied and performed simultaneously in venues all over the world.[2] A globalized production process has altered collaboration for workers in these industries as manufacturing tasks are broken up and completed in different places. Production work in cultural industries has recently undergone a series of changes in organization, affecting many aspects of the industry of live performance including "[t]he size of corporations that dominate cultural production and distribution, the global nature of their markets, and the digital nature of much of the content they produce" (Huws 2016, 16). Characteristics of globalization, such as faster and more affordable shipping and increased communication across vast distances, allow for greater mobility of capital.

In this integrated article thesis, I examine craft labour within a complex industrialized process of cultural production.[3] The crafts that matter here are called

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[1] Term coined by Lister, D. 1995. The cloning of Andrew Lloyd Webber. *Independent*, 11. February: 25.

[2] There are several criteria that distinguish megamusical productions from other types of theatrical stage productions: "[m]arkets characterized both by rapid global expansion and by notable growth since 1980; production by a select and specific group of highly capitalized, globally competent and now even transnational players; The cultivation and establishment of specific commercial technical and artistic methods of production that are recognizable by their markedly increased standardising imperatives. Each method ensures the replication of any given show first, with unprecedented meticulousness, and second, across a greater number of international venues than was common to the field prior to 1980" (Burston 1998, 9).

[3] Cultural production is term that broadly defined describes work in the cultural industries. It also refers to the process of creating symbols and texts that have cultural meaning. Cultural production is a process of meaning-making and can describe the conditions under which cultural objects and texts are made, as well as the process by which they are understood and interpreted by audiences. The production of culture perspective emerged in the 1970s challenging "reflection" theories of audience reception. The focus on production explored how culture is made, not just the

stagecraft, a term that encompasses the whole gamut of crafts in theatrical performances. Stagecraft is practiced by scenic artists, properties builders, stagehands, welders, scenic carpenters, scenic designers and others who work on projects in the live performance industry. This labour is physically demanding manual work with materials including paint, steel, wood, plastics, and fabric. The projects the technicians work on involve various elements of the scenography of live performances. Scenography refers to "the materiality of performance–the sum total of the performance space, scenery, costume, lighting, sound, video" (Hunt 2010, 3). To tell a story or interpret a text with scenography, a set designer often manipulates scale, exaggerating the size and shape of objects in relation to others; the background and foreground merge with scene changes and moving scenic elements. In the articles to follow, I vary the scale of representation and employ different analytical frames to represent the technicians' work, and to foreground the tacit knowledge of a community of craft technicians who work in the industry of theatrical display.

There has been a rather persistent dualistic understanding of the labour of cultural production (Conor 2014). The work considered as creative is often perceived to be distinct from the work that involves the manufacture of cultural commodities and this is "reflected in economic policy debates by presenting such sectors as design, film and advertising as alternatives or 'replacements' for heavy industry and manufacturing" (Gibson et al. 2015, 86). There is greater value placed on the design and intellectual property of cultural commodities in "so-called knowledge and creative industries" (ibid).

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interpretation of cultural texts (see Peterson and Anand 2004 for an excellent overview on the literature on the production of culture).

Craft practices in cultural production are essential to the creation of cultural commodities but are misrepresented "as deskilled, divested of autonomy and devoid of genuine meaning" (Banks 2010, 308). Countering the view of craft as "hum drum"[4] (Caves 2000), I argue that craft labour is an often an invisible and unrecognized contribution to both the conception and the execution of manufacturing and fabrication labour. This craft labour is tooling. Tooling is the process of making objects that make other objects (Adamson, 2013). In these manufacturing labour processes, humans are also tools. Glenn Adamson states that tooling is "a distinctive form of research and discovery, one that operates only indirectly on the finished product, whether it is an object, a building or a digital artifact" (Adamson 2013). The "indirect" quality of the knowledge required for tooling is thus separate from these processes of production. Community members share it even while it is applied in production processes driven by economic imperatives.

All of the articles in this thesis engage in various ways with the tacit knowledges of a community that are a by-product of tooling. The work of the craft technicians involves shared understandings that there is a proper way to undertake a task. This may or may not be important to management, for this tacit knowledge often exists under the radar of management. At times, the extrinsic values of managers clash with what their employees think is the best way to complete a project. When this kind of conflict occurs,

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[4] In *Creative Industries: Contracts Between Art and Commerce* Richard Caves describes craft production work as representative of "humdrum inputs" in contrast to creative work: "[s]killed craftspersons often do express pride in or concern for the quality of their work and the goods they turn out, but economists seldom see this interest as affecting the organization of production. In creative activities however, the creator (artist, performer, author) cares vitally about the originality displayed, the technical prowess demonstrated, the resolution and harmony achieved in the creative act" (2010, 4). Cave notes that the artist, because of a concern with technical skill that can only be appreciated by other artists, "will divert attention from aspects of the task that consumers will notice" (see also Ryan 1992).

employees will make comments about the workplace being "a factory" and in certain situations, employees will challenge the authority of the managers of the projects. These moments are interesting because it is then the collective knowledge of employees that has meaning apart from the business of the workshop.

The research sites for this case study are located in southern Ontario, just southeast of Toronto along the shores of Lake Ontario. In this region, there are several workshops that build and fabricate scenic elements for various uses, including theme parks, musicals, films, corporate and museum displays. These projects require technical and stagecraft skills that are also necessary in other, less commercial contexts, such as government-funded and privately sponsored theatre, in opera and other types of performances. This industrial niche is very similar to the construction industry or film and television work; it is heavily unionized and project-based. Unlike highly mobile and site-specific construction work and film work, however, in this type of organization, the workshops and theatres stay put and the workers move from project to project.

These workers are transient. Their "community" is a group that is not settled in one location. In this case study, I use a definition of community that underscores the shared values and knowledge of its members. As such, this community of workers can be compared more to "bundles of cultural expectations than populations in a location" (Harper 1992, 143). For the craft technicians, material practices constitute tacit knowledges and shared values. It is important to emphasize that in a study such as this, "learning, narratives, and community all derive from the work and cannot be considered without it" (Orr 2006, 1805). [5]

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[5] This community could be called a "learning network," an understudied area of inquiry in

The craft technicians who are participants in this study must constantly compete for work with other members of the group. Their work requires individual talent, but they must perform the work as part of a collective, with others, and the informal relations they build with other members and with employers provide a form of stability. While certain changes in skill sets in the past five to ten years that I discuss in the articles are not simply a case of deskilling through the use of new technology, these new tools affect ways of working that are not recognized by those outside of the community. These changes in skills are invisible except to the others in the community. Many skills in manufacturing scenography are manual and learned through practices; work that is tacit is often difficult to explicate, and one has to experience doing it.

The next section of this introductory chapter defines several terms I use in subsequent sections and in the articles, and might be useful for those readers who are unfamiliar with theatrical production work. The section that follows contains a brief survey of the four articles in this thesis. I then present the research questions that guided the study and the qualitative research methods I used in this case study. The remaining sections discuss key concepts explored in this dissertation and provide a brief sketch of recent structural changes in media and communication industries that have affected the working lives of the community of craft technicians in this case study.

1.1 Some Definitions

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cultural industries (Grugulis and Stoyanova 2009, 136). It is important to ask questions about skill acquisition in the context of dynamic restructuring in cultural industries (Grugulis and Stoyanova 2009, 135). Organizations and institutions that have influenced how skills are learned in cultural industries have changed (ibid).

In this section, I define some key terms used throughout the thesis. I include here terms related to stagecraft and the technical work done by this community.

Community of practice: Jean Lave and Étienne Wenger defined a community of practice as a group who share a craft and/or a profession; identity is formed through membership in a group. The person as a participant in a community of practice is not an autonomous individual but a "person-in-the-world" and participation then, "dissolves dichotomies between cerebral and embodied activity, between contemplation and involvement, between abstraction and experience" (Lave and Wenger 1991, 52). Communities of practice can exist in relation to organizations such as unions, guilds, or professional associations or through participation in an online forum; at work, or through amateur group associations of some sort (such as a quilting society).

The lack of explicit knowledge shared by members of a community of practice, or knowledge that cannot be recorded and learned formally in a classroom, has meant that communities of practices are often unrecognized resources of knowledge (Orr 1996). The complexity of situated practice is difficult to explicate without embodied experience or participation of the practice.

According to Lave and Wenger's (1991) theory of legitimate peripheral participation, a novice begins learning a profession situated on the periphery of a community of practice and through a process of socialization is inducted into a core of expert knowledge. This imagery posits learning as a way of being, and opposes structuralist understandings of knowledge as mental representations of objective structures (Hanks, foreword to *Situated Learning: Legitimate Peripheral Participation* 17). Learning is not conceptualized as a process of individualization or self-actualization,

but happens within a framework of interactive participation. Lave and Wenger suggest this process of learning is often competitive. An implicit aspect of this process is through learning skills—the novice can refine and redesign ways of doing things. The development of new knowledge can lead to the novice replacing the expert they have learned from. The concept of a community of practice is useful to understand how learning occurs in the workshops and in theatres. The working lives of the members of this community of practice who work in industrial stagecraft are understood through observation and participation in the activities of the community.

Lave and Wenger posit that competition is integral to the social relations in communities of practice. This competition between members of the community was observed during the time I spent in the workshops and theatres. Learning skills from other workers in this work in these contexts is often fraught, and silence is preferred; it is better to pick up ways of doing tasks quickly by observing others and not having to be told. This is reflected in comments made by some of the people who work in the shops about newcomers; they will say, "We kept her working on that project for a month—because she was quiet." In these craft occupations, there is a certain amount of contradiction between one's aptitude and individual skill and a social process of conforming to the standards maintained by others who practice the skills necessary to do the work.

Networks: In project-based work environments, networks function as a way for individual workers to advance their careers and limit precarious employment (Christopherson 2008, 89). Network are similar to communities of practice, for social acceptance is a key to an individual maintaining a network of other workers that can be

relied on to help each other find employment. Networks are important in the theatres and scenery workshops studied in this case because being part of a network tends to mitigate the risk of precarious working conditions. Networks are also beneficial to employers—for a project-based organizational structure relies both on the types of technologies used in the labour process, and also on shared practices.

Networks, like communities of practice, are considered to have an important function in craft labour in cultural work because it is within these networks that craft standards and processes are learned and maintained. Although newcomers must have prior training in educational institutions before entering the industry, experience still has to be earned and this is contingent on the social relation of being accepted into a network. It is difficult at times to maintain a flow of steady work, which is how success is measured in this community: there are many people who have invested in an education in technical theatre or film production at a post-secondary institution and would like to work in these industries. Educational institutions have a role in the training workers for work in the live performance industry and for the film and television industry. These institutions provide a large labour supply of qualified (but inexperienced) individuals who have invested in training for work in the cultural industries. In the US for example: "expansion of the labour supply has been stimulated, in part, by the success of higher education media training programs" (Christopherson 2008, 83). This has also been the case in Canada. In the greater Toronto area, there are several colleges and university programs that have technical theatre programs and film programs. The graduates of these programs provide a supply of individuals eager for experience in media production.

Andreas Wittel (2001) described the process of maintaining and keeping a network as "network sociality." This concept of network formation understands participation in a network as individualistic. Individuals are not really invested in collective or communitarian values, and are only out for themselves. This is one marked difference between this concept of networking and membership in a community of practice.

A criticism of network theory is that it cannot account for what determines acceptance or non-acceptance in a network: "[w]hile network theory can very usefully explain some of the factors influencing individual behavior it cannot explain within its own terms of reference why network members have access to certain resources and therefore the causes of network composition" (Blair 2009, 120). A study of a community of practice should be attentive to the daily routines and activities of workers. A practice-based approach can tease out what criteria are important to being part of the community. This can offer a more on-the-ground view of what people do at work and how people obtain employment through social relationships with other workers.

There has been an emphasis in scholarship on cultural labour on the individualistic aspects of cultural and creative labour (see McRobbie 2002a), but less on how unions and worker organizations figure in the process of finding and maintaining networks to gain access to work. There is very little scholarship on the ways established worker organizations like entertainment industry guilds and unions have fostered informal networks and collective values. Hesmondhalgh and Baker (2011) have suggested that cultural industry unions must adapt to intensified precarious working conditions by incorporating informal networks into their structure. However, Susan

Christopherson (2008) has argued that throughout recent changes in entertainment industries, networks have always been present within union structures and there has been a continuity of "exclusionary networks" within established entertainment industry unions (85). For Christopherson, networks remain integral because they mitigate "risk" for both workers and employers, but this persistence of networks has coincided with a "loss of union control over production projects" in recent years (ibid, 73).

In this study, informal networks were found to exist within and alongside the locals of IATSE (International Alliance of Theatrical Stage Employees and Allied Crafts). These worker organizations play an important role in selecting new members and controlling who is hired for work.

International Alliance of Theatrical Stage Employees and Allied Crafts: This is a North American union with jurisdictions in the United States and Canada that represents members who work in many technical trades in cultural work.

Scenic artist: Also known as "scenics", a scenic artist decorates scenery with paint and paints scenic backdrops. A backdrop is a large painting that creates the illusion of a space behind the action of the play. Scenics also often have carving skills and sculpt set elements for theatrical productions.

Props builder/maker: A props builder makes objects there are used in theatrical performances. There are "hard" props (made of wood, metal, and some plastics) and "soft" props (raffia, fabric, and foam) and many prop builders specialize in building one or the other type.

Scenic carpenter: A carpenter who specializes in the type of carpentry that is specific to building performance spaces.

Stagehand: Stagehands, (along with riggers) do a lot of the work of installation of the set and fitting the elements of a live performance that is on a tour. They load the pieces and "fit" the elements together. Many of the rituals and skills associated with these trades can be traced to the skills sailors used on wooden vessels in the last century. Stagehands still have backstage rituals such as blowing whistles and hand signals that were once commonly used by sailors.

1.2   Overview of the Articles

In the first article included in this thesis, the material labour of craft technicians who work in the industry of theatrical display is theorized as repair and bricolage. The labour of scenic carpenters, stagehands and properties builders working in theatres and commercial scenery workshops is varied, and the individuals working in these occupations could be said to be jacks-of-all-trades. They might take a call as a stagehand, and then for the next work call will build props and so on. In the workshops that fabricate theatrical productions, the varied nature of the set designs means that production processes are flexible and work is difficult to standardize. The set designers do not provide finished blueprints of their designs for the builders to follow. The concept of bricolage is useful to understand how this manufacturing work contributes to the creation of commodity forms. This work relation is compared to Bill Ryan's (1992) concept of "relative autonomy," which is used as a frame to analyze the collaborative and collective labour relations in the workshops. I argue that the site of this manufacturing labour, the construction workshop, is a space of "relative autonomy." The article's focus on materiality and the making of physical objects in cultural production contributes to recent

scholarship that views craft labour as creative precarious work (Banks 2010; Dawkins 2011), and recent work in the field of economic geography on labour processes embedded in place (Carr and Gibson 2015). I argue that the practice of outsourcing and the granting of "relative autonomy" is a way for media conglomerates to exert control over experimental production processes and the collaborations between designers and makers.

A version of the second article, "Broadway North: Craft in Canadian Creative Industry production" was published in *Work Organisation, Labour and Globalisation*. The article considers two cases of the way craft autonomy is altered by new tools and digital media in labour processes in the commercial scenery workshops. I was interested in emphasizing that the engagement and control over process was important for the craft technicians, but to follow another's design wasn't necessarily alienating in and of itself. Robert Blauner (1964) explores how autonomy is experienced as context-dependent in a collection of several case studies of different industries. In a study of textile manufacturing industries, for example, he observes that expectations for autonomy can be gendered and notes how women do not require as much autonomy in their work as men do because of cultural expectations. In the article, I explore autonomy as context-dependant and situated in a labour process. This is a different approach compared to work on creative labour that aims to delineate a "normative" definition of autonomy (Hesmondhalgh and Baker 2011). The evidence I provide in this article suggests that while a certain level of divided labour was tolerable and even preferred by the technicians, the increasing irrelevance of hand skills in certain occupations meant the labour process becomes more divided, though it had been previously more of a collective

endeavour in the context of the workshop. I discuss how this can diminish collective identity in practices that are never static. The example I provide of the incorporation of the CNC[6] and CAD[7] design is a classic case of deskilling in the sense that Harry Braverman (1974) outlines in his analysis of capitalist labour processes in *Labour and Monopoly Capital: The Degradation of Work*. Work is now organized around the CNC schedule of cutting out parts for workers to put together, less complex somatic tacit skills are required in some cases and, to follow Braverman, the work is deskilled by this use of machinery in the labour process. Braverman predicted that as new skills are inevitably needed to replace older skills, some skills, no longer perceived to have value within capitalist labour process, would be regulated to being leisure pursuits. It is possible to speculate that the intersection of leisure and craft present in contemporary DIY maker culture is an example of this. There is also a reskilling observed in the workshops, as the work of scenic carpenters increasingly relies on programming skills instead of hand skills. As I outline in this article, the use of the machines to replace hand skills in the workshop in the past ten years coincides with more efforts to control the process of manufacture by the companies contracting the workshop. Another example discussed is the use of digital media in scenic art practices and the collaboration between the scenic artist and designer. This is examined using the concept of autonomy: I argue that while the scenic artists are at times granted more autonomy and control over the process (because they must work with little instruction) in this context it is exploitive.

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[6] Computer numerical control.

[7] Computer assisted design.

In both examples, what seems to suffer is the quality of collectivity for the workers in the labour process and collaboration. This happens in the first case with less autonomy for some, in the second with more autonomy. In time, this collective identity might be replaced as another type of collective knowledge and occupational identity based in skills in programming and using digital tools develops. In the study of cultural production, collective tacit knowledge has largely been absent from discussions of autonomy and alienation (one notable exception to this is McKinley 2009). It should be foregrounded in studies of cultural labour in order to include the perspective of cultural workers, whose contribution to the production process is often unrecognized in creative and cultural economy labour. As Banks has pointed out "[t]he issue, however, is not simply one of 'balance' and fair dues–since the craft worker also occupies a distinctive and noteworthy role in the *politics* of cultural and creative work" (2010, 36).

The third article zooms in to represent in more detail the collaboration between the scenic artist and designers, which is introduced in the preceding chapter. A version of this chapter was published in *The Journal of Modern Craft*. In this article, I reference John T. Caldwell's (2008) ethnographic research on the material culture of film production work in Hollywood, focusing on his case studies of the ways that new technologies are incorporated in work practices and consequently alter the cultures of production worlds. The visualization of the set design and changing practices of rendering and communicating ideas are foregrounded. There are two main changes in the labour process explored in this chapter. The first is the physical absence of the designer due to outsourcing. This distance can inhibit collaboration and it is difficult for the scenic artist to understand what the designer wants. The other new development is the increased

use of software to make renderings of set designs. The resulting gulf in understanding is detrimental to the craft practices of the scenic artists in this study because craft practices are supplemental to art and the visualization of the designer. In this article, I show how the history of the craft of scenic art is rooted in a hierarchical relation between the designer and the scenic—the scenic is the "tool," but the absence of conceptual tools provided by the designer causes the work of the scenic artist to shift from craft practices toward artistic ones.

The fourth article relates a story of a case of collective organizing in the mid-1990s during a time when there was an increase in theatre production work in the region of southern Ontario. In this article, the different ways two IATSE locals imagine their labour relations illuminates the ways that cultural understandings of labour can be influenced by material practices. I provide an overview of how the IATSE adapted to industry changes and restructuring, focusing on the IATSE union's responses to a sharp decline in union membership in the 1990s, and the changes in hiring practices in some locals. The occupational identity of the scenic artists who formed a skill-based local in 1998 is discussed in relation to their decision to organize their local as skill-based. I explore the complexity of the concepts of seniority-based and skill-based labour and examine how collective identity is infused with entrepreneurial values and competition for work.

1.3 Research Questions and Methods

This case study seeks to answer some key questions about the way craft labour has been affected by the adoption of new technologies in commercial scenery workshops.

1. As new digital tools are incorporated into labour processes, how do these tools alter the knowledge necessary to make things? How is this knowledge acquired and applied?

2. How does material practice inform the workplace cultures and occupational identities of craft technicians?

3. How does digital prototyping and digital rendering alter the collaboration between designers and makers? How does this shape work practices and occupations?

4. How does the collaboration occur between these actors from a distance, as work is reorganized within increasingly complex value chains through outsourcing?

These questions about changing occupational identities and work practices led to questions about the ways that these workers understand their labour. In addition, I wished to explore one final question: the role of the union.

5. What was the International Alliance of Theatrical Stage Employees (IATSE) organization's response to recent economic restructuring and technological change?

In order to address these questions, I used two methods of gathering information. Method 1:

I engaged in participant observation as a research method at worksites and industry meetings and conventions. Participant observation is a standard method of ethnographic research in media studies informed by the discipline of anthropology. It is a fieldwork method based on social relationships between individuals and the ethnographer. The researcher learns through observing and participating in everyday activities and work practices with community members. As is standard practice, there

was no formal recruitment process for this component of the research. The data collection

began in the summer of 2015 and continued throughout 2016 and the spring of 2017 in

order to allow for ample time to observe the research sites. My analysis of the field notes

recorded from this method of research utilizes an autoethnographic methodology[8] to

reflect on and draw from my past work experience in this industry. I have considered my

memories and experiences as fieldwork and I have used those experiences to help me

interpret the field data.

Method 2:

In addition to this participant observation fieldwork, I conducted twenty-four

semistructured open-ended interviews. The interviews were conducted in the summer and

fall of 2015. In this type of qualitative interview, "the researcher has a specific topic to

learn about, prepares a limited number of questions in advance and plans to ask follow-up

questions" (Rubin and Rubin 2012, 31). I compiled interview audio recordings and

transcripts from these interviews with the employers, designers and craftspeople, who are

members or previous members of IATSE locals. I interviewed three employers and

owners of scenery construction workshops for this study. These individuals were also

craft technicians and two were previously members of IATSE locals. In interviews with

participants, I began by focusing on the following four key questions (the full set of

instruments can be found in Appendix 1).

1. What is your educational background and what originally led you to work in
   this industry?
2. What changes in work practices due to new technologies have you observed
   during your affiliation with the local?

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[8] The auto-ethnographic methodology I have undertaken is similar to Emma Dowling's (2007)
approach. In her research, she draws from her experience working as a waitress; her
autoethnographic research draws from her memories of work experiences (117).

3. Are you personally interested in learning more about the design process or are you more interested in working with materials? Or both?
4. Do you feel as though your opinions and thoughts about how the work process is organized matter to those in management or to the designer of the project? Do you see the relationship between the designer, craftspeople and managers as collaborative?

I interpreted the interview data using open coding. This is a qualitative method of data analysis that involves generating "as many codes as possible, at least initially without considering possible relevance either to established concepts in one's discipline or to a primary theoretical focus for analyzing and organizing them" (Emerson et al. 2011, 182).[9]

The methods outlined above allowed me to study the work and activity of the technicians of the community that is embedded within particular contexts. Jonathan Rubenstein (1973) describes why it is important to study work situated in practices:

> Scholars rarely have either the time or the inclination to seek close ties with the men they want to study. Instead of studying the work, they report on its organization and administration; instead of describing what the men do, they examine their feelings and values. These may be worthwhile things to do, but they cannot be done properly unless the observer understands the nature of the work whose administration he is examining, and the constraints and contingencies which affect the men who do it. (Cited in Orr 1996, 155).

This statement by a researcher about understanding what the work entails made an impression on me for two reasons. Firstly, I was interested in examining how material practices are constitutive of occupational cultures. I begin with the idea that mental conceptions have a basis in material practices.[10] The second has to do with my qualms

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[9] For a more detailed description of the research methods, please see the Ethics Protocol in Appendix 1.

[10] This perspective was influenced by my reading of the work by Lucy Suchman (1987) and Julian Orr (1996).

about being an "objective" researcher. It is true that being both an observer of and an insider involved in the working life in the workshops and theatres under study shaped the kind of research I conducted. However, rather than compromising my ability to do research, my years of work experience have been advantageous because they provided me with an understanding of what it is like to do this kind of work. Douglas Harper (1987) described this position of studying a community that one already has ties to as "an emotional/rational schizophrenia" (151).[11] For in his research process, the relationships Harper developed through his ethnographic fieldwork were of "the heart" while "sociology is supposed to be of the mind" and as he says, "it becomes necessary to live in both worlds" (1992, 151). Since I was personally involved, the conversations with people would stir up my own conflicted feelings about the work and, at times, feelings of inadequacy and competitiveness about my own standing in the group. This was part and parcel of the autoethnographic approach. Though this was sometimes a difficult process, it was also rewarding to share perceptions about the work with others.

Before I started graduate studies at Western University, I observed there were distinctive cultures to be found in the workshops where I worked as a technician. At first, I had felt outside of things because I was not yet a member, and unlike many new members to the local, I had not attended a technical theatre program and had instead learned on the job at regional theatres. Before I became a member, I didn't know anyone in the local, but I clearly remember the day many years ago whereby I felt I had gained a foothold "inside" at a shop where I had worked for a few weeks. A scenic mentioned to

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[11] Douglas Harper (1992) writes about the inability to maintain distance and objectivity at all times from research subjects in research of community case studies in a collection of essays entitled *What is a case?* edited by Charles C. Ragin and Howard Becker.

me that he wanted to move a piece of scenery in order to work on it, but was told by workers on the floor that it was being saved so I could make something for it. He said: "I didn't know your name and they were surprised. They said that you need to have that piece to work on." In these workplaces, people pass through the shop all the time, staying a day or two, then move on to something else, so having a specific project that is "yours" is the at the beginning of the stage of belonging.

The fieldwork or groundwork that informed the research questions of this study preceded the reading I have since done on craft and the labour of cultural production. My past experience of membership in the community was not as an academic researcher, but as someone who had to gain membership in the community in order to work: it was how I was able support my family, my young son and my husband. In the articles presented here, I have situated my observations about my experience in the context of other voices—workers I have previously worked with and took part in interviews about their work. This project is about "giving voice" to the people who are members of the IATSE locals that are a part of this study, and who work in theatre and scenery workshops in the region of southern Ontario. Charles Ragin (1994) has described the aim of this kind of research in these terms: "the objective is not only to increase the stock of knowledge about different types, forms and processes of social life, but to tell the story of a specific group, usually in a way that enhances its visibility in society" (43). In this type of research analytic frames shift:

> the researcher might start with several frames, and move fluidly among them depending on the nature of the evidence as it accumulates. The use of multiple, fluid framing is especially appropriate when researchers seek to give voice because a fixed analytic frame might prevent researchers from hearing the voices of the people they study. Sometimes multiple frames are retained throughout a

project and included in the representation, especially if these different framings illuminate the subject in complimentary ways (Ragin 1994, 75).

In case study research, a water-tight theoretical framing can hinder the creation of a representation of the subjects of the research: "the voices of the research subjects are blocked by the trappings of hard science imposed on an elusive social phenomenon. The voices of the subjects are lost as the loudspeaker of social science theory drowns out all competitors" (Ragin 1994, 16).[12] This understanding of the research process had an influence on the design and approach of the study. When I started to become familiar with literature on cultural production, I realized there was not a representation that did justice to the nature of the work of stagecraft technicians. Conducting a case study of the working lives of this community was also a way to process my own experience of precarious work in highly competitive and stressful circumstances. My personal experience of the material conditions of the work thus informs my interpretation of the interviews.

I would invariably begin an interview by asking to hear the story of how each individual had come to take up work in theatre. Telling the oral history of this community is an element of this project because I was able to piece together collective stories using "responsive interviewing" (Rubin and Rubin 2012, 7) as people related their perspective on how the changes in production had unfolded. I would often ask, for example, about changes in practices or how they used certain tools, or about stories that I had heard from another person to see if they had a different perspective on the same event.

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[12] Ragin cites Douglas Harper (1982;1987) as exemplary of this kind of research.

In conducting these interviews, I took accounted for temporality to gauge how the work had changed over time and to consider my own experience in relation to this. All the interview participants in this study had more than ten years experience working in the industry, as do I. Some had a longer view of working in theatre over a time frame of twenty to thirty years. and this lent a rich depth and experience when they answered questions about changes in technology and work organization. These individuals compared new technologies with previous methods and approaches. One person remembered being apprenticed as a sign painter and working for a company that silk-screened real estate signs in the early 1980s. Other individuals reflected on the different materials used in the workshops. There are many examples of this: the carpenters will speak of the lack of quality of some materials in comparison to the past; the wood they have now is soaked full of chemicals that bleed through layers of paint when the scenics apply decorative finishes. Many observed that just a few years ago, there were few safety precautions taken: no respirators or masks of any kind worn, bare hands exposed to chemicals, paint trays catching on fire. Workers often commented on the toxicity of many of the chemicals used in manufacturing without proper safety guides or protections and on the sensitivities people developed as a result of their exposure to chemicals in the paint, glues, dyes and other materials.

I found my previous work experience was useful in the process of interpreting the rich data I obtained and to contextualize many of the events I discussed with participants in interviews. I also discovered that fieldwork can serve as "a practical hook" and can also be "valuable partly because, in generating trust, credibility and familiarity, it makes interviewees more likely to disclose themselves in interviews" (Crewe and Maruna 2006,

115). I inquired about specific events I had witnessed in the workshops and would share my own stories that touched on themes I was interested in exploring in the research. These techniques are useful in a research study that utilizes interviews and ethnographic participant observation (Crewe and Maruna, 2006).

There were often interesting contradictions between attitudes and behaviour in the workplace and an individual's reflection on their own experiences. In one interview, an interviewee reflected on how sometimes she could be "really harsh" in the work environment of the shop, but that this was because she felt it was necessary to be tough to interact with the men and to have her opinions taken seriously. These kinds of self-reflection in interviews often revealed discrepancies between how people spoke about their work and how they acted and behaved towards others at work—the differences between what people say and what they do. One example was the preference for precarious and contract work often cited in interviews, but some workers would then display tenacity to keep their informal positions (being the first or second called in to work). Often this meant being competitive, bullying and undermining other worker's positions, or creating the impression they were in demand by disclosing they had been called for another job (or called for several other projects).

After I completed my ethics protocol in the spring of 2015, I began to conduct interviews for the study. I did not have any difficulty finding participants, and many people were happy to put in me in contact with other possible participants. By the time I finished conducting twenty-four interviews in 2015, I had recorded many hours of conversations and transcribed these. I used an open coding method of analyzing the data to find several themes in the interview data. Following this process of transcribing and

coding the interview material, I was able to return to fieldwork and to observe work processes while I was a builder for a six-month contract in the fall of 2016. Although I had conversations with the people I was working with about the fact that I was doing a study of the work, I did not conduct any formal interviews with my coworkers as I felt this might be awkward. Nevertheless, I was open about my interest in their work and about why I was asking certain questions. It was during this period of fieldwork I began to become more interested in a new set of questions about the different hiring practices and membership induction processes in IATSE locals generally. In January 2017, I revised my ethics protocol to include other locals with the intent of interviewing more people from other locals about these questions. At this point, I have not conducted more interviews, but was able to draw from the rich interview data I had already obtained from the initial interviews to begin to answer these questions and to tell the story of how one of the locals was formed. I also made use of transcribed convention proceedings of the IATSE International in the form of bound volumes dating back to the beginning of the last century. I was able to borrow these from one of the older locals.

Participant observation is an adaptable and flexible method of inquiry (Boellstorff et al. 2012, 54). In the discipline of media studies, there are several scholars who use qualitative methods informed by cultural anthropology to examine film and television industry practices. John Caldwell's (2008) ethnographic fieldwork of the production worlds of film and television industries in Hollywood was a very important influence, as was the work of Georgina Born (1995). Born's justification of the ethnographic method used in her work is persuasive: "it takes a method such as ethnography to uncover the gaps between external claims and internal realities, pubic rhetoric and private thought,

ideology and practice" (7). Vikki Mayer's (2011) ethnographic study of workers in the television industry also informed the scope of this research.[13]

To learn more about the working lives of this community of craft technicians, I was able to draw from my own direct experience with the material conditions of this kind of labour in scenery workshops and for theatres in southern Ontario over a span of ten to twelve years; twenty-four semistructured interviews with members of two IATSE locals representing workers who are carpenters and welders, stagehands, props builders, and scenic artists; ethnographic research in three scenery workshops having contracts with the IATSE locals, and participant observation at an IATSE convention and other industry events. I also made use of convention transcripts and online materials created by the IATSE and its membership.

1.4   Craft?

If you want to find out how to do something, how to de-bone a leg of lamb, knit a purl stich, paint a car, chances are someone has made a *YouTube* video you can watch online that provides detailed instructions and a demonstration of how to do it yourself.

The welders are gathered in a group that radiates engaged attention, they are studying a piece of metal bent into a curved shape and listening to one of the more experienced welders explaining a technique they will be working with.

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[13] Research that employs ethnography to study theatre production: (Mcauley 2012) *Not Magic but Work: An Ethnographic Account of a Rehearsal Process* and Atkinson (2006) *Everyday Arias: An Operatic Ethnography*. However, these ethnographies do not devote much attention to the backstage work of production, but are focused on the rehearsal process.

A blogger posts photographs of the things she has made, a leather purse with grommets, a belt, and she writes about how shaping the leather created a flow experience.

A nine-year-old girl works in a factory. She doesn't go to school. She has to make money and she spends all day clipping threads off of shirt collars, taking them from a pile as big as her on the floor. She is careful, she will get into trouble if any threads are missed.

What is craft? In all the scenarios above, craft is present, but the meaning of craft is amorphous, context-dependent, and historically constituted. For the purpose of this study, craft is defined as work that requires skill in manipulating materials, either by hand or with a machine. It also means being part of a practice: a group of people who understand the technical underpinnings of the work being done.

Craft connotes a shared tacit knowledge about what materials can do or be. In this way, "[t]he meeting of tool and medium provides a locus for skills. As we push material around we encounter structure. We find that we may work only in certain ways, and only at certain rates" (McCullough 1996, 194). For some, craft is only associated with work done with human hands, but digital media are material, though as Lucy Suchman (2014) observes: "the digital reinforces historical divides insofar as it's often mistaken for the immaterial" (129). The work done with digital tools is craft, albeit through a process that deceptively appears as less material, because it ultimately results in the creation of an object through manipulation of a medium.[14]

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[14] "When the tools are complex, when the artifacts produced are abstract, or when tools provide the only means of access to the medium (all common conditions in high technology), it can be difficult to say where a tool ends and a medium begins. But we can say that under skilled practice even these tools become transparent and that a sense of a medium eventually emerges" (McCullough 1996, 193-194).

One impetus to undertake this study can be found in the cultural phenomenon of the so-called maker movement, a contemporary affect[15] associated with craft. Craft and handmade goods, tinkering and repair work is celebrated as a resistant act (Bratich and Brush 2011; Minahan and Cox 2007) and as an antidote to "passive consumerism" (Crawford 2005). Making is integral to community and to bonds between people (Gauntlett 2011). Knitting circles and other cultural forms of "maker culture"[16] became part of a hipster culture in the 2000s and has fostered certain aesthetics and values (Clarke 2016). In these contexts, craft tends to be envisioned as symbolic of activity that is "outside" capitalism, a resistant alternative.

New digital fabrication printing and cutting tools create opportunities for makers to become entrepreneurs (Anderson 2012), while at the same time, craft and the culture of making culture have been commodified. Products labelled as "artisan-made" are widely available. Starbucks coffee cups now have a cardboard sleeve printed with the message "handcrafted with love." Craft now has added value. The designer-maker selling goods online through such sites such as *Etsy* valorizes having control over all aspects of their process (Hughes 2012; 2013; Luckman 2013; 2015), including both the design and the execution of the work. Along with using craft as a marketing designation, there is hope that new patterns of production are developing that could potentially challenge existing organizations of capitalism (Luckman 2015). While there is a sense that craft continues to

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[15] An empirical study of craft and affect in work relations in an artisan microbrewery finds that the material and tangible aspects of brewing beer make work enjoyable for the workers, who find intrinsic values in the process of working (Thurnell-Read 2014).

[16] The "maker movement" is also used to describe cultural practices and hobbyist communities centred around making things with analogue or digital tools.

have revolutionary and resistant qualities to capitalist systems of production, the elitist, exclusionary and nostalgic aspects of maker movements have also come under scrutiny (Dawkins 2011; Groeneveld 2010; Morozov 2014).

When craft is associated with handmade goods, the celebration of the designer-maker as one who resists standardized production, it seems distinct from capitalist labour processes, but humanists and social scientists are beginning to study cultures of making and the ways these intersect with craft labour in labour processes. This is particularly true in cultural and economic geography where manufacturing craft cultures are studied as being specific to particular places (Carr and Gibson 2017; Pratt 2004; Price 2015; Warren and Gibson 2014). There is also the recent trend where well-educated young people choose to pursue work in trades once considered to be working-class labour, such as butchering, barbering and distilling. This is another sign of the changing meanings of craft in popular culture (Ocejo 2017).

To imagine craft as "slow," as always oppositional or resistant to capitalism, tends to overlook the role of craft in industry and manufacturing processes in the past and its continuing relevance today. It misses the fact that during the industrial revolution, crafts workers were often more concerned with competition and speed than maintaining traditional skills and practices, and that artisans were active participants in devising new ways of working to compete and have control over their work practices (Adamson 2013). In this sense, the commonly accepted romantic reading of craft as preindustrial and traditional has been historically constituted and "invented" (Adamson 2013, xv).[17] Glenn

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[17] In *The Invention of Craft* Glenn Adamson (2013) presents several historical case studies that explore this thesis. He references the work of David Pye (1968) and his concept of the "workmanship of risk" and the "workmanship of certainty." Pye understands the concept of craft

Adamson uses evidence gathered from historical case studies of nineteenth-century wood carvers to complicate established notions of craft as being resistant or oppositional to capitalism. He argues that far from being passive alienated workers who wanted to slow down labour processes, crafts workers were more often actively engaged in devising new techniques of making to streamline production processes. Adamson argues that rather than suffering from a decline, craft in the nineteenth century flourished and fully came into being.

Several of the challenges craft labour faced in Adamson's case study of woodcarvers in the nineteenth century are relevant to the themes taken up in the following chapters of this thesis. For instance, Adamson notes that:

> techniques of visualization (drawings), organization (large-scale shops and outsourcing), and replacement technologies and styles (the use of casting instead of carving, or veneer instead of ornament) were employed in this way in an attempt to diminish the literal and figurative friction imposed by the carver's autonomy (2013, 33).

As Adamson argues, woodcarving in the nineteenth century was a skill that was very much connected to the craftsperson doing it, their hand skill and knowledge of materials. Adamson describes how techniques of visualization, drawings that specified exactly what things should look like eroded the autonomy of the carvers, who had previously used their imaginations to embellish forms. Adamson is clearly not a technological determinist and shows how "organizational tactics" were a driving force in a loss of status for carvers in the century after 1750 (30). The division of labour between those who made the

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as being relational and malleable. This view contrasts with scholarship on craft that strictly relegates craft to refer to work done only by human hands. Richard Sennett (2007) in *The Culture of the New Capitalism* associates the meaning of craft with care and doing a good job.

drawings and artisans meant that crafts workers "more and more frequently were called upon to fill the gap between sketch and product, placing them in a reactive mode negotiated through images" (18). The thorny issue of autonomy over craft processes is ongoing today in the workshops that are part of this study, for as Adamson states: "[f]ar from being a settled issue, the control exercised over skilled hands has become an even more important political question over that last few decades, as the global displacement of labor has led to ever more sophisticated forms of control" (xx). An understanding of craft as part of socially constructed relationships complicates the accepted myth of the humble craftsperson whose work is taken over by machines (Adamson 2013). Following this interpretation of craft, I also want to consider craft as relational and as situated in practices.

This aspect of craft labour is a key theme present in the following chapters. It is examined though examples of craft practice in the scenery workshops and the issue of control of craft and the occupational identity of the craft technicians. For example, in chapter three, I discuss the work of the scenic artist and scenic carpenters working today in the workshops and the replacement of hand skills with machines (in this context, 3D fabrication and digital image printing).

The study of material practices provides an understanding of what people actually do at work, how occupational identities shape and are shaped by work processes, and how collective knowledges are changing and are challenged through the use of new tools that are incorporated in stagecraft practices. In the following articles, I show that the members of this community of craft technicians are competitive, and actively engaged in figuring out ways to cut corners and work more efficiently, but they also strive to have

some control over their practices at work. The history of these craft practices is important, and informs their assessment of the quality of the work they do. They are often more interested in the details of process than in having creative control. It is fair to say that many craft technicians I interviewed and have worked with (myself included) are quite caught up in the rationalization of production that is becoming more common in theatre production work, while at the same time they express a desire to maintain a collective craft ethos in relation to this work.

As I will explore further in these articles, there is an implicit bias in some literature on cultural production that tends to reinforce an ideal of creativity as synonymous with abstract ideas and concepts. This is possibly because the literature on craft labour in cultural production is so sparse in comparison to the literature in cultural production that focuses on creative labour (Banks 2010; Caldwell 2016; Gibson et al. 2015). There is often the impression that artisanal craft has been diminished or left behind, as when "the residues of artistic, craft and artisanal labour" makes cultural work appealing and draws workers to seek work in a creative or culture industry (Hesmondhalgh and Baker 2011). Craft is "preserved" (Banks 2010). However, craft is relational—it is relative to social processes of making things. In this sense, there can be as much "craft" within contemporary labour processes, which ultilize new technologies as in more traditional handiwork. In addition, while it is true technology liberates people from "soul-destroying, routine back breaking tasks and leave them free to engage in more creative work" (Cooley 1987, 9), routines and habitual practices can also provide intrinsic values for the technicians.

1.5 Tacit Knowledges

He drew a perfect arc, and then said, "Now you do it!"

That is the teaching—now you do it. Of course, I don't know how to use my body and I'm jerking along, so what I tell them (the students now) in terms of process, I say you have to breathe because scenic painting is an athletic activity. So if you are prepped, if you are stretched, you can move your body and the work flows. But of course, he didn't say anything about that. I had to get that.

Just breathe. Breath is something I really had to learn. I am still a breath-holder and so let it flow, get it together, and move forward. Don't get too caught up in how well you are doing.

–Scenic artist.

How do you learn a craft? It is a truism that learning a craft requires years of training, and becomes tacit knowledge acquired through habitual practice. The concept of tacit knowledge was first developed in *The Tacit Dimension* by Michael Polanyi (1966). Polanyi emphasizes that tacit knowledge is often embodied knowledge that is hard to explicate, like the skills needed to ride a bicycle. As the scenic artist describes how he gained mastery of his craft in the above quote, learning often requires the ability to turn off the analytical, to not-think. This aspect of embodied skill is explored by David Sudnow (1978) in *Ways of the Hand: The Organization of Improvised Conduct,* a personal account of learning the craft of playing jazz piano that explores embodied memory cultivated through practice. In craft that requires manual skill, it is through repetition that such skills are developed over time. Polanyi also emphasized there is a

lack of knowledge surrounding what people can do with their bodies and their minds; he wanted to draw attention to this unknown quantity and its potential.

In more contemporary work on the relation between tacit and explicit knowledge, Henry Collins (2012) separates the concept of tacit knowledge into three categories: somatic, relational, and collective. For Collins, these categories represent a hierarchy of different types of knowledges and in his view, collective tacit knowledge is most essential to being human. His explication of explicit and tacit knowledge emphasizes the importance of understanding explicit knowledge in relation to tacit knowledge, and the fact there is an understanding of differences between the two is attributed to changing understandings of what knowledge is, and the rationalization of knowledge.

Collins disagrees with the emphasis Polanyi places on physical and embodied tacit knowledge, suggesting "that the central and still mysterious domain in the map of tacit knowledge is knowledge that can be located in society," in other words, collective knowledge (138). This view, that social context has the greatest influence on how tacit knowledge is produced is shared by others (Gertler 2003). Collins argues that collective tacit knowledge is different from somatic tacit knowledge that can be mechanized or replaced with artificial intelligence (in its function, if not its form) because "we can describe the circumstances under which it is acquired, but we cannot describe or explain the mechanism" (2012, 138). Collective tacit knowledge is still specific to human knowledge and is therefore a special and valuable kind of tacit knowledge.

By the 1990s, the concept of tacit knowledge had become an area of research interest for managers and organizational scholars. Within a few years, the rather "indiscriminate" use of the term "tacit knowledge" was being critiqued (Gertler 2003,

76), and an effort was made to try and pinpoint the origins of the term. For some

theorists, Polyani's explication of the term is not precise enough, for his "ambiguous

definition" contains two contradictory ideas: the first being that tacit knowledge is

unconscious knowledge, and the second that it is difficult to communicate (Gertler 2003,

77).

A number of authors have studied the relationship between tacit and explicit

knowledge with empirical studies that focus on the use of bread machines to replace the

handcraft of baking bread. Ikujiro Nonaka and Takeuchi Takeuhi (1995) authored an

influential study that posits that tacit knowledge can be made explicit in the mechanized

process of baking bread. Their research on the relationship between tacit knowledge and

explicit knowledge is challenged by Ribeiro and Collins (2007) for not accounting for

collective tacit knowledge. Ribeiro and Collins (2007) object to Nonaka and Takeuhi's

claim that tacit knowledge can be transferred without any transformation in its essence

because they conceptualize tacit knowledge as collective. For Ribeiro and Collins, tacit

knowledge is always subject to interpretation and is socially and culturally constructed.

This means the relationship between tacit and explicit knowledge in processes of

mechanization is not a simple transfer, and in many cases the transition involves a

cultural adjustment that happens in practices. It is not possible to replace human action

with machines without a reliance on collective tacit knowledge.

Richard Sennett's (1998) study of a bakery is relevant to this discussion because

like Nonaka and Takeuhi and Ribeiro and Collins, he examines the use of bread machines

to replace the craft of baking bread. Sennett assesses the values lost, the diminishing of

culture and community when the production process in a bakery switches from bakers

baking bread in a traditional way to a mechanized process requiring little skill or human input. In contrast to Ribeiro and Collins, who are not interested in evaluating what is good collective knowledge and what is not, Sennett suggests the redundancy of embodied skill in this context of baking bread represents a real change in the knowledge required to do the work and that this has a negative influence on the communal knowledge of the workers in the bakery:

> Computerized baking has profoundly changed the balletic physical activities of the shop floor. Now the bakers make no physical contact with the materials or the loaves of bread, monitoring the entire process via on-screen icons which depict, for instance images of bread color derived from data and as a result of working this way the bakers no longer actually know how to make bread (68).

Sennett acknowledges the workers do not seem to mind: "according to Marxian notions of class, the workers themselves should be alienated because of this loss of skill; they ought to be angry" (69). Sennett still finds the investment in their identity as bakers and as good workers is now only superficial, because the workers do not have to master skills to do the work. Also, workers do not tend to stay in this job, but are more transient than the bakers who worked in the old ways. These workers tend to move on fairly quickly to other types of work. Sennett is interested in how occupational culture and identity of the workers is based in the kind of skills and practices required to work in the bakery.

In the case study research I conducted, I found practices in the workshops are beginning to rely less on somatic or embodied tacit knowledge, while collective and relational knowledge remain necessary to do this work. The work requires tacit knowledge, but in many occupations the ratio of collective to somatic has changed. Craft practices in stagecraft have relied on somatic tacit knowledge, manual skill, but to learn and develop these knowledges in practices, relational and collective tacit knowledge must

come into play. Networks in cultural labour can be a way of preserving relational tacit knowledge. This is the kind of tacit knowledge that could be made explicit, but is often kept secret (Collins 2012). Though it is possible to differentiate between somatic, relational and collective tacit skills, when working with materials in the workshops, all tacit skills are still indispensable in many occupations.

It is possible as well, in project-based, precarious work contexts, cultivating collective tacit knowledge enables a flexible mindset effective for accomplishing tasks, and this can offer intrinsic values. In a study of television work in the UK, Alan McKinley (2009) suggests that collective tacit knowledge can be mobilized by organizing work in different ways. In one example he describes, the technicians are given more freedom in their work practices in a live shoot as opposed to one that was rehearsed:

> For the crew, this studio experience represented a moment when they were released, however temporarily, from anxiety about precarious employment and compliance with targets and budgets. The live shoot was a moment of coordination without control, a moment in which the Director channelled their collective tacit knowledge. This was a moment during which the crew was sublimated to their collective identity. Paradoxically, as management control systems became increasingly alien so the understanding of the studio and work as a temporary refuge from control became more intense (2009, 187).

For McKinley, the freedom that workers are granted in the live shoot to work collectively, to use their collective tacit knowledge, affords a more intense and engaged experience of working together.

Skills that require collective tacit knowledge are often situated in particular contexts and are learned in communities of practice (Lave and Wenger 1991). Collin's ideas about the relations between tacit and explicit knowledge and the importance of collective tacit knowledge have some congruence with Jean Lave and Étienne Wenger's

(1991) theory about how people learn in communities of practice, a process that they call "legitimate peripheral participation," which could be described as a way people gain collective tacit knowledge. An important aspect of their concept about learning in groups is the notion that in many cases, knowledge is not acquired through a passive reception of facts, but through a social process.

1.6   Collective Values and Practices

I would get a job and I would quit that job because I was offered something better, something where I could upgrade my skills, and so I was always moving around like that and I got used to that. That was just the business.
–Stagehand/scenic carpenter.

The presence of strong union representation in media and entertainment industries has been attributed to the necessity of including craft labour in the production process. The difficulty of standardizing labour processes in cultural production, a reliance on craft skills meant that"[t]he craft tradition in media industries, with its nonproletarian attachment to the product and more equal bargaining power between labor and management made it possible to negotiate changes in the work process and labor institutions" (Christopherson 1996, 110). Craft unions are "cultural institutions" (Mosco and McKercher 2006, 131) that maintain access to learning skills for their members. For the community that is the focus of this study membership in a craft union is a way to gain access to work and thus to learning opportunities.[18]

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[18] This community could be called a "learning network," a relatively understudied area of inquiry in cultural industries (Grugulis and Stoyanova 2009, 136). It is important to ask questions about

Cultural industries in the United States were a hotbed of labour activism in the early twentieth century (Denning 1996). Unions and other worker organizations that represented worker's interests in cultural labour have influenced the historical development of work organization in cultural industries (Coles 2016). Despite this precedent, recent studies of cultural workers have found that contemporary workers in creative or cultural industries are ambivalent about becoming members of a union or guild (Hesmondhalgh and Baker 2011; Hesmondhalgh and Banks 2016, 267; Conor et al. 2015). Amongst cultural workers it appears that "a general antagonism has calcified towards collective forms of action which remain symbolically linked to the tired and pedestrian climate of the 'old' economy" (Banks 2007, 65). However ambivalent workers might feel, it is still the case that cultural industries "have been a significant union stronghold ….fair labor at union rates and conditions remains an institutional feature of the commercial cultural industries (film, radio, television, theater, journalism, and musical and other performing arts) (Ross 2009, 21).

When compared to other industries, these worker organizations have been relatively successful at organizing: "[a]t a time when unionization is in decline in the United States, the AEEM[19] industry has continued to be heavily unionized (Gray and Seeber 1996, 4) Also, the recent outsourcing and movement of cultural work to different areas, which has meant precarious work for many workers in these industries, has

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skill acquisition in the context of dynamic restructuring in cultural industries (Grugulis and Stoyanova 2009, 135). Organizations and institutions that have influenced how skills are learned in cultural industries have changed (ibid). [18]

[19] Lois Gray and Ronald Seeber refer here to the arts, entertainment, and electronic media industries.

simultaneously led to organizing in the places where work has relocated. In "some cases the migration of an industry to new regions has even helped generate a pioneer union presence" (Ross 2009, 21). There has been very little scholarship on entertainment industry unions (Hesmondhalgh and Banks 2016). Given the fact unions are still very much a part of working life in the cultural industries, understanding how unions have adapted to changing labour conditions is an important key to understanding what it is like to work in these industries.

Unfortunately, the history of labour activism and organizing that has been entangled with the industrialization of cultural industry work and has shaped the contours of labour relations in these industries often appears to be forgotten in some studies of cultural work. It has been suggested for example, "that cultural industries are generally not unionized, which has sustained the spread of precarious employment that results in insecurity and presents new challenges to the already difficult task of unionization and collective bargaining" (de Peuter and Cohen 2015, 306). However, precarious work is not a "new challenge" for all cultural workers. There has always been an issue of precarious work in these industries (Atkinson and Randle 2014). Entertainment industry unions have adapted to precarious working conditions and have enabled employers to have access to flexible labour, at times choosing the more precarious labour relation, as when the United Scenic Artists of America (who represented scenic designers, painters and carpenters) voted in the 1920s to have regulated contract gigs instead of salaried positions in New York theatres (White 2015).

As cultural industries became more industrialized during the early twentieth century, unions played an important role in maintaining a flexible and skilled workforce

for employers; "unions were a response by employees to the instability created when management sought a work force on an 'as needed basis'" (Golodner, foreword to *Under the Stars: Essay on Labor Relations in Arts and Entertainment*, x).[20] These worker organizations "were able to serve their members needs for a measure of certainty, stability, equity, and a fair share of the rewards, unions also helped the industry attract and retain a flexible, mobile, highly skilled, dedicated workforce" (ibid). The history of labour relations between employers and unions influenced how work practices and occupational identities in these industries developed. In the first stage of the industrialization of theatre and film, entertainment industry unions trained and maintained a workforce that could be used when needed.

Precarious working conditions are a great hardship for many people and nonstandard forms of employment are becoming more common (Eurofound 2015; Lewchuck et al. 2013). In this sense, work for all citizens is increasingly coming to

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[20] After the Paramount Act in 1948, legislation meant to curb the major studio's violation of the Sherman Anti-Trust Act, the studios lost the right to own theatres, which affected their control over film distribution. This change in legislation was arguably a key factor that influenced the subsequent "vertical disintegration" of the film industry in Hollywood (Christopherson and Storper, 1987). The union response to economic changes in the 1950s and the shift to more project-based and flexible working conditions attempted to provide regulation over hiring practices through establishing a roster system to maintain seniority lines and to certify skill and experience. Another adaptation was a health and pension benefit system independent of employers. The roster system developed in the 1950s suited a production organization that required skilled workers, but used these workers as "more flexible inputs" (Christopherson 1996, 103). Seniority in IATSE was measured in terms of experience on union contracts as opposed to working for a single employer (Christopherson 1996, 104). The roster system was beneficial to both the studios and the IATSE. The studios could rely on a supply of skilled labour when needed and the IATSE maintained control over who could have access to work (ibid). The collective response of the unions to the first stage of "vertical disintegration" in the industry is attributed to the presence of "clearly defined occupational groups" (104). This combination of defined work roles and more project-based work contributed to members identifying with occupational cultures and meant that members were loyal to the union rather than employers; "workers, for example develop loyalty to a union, their craft, and to individuals with whom they have worked rather than to their employer" (Gray and Seeber 1996, 7).

resemble the kind of precarious work that has been normalized in many sectors of cultural work. Isabel Lorey (2015) writes that in "the secularized modernity of the West…being exposed to contingency is generally regarded as a nightmare, as a loss of all security, all orientation, all order" (1). Precariousness is feared because it can potentially lead to a way of governance that "is not legitimized by promising protection and security" and a neoliberal form of governance walks the tightrope of providing "the minimum of assurance while simultaneously increasing instability" (2). Governance becomes concerned with the maintenance of a "threshold" to balance the most insecurity possible for its citizens while maintaining order (ibid). In Lorey's view, the important question becomes "not how to prevent and end the threat of precarity that is driving the disintegration of order" but to ask "how we are governed and keep ourselves governable specifically through precarization" (ibid). Lorey's question is relevant to this study because so many workers in the industry of theatrical display must manage the insecurity of precarious working conditions. In interviews, many participants stated their preference for irregular work patterns, the intensity of the contracts, and the pressure of deadlines.

In chapter 5, this aspect of work in the industry of theatrical display is explored in relation to a case of collective organizing. More consideration of not only individual experiences of networking in cultural labour, but the role institutional structures like craft unions play in supporting and maintaining these networks could potentially address why there are such deep-seated gendered divisions of labour and entrenched inequalities in cultural work. Mark Banks (2017) has contributed to this area of inquiry in a study of educational institutions and cultural labour.

Howard Becker's influential book, *Art Worlds* (1984), explored the thesis that art is not possible without collective practice and has informed much contemporary scholarship on cultural work and creative labour, though up until recently, academic study only focused on the more creative aspects of cultural labour. One of Becker's doctoral students, Robert Faulkner, conducted a pioneering study of occupational identity in cultural labour. Faulkner's (1971) *Hollywood Studio Musicians* documented the precarious and competitive work of studio musicians who made the soundtracks for commercials and films in Hollywood. In Faulkner's concluding observations, he critiques the mass society and mass culture critical theory of Adorno and others:

> The mass society and mass culture theory and Marxian theory overestimate the degree of work alienation because of their view of the work itself–the craftsman-artist model of work–and the consequences of labor–consistent dehumanization of the person's involvement from the impact of the production process. The study suggests an alternative image of our mass culture industries and their occupations, one that does not underestimate the varieties of the working experience and the subtleties of situational adjustment by which in this case, musicians come to terms with their world of work (1971, 183).

Faulkner's study provides a very nuanced and at times moving representation of the choices available to the musicians. His research provides testimony that explains why these cultural workers might prefer to walk a tightrope of instability, taking unpredictable studio calls instead of more stable work teaching or as a member of an orchestra ensemble.

That art produces cultures through practices is a central tenet of work done by proponents of a cultural economy[21] approach to the study of cultural labour like Nicholas

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[21] A cultural economy approach is concerned with the cultural aspects of labour, and examines the cultures or "worlds" that are part of production processes in cultural work. Cultural economy differs from a political economy approach in the sense that instead of foregrounding the

Rose, Paul du Gay (1992) and Keith Negus (1997). Angela McRobbie's research (1998; 2002; 2016), along with the work of Rose and others, takes the perspective that cultural workers have needed to *become* more entrepreneurial to succeed. She has focused on "self-exploitive" cultural labour relations and subjectivities of women who work in the fashion industry drawing from neo-Foucauldian theories of governmentality. McRobbie suggests that informal labour relations can put the onus on individuals to improve and discipline themselves to succeed and is attentive to the role of subjectivity and identity in cultural labour. In chapter 5, I further explicate these ideas and draw from this work to explore the individual/collective dynamic present in stagecraft occupations and the role collaboration plays in their work practices.

Mark Banks (2007; 2017) suggests an alternative line of inquiry to the often rather pessimistic outlook in critical sociology and neogovernmental approaches to cultural labour studies that regard cultural workers as increasingly individualized.[22] Banks points to the importance of practices in cultural work and suggests these practices might have some potential to nurture ethical and moral values in cultural work. The role

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importance of economic aspects, issues of ownership and control it places an emphasis on the meanings that economic structures and institutions have for people and privileges the perspectives and occupational identities of workers. Another meaning of the term cultural economy "refers to increasing importance of culture to doing business in the contemporary world (Hesmondhalgh 2013, 5). The political economy approach to the study of cultural production has however, made more references to craft-based labour in cultural production (Garnham 1979, 139; Miège 1989) with "references to artisan forms of labour organization within the culture industry" (Ryan 1992, 95).

[22] Banks also cites the work of Jason Toynbee: "[t]he musicians studied by Toynbee (and myself), tend to support Keat's argument that individualization rather than only producing de-socialized or self-driven egoists (as recently suggested by Bourdieu, McRobbie, Sennett and so on) also provides enhanced opportunities for critical self-reflection on the part of economic subjects" (Banks 2007, 115). Leadbeater and Oakley (1999) wrote about the power of collective tacit knowledge in their study of "independents" that created their own style and cultural references.

of institutions in maintaining and supporting practices is therefore important to understand (Banks 2017). Banks applies Alisdair MacIntyre's (2007) discussion of practices[23] and "emulative competition"[24] to cultural work. Banks also cites MacIntyre's argument that there is a fundamental contradiction in the relation between institutions and practices; institutions are essential to maintaining practices, practices rely on institutional support, but that this can also have a negative or "corrupting" influence on how practices change over time (Banks 2017, 47). How practices might contribute to collective values and how they are interwoven with individualistic values in cultural work is a theme central to Banks' work. In an empirical study of jazz musicians, Banks examines how practices can foster common values:

> It is partly this "higher" communitarian dimension that distinguishes practice (as understood by MacIntyre), from ordinary non-practice based activities. The sense that the activity of the practice provides common or cooperative benefits outside the parameters of instrumental or individual self-interest and the continuation and elaboration of the practice itself must be judged as important as the development of any individual 'selfish' needs (2017, 46).

This understanding of practices has some congruence with Lave and Wenger's (1991) concept of legitimate peripheral participation. For this also emphasizes the shared values and collectivity, the culture surrounding practices, but recognizes the competition

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[23] MacIntyre's idea of what constitutes a practice is wide-ranging, encompassing sports, artisanal, crafts-based practices, and science and architecture. Practices are: "coherent and complex forms of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the results that the human powers achieve excellence, and human conceptions of the ends of goods involved, are systematically extended" (MacIntyre qtd. in Banks 2007, 109).

[24] As Banks (2017) outlines, MacIntrye's concept of "emulative competition" differs from market competition for "emulative competitors see achieving standards of excellence and internal goods as paramount, with external goods valued primarily as resources for enabling further contributions to the practice" (46).

inherent within these social relations. Competition between individuals is crucial to the process of learning in practices and practices are never static, but constantly changing. Banks uses MacIntyre's work to highlight the moral values inherent in practices in cultural labour, the ethical dimension of practices.

1.7 The Megamusical

Loading the shows in and out, the whole gallery was full of drops and there was a few rolling units, some tall ones, and then more flattage stacked up in the corners 18-feet tall, you know? With lashing flats on rolling units that you would flip three ways. Absolutely not anymore, now it's an industrial thing, tracks on tracks off err, winches. It might cut down on the manpower, but you pay for it in trucking, fuel and all kinds of transport cost goes up again when they can afford to do a 15-truck show, when really a show like that could go in a cube van for all intents and purposes... rolled up into hampers, bing bing bing.

–Stagehand.

More than forty years after the success of musicals like *The Phantom of the Opera* and *Cats*, the megamusical genre of musical theatre has an established place in popular culture. Last year, five identical productions of the new musical *Aladdin* based on the Disney movie were built in workshops in Ontario and production will continue into 2018 to build props for three new *Lion King* productions, a megamusical which has performed continuously all over the world since 1998.

Changes to the structure of the production process of live theatre began in the 1980s, and had intensified by the early 2000s. The Broadway musical, a genre of musical

theatre, morphed into the megamusical. While this new genre was similar to the musicals of the past, these new productions differed in their incorporation of digital technologies and elaborate stage designs. This study is the first to research the manufacture of megamusicals and contemporary theatre spectacles,[25] though there has been academic interest in how the collaborative and embodied work of the performers in these musicals has been altered by the requirements of the genre. This section describes what a megamusical production is and provides an overview of how their manufacture and use of technology changes the stagecraft of theatre production work.

The use of computers in the scenographers' practices and "the quality of control" they afforded began to reconfigure traditional stagecraft practices in theatre arts in the late 1990s (Baugh 2013, 215). It was then that computer software became a tool for scenographers to visualize theatrical space and began to replace traditional methods of creating a visualization of a text by hand with drawings or a model of the set. Though software may be used to implement traditional approaches to design, the possibilities of starting with virtual spaces influences design:

> [T]he fundamental lack of substance of a virtual model may also encourage the starting point of thought to be made anywhere within a potential combination of scenographic elements. A scenographer might choose to begin, for example, by conceiving of an interaction of a state of lighting accompanying sound sounds within a dim, undefined quality of space that has no distinct physical parameter. This would be a perfectly reasonable scenographic proposition, but one that would be practically impossible to manipulate in the design studio using traditional design practices (Baugh 2013, 216).

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[25] There are a handful of studies that examine the materiality of artistic labour: the performers in megamusical productions (Burston 1998); a study that looks at the artistic and embodied work of circus performers in Canada (Stephens 2015); the lack of discussion of the materiality of artistic labour in creative industry policy (MacNeill 2009); the "material labour" of artists (Richie 2012).

Megamusicals employ different technological effects to create new theatre aesthetics and to elicit emotional audience response from audiences. In this respect, they have an affinity with nineteenth-century spectacles that showcased new technologies like limelight, mechanical moving parts and stage effects. The resulting visceral experience draws an emotional response from audiences and the shows pack a certain punch: "the ability of computerized theatre, as a newly endowed *Gesamtkunstwerk*, to operate with such intensity on this emotional level has generated a new, popular and strikingly populist form" (ibid).

The medium of computer technology affords the possibility of replicating complex stage effects night after night and scene changes no longer always require the same kind of human manipulation of lever, ropes and pulleys as they did in the past. Certain improvements in the technical aspects of theatre have meant that movement of set elements and scene changes are now more often accomplished with digital technology instead of manual work. Stage designs for these productions now incorporate "new control systems, involving miniaturized hydraulics and below-stage tracking, have enabled scenery to have a far greater complexity of manoeuvers, and to return to the theatre spectacle the gasp of surprise and delight that has historically accompanied the visual scene change" (ibid). In this sense, automation "became central to their dramaturgy" (Baugh 2013, 210).

The megamusical genre has been described as "a form of contemporary theatre that really does take the commodity form and run with it" (Rebellato 2006, 99). These shows make a profit, and *The Phantom of the Opera* has made more than the cumulative profits of two top-grossing films of all time: *Titanic* and *Lord of the Rings: The Return of*

the King (ibid). It has been argued by some theorists that the artistic production of the genre is organized differently: "megamusicals; systems of production are newly and decidedly Fordist: the terms 'franchising' 'cloning', 'quality control,' and even 'McTheatre' are now all common in industry parlance" (Burston 2000, 70). The "McTheatre"[26] view of these cultural products argues that methods of production for these musical franchises are increasingly standardized (Rebellato 2006). The individuality of the performers in these productions is often overshadowed by the lavish special effects (Burston 1998; 2009; Rebellato 2006, 100). The new and more standardized methods of production were found to be alienating for the performers and artistic teams that worked on these shows:

> With the arrival of theatrical Fordism, the theatre came fully and finally to inhabit the age of mechanical reproduction. And in precisely the manner that Benjamin foresaw the collapse of aura advancing in the cinema, but entirely against his predictions for the theatre, we have witnessed its collapse on the stage as megamusical actors, largely relieved of their interpretive function, are transformed into moving props or, in the words of megamusical professionals, into "machines" and "cogs," void of their own testimony (Burston 2009, 168).

Burston examines the megamusicals that have dominated live-theatre since the 1980s: *Cats*, *the Phantom of the Opera*, and *Miss Saigon.* The garnered profit and massive amounts of money invested in the production of these shows has meant the production companies very carefully control what can be done with their intellectual property after the original production of the show. Shows are franchised by their owners

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[26] The comparison of megamusicals with assembly-line production and the "McTheatre label…can be traced back to George Ritzers' (1993) *The McDonaldization of Society*, which launched a thorough and more general critique of the standardization and "routinization of interactive service work" (Savran 2014, 333).

and can only be put on if very specific conditions are met. The consequence for creative

workers involved in such productions is "increasing alienation" (Burston 2009, 198).[27]

However, David Savran (2014) is critical of the "McTheatre" thesis,[28] arguing

that this view of cultural production is too narrow in scope, for it tends to "focus

exclusively on the relations of production, overlooking the geographically and

historically specific responses of spectators" (334). Savran objects to a certain nostalgia

inherent in this critique and points out "even franchised musicals adapt to local markets

by making changes to scripts, *mise-en-scènes*, and advertising, while the producers of

other pieces labeled McTheatre, such as DreamWorks' *Shrek the Musical*, give directors,

designers, and actors wide latitude to restage the show" (335). While Savran also

speculates that production processes are more varied than the McTheatre critics of the

genre allow, there has not been any scholarship that is attentive to the craft labour

required to manufacture these productions, only analysis of audience reception of the

genre and artistic processes in production work. While there is increasing control exerted

over production processes by the corporations that commission these art forms, Burston

observes that standardization is not present in all aspects of megamusical production

processes, and concedes that "new digital technologies don't rely on any kind of

outdated, one-size-fits-all production logic" (167). In this sense, the control that

producers have is not uniform and must, as Keith Negus argues, "be worked for,"

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[27] Doris Eikhof and Axel Haunschild (2009) study in state-funded theatre in Germany there is value placed on creativity and improvisation, artistically there is autonomy, but there is such intense competition for roles and this has a negative impact on autonomy for performers.

[28] This "McTheatre" thesis is explicated by Rebellato (2006, 100) who mourns the fact that in megamusicals: "the sets are the stars, and the actors are endlessly replaceable."

because cultural production is "not simply a technical and economic activity" (1997, 95).[29]

Automation and new technologies might tend to overshadow the individuality of the performers, but often pose interesting technical problems for craft technicians to solve, and this is one of the contradictions inherent in mass-entertainment industry production labour. As Robert Faulkner (1971) suggests in his study of the studio musicians who work in Hollywood:

> [D]espite the assembly-line nature of motion picture, television film, and phonograph record dates, each score is unique. Melody, rhythm, harmony, orchestration, length of individual takes, and difficulty of parts vary with each film. This inherent variety in studio work requires musicians to be prepared for uncertainty. They always have something new to play someone new to play under, and they must be on top of their musical skills all the time (7).

As Faulkner observes: "occupations must be analyzed—in terms of the structural context in which these problems occur" (8). While it has been argued, and rightly so, that the replicability of these productions leaves little room for individual self-expression, as performers are often overshadowed by spectacles of light and sound, within craft processes there are technical challenges that can be refined with each production.

1.8 Megamusical Craft

In the late 1980s and 1990s, set designs for shows like *Les Misérables* and *Miss Saigon* required different approaches to building, because materials that had not been previously used in set construction were necessary. One scenic carpenter recalls that

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[29] Keith Negus (1997) is not writing specifically about this type of production work, but artistic work in cultural production, but I would expand this idea to include technical work.

when he started up a workshop to build theatre sets in the early 1980s, owning a welding machine wasn't necessary. His workshop had a contract to build staging and worked on large contracts without one. Also before the 1980s, cotton flats were often used instead of or along with heavier wooden set elements in set designs. The designs for megamusicals like *Cats, Phantom of the Opera* and *Les Misérables* required different materials because directors and producers started wanting to achieve things that couldn't be done with fabric and wood. The sets and scenery became complex and were built into the theatre space to provide a more visceral and immersive spectacle to engage audiences:"[t]o achieve this, the modern musical frequently requires the closure of its theatre for many months prior to its opening for redecoration and refurbishment, so that the entire stage can be rebuilt to house the complex mechanisms of movement and control" (Baugh 2013, 212). In contrast to the lack of autonomy the performers experienced while working on these productions, the production teams that built the sets and scenery were working with complex new techniques, and the architecture of set construction designs required new sturdier materials. These spectacular special effects involved creative innovation and experimentation with different materials.

Complex moving stage elements that dominate the spectacle of the megamusical genre often require more elaborate and finished properties and set decoration. The quality of the stagecraft and the labour involved means high labour production costs. In 2000, the mounting of the Toronto production of *The Lion King* was rumoured to have cost upwards of $20 million dollars and involved "NASA-quality stagecraft."[30] The props and

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[30] "Lion King a roaring good business for theatre folk." *The Globe and Mail,* Apr 13, 2000.

stage elements required a high level of detail and were created to be appreciated when viewed at a distance of six inches away as well as from the back of the house.

However, once the shows are built and design problems are solved, the technicians have the task of rebuilding the same show again. The commitment to creating a digitally replicable production also applies to the handmade puppets and props. A creator of the puppets for *The Lion King* musical performed at the Princess of Wales Theatre in 2000, Michael Curry, stated that 90% of the Toronto production was made in Toronto and that part of his task (as associate designer) "was to maintain the design and quality from the Broadway original." The emphasis on the technical aspects of the stage production, elaborate puppets, and moving stage elements required to create a megamusical production, meant more innovation and experimentation for technical workers in the workshops, but also required an unprecedented level of repetition and copying in craft practices. Despite this, it must not be assumed that the rebuilding process is always alienating for the technicians.

Routines and repetition do not always mean that work is mindless and doesn't require craft skill. Sennett (1998) contrasts Adam Smith's conviction that "routine deadens the spirit" in the *Wealth of Nations* (1776) with Diderot's *Encyclopedia* (published from 1751 to 1772), which found dignity and order in routine work. For Diderot, the division of labour could also potentially yield invention and refinement of techniques: "Diderot believed—again by analogy to the arts—that its routines were in constant evolution, as workers learned how to manipulate and alter each stage of the labour process" (Sennett 1998, 34). In repetitive work, practices can be established to create some patterns and pleasure in working: "[m]ore largely the rhythm of work means

that by repeating a particular operation, we find out how to speed up and slow down, make variations, play with materials, develop new practices—just as a musician learns how to manage time in performing a piece of music" (ibid). In the workshops that replicate projects, there is leeway with the process as long as the result is the same, and this can make the work interesting for the builders. At times, this fine balance is difficult for builders to control; if processes become set, or if the corporation starts to demand that work processes be documented and sent to other workshops to complete the same tasks, it does become mindless. Specialization and routine can be taken too far, and this is Adam Smith's important realization (ibid, 37). One employer jokingly commented to me many years ago that if a project is made three times, then the first time takes the longest, the second time is the fastest, but by the third it takes more time because people start to get bored. In this description of the process, what is not considered is the learning and experimentation that can occur, for repetition allows a familiarity with processes that leads to expert knowledge of the materials used.

As craft practices in industrial stagecraft start to incorporate digital tools and programmed elements, the kind of craft practices developed previously and particular ways of thinking about how to use materials are not as necessary because digital tools can be programmed to make parts out of foam and plastic. Once the program is made, there is the potential for the process to "set," and it does not change according to the individual person who is making it. The process cannot be learned by doing in the same way. Many of the "soft" materials such as straw, fabrics, raffia and leather must still be manipulated by hand, so work with these materials has not been as affected by the use of digital fabrication tools. However, fashioning things with digital means, using a design program

and a 3D printer for example, is a significant change in craft practices because it means this work is easily replicable by anyone who can use the machine, and can be disconnected from the maker, the carver or sculptor.

There is a relatively substantial literature on creative labour that addresses issues of intellectual property and copyright for artists in cultural work: craft work with materials has only recently been part of this discussion, (see Vonderau 2016), but new ways of fabricating props make it imperative to consider issues surrounding the intellectual property rights involved in the creation of theatre properties and scenic elements. The increased value of props used in film and television productions is capitalized on by studios, as props that were once landfill now command high prices at art auctions. It seems ridiculous to talk about royalties being given to a props builder who fabricates a prop for a show, but if the props builder writes the code for the digitally printed object, it should be recognized as intellectual property. As a builder for a production shop, the patterns for the things I make are the property of the workshop and sometimes the property of the company that commissions the build. The work relation is very different from that of a composer of a piece of music, for there are no expectations of royalties. If this state of affairs is challenged by makers who design and fabricate objects with software, they will become designer/makers with a stake in the intellectual property.

For the stagecraft technicians, the megamusical productions created more work opportunities and an expansion of a type of theatre production industry in southern

Ontario.[31] Though not all the projects they work on are for megamusical productions, some of the workers still build set pieces and props for these productions. Along with production work on these shows, the commercial workshops in this case study have been involved in the construction of other projects that require similar craft skills. These productions opened the gates to other types of manufacturing work in the industry of theatrical display: manufacturing work for theme parks and large-scale spectacles. In the following sections, the concept of media convergence and debates surrounding flexible specialization theory are outlined. Theatre production work has previously not been considered as part of these debates, which have been focused mainly on the film, television and music industries.

1.9   Convergence

> While in Adorno and Horkheimer's day, culture industry firms were largely nationally based and *unintegrated*, producing a singular or limited range of commodities for mainly domestic audiences, now, for example, the competitive arena is dominated by giants such as AOL-TIME Warner, Disney, EMI, Sony, Viacom and New Corporation which can all boast a complex of "flexibly integrated" television, film, music, publishing and new media interests (Banks 2007, 127).

Convergence is a term used to describe recent changes to the structure of media and entertainment industries. Older studies of the structure and organization of media entertainment industries tend to study these industries as separate and divided into different sectors[32] (Gray and Seeber 1996; Miege 1987; 1989), but as the production and

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[31] Toronto had seen the most growth during this time period in comparison with New York and London (Burston 1998, 23).

[32] In *Under the Stars: Labor Relations in Arts and Entertainment* the editors divide the AEEM

distribution of live performances for some forms of commercial theatre became more industrialized in the 1970s, these activities also became more integrated with those industries considered to be core-cultural industries such as film and television production. This has allowed companies to make a profit on digitized content across various platforms and "served to bring together formerly disparate industries within single merged corporate families encompassing music, publishing broadcasting, film production and distribution, video games and mobile phone apps" (Huws 2016, 16). There is a certain clout inherent to the concept of convergence that has been wielded by companies in labour disputes: the "myth" of convergence connotes the power of large corporations, and while it is based on real change, it can also function as a powerful discourse used by corporations to exploit workers (Mosco and McKercher 2006).

At one time. mergers between entertainment industry companies were formed with the purpose of dominating a sector of cultural industries, but this practice has now "extended across media lines where owners are attracted by the synergy of producing content that can be distributed in all competing channels and marketed around the world" (Gray 2001, 5). This has created a situation where corporations faced with competition from other types of media often just buy out the competition. In the first edition of *Media Monopoly* published in 1983, 50 companies controlled the media industry in the United States, and by the early 2000s, this number had been reduced to six (ibid).[33] In this more

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industry (Arts, Industry, and Electronic Media) into four sectors: live performing arts, recordings, motion pictures, and television and radio. This categorization is useful for my study because they devote more specific attention to the live performing arts, but Hesmondhalgh's (2013) description of core and periphery is still relevant to the changes in the media or cultural industries economic convergence in the 2000s.

[33] From (Gray 2001, 5) "When Ben Bagdikian published the first edition of Media Monopoly in 1983, he shocked his audience by announcing that a mere fifty companies controlled most of

concentrated organization of industry structure, film and theatre producers in Hollywood and Broadway are working together, and this is a marked shift from the situation in the past:

> Historically, when stage productions made the transfer to movie properties, Broadway and Hollywood were in competition with one another even as they did business together. Broadway producers used to guard the rights to their stage properties jealously, wary of ceding anything to their Hollywood counterparts until box office receipts for their Broadway productions were clearly waning. Conventional thinking argued that releasing a *Sound of Music* movie while the show (1959) was still going strong on the Rialto (aka Broadway) would eat into revenues for the stage production (Burston 2009, 160).

The creation of different formats of the same content or story in a film allows companies to use content and branding in different ways to make more money: a film becomes a soundtrack, which becomes musical theatre. Multiple formats are a strategy for corporations to handle risk in this sector and the use of genre is one way of doing this (Ryan 1992). The decision to create a stage musical of *The Lion King* happened only after the Disney film had generated over a billion dollars in international box office revenue in 1994.[34] It is possible that the success of the content in one format meant that it was a safe bet that the same story would sell in another genre like musical theatre.[35] It is speculated that with the creation of different formats to sell the same story, *The Lion King* movie and *The Lion King* musical, uncertainty can be managed more effectively: "[t]he creation of

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what Americans read and watched on television and in the movies. By the time of his sixth edition in 2000, after consolidation had spread worldwide to include recordings and the emerging Internet-interactive sector, the number of dominant companies had shrunk to six."

[34] "*Lion King* a roaring good business for theatre folk" *The Globe and Mail* Apr 13, 2000, 11.

[35] The profits Disney makes on musicals are not known for: "[n]o one knows how much money Disney makes on Broadway. As a corporation, Disney doesn't report profit and loss for a single line of business" (Donahue and Patterson 2010, 5).

different formats helps culture industry business to handle risk in this sector and the use of genre is one way of doing this."[36] Genres can "operate as labels, not unlike brand names, that suggest to audiences the kinds of satisfaction and reward they might attain by experiencing the product" (Hesmondhalgh 2013, 32). This strategy offers corporations more control over markets: "the importance of obtaining stakes in different forms of culture, media and communications should not be underestimated; cross-platform integration ensures that firms obtain a breadth and depth of market presence and alleviate risk by allowing the production and circulations of products to be more effectively integrated and managed" (Banks 2007, 128). This shift has been described as "flexibly integrated" (ibid, 127) and also as "virtually integrated" (Christopherson 1996). Many theorists using the "cultural industries" approach to the study of cultural industries begin with the understanding that mass cultural industries organization has always been an oligarchy, but have noted that in a globalized economy, these industries are less constrained by national borders. In a globalized economy, following a strategy of "convergence" has been useful for megaconglomerates to maintain dominance over markets (Hesmondhalgh 2013).

1.10   Outsourcing Broadway

The Broadway brand of theatre that developed from the late nineteenth and early twentieth centuries in the United States was based in New York, and both the craft labour

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[36] The use of genre is one way of formatting, but David Hesmondhalgh also uses the example of the star system, associating a celebrity or star with different texts as another example of formatting (2007, 23).

and artistic labour happened there. In the 1970s, various factors caused the cost of mounting productions on Broadway to rise and this increased inherent risks for producers. In a term that originated in theatre-speak, investors in commercial live performance productions were called "angels" because there was usually a very slim chance they could make any money from the production, though there might be some hope of making a profit from related cultural products to the play, such as "ancillary rights to film, cable, TV, and foreign productions, not from the run of the play itself" (Gray and Seeber 1996, 19). The live performing arts have traditionally required the patronage of investors because there is no guarantee that the capital put into an unsuccessful theatrical production will garner a return on investment. Generally, most performing arts require some form of public subsidy for, "most producing companies are non-profit and need to be subsidized, but even those that aim for profit tend to operate in the red" (ibid, 18).[37] In New York in the late 1980s, the theatre market was controlled by a handful of large producers and it was difficult for smaller producers to participate.[38] Moreover, production costs were rising due to the higher property values in New York, and special effects that were incorporated in musical productions were expensive. These rising expenses incurred by theatrical productions created incentive for producers in New York to search for ways to limit these costs. One solution was to raise profits by increasing the price of tickets, and as a result in the 1990s, it had become more expensive

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[37] Many theatre performances on Broadway are still non-profit and "in the 2006-2007 season, of thirty-seven productions, eleven were not-for-profit entities" and "nearly all theater in the United States is not-for-profit" (Donahue and Patterson 2010, 1).

[38] In 2009, there were forty theatres and seventeen of these were owned by the Shubert organization (Donahue and Patterson 2010, 1).

to see live theatre.

The increasing need to cut production costs was also used as a justification for producers in New York to try to find cheaper labour elsewhere and this resulted in production work migrating north. The outsourcing of theatre production work to Canadian workshops began to increase during the 1980s.[39] Since there were no government subsidies to entice foreign production work to Canada for commercial theatre work (unlike film and television work) the workers that I spoke to believed the low Canadian dollar was the primary factor that determined this influx of manufacturing work to Ontario. This opinion has been confirmed by a study of runaway film production that focuses on the Canadian case. A narrow focus on the competitive advantages that subsidies provide "ignores the impact of the exchange rate differential" (Christopherson 2006, 747). This influenced where manufacturing work was done and, "the value of the Canadian dollar lagged behind the US dollar throughout the 1990s and made the cost of production in Canada relatively less expensive than in the United States" (ibid, 748). While it is true that during the 1990s, the value of Canadian currency fell from 15–23%, Susan Christopherson (2006) also argues there was another consideration at play that has received little attention in research on "runaway production" or the outsourcing of film, television and theatre production work from Hollywood and Broadway to other countries and to other parts of the United States. Though the low rate of exchange and government subsidies helped, these would not have mattered without the added advantage of the fact that there were skilled workers in Canada: "[t]he presence of this workforce is the

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[39] Gray and Seeber (1996) provide an overview of the economic challenges that live performance and commercial theatre faced during this period (17-21).

necessary condition underlying any US investment in Canada, whether short term or long term" (748). The outsourcing of properties and scenery has become more common for producers of live performance though it is certainly not a new practice. Previous to the increase in theatre, film and theatre production work in the region of southern Ontario, there were few workshops that specialized in this kind of manufacture, but there are now several shops that are non-union and some that have contracts with IATSE in the Toronto area.

The workshops that are included as a part of this study bid on projects, and plans for shows from the companies that award contracts. This is a tough game for the workshops to play:

> [I]t is common for small firms to be offered 'take it or leave it' deals by their paymasters, forced to accept prescriptive conditions that restrict the activities of the independent while providing maximum control, flexibility and protection for the larger firm" (Banks 2007,130).

The bids the workshops present to their clients must factor in the time spent on each project as well as the cost of materials to make a profit. In many cases, this is difficult to do because the projects have never been made before and design problems and challenges often do not materialize until production is underway. The owners of the workshops must take on that risk and often they come up short. Some do this on purpose, taking on bids they know will be unprofitable to keep other workshops from getting the work and to keep their core workers employed. Two of the shops I studied also worked on building set elements for other shops and for the theatre festivals in the area that have seasons that run from late spring until the fall. In this way, the shops sometimes work together and work on pieces of the same build, but they are also in competition with one another.

Workers often move from shop to shop; these are called "floaters" if they do not have a core position at a particular shop, but core workers sometimes "float" as well when work dries up at their home shop.

1.11 Flexible Specialization

The organization of the workshops and their relation to the larger companies and media conglomerates they build for can be linked to flexible specialization theory. For many years, there has been an ongoing series of debates surrounding a theory of economic organization proposed by Michael Piore and Charles Sabel (1984). Flexible specialization demands "a strategy of permanent innovation and accommodation to ceaseless change rather than an effort to control it. This strategy is based on flexible multiuse equipment; skilled workers; and the creation, through politics, of an industrial community that restricts the forms of competition to those favoring innovation" (Piore and Sabel 1984, 17). Piore and Sabel (1984) claim that strategies of flexible specialization enable "a revival of craft forms of production that were emarginated at the first industrial divide" (17). In short, they argue this economic organization of small workshops that produce products and require craft and manufacturing skills are a throwback to earlier times before mass production and mass industrial methods. Piore and Sabel are hopeful this form of organization will provide more autonomy for small, independent manufacturers in their relationships to the large corporations they build projects for.

This theory was used to analyze the organization of film and television production in Hollywood (Storper and Christopherson 1987; Storper 1989). However, speculation

that flexible specialization might mean "vertical disintegration"[40] for the film industry

has faced strong critiques (Aksoy and Robins 1992; Hesmondhalgh 1996; Dawson 2012).

While innovative craft practices and experimentation may flourish in this economic

organization, it does not effectively alter the balance of power. Implicit in this theory is a

glimmer of hope for the autonomy of small independent manufacturers that is contested

by its critics: "[c]ertainly, this claim is false" because "[t]here is a mainland of power in

the archipelago of flexible power" (Sennett 1998, 55). This form of economic

organization can present challenges for workers and in turn for unions as well:

> Flexible production systems combine new technologies with new forms of
> industrial organization and labor relations to compete on the basis of time rather
> than marginal cost. They are predicated on continuous development of new skills
> by workers in unfixed job classifications. This arrangement fosters the
> segmentation and re-segmentation of workers, and so engenders the fragmentation
> of their interests. Unions can survive in this environment only by accommodating
> an increasingly diverse membership whose goals sometimes conflict (Paul and
> Kleingartner 1994, 664).

Flexible production in this view leads to an erosion of craft identities and fragmentation

of collective bargaining power. Within this sort of project work there is a contradiction,

for it combines disciplinary structures and the subjectivity of autonomy (Kalff 2016).

Despite critical response to speculation that flexible specialization creates more

autonomy in practices, the theory has not been abandoned altogether (Dawson 2012), but

there has been surprisingly little research on the work practices in workshops in cultural

production that are exemplary of this theory of work organization (Banks 2010; Dawson

2012; Gibson et al. 2015). In sum, companies that produce and develop megamusicals

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[40] This is a play on the term "vertical integration," which means that corporations control all
stages of a production process.

and other types of commercial live performance and theatrical display have relied on small workshops to do parts of this work for many years. The manufacture of these cultural products and the outsourcing of this theatre production work increased in the mid-1980s, and these practices have continued to the present.

The region of southern Ontario was favoured by American producers because of a combination of factors. The Canadian dollar was low compared to the US dollar and even taking into account the cost of shipping sets, money could be saved because of the savings in labour costs. Also, government investment in live performance had already created a skilled work-force. There was also more film work being outsourced from Hollywood to Canada and many of the craft skills were transferable from film work to theatre work. A Canadian government economic development strategy in the 1970s encouraged government spending on arts programs and theatres. In an effort to rejuvenate the struggling theatres in Toronto, the annual Toronto International Film Festival (TIFF) was established and the historic Elgin and Canon theatres were restored. By the late 1980s, Toronto was being promoted as "Broadway North" and was considered to be the third largest theatre center in the world (Bain 2013).

1.12   Theatre and the Cultural Industries

Theatre has been characterized as "peripheral" to other media entertainment industries that are considered "core" industries (Hesmondhalgh 2007, 13). As I have outlined above, one reason for this is that most theatre production still relies on forms of public and private subsidy, as it is considered a very high-risk commercial investment. Although theatre can be distinguished from media industries that are considered core

industries, both are involved with the creation of cultural products and content for market consumption and rely on craft labour. However, in the past, peripheral industries were considered distinct from core cultural industrials because "they use semi-industrial and or non-industrial forms of production or reproduction" (ibid, 13). Hesmondhalgh (2007) writes that: "[t]heatre, for example has only recently begun to take on what might be called industrial forms of production or reproduction" and uses the production of megamusicals as an example of this (13).[41]

However, theatre labour in North America was industrialized before the growth of the film industry in the early twentieth century (Ryan 1992), meaning that labour was unionized and occupations became more specialized. With industrialization, stagecraft became more complex and sophisticated. For in the "stock era" of theatre in America in the mid-to-late nineteenth century, stagecraft skills were rudimentary compared to those practiced in England and Europe. Stagecraft occupations as a type of "blue-collar" labour developed later, concurrently with the formation of worker's organizations like the IATSE (White 2015). The "brand" of Broadway theatrical production in America was first developed in the late nineteenth and the early twentieth century, through collaborations between creative and craft production workers were encouraged by the proximity of the scenery and set construction workshops to the theatres in the Broadway district in Manhattan (White 2015).[42] Before the commercial success of Broadway, in

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[41] The craft production of film and television production work is studied in Caldwell 2008; Mayer et al. 2009; Mayer 2011; Mayer et al. 2016.

[42] Though usage of the term "Broadway" is often confused with the brand that has come to mean a type of commercial theatre production, "Broadway defines only theatres in mid-town Manhattan that seat at least five hundred. Only productions in these theatres are eligible for Tony

North America, the same tattered scenic backdrops[43] were used for different productions; lighting was minimal before electricity, and actors mended their own costumes, which were often worn and dirty (ibid, 14-15).

How stagecrafts have developed over time in North America is understudied, though the legions of people working in craft trades in theatre production have always outnumbered the handful of artists, the directors and designers, who worked on shows (White 2015). Though there is "a rich scholarship of theater history, there exists scant published information about how and where American craftspeople built such products" (ibid, 1). The lack of interest in theatrical craft production labour has been attributed in part to a reluctance to ruin the illusions of theatre magic (Essin 2011), and these "blue collar" crafts seem mundane compared to some of the artistic achievements in theatre over the last century. "Why investigate the sources of lumber or the carpenter pay scales for *Death of a Salesman,*" Patrick White asks, "when one could discuss Jo Mielziner's clever scenic design?" White's craft focused study of the development of the Broadway brand in America from the nineteenth to the late twentieth century is singular. The concentration of stagecraft production work in an area of a few blocks of Manhattan underwent gradual displacement and by 1996, most production work was outsourced to other regions of the country (White 2015). The outsourcing of Broadway theatre work to southern Ontario from the mid-1990s to the present has provided and still provides employment for the craft technicians who are participants in this case study.

Awards. Union rules are different in Broadway houses than for other New York professional theatres" (Donahue and Patterson 2010).

[43] White (2015) describes how standard generic backdrops were made by a company in a rural area of the US mid-west that specialized in making backdrops of commonly used theatrical scenes in the nineteenth century (15-16).

Though there is little scholarship on stagecraft, and stagecraft as a form of cultural labour, there has recently been some academic research on media industries that examines film and television as a global industry and is attentive to the labour of people who work in technical production roles in those industries. Despite the growing pattern of integration in media industries, the phenomenon of convergence, there are several features of theatre production that distinguish it from film and television work. I have drawn from academic literature on production labour in film and television in spite of the differences between theatre production work and other media industries, in part because core and peripheral cultural industries[44] are often interconnected and share labour pools of talent [45] (Hesmondhalgh 2007, 13). For example, IASTE members work in the film and television industry as well as on theatre projects for regional theatres and commercial scenery workshops. For these workers, there is movement between industries and between more commercial and publicly funded projects. Skills that are useful in film and television production can also be applied to theatre and live performance production. With an IATSE membership, it is possible to have a "sister" or "brother" status in another local. The film production scenic painters and props local based in Toronto, Local 873, will act as a hiring hall for affiliated members of another IATSE local.[46] In the

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[44] *The Routledge Companion to the Cultural Industries* (2015) introduction by editors Kate Oakley and Justin O'Connor provides an overview of various terms such as "cultural industries," "creative industries," "cultural economy," and an overview of debates in literature on the usage of these terms. They advocate for the use of the term cultural industries for several reasons.

[45] These industries are connected through the people that work in them: "It is important to note, though that the core and peripheral industries interact with each other in important ways, Actors and writers might work in television and theatre, for example, art schools produce artists who might move in and out of various forms of commercial production, including film direction, advertising and music" (Hesmondhalgh 2007, 13).

[46] This means that a member of another IATSE local will have priority over those who are not members and are on the list of perma-tees for that local. Perma-tees are workers who are not

commercial scenery workshops, many employers who own the workshops build projects for films being shot in production studios in Toronto as well as sets for live performances, corporate display environments and theme parks.[47]

In many academic studies of creative and cultural work, the general consensus is that precarious work is increasing in creative and cultural industries and that casualization of work has become more normalized during a period of economic restructuring over the last thirty to forty years (Hesmondhalgh and Baker 2010, 5; Christopherson 1996). However, it is arguable that in theatre production work in Canada, there has been more continuity than change in this regard. Economic restructuring and the tendency towards integration have resulted in more outsourcing in areas where there was little theatre production work. Stagecraft technicians in Canada have always had to contend with precarious, project-based work.

The spaces of production in film and television work are more transient, in the sense that many film production companies only exist for the duration of the project. Despite the fact that theatre work is project-based, the scenery workshops and regional theatres that employ theatre production workers in this case study are more permanent than many pop-up film production companies. The fact that most theatres rely on public funding means more stable labour relations and some workers are hired for temporary contracts in the busy season of production. It is different for small scenery workshops that must weather fluctuations in work projects beyond their control, but the owners of these workshops strive to maintain continuous employment, finding projects to keep their

members, they are sometimes referred to as "future members" and they pay "working dues" when they work for an employer who has a contract with a local.

core employees employed. There is always the danger that if the shops cannot supply work for their skilled core workers, they will find other work, and in turn in one shop there is an expectation that employees will be "loyal" (not take other projects with other employers in return for core status), but there are no written contracts binding this tacit agreement. The workshops hire more labourers when there is work. I have worked in a shop that employed up to a hundred employees at times, but I have also worked there when there were just four people on the floor.[48]

In theatre and live performance industries, collective bargaining is generally more decentralized than in the film and television industries:

> [W]hile employer associations exist in some major metropolitan areas and regions with significant theatre and ballet activity (particularly in New York City, where the League of New York Theatres negotiates contracts with the all the unions), live entertainment bargaining is largely characterized by single employer, single union. This should not be interpreted in the same way one might look at a single factory single union structure however. Spheres of influence on bargaining emanate from the most important contracts in New York (Gray and Seeber 1996, 41).

This often means that in theatre and live performance, patterns of salaries and standard work rules in one jurisdiction are replicated in other jurisdictions.

Another distinction that can be made is that in theatre and live performance industries, the IATSE has a longer history of contracts and labour relations with

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[48] While in publicly funded theatres, there is often a formal contract for the core employees, there are still extra employees hired for the seasonal work that do not have contracts but are hired on a casual basis. Even though employment relations are often informal (the contract is with the local not the individual worker and negotiated collectively), workers will remain in head positions for years and most of the people that I interviewed were core workers who had relations with a particular shop or theatre and were regularly called upon or "kept going" by the employer. These longstanding informal relations that have developed over many years are often unremarked on in studies of precarious cultural work (McRobbie 2016).

employers, some before 1900 when the IATSE was first established in several

jurisdictions in the United States and Canada. Many contracts in the film industry were

established in the 1930s and 1940s in Hollywood.[49] It is important to underline that the

more centralized collective bargaining that happened in Hollywood was an exception,

that the IATSE has always been divided along lines of jurisdiction and craft. Outside of

Hollywood, no other locals used a roster system, but acted as hiring halls for members

(Christopherson 1996, 118).[50]

The IATSE International can prohibit certain locals from striking, but can "only

indirectly influence negotiations in regions outside Hollywood where IATSE film locals

deal with the individual concerns of their members and their own labor markets" (1996,

116). When locals collaborate in their negotiations with employers they are often able to

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[49] In 1946, the IATSE locals in Hollywood united by the International negotiated the "Hollywood Basic Agreement" this was significant for the union's bargaining power as "one contract set the basis of employment for all IATSE represented locals" (Christopherson 1996). This contract was unique to Hollywood and its studio system model and was not in place anywhere else in Canada or the United States (1996, 116). It also happened at a time when there was vertical integration of large film companies, the "Hollywood Majors" who had control over all stages of the production and distribution of films (Christopherson and Storper 1989). By the end of the 1940s, this collective agreement meant that IATSE had a powerful presence in Hollywood. IATSE dominance in film industry labour relations at the time was related to the fact that IATSE represented theatre projectionists, and strict delineations between craft practices that its contracts specified work rules and prevented "crossover of jobs" (Gray and Seeber 1996, 12). This state of affairs did not last very long however because during the 1950s the film industry began a process of restructuring and the major studios began to outsource production work that employed IATSE members to areas outside of Hollywood.

[50] This has resulted in a bargaining power often fragmented by territories: "[t]his is why, even today, separate camera script, hair/makeup, and studio mechanic locals exist on the West Coast, the East coast, and in the middle of the country. Certainly, locals within a region like the East Coast could choose to cooperate with one another in negotiations, and individual studios could choose to negotiate together with these locals but nothing compels them to do so" (Christopherson 1996, 116).

successfully bargain for better wages and working conditions. The fact that many of the IATSE locals remain small does affect their ability to bargain. The International is still somewhat limited in its power to influence the locals who often do not want to merge with other locals close to their jurisdiction, though since 1996 the International has exerted more control over this.

It was and still is the responsibility of the IATSE locals to maintain the flow of workers and pool of talent for the employers and this has helped the IATSE to negotiate agreements with employers. This capacity to provide a skilled workforce is similar to other craft unions in construction and maritime work. In recent years, the IATSE International has encouraged locals to merge and to induct new members into the rank and file. This is still a contentious issue for members and:

> [F]or many locals this is a controversial decision, since some IATSE members feel that the level of unemployment in the industry and the number of union members are already too high. It is important to understand that in the minds of some IATSE members, the traditional role of the union has been to provide employment for existing members (Amman 1996, 144).

This often conflicted and ambivalent understanding of collective values and what the union should provide is apparent amongst the members of Locals 129 and 828 I interviewed for this study. The IATSE International have attempted to admit more members into its rank and file in past years, but there is still some underlying resistance to letting all qualified people into the union. The formation of IATSE local 828 was part of a movement within the union to organize as many workers as possible in the mid-1990s.

1.13   Conclusion

The study of the labour of cultural production is a relatively new area of scholarship that criss-crosses a range of academic disciplines: sociology, critical theory, organizational management, cultural geography, anthropology, material culture studies, cultural studies and political economy. I have drawn from across a range of disciplines in the articles to follow. In the literature on cultural production, there is a lack of scholarship on the labour of craft technicians generally and stagecraft production workers in particular. As the locations for the production of theatre and live performances continue to become more dispersed, all the while incorporating new technologies in production processes, there is sparse research on what this work actually entails.

The aim of this case study research was to learn more about the occupational identities of members of this community, the ways that new technologies are being incorporated in their communities of practice, how these practices are constitutive of the work that they do for companies, the kinds of tacit knowledge they require to do this work, and the ways they deal with precarious labour relations in the industry. This research builds on critical social science theory that examines socially constructed notions of creativity. It is attentive to the ways the divide between craft and creative roles in stagecraft production work are negotiated and understood by those whose work is considered craft; it takes into account the occupational identity of craft workers in relation to structural contexts; it engages with the politics of craft labour. My purpose is not merely to argue that craft workers are just as creative as their more artistic counterparts in production, but to learn more about subjectivities and occupational

cultures that have developed around constructed notions of craft labour in theatrical production work.

The production of some forms of commercial theatre[51] and live performance have become more industrialized and globalized (Burston 1998; 2000; 2009, Hesmondhalgh 2013, 251-252) and is concurrent with changes in cultural industries overall (Hesmondhalgh 2013, 2).[52] Though some theatre production work was industrialized before radio, film and television media industries dominated the cultural landscape of North America (Ryan 1992), the distribution and replication of live performances was not done on a large scale until the last two decades of the twentieth century. Commercial theatre production began to employ "mass production" methods in the 1980s and this shift in the organization of production has been called the "global-industrialization of live theatre production" (Burston 2000, 69). As with other global industries, in some forms of theatrical production work there is often "pressure to work to global-determined time schedules" (Huws 2016, 17). Accordingly, the pace of the work in scenery manufacturing workshops in this region has intensified over the last twenty years. Deadlines are tight, the owners of the workshops rely heavily on the skills of core workers, preferring the flexibility of informal labour relations based on loyalty and trust. The rhythm of work in

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[51] Donahue and Patterson (2010) list several differences that distinguish commercial theatre and not-for-profit theatre: commercial theatre runs are determined by whether the show can make money; profits are taxable and losses are deductible; the run is more open-ended, not seasonal as it is for the non-profit theatre; like film production, a theatre company that is commercial may only produce one play (1-2). Commercial scenery workshops create scenic elements for both types of theatre, but are referred to by technicians interviewed in this study as "commercial."

[52] In the introduction to *The Cultural Industries* 3rd edition, while David Hesmondhalgh (2013) emphasizes that there are continuities in how culture is produced, he also provides an overview of changes in cultural industries that have occurred since the 1980s.

the workshops is sporadic compared to the seasonal production schedules in theatres. Workshops must bid for contracts, often from large companies based in the United States, and they expand and contract, filling with workers during busy periods.

The precarious nature of this work for individual technicians can be mitigated by their membership in a union, and by their reputation in the community. All of the craft technicians interviewed for this study are presently or were recently members of the International Alliance of Theatrical Stage Employees and Allied Crafts, the IATSE. Because they work for different employers and on various sorts of projects, these workers experience a range of production processes. The rationale for production will shift from a more art-for-art's-sake approach (at a non-profit theatre for example) to a process to that values speed first and foremost (at a commercial scenery workshop). This temporal and spatial movement from the more traditional stagecraft practiced in theatres to more industrialized stagecraft in the scenery workshops, structures their work experiences and affects their acquisition and development of skills. Workers will compare and contrast approaches to making things in their ongoing discussions about practices shared with others in the community. Craft in these workplaces is always context-dependent, it exists in relation to the work and would not exist without the work. Craft practices are supplemental to the artistic vision of the set designers and the budgets of their employers.

Theatre production work has been transformed in many ways as new technologies are incorporated in stagecraft practices. Programmed lighting designs, digital projections, gesture tech, and holograms are examples of new scenographic elements that designers can choose to work with to create immersive and entertaining spectacles for audiences. In the workshops, digital fabrication tools are beginning to replace many of the hand skills

practiced in scenic carpentry and scenic art. Small-batch processes of shaping and cutting materials are programmed digitally and this has implications for the intellectual property and replicability of craft processes. There is a constant and ongoing dialogue about what approach might be more effective and faster: human hand skills or programmed shaping of materials with digital fabrication tools. Often the hand skills of technicians are superior—the more efficient choice. These conversations about the approach to making things are particularly relevant in a time where there is speculation that more and more jobs will be replaced by machines, and in many instances these workers have lost work because digital tools and methods of fabrication have been an efficient and accurate alternative. Depending on the project, however, there is never one best way. Since many of the projects have never been made before, the process can result in experimental practices using new materials, producing new collective tacit knowledge.

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2 Chapter 2: "Everything is paper napkin-y…." Repair, Bricolage, and Industrial Stagecraft

That is what makes our business hard is that no designer out there…everything is paper napkin-y…. They do drawings but they are only specific to a degree; they may draw a prop and they will give two measurements because it has to fit in that space and everything else we create for them, which is very unusual compared to most industries where you will get the blueprint.

–Props builder

In stagecraft, things are made to be reused and are often repaired; it is a practice in direct contrast to film and television production where things are often used only once and then discarded. In theatre, the costumes, props, lighting displays and machinery for complex special effects are used night after night in performances. After the run of a show, these objects are carefully packed in warehouses until they can be either repurposed for a new production or reused for the same production.

Because the practices of making things for live performances often involve the reuse and repair of objects, the production workshop for the National Ballet of Canada is both a storage warehouse and a workshop. When I first took a call there, being in the space reminded of the final scene of the *Raiders of the Lost Ark* when the coveted ark was taken to a warehouse to be lost once more amidst a vast collection of other objects in containers. In this space, work on new productions takes place surrounded by wooden storage crates packed with costumes and props that are stacked from the floor to the ceiling. The shop is immense; the head carpenter skateboards along the long alleys between the towers of containers to consult with the scenic painters at the far end of the

shop. There are nooks and crannies, and once while looking for something I came across a little sleeping area—a nest that someone had made amongst the crates.

Tools are well taken care of in space. Hundreds of paintbrushes, many over sixty years old, hang in neat rows on the walls, and the horsehair bristles are carefully rubbed with hair conditioner after each use. There is a strong ethos of reuse and repair as the complex practices of making, creation, destruction and repair occur.

Many occupations in theatre production combine making, repair work and fitting. For stagehands and scenic carpenters, work is an ongoing process of hands-on problem-solving, because the job often means making things fit into place, and elements of the set are often in need of repair. Installing the scenery and set components at the theatre or site of the performance requires making alterations to the set pieces. Making things look old and worn is part of the work. Objects are routinely "broken down"– made to look used, dirty and weathered. It is sometimes difficult to predict what will happen in performances or how materials will stand up to wear. In theatre wardrobe departments, the best paid jobs are not those of the costume builders that cut, sew and collaborate with the designers in the artistic process, but the wardrobe maintenance workers that iron and repair costumes during performances. Alterations to clothing have to be quickly made on the fly when for example, an actor's pants rip open during the action onstage.

In this article, the material labour of stagecraft technicians working in the industry of theatrical display is theorized as repair work in two ways. The process of repair and how things are used and reused can complicate the original intent of the designer as the life of objects in performances changes over time. The term "negotiated endurance" is used to describe practices of repair, and refers to the ways "…that maintenance, care, and

repair are negotiated often collaboratively." (Rosner and Ames 2014) The way things are used and repaired, the meanings "associated with use" are not in alignment, at times, with what designers intend. Repair is also a necessary part of collaboration in another way, meaning there is repair work in navigating the kind of compromises made between the set designer's ideas and how these ideas are realized in material form. Repair work is also bricolage that requires staying within the constraints imposed by design and figuring out the practical aspects of turning ideas into objects. Thinking about this work as repair and bricolage leads to speculation that the work occurring in these workshops are spaces of "relative autonomy," a term used to analyze the management of creative labour in media industries (Hesmondhalgh and Baker 2011; Ryan 1992), but not craft and manufacturing work. This article draws from a case study that employs qualitative research methods; autoethnography and twenty-four semistructured interviews with craft technicians. A focus on materiality and the making of physical objects in cultural production contributes to recent scholarship that views craft labour as creative and precarious work (Banks 2010; Dawkins 2011), and recent work in the field of cultural geography on material labour processes embedded in place (Carr and Gibson 2017).

2.1 Bricoleurs

For cultural workers like the craft technicians in production workshops, work is bricolage. The technicians must work within the general constraints imposed by the designs. Often many of the design decisions and choices are by necessity made within the process of making things as this is an integral part of figuring out the practical aspects of realizing ideas in material forms. Their labour is comparative to what Claude Lévi-

Strauss theorizes is "the science of the concrete," because they must use objects in their thinking, as well as abstract ideas. Lévi-Strauss uses the image of the bricoleur to describe a type of work with materials that operate within certain constraints:

> [T]he "bricoleur" is adept at performing a large number of diverse tasks; but unlike the engineer, he does not subordinate each of them to the availability of raw materials and tools conceived and procured for the purpose of the project. His instruments are closed and the rules of his game are always to make do with "whatever is at hand" that is to say with a set of tools and materials which is always finite (17).

Douglas Harper (1987) brings this notion of the bricoleur to bear in his ethnographic study of the work of a man named Willie, a mechanic that does repair work in a small rural community. For Harper, Willie's way of working is different from more standardized work. The work is "in contrast to the idea of assembling one's tools and materials and then adding to them to fit a preconceived and definitive plan or blueprint." (74) It is embedded in a network of social relations that are a community of practice: Willie's neighbours and customers who live nearby. Willie builds a house with materials he has collected through trade and bartering. Harper conveys Willie's sense of pride and the agency that comes from his ability to make do with things—through his practice he has acquired "material knowledge" (Harper, 1987). This community case study is a study of a certain way of working, but it also considers how this work connects Willie to other members of his community. The small workshop is a place of activity in the community because of Willie's skill.

Zen and the Art of Motorcycle Maintenance by Robert Pirsig (1974) and Matthew Crawfords' (2005) *Shop-Craft as Soul-Craft* are popular books that celebrate how the repair of motorcycles and technical work can encourage self-reliance and individual

agency. While Pirsig and Crawford tend to emphasize the individualistic, masculinist aspects of repair as well as mastery over materials, Harper shows that work exists in relation to others in a rural community. Both Harper and Crawford understand repair work as being outside of or resistant to capitalist economic systems. Harper describes how Willie is able to build a house out of salvaged materials, while Crawford chooses to pursue manual work instead of academic labour despite his advanced degrees. However, the way Harper describes Willie's poverty and class position is representative of a stark contrast with Crawford's educated and privileged background. Ultimately Crawford's empowerment ethic and celebration of manual work rests on a dependency within the capitalist system he is so proud of resisting. After all, the motorcycles he repairs for a living are made by technically sophisticated corporations. Though Willie specializes in repairing a brand of a luxury car and does it with little fanfare, Harper's focused ethnographic work shows how Willie's skills have earned him a place of respect in his community.

2.2   The Scenery Workshop

During the 1990s, technicians in the suburbs of Toronto built projects primarily for theatre and live performance events in the United States and Canada. At the present time, there is also a demand for projects that require similar stagecraft: creating built environments for corporate display, shopping malls and theme parks for a local and global market. The projects are varied and involve mechanical and digital components for moving set elements, scenic backdrops, and architectural lighting displays to create super-bowl spectacles. The workshops where this creative work is done are located

outside of the city, surrounded by urban sprawl in industrial parks close to main highways. Most employees commute to work by car, and how much work is available at the workshop can be gauged by looking at the parking lot adjacent to the shop at any given time—when the workshops are busy with contracts, the parking lot outside is full of cars. This small industrial niche has its own craft-based "industrial community." Robert Blauner (1964) defines an industrial community as "made up of a network of social relationships which are derived from a work organization and which are valued by the members of the community" and each of the workshops are, for the workers who work frequently on projects onsite, a kind of community hub: "a center of belongingness and identification" (24). For Blauner, "[a]n industrial community also has a structure of norms, informal and formal rules which guide the behavior of its members" (25).[53] In these workshops, longstanding relationships between employees are necessary to mitigate the precarious nature of this work.

<center>***</center>

Behind one of the workshops, several plastic chairs are set up in a semicircle. The chairs face the edge of a steep incline, at the bottom of which runs a shallow fast-flowing stream. At their breaks, the craft technicians relax there together and talk, tease each other, or just sit in comfortable silence that is broken by the sound of water moving over the rocks. When they speak about work, their conversations continually return to how the work has changed. They tell stories about shows they had worked on together years ago

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[53] In this case, this "industrial community" consists of several "communities of practice" to use Lave and Wenger's (1991) term. Many of the occupational roles in theatre production manufacture may have their own specific community of practice within the same industrial community.

at different shops and theatres. Some have worked on projects for over twenty years as stagehands and carpenters, scenic artists and prop builders, filling calls from the locals to build sets and scenery for theatre productions. The stories told reinforce memories of these experiences and their relations to each other. In this way, the precarious and transient work that allows for time to rest in between stints of activity seems steady—almost as though it doesn't happen in fits and starts. The people are the same, even if the work is always different and unreliable. One technician describes the work like a circle, "You may not see some of the people you have worked with intensely for a year, two, and then you are back with them again working alongside each other."

The project they are currently building is for a theatre performance on a cruise ship. It is an identical project to one many of them had worked on the year before, though they have made some improvements in the processes learned from their previous experience of building the forms. There are a lot of welded pieces, as well as carved spray foam and epoxy resin in these sculpted structures. The workers are covered in dust, paint, and grease from the metal. The majority of the workers who work in manufacturing workshops are men; women who work in this industry are still outnumbered by men, especially in certain trades like rigging, welding, electrics, CAD design, scenic carpentry and stagehand work. In these workshops, women are generally limited to occupations in scenic art and soft and hard properties construction.

2.3   Industrial Stagecraft and Nonsynchronicity

The industry of theatrical display and scenery manufacturing is a craft industry; the work is still reliant on the hand skills and manual labour of the workers, and there is a

lack of standardization of the products made in scenery construction workshops. Though it is not yet possible to rationalize these work processes completely, there is now a certain negotiation and tension surrounding the combined use of digital tools and hand skills in practices.

<center>***</center>

As I pick my way across the shop floor, moving from the paint area beside the blackened spray booth over to the carpenter's area, I am careful to avoid a laptop placed near a complex contraption made of welded pieces that looks like a large wagon wheel. The floor is a snake pit of air hoses and extension cords, and my path follows a winding course through the various elements of the set until I find a piece of wood I need to measure. In the shop, techniques that have never been used previously in the production process are experimented with and juxtaposed with older methods of making things. Jameson (1979) termed this layering of new and old ways of working as "nonsynchronicity." The older practices are an important element of work processes in these shops. The workers do not only follow the designer's drawing (if there is one), but also come up with different, often faster approaches as they work because speed and efficiency are the shop's currency in a competitive industry. The reason I must measure that piece of wood—even though there was CAD drawing made by one of the project heads—is because some adjustment to the overall design may have occurred since the drawing was made. I have learned from prior experience that if I have to make a fabric piece to fit onto something to never to trust the drawing, but measure the actual piece because something might have changed during the process.

It is still not possible to completely replace old ways with new tools as has been inevitable in other industries where such work is more susceptible to rationalization, but the incorporation of new tools in work routines does affect how the work is passed on or learned. One scenic carpenter observes that less experienced carpenters are not learning the physical skills as easily because they have less opportunity to practice these skills, and they are more interested in learning programming than learning how to lift and hold materials. In their enthusiasm, they forget that time is an important concern; they want to write software for small tasks, in which case an older carpenter will impatiently tell them to just cut it out with the jigsaw. Work processes in the shops have changed quickly due to digital tools that are now more affordable for the workshops, and as a result, fewer workers are required to work on builds and much of the hand-drawing once done by the scenic carpenters on the material is unnecessary. Hand-finishing skills are still required, but there is less need to know how to operate a jigsaw and cut on an angle. The fact that these tools allow techniques that were previously controlled manually to now be controlled by software challenges the craft autonomy related to the individual worker having embodied skills gained through experience and practice. As new skill sets are necessary to be a carpenter in the scenery workshop, these workers find they are using certain aspects of their knowledge less frequently. At times, comparisons between the machine and the worker result in a devaluation of the human work, but this is not always the case.

It is important to the technicians that a high quality can be achieved with digital fabrication tools—it appeals to their sense of craftsmanship even though these tools have changed aspects of their labour process. Quality is important to them, and as one worker

comments, it is something that he categorizes as A, B, or C. If he knows what is expected and what quality is required for each job, this helps him to figure out the process or method. This is his code and his way of categorizing the jobs that need to be done. Within the category of A quality, for example, certain levels of finishing will be required that are not needed for a quality C product. This shorthand of A, B, C helps the worker to come to terms with a lack of quality in some cases; the project "is what it is," and no more is necessary to do a good job.

The technicians are expected to teach themselves since there is little on-the-job training for learning to draw with software. This is very different from the kind of learning that happens while working with others because manual training is an embodied skill learned through practice and by watching others on the job. It also means the approaches must be thought through in different ways. With more experimental and interesting work, there is a constant dialogue about what is the better approach: to use human or machine.

> *A lot of the 3D and digital fabrication is not really technically new, it has been around for while, and it is expensive. It is not a panacea—it only has its uses in certain places, especially in this business, it is beyond critical because of the accuracy now we have a need for it because when you get some complex sculptures for instance, right? To this day a person who is a skilled carver is faster than any CNC because you have to draw it, and if you are going to draw it, it is going to take you as much time as making it. But for instance, right now we are working on something that we did get CNC'ed because it is a robot that requires symmetry and that is difficult for a human to do.*

–Project manager and props builder

As described in the quote above, the use of digital tools is still context-dependent. The incorporation of digital tools in this type of work can mean less reliance on embodied manual labour to complete certain tasks.

2.4 Reskilling

More than twenty years ago, when theatrical manufacturing work was outsourced to the region, the technicians found themselves in a situation where they had to learn new skills or use their skills for different purposes. Many of the scenic carpenters had worked as stagehands for local theatres, though some had some experience in scenic carpentry and welding for other types of projects. The work on Broadway theatrical productions required a steep learning curve and a different kind of work organization than what many of them had been used to in the past. As one technician recalls:

> *It was the period of time and again this is what it shows…a bunch of stage hands going into a legitimate factory environment with a front office that has a design staff in the front office that designs the show, with the outside designers and brings it down out of the front office and to the shop floor. One of our geniuses on the floor is saying they can't build this, [that] it won't work. Then [the other] guy [says,] "No, no. Don't tell me that, I just came out of university, I have my degrees and you have to build this." There would be this meeting of minds because they would point out exactly why it wouldn't work and they each have a different reference than these people did, but they took a while to accept this.*

….[S]o finally we saw people leaving the office and going down to the machine shop with the drawings and showing it to the carpenter and he would correct it and fix it and say, "This we can do." They were learning from them: if you don't, I don't think you have a future because they understood a really fundamental, primary thing that the guy on the floor beneath you actually has knowledge that you don't have because it never got translated.

–Stagehand/scenic carpenter.

The knowledge the stagehands and other technicians acquired through working backstage in theatres proved to be useful in a new work environment. This knowledge is described above as a kind of natural, innate knowledge that exists outside of institutional knowledge. This way of looking at the work is similar to the perception of the bricoleur as "primitive" in Lévi-Strauss's notion of bricolage. For Lévi-Strauss, bricolage is a natural and authentic practice that is difficult to explicate.

2.5   Autonomous Invisible Workshops

The workshop has long been imagined as a space that is conducive to discovery and experimentation with materials, a place associated with precapitalist forms of production. The workshop figures in these narratives as a site of autonomy, where the maker and bricoleur have control over the work. The association of craft workshops with autonomous work practices can be traced back to the beginning of the industrial revolution. Karl Marx, Charles Fournier, and Claude Saint-Simon all envisioned the precapitalist workshop as being "a space of humane labour" (Sennet 2008, 53). The workshop is often imagined as being a place where craft is unregulated and there is a

tendency in critical social thought to "portray (and often idealize) the preindustrial workshop as a 'lost world' populated by apprentices, journeymen and master craftsmen, that while hierarchically ordered and authoritarian, proffered the opportunity for a humane and psychologically rewarding life of labour" (Banks 2010, 210). Banks also suggests that artists and craft workers have "fought to maintain a workshop model— because this is what provides them with a sense of creative freedom and meaning in work" (2010, 309). He argues that in cultural production, it is because of this "preservation" of the workshop model that "the decline of craft skills has therefore been less marked in the creative industries because both capital and labour have a specific interest in maintaining an authentic production process where craft, art and commerce can mutually combine and flourish" (ibid). The interrelated aspects of craft, art, and commerce in these workshops can be discovered within the labour processes and material practices on the shop floor.

The workshops are often dependent on building and maintaining relationships with media mega-conglomerates. To romanticize the autonomy of the workshops in relation to their clients would be to gloss over the advantages that media corporations gain through not having to manage this work. Outsourcing manufacturing work is a way for companies to bypass the risk of dealing with creative workers (Miège 2011). The workshops bid on projects, plans for shows from companies who award contracts. This is a tough game for the workshops to play; "[i]t is common for small firms to be offered 'take it or leave it' deals by their paymasters, forced to accept prescriptive conditions that restrict the activities of the independent while providing maximum control, flexibility and protection for the larger firm" (Banks 2007, 130). The bid the workshop makes must

factor in the time spent on each project as well as the cost of materials to make a profit. In many cases, this is a difficult art and requires innovation because the projects have never been made before and design problems and challenges often do not materialize until production is underway. The owners of the workshops must take on that risk and often they come up short. Some do this on purpose—taking on bids they are aware they will not profit from a job, but do it just to keep other workshops from getting the work and to keep their core workers employed. The bricolage labour needed to build and install is often unrecognized because this work is considered rote or routine. Huws (2014) calls this tendency in global production chains "unseen slippage" as work is passed "from 'knowledge workers' to others, further down the chain" (116).

Through outsourcing, the construction of set designs and elements of theatrical display, the execution, material fabrication of designs is separated from the artistic work of design that is overseen by mega-conglomerates who produce cultural commodities in multiple formats. For Bernard Miège (2011), the reason that small shops like this still exist in relation to larger corporations reflects the fact that larger companies need creativity and innovation, but are unwilling to take risks. Size is important, as it is difficult for large companies to adapt to change: "[t]he fact that numerous small production units still exist alongside monopolistic firms isn't due to souvenirs of the past nor is it the mere expression of a system of subcontracting: small businesses are better equipped to respond to changes in social demand and to renew creativity" (44). But he also suggests that it is necessary to obscure this input of conception and innovation that occurs in production and he suggests that three ways that this happens are:

> [A] tendency to socialize the workforce and make it more complex, the need to maintain the "aura" of artistic activity, and therefore the independence and

isolation of artists; cultural commodities must continue to bear the stamp of genius and uniqueness, and not appear to be emanating from research laboratories, but to be exclusively produced by artists accountable to no one but themselves: and the diversity of the professions concerned in relation to their socio-economic status (Miège 2011, 46).

Miège argues that outsourced labour is rendered invisible through the separation of conception and execution—the geographical or spatial division of labour. The concept of invisible labour is defined as "activities that occur within the context of paid employment that workers perform in response to requirements (either implicit or explicit) from employers." This work is "often overlooked, ignored, and/or devalued by employers, consumers, workers and ultimately the legal system itself" (Poster, Crain et al. 2016, 6). There are difficulties inherent in managing the kind of nonstandardized and context dependent labour in the workshops.

The invisibility of technical work is explored in Julien Orr's (1996) study of the practices of technicians who repair photocopy machines for Xerox. Orr describes the work conducted by repair technicians to show how difficult it is to understand the work in abstract terms: "the study of practice itself shows work to be generally different from and frequently more complex than is usually assumed" (1). Orr also describes the technicians' repair work as bricolage. This work is repair because it must perform the functions of "both socializing the engineer's creations and dealing with that wilful ignorance on the part of both the creators and society that uses these creations" (96). For Orr, the nonstandard aspects of the work are a type of bricolage because every repair is different and depends on idiosyncrasies with the machine. The bricolage needed for repair contributes to the fact that the actual work done by the technicians is invisible to management, making it difficult

for the management of Xerox to control. Similar to the technicians at Xerox, much of the stage carpenters' work could be described as context-dependent and though many of the workers have some formal technical education, they had to learn the skills required to do the work through gaining experience working with others on projects.

Sometimes the managerial dream of what the technology can do can override the material practices necessary to use the tool. In a case study of a 3D-printing community, Johann Söderberg (2013) finds there is a disconnect between the dream of what the technology can achieve and the reality of practice. He suggests that what emerges in interviews with members of this community is:

> [A] description of actually existing 3D printers as fanciful as any managerial dream about the automated factory. The truth is that Rep-rap machines are far from standardized. To get a machine to work reliably is not a trivial task. The user must be familiar with the idiosyncrasies of that particular machine (134).

Söderberg examines the term "user-friendliness," a stated goal of this community and compares this notion with Harry Braverman's classic deskilling thesis in *Labour and Monopoly Capital*. In interviews with technicians working in the shops, there were many comments about an intensification of the work and unrealistic expectations for timelines that betrayed an ignorance on the part of the client regarding what the fabrication in the workshop entails. In media industries, the technicians collaborate with designers who may or may not have some understanding of how the product will be made. Often the products must involve experimentation with materials because the design has never been built before. This is reflected in the way the designers will communicate ideas to the builders and technicians—understanding must only be partial because it is only an idea when it is brought to the workshop: it has not yet been materialized in an object or form.

The technicians working trades like scenic carpentry or welding are used to having to come up with suggestions, and there are technical design roles in the workshops because of the necessity to draft designs. These conversations with craft technicians below describe the process of collaborating with clients and designers.

I think it is pretty rare that we have a client come to us with it all figured out …architects and engineers are the same: they know the theory of it and how it works, but they don't quite grasp how things go together. For example… there were numerous times where the architect screwed up or the engineer told us how to do it and the people who are actually building it are [saying] this doesn't work, and you have to go back to them and [tell them" this just doesn't work… It is theory, it is not practical…

–Scenic carpenter.

That was toughie to figure out—the dance floor was an LED, RGB[54] system and the designer gave the pattern of the stones and each one was its own lightbox and there had to have been two hundred different boxes. But I told them in the beginning, you can't have each one individually addressable, you need to put them in chains. So the guy went on an African safari while we were doing this, [and] I'm like, I kind of need to know! So anyway, we built this really elaborate patchwork system.

–Props builder.

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[54] LED is the acronym for light-emitting diode. RGB is the acronym for red green and blue. These are combined to create hundreds of hues in lighting designs.

These statements from technicians working on projects in the workshops describe the creativity required to build the stage effects and structures designed by clients. What becomes evident through this study of practices in the workshops is there is still a large gulf between the ideas and creative vision of the designer and the technician's work of realizing these ideas with materials. The disconnect between theory and practice the carpenters and other technicians in the shop experience is a normal part of their work, and it could be said that the bridging this gap is part of the work as well.

2.6   Art(craft)–Commerce Relationship

The concept of "relative autonomy" has been used as an analytical frame in several studies of media industry labour to explicate the management of creative labour (Ryan 1992; Hesmondhalgh 2007; Hesmondhalgh and Baker 2011). While in the past this concept has been used to refer to more creative labour, I argue the industrial community of technicians working in the workshops are granted a measure of "relative autonomy" by the corporations that have commissioned this work. Bill Ryan (1992), an organizational scholar, developed and applied the concept of, "the art–commerce relation" to describe the management of creative cultural workers. In a study of creative project teams in cultural work, Ryan defines the "artist" in a context of "corporate structure of relations" as the "collective labourer," meaning the whole group of individuals involved: "producer, director and supporting executant" (42). In the Marxian paradigm Ryan draws from, labour has two dimensions, referred to as concrete and abstract: "concrete is the labour of making things and abstract is the labour in general or socially necessary labour of which a certain quantity is embedded in each commodity in its making" (ibid, 42–43). Ryan argues that in cultural work, the history of the labour

process has unfolded differently, that there is a special sort of contradiction between the "structures of art" and the "structures of capital" and this presents a challenge for capitalists to make a profit from the work of artists. Ryan calls this the "art–commerce relation" in which the artist:

> …[R]epresents a special case of concrete labour which is ultimately irreducible to abstract value, the structures of art make artists incompatible with the structures of capital. The employment of artists in whatever technical form necessitates recognizing and preserving their named concrete labour. They cannot be employed as labour-power, as anonymous production factors functioning under the sway of capital (44).

It is the aim of capitalist production to create abstract value from concrete labour. This is difficult to achieve without smothering the valuable creative spark necessary to make cultural commodities, but by granting artists "relative autonomy," companies can circumvent this problem and profit from the work of artists (Ryan 1992). Ryan used this concept to analyze work done in creative teams in media industries. When applying Ryan's concept to the work in the scenery workshops, I consider how spatial distances between actors in creative teams and the designation of "craft" and "creative" affects the art–commerce relation.

The "relative" autonomy of the small workshops in relation to large corporations is a strategy used by these corporations, it allows corporations to use the autonomy of the workshops as a way of reducing risk, just as individual creative workers are also granted individual "relative" autonomy. In the workshop, the technicians who form part of the "collective labour" of the project team (what Ryan thinks stands for "the artist") are not named or recognized, but the craft workers do have some autonomy and control over work processes in the shop. The craft workers are in fact often "creative" workers—their work requires innovative approaches and ideas, but this is not how these workers tend to

describe themselves or their work. One carpenter has a business card that says he is a "Maker of Things," but believes his work has more to do with innovation than artistry, shying away from describing the work as creative.

The projects are managed at two levels: by the owner or head of the project in the shop and the client who commissioned the project. The crafts workers think of the "artist" as the designer of the project who works for the client and sometimes works collaboratively with the craft workers in the shop. The shop is a place the set designers visit to guide the process of construction of different elements of the set. In Ryan's analysis, he argues that the creative stages of modern cultural production appear to resemble the precapitalist workshop model, but that this comparison is only a superficial one. While he concedes that a craft-based division of labour continues in the media labour he studies, this still exists simply because artists cannot be replaced with technology. This leads him to the conclusion that the organization of creative project teams is distinct from the workshop model; "its stratification has different foundations to the skill hierarchies of craft workshops." While Ryan's concept of relative autonomy is useful to consider the creative work of cultural production, what is not included, or is not the primary focus of his analysis, is the creative work found in embodied material labour. In his comparison to the workshop and the creative team, he does not consider actual workshops—these do not enter his analysis because in the creative work environments he examines, there is no need for craft-based material fabrication or manufacturing labour.

To apply Ryan's concept of relative autonomy, it is necessary to think about his imagined model of the precapitalist workshop in relation to the commercial scenery workshops examined in this study. For the craft technicians, there is a very obvious

stratification between the two streams of management that organize the work, which is different from Ryan's analysis in which this is somewhat obscured. There is both an "outside" (the client) and "inside" (the managers and employers) that control the labour process. This separation is important because the work that happens in the workshop itself is an input into a production chain that has some measure of "relative" autonomy. The craft technicians still have some self-determination over their approaches and the order of their processes. However, this is beginning to change and there are more ways to control work processes than in the past. Control can be achieved through such strategies as increased monitoring of collaborations between technicians and designers, as well as surveillance, standardization, and certification of spaces of production and worker skills.

2.7   Conclusion

The organization of production can establish a separation between conception and execution in cultural work that is repaired within practices in the workshops. In recent years, the separation between creative labour and craft production labour in other forms of cultural production has been studied by some scholars. This research has examined specific forms of creativity that are associated with individual authorship (Banks et al. 2016; Christopherson 2008; Mayer et al. 2009; Mayer 2011; Rantisi 2013; Stahl 2005). These divisions of labour between craft and creative roles in production processes are important to consider apart from determining how creative the work is, "looking at creativity and professionalism as constructions that have appropriated and transformed residual identities associated with other forms of work, it becomes apparent how these constructions function to generate invisible surplus value for industries" (Mayer 2011,

23).

The practices in these workshops require bricolage and flexible thinking. The practice of outsourcing and the granting of "relative autonomy" is a way for media conglomerates to cultivate a laissez-faire or a hands-off approach to experimental production processes and the collaborations between designers and makers, while at the same time exerting control over how the projects are divided and divvied up between different workshops.

Through participant observation and interviews with cultural workers about the material labour in the workshops, it is possible to create a picture of the manufacturing work that runs counter to "a systematic all pervasive notion of technically driven 'informatized' production" (Banks 2010, 308) in media industries. Though this work is discounted and hidden within the organization of production, the work is nevertheless essential to the creation of cultural commodities. In "an era where more and more work tasks are automated of critical import is the manner in which manual tasks become a site of value" (Gibson 2016, 81). In this context, it is important to critique "dematerializing conceptions of the creative industries" (Gibson, Carr et al. 2015, 87) through the study of work practices. The manufacturing work in these workshops remains craft-based and essential to the creation of cultural commodities in the industry of theatrical display because these places harbour manual skill combined with experimentation and innovation. However, there is no guarantee the workshops that have a place in production as "the supporting executants" (Ryan 1992) will be able to retain even relative autonomy in the contexts of production, for "under conditions of intensified competition, managers are becoming extremely adept at managing the craft input to suit their own preferential

interests" (Banks 2010, 313). In this case, bricolage is not resistant to or somehow

outside of capitalist work organization, but is an integral and often invisible contribution

to labour processes in cultural production.

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3 Chapter 3: Broadway North: Craft in Canadian Cultural Production[55]

In the previous chapter, work in the scenery construction workshops was compared to bricolage that is out of sight and out of mind. Though in cultural production craft is often mistakenly regarded as "innovator's 'other'" (Caldwell 2016, 34), the observation and interviews for this case study yield another perspective. It appears that production processes in the workshops are nonstandardized, often experimental and innovative. At the same time, many workers in scenic construction workshops interviewed for this study have also observed that in recent years, there are efforts being made to control, standardize and regulate their work, and that this is especially the case when the commercial scenery workshops have manufacturing contracts with transnational media corporations.

This chapter considers recent changes in the organization of production in culture industry workshops that fabricate scenic elements and theatrical display environments. In these workshops, craft workers are increasingly subjected to a more intensified and standardized labour process. Despite the fact this work requires skilled labour, an assembly-line approach to building sets can often be organized with the use of digital fabrication tools (even while these tools simultaneously allow for innovation and

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[55] A version of this chapter has been published:
Hambleton, Jennifer. 2016. "Broadway North: Craft in Canadian Creative Industry Production." *Work Organisation, Labour and Globalisation*. 10(1): 64-79.

experimentation).

Though it is similar, autonomy for craft workers is not the same as artistic autonomy and the art–commerce relation for craft workers involves different stakes. In scholarship on cultural work, there are two ways that autonomy has generally been explicated: "creative and aesthetic autonomy which describes worker's abilities to produce creative works independent of outside influences or professional autonomy, which refers to workers abilities to achieve self-determination in a workplace" (de Peuter and Cohen 2015, 306). In the following chapter, the latter definition of autonomy frames the experiences of craft technicians in the workshops, and the meaning of self-determination or control is understood in its more material and embodied senses. Autonomy is explored in relation to two examples of the incorporation of new digital tools incorporated in work practices in the workshops.

3.1   Divided Labour/The Construction of Creativity

The view that art is labour that has a distinct specificity, and a concern with the management of artistic labour in the creative industries, informs inquiry and research in creative labour studies[56] (Banks 2007; Hesmondhalgh 2007; Ryan 1992). Autonomy is an important normative concept used to understand employment relations in cultural industries (Hesmondhalgh and Baker 2011). Research on cultural work that examines the

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[56] The choice to use "creative" or "cultural" industries is contested. "Creative or cultural industries" is used by Mark Banks (2007) in *The Politics of Cultural Work*. Angela McRobbie (2016), in her recent book *Be Creative: Making a Living in the New Culture Industries*, "retains the words 'culture industries' to signal a lineage from the Frankfurt School and Adorno in particular through to the Birmingham CCCS."

subjectivities of workers explores the concept of autonomy as interrelated with self-realization; autonomy is defined as "independence or freedom from external control or influence" (Hesmondhalgh 2007, 309). While autonomy can be a useful theoretical frame to understand the management of cultural workers, it is also important to recognize that the creation of artworks requires collective activity and collaboration with others (Becker 1982). Theatrical production work has traditionally been a collective endeavour, and a hierarchical division of labour is an important aspect of the production process.

While collaboration within cultural production is accepted as a necessary element of the labour process, there is a tendency to place more value in the creative work of artistic workers than work that is considered craft work (Banks 2010; Caldwell 2008; Conor 2014). This bias is reflected in film and television industry terminology that refers to some jobs as "below the line" and others as "above the line"[57] (Banks 2010; Caldwell 2008; Mayer 2011; Stahl 2009). This "line" between creative and craft labour is not a static construct but fluctuates depending on the context. Stahl (2005) examines the hierarchical divisions of labour in animation studios in California and compares the interpretive work of animators (below the line) with that of musicians (above the line) to substantiate his argument that the ways that divisions of labour are considered "above" or "below" the line vary, and "are understood very differently in different production systems" (Stahl 2005, 98). Though much creative work is based in concrete labour that happens through collective activity within theatre production processes, unlike workers that are considered creative, craft workers do not receive any royalties or residuals for their contribution to cultural commodity forms and their work is categorized as "below

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[57] In chapter 5, the distinctions between "above" and "below" the line are discussed further.

the line" production work. Creative industry policy and academic literature on creative labour have placed an emphasis on the value of intellectual property and the reproducibility of creative works (Banks 2010). Copyright and intellectual property rights discourse sustains more individualized notions of creativity and workers who perform certain roles in cultural industry production do not receive recognition for creative work (Mayer 2011; Stahl 2005; 2009).

Despite scholarly attention to the inequality that can result from the organization of work in cultural production, research that employs autonomy as a normative concept has been more engaged with artistic or creative autonomy. Craft workers are often represented as lacking artistic autonomy—there is an underlying assumption that workers in technical trades do not have as much autonomy as artists in cultural commodity production. Workers in the culture industries are thought to be attracted to the "glamour" of these industries and motivated to seek recognition for their contributions (Hesmondhalgh and Baker 2011). Creative or artistic labour has been portrayed as better or more satisfying (though this is also fraught with ambivalence) than work that is "dirty, rote, unskilled craft or manufacturing labour" in culture industry production (Conor, 2014). Craft technicians in cultural labour must learn by doing, through observation of other more experienced craftspeople and habitual practice (Grugulis and Stoyanova 2009). To understand the occupational identity and the perspective of craft labour it is necessary to consider autonomy in context and take into account control over material and physical work processes. This is an area of inquiry that has received little attention in scholarship on cultural work.

Research that has employed practice-based approaches to examine work in

cultural production has steered clear of theoretical concepts of autonomy. Production studies have brought attention to industry practices, interpretation, creativity, rituals and "war stories" involved in culture industry production work in film and television (Banks et al. 2016; Caldwell 2008; Mayer et al. 2009). Much of the literature on production studies veers more towards cultural studies—textual analysis, audience studies; audiences' responses to culture industry products—rather than taking a labour process approach (Dawson 2012). Several recent studies of cultural work that have been attentive to employment relations have indicated that there has been a sharp decline in the quality of working life in some technical craft professions in entertainment industries (Christopherson 2008; Grugulis and Stoyanova 2009; Lee 2012). Studies of creative labour that take a labour process approach maintain a focus on work practices, but also emphasize control, resistance and consent in employment relations (McKinlay and Smith 2009a). Though there has been a wave of academic interest in the topic of cultural work in the last several years, a call to learn more about the experiences of those who work in "production culture" (Caldwell 2008), the literature in this field of study has almost exclusively focused on film and television production in the UK and the US.[58]

3.2   Broadway North

In the early 1990s, there was a surge in the production of theatre sets made in southern Ontario and produced in New York. Scenery workshops in the area now

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[58] Since I wrote this article, there have been a few books and articles published that address some of aspects of entertainment industry work and globalization-occupational identities in different production contexts (see *Precarious Creativity: Global Media Local Labor* [2016]).

participate in a competitive global market for culture industry theatrical display and create scenery, paintings and props for Broadway shows and international tours owned by large media corporations. Commercial workshops that fabricate theatrical sets and display environments in the greater Toronto area are part of a cultural cluster that includes local regional theatres—The Shaw Festival and The Stratford Festival—that receive financial support from government institutions and private patrons. The more recent origins of this cluster can be traced to a government economic development strategy in the 1970s that encouraged government spending on arts programs and theatres (Bain 2013). During this period, the annual Toronto International Film Festival (TIFF) was established and the historic Elgin and Canon theatres restored. By the late 1980s, Toronto was being promoted as "Broadway North" and was the third largest theatre centre in the world (Bain 2013). Many of the sets for the international tours of megamusicals, such as *Les Misérables*, *Cats*, *Phantom of the Opera* and the Disney production of *The Lion King,* were built in workshops in the greater Toronto area.

Though the industry of theatrical display differs from the film and television industry, this study's findings support critiques of flexible specialization theory (Aksoy and Robins 1992; Dawson 2012) and reject the notion that media conglomerates in film and television industries lack power in relation to small artisan shops.[59] However, in line

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[59] As outlined in the introduction, the workshops participate in forms of post-Fordist capitalist production that Michael Piore and Charles Sabel (1984) call "flexible specialization." This organization requires "a strategy of permanent innovation and accommodation to ceaseless change rather than an effort to control it. This strategy is based on flexible multi-use equipment; skilled workers; and the creation, through politics, of an industrial community that restricts the forms of competition to those favouring innovation" (Piore and Sabel 1984, 17). Piore and Sabel (1984) claim that strategies of flexible specialization mean "a revival of craft forms of production that were emarginated at the first industrial divide" (17). The precapitalist artisan's workshop is often romanticized; there is a kind of nostalgia surrounding the way artisans are thought to have worked together in the past. Historical accounts of artisan's workshops have neglected to ask

with flexible specialization theory, the cluster of small independent workshops in the suburbs of Toronto examined in this study share skilled workers and equipment. The persistence of flexible specialization theory, despite critical responses to it, has drawn attention to the role that small independent artisan workshops play in culture industry production, but there is a lack of research in the academic literature on cultural production that examines the work practices in these workshops (Dawson 2012). Toronto's emerging reputation as a theatre centre coincided with certain changes in theatre production in the entertainment industry. The increase in production work that was outsourced from the United States influenced craft practices and approaches to fabrication. Set designs incorporated digital media and scenography elements, and became more architectural and complex. These more elaborate and digitally controlled elements of scenographic design elements required different materials: sets for touring productions were fabricated with metal frame backs instead of wood and cotton flats.

3.3   Craft Autonomy and the "Workmanship of Risk"

If people want to be paid, it develops into a more technical skill and it becomes a trade. It is not all about art people want to be tradesmen and craftspeople not to work as poor artists—they are not going to want to work as a poor artist and be paid like a poor artist.

–Scenic carpenter.

structural questions and have relied on politically motivated artisans' accounts (Stott 1996, 258). Mark Banks suggests that creative industry workshops have traditionally held to a production process that grants their workers a certain degree of autonomy, and this facilitates collaboration between craft and creative workers in these places (Banks 2010).

To craft is to exercise skill in making something. Though what "craft" means has been in flux since the term was invented as a sort of "other" to capitalism during the industrial revolution in Britain, what has remained constant is the notion that craft somehow exists in the past: "it can only be understood as a corrective or escape hatch, never as a contributing factor" (Adamson 2013, xv). This understanding of craft as belonging to a preindustrial era was a central tenet of the arts and crafts movement.

The ethos of the Arts and Crafts Movement during the late nineteenth century in Britain still has an influence on contemporary ideas about craft and labour (Banks 2010; Gauntlett 2011; Luckman 2013). The recent cultural phenomenon of the "maker movement" seems to value many of the same ideals of the arts and crafts movement as expressed in the writings of John Ruskin and William Morris (Gauntlett 2011). These include an appreciation of the beauty of handcrafted objects and a valorization of independent artisans who control all aspects of the production process.[60] In this sense, it is a revivalist movement that values handicraft practices and objects made by hand.

David Pye (1968), carpenter and tradesman, was critical of the arts and crafts movement (especially Ruskin's writings), for conflating the role of the designer with that of craft workers, because he believed that both are necessary for good workmanship: "a central idea . . . of the Arts and Crafts Movement was that it is wrong to deny the workman the opportunity of inventing, and that if he is required to produce the exact

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[60] At various junctures since the nineteenth century, craft movements have attempted to create alternative methods of making things as a form of resistance to capitalist methods of production. "Maker culture" is the term used to describe a new movement of "makers" who are either interested in digital technology or more traditional crafts or a combination of both as a strategy of resistance to the commodification of culture. The current movement or trend promotes a resurgence of interest in craft, now called 'making,' which celebrates 'the maker' as an activist of sorts (Anderson 2012; Crawford 2009; Gauntlett 2011).

finish under someone else's design it is slavery" (65). Pye believed that this movement neglected to appreciate the value of workmanship that did not fit within a certain aesthetic: "diverting the attention of educated people from what was good about the workmanship in their own time" and encouraged disregard for "the workmanship of risk." The risk of failure is the necessary ingredient that makes the work interesting, "the workmanship of risk" describes craft labour that challenges the worker's physical aptitude and knowledge of materials. This is what, for Pye, provides intrinsic values.

Craft workers do not always have artistic autonomy, but this may not matter to them if their work involves "the workmanship of risk." These workers are more interested in having control over the organization of work process and the manipulation of tools and materials. The autonomy of crafts technicians has also been called "functional autonomy,"[61] and this sort of autonomy "includes the right and responsibility to make choices about the methods and techniques used for a given task. It also includes input into "the sequencing, scheduling, and prioritizing of work activities" (Hodson 2001, 141). Craft labour may involve interpretation and creativity but, unlike the artistic labour involved in the conception of cultural goods, craft labour has been traditionally inseparable from physical labour.

Another aspect intrinsic to craft labour is understanding the properties of the materials used to make things. A popular bestseller in the 1970s, *Zen and the Art of Motorcycle Maintenance*, captured the zeitgeist of what Michael Piore and Charles Sabel (1984) would later call "the second industrial divide" and describes craft autonomy:

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[61]Term used by David Montgomery (1989). In Montgomery, David. 1989. *The fall of the house of labor: the workplace, the state, and American labor activism, 1865-1925*. Cambridge University Press.

> [P]eople who have never worked with steel have trouble seeing this–that the motorcycle is primarily a mental phenomenon. They associate metal with given shapes–pipes, rods, girders, tools, parts all of them fixed and inviolable and think of it as primarily physical. But a person who does machining or foundry or forge work or welding sees "steel" as having no shape at all. Steel can be any shape you want if you are skilled enough (Pirsig 1974, 88).

In this quote, Pirsig explains how working with materials enables people to develop the capacity to imagine how to use materials. Innovation is often a by-product of developing experiential or practice-based knowledge. The term "material knowledge" (Harper 1987) refers to how a craftsperson can make use of kinesthetic sensibilities when working with materials. This knowledge is difficult to put into words or to represent, for it is not explicit. It is akin to the 'tacit knowledge' that is conceptualized by Michael Polanyi as "an act of knowing based on indwelling, for such an act relies on interiorizing particulars to which we are not attending" (Polanyi 1966, 19). Craft may be "supplemental" to art (Adamson 2013; Banks 2010), but material knowledge is essential to the fabrication of cultural industry commodity forms and is a source of autonomy.

3.4   Research Methods

This article draws from twenty-four semistructured qualitative interviews with craft workers. The interview participants in this study work in a variety of roles in theatre production: as set designers, scenic artists, scenic carpenters and stagehands. Three owners and managers of commercial scenery workshops were also interviewed for the study. The interviews took place during the summer and fall of 2015 and were conversational oral-history interviews, taking a life story approach and asking questions about background and education. Several themes were emphasized in these conversations

with the craft workers and workshop owners, including the use of technology and tools in craft practices and the influence of new technologies in the labour process, the way that people were recruited for jobs, how they learned on the job, and the history of theatrical production industry in the region.

The craft workers interviewed for this study were all members of one of two International Alliance of Theatrical Stage Employees (IATSE) Locals[62]–129 and 828. IATSE Local 129 represents stagehands, scenic carpenters and welders and Local 828 represents scenic artists and props builders. These local union organizations have contracts with several commercial workshops and many regional theatres including the popular Shaw and Stratford Festival Theatres, which attract many tourists. The craft workers interviewed for this study all had a minimum of ten years of work experience and some had up to twenty or thirty years of work experience in theatre production. Many of the craft workers interviewed were core workers at either a commercial shop or a theatre and had experience being the head of projects. All, including the workshop owners, had worked in production jobs in theatre craft occupations associated with materials: wood, metal, paint and fabric. Most of the workers I interviewed had completed some form of postsecondary education. Many of those interviewed had studied technical theatre at the college level and were graduates of theatre arts programs. Several of those interviewed commented that this education had given them an appreciation for

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[62] IATSE is the acronym for the International Alliance of Theatrical Stage Employees, Moving Picture Technicians, Artists and Allied Crafts of the United States Its Territories and Canada. (The full name of the organization is not used throughout, and has changed several times in its long history. Interesting "Allied Crafts" is a relatively new addition to the name. The IATSE General International Office is based in New York City.

all the different roles in the theatre production process because as theatre students, they had all taken on various occupations at school; many had acted, built props, worked on lighting design and so on. Some scenic carpenters had started out in trades like construction, building houses, and later became stage carpenters. The scenic artists either had a fine arts training in a university fine arts program or had studied theatre arts at college level. As the researcher conducting these interviews, my personal background and education was useful. I am presently a member of Local 828 and have been part of the local for over ten years; I have worked in all commercial shops included in the study as a scenic artist and first builder of properties, and at many of the regional theatres that have contracts with Local 828. I completed an undergraduate degree in a university fine arts program and after that became a wardrobe seamstress and soft props builder as well as a scenic artist.

The following section presents findings from the interviews, focusing on two examples of changes in the labour process in the commercial workshops that altered the occupational identities and autonomy of stage carpenters and scenic artists. Information gathered from the interviews suggests that some entertainment media companies are making an effort to have more control over the workshops production practices than in the past.

3.5   Core Workers and the Recruitment of Workers

The managers and owners of the commercial workshops in this study rely on the knowledge and experience of a few highly skilled core employees. An owner of one of the commercial scenery workshops describes an aspect of his approach to managing this:

I think we carry people when we shouldn't at times, but heads will be carried

longer than assistant heads and assistant heads will be carried longer than crew.

The definition of "carried" is maybe three days to five weeks. We have always

tried to work the fewest people the most hours. Which is to say that we would

rather have twenty people here all the time, then ten people sometimes and fifty

other times. It makes for an easier situation to manage–easier for people, to work

together, get along and understand their coworkers. And I suppose the perfect

situation is forty-five people on staff and forty of them here at any given time than

thirty-nine always. People can then take off any time they want and it doesn't

jeopardize the business. When we were smaller, and we had only two people who

could do the job we couldn't have them both go away at the same times. Now we

are able to sustain four or five people taking holidays at the same time when we

couldn't sustain that ten years ago, so I think we are at a comfortable level now.
–Workshop owner and project manager.

When they work at the theatres, some of the core craft workers have seasonal contracts, and some are part-time casual workers who work during the busy times in the season. In the commercial scenery workshops, the workers do not have written contracts or secure employment even though the work could not be done without their expertise. There is simply a verbal agreement between head and worker or manager and worker. The workers are "called in" directly by the employer or take a call through the local and are hired on a project-by-project basis. During busy periods, if a worker has the right skill set, it is not unheard of for someone to take a call from the call steward of one of the locals for a couple of days and find herself working for five or six months. During a busy

period, one must commit to a rough time frame from month-to-month, and towards the end and beginning of the term, on a week-to-week basis. It is not uncommon to take daily work or half-day work, even for a person who is considered a core member of the workshop. Though several people interviewed had steady full-time employment over a period of ten to fifteen years in one workshop, they considered themselves to be "free" in the sense that they had no written commitment from the employer. These workers were often the heads on various projects and were given responsibilities that included working out the bids for projects, which involved figuring out the number of hours and the materials required to do the work. The heads on projects had a considerable measure of autonomy in managing other workers and organizing tasks.

There is fierce competition for very few jobs, and those who have steady work are highly skilled and must constantly work on their skills to maintain the positions they hold. If the union locals cannot supply skilled workers for jobs, then the employer will hire outside the locals, and this is often an area of dispute. If someone is not a member but has exceptional talent and skill, they will be hired over a union member. There are several local institutions (Sheridan College, Ryerson University, and Humber College) that have technical theatre programs and all train graduates who are hired during busy periods.

3.6   From Stage Carpenters to "Assemblers"

The computer numerical control (CNC) machine has been used in manufacturing processes for more than fifty years, but in the scenery workshops, digital fabrication equipment has only become affordable and feasible to use in the past ten years. One

workshop relies on a twenty-year-old dinosaur of a CNC[63] that was bought secondhand. A workshop that specializes in fabricating properties, soft props and mechanical puppets for megaconglomerates subcontracts the larger jobs that require cutting out pieces to other shops in the area that have CNC machines. Until the purchase of the CNC, the work still required a range of hand skills because of the project-based and varied nature of the set designs. As a result, the hand skills and stagecraft knowledge of the stage carpenters and stagehands were still necessary in the industry.

In many theatres in the area, sets are still constructed out of wood, but theatres often send out elements of the builds to be cut in a commercial workshop that has a CNC. Production departments in many theatres subcontract work out to the workshops in the area—this changes the kind of skill sets required to do the work in the theatres. Most of the carpenters interviewed were enthusiastic about the quality and precision that was achieved by using CNC. Pieces that previously had to be hand-drawn outside in the parking lot of the shop because of the curve of the set design are now drawn in software and cut on the machine and the pieces fit together perfectly when assembled. A carpenter describes the benefits of the technology:

> *What it does is it eliminates a lot of that monotonous manual stuff. The fifty brackets that are going to be identical, if you going to cut these and cut three holes and cut them out with a jigsaw the accuracy just isn't the same. Plus, somebody must make fifty brackets and it gets boring… the mind wanders and they make mistakes. So, the machine isn't going to do that.*

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[63]The technology used in new CNC machines is not very different from older versions, these machines use serial ports and obsolete Windows software programs.

–Scenic carpenter.

As described above, digital fabrication tools tend to eliminate what are considered to be rote or monotonous physical tasks, but also leave out what one carpenter I interviewed for this study called the "free mind time" for contemplation, to work out conceptual approaches to solving design problems while completing manual tasks. For some technicians interviewed, the relation of movement and touch, the "work of the hand" to the "work of the mind" (Sennett 2008) in craft practices lends an important intrinsic value to the job. Work processes in the shops have changed quickly, as fewer workers are required to work on builds and much of the hand drawing on the material is unnecessary. Hand-finishing skills are still required, but there is less need to know how to operate a jigsaw and cut on an angle. Craft autonomy and workmanship of risk is less integrated with embodied skills and hand manipulation of material when using digital design and fabrication tools:

> *If I had to build something I would draw it out large-scale. I would draw it out and then I would cut it out with a jigsaw, but that is what everyone had to do because that is exactly what we had to do and that took some skill. It is like a costume cutter has to lay out a pattern for the clothing. Well, we had to do the same thing. We had to make shapes and we had to figure out how things were going together and that is not done anymore.*
> –Scenic carpenter

A carpenter who draws software in CAD and operates the CNC machine at one workshop took night classes over a period of several years to learn these skills. He acknowledges that though working with the digital design software is creative and skilled

work, it is a very different practice because it is not as physical. The commercial workshops that have a CNC have a competitive advantage because it allows more control over the work schedule rather than shipping out parts to be cut, the parts are designed on the computer and cut in-house. Also, workers who do not have the skills to draw in CAD and operate the machine are more easily replaced. In one situation, a manager referred to his crew as being "just assemblers."

3.7   The Autonomy of the Scenic Artist

While CNC is also used for shaping things like Corinthian columns and other scenic properties, eliminating the need for craft workers who are skilled in carving and sculpting, high resolution digital image printing on canvas and vinyl fabric represents another change in work practices for scenic artists. New digital printing technologies allow for images to be enlarged and printed on fabrics creating a cheaper alternative to traditional hand-painted scenic backdrops. Many set designers create their designs with software and draw on digital tablets instead of using hand-painted renderings and models to communicate their ideas to scenic artists. In contemporary theatre production, set designers can realize some of the aims of designers at the turn of the last century to use light and projections as scenographic elements in performances.[64] Digital projections and printed backdrops have not yet displaced the scenic artist altogether, but it is now

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[64]New technologies have changed designers' predilections towards using backdrops as an element of stage designs in the past, especially at the end of the nineteenth century when electric light was used in conjunction with gas light in performance. The introduction of electric light influenced the sensibilities of certain designers who wanted to do away with "static" backdrops because they felt that the new, brighter lighting exposed the artifice of background paintings (Baugh, 2013).

difficult to train young scenic artists because there is less work in this field. The sensibilities of designers who work with computer programs have changed as they develop different skill sets for rendering images. Though it has only been in the last ten years that the quality of digitally printed drops has begun to rival that of traditional hand-painted backdrops, many of the tools and techniques scenic artists use have not changed in the last century. It is work that involves considerable physical discipline and skill. The scenic artist must manipulate large wooden rulers with handles and tape and tie brushes to long sticks to paint on a large scale. The fact that some designers now prefer to render designs digitally changes the work required by scenic artists because they must translate these digital designs into a painted medium. A scenic artist describes working with a designer who uses digital images:

> *We are doing these very loose drops of a digital image that is small and has to be blown up, so it is massive. And so the looseness of the small one is too loose because those things become nothing when you blow them up. So, I ask them, "Can I have something tighter so I know what I am actually looking at instead of blobs?" So I get that and then I have to take that and loosen that back up to what has been given.*
> –Scenic artist.

When I ask what this process is like, it seems that what is preferred is having a good understanding about what the designer would like to see at the outset is preferred.

> *Yes, I don't like it much I have to say. I've spent weeks doing samples because the information just isn't there so I have to do it and see what they think.*
> –Scenic artist.

Many of the scenic artists I interviewed understand their job as organizing and implementing the process rather than making up and interpreting the design. A scenic artist describes the craft as being very different from art:

> *It is not the skill of inventing or having a vision. That's why I think the word "scenic artist" is a little misleading. "Scenic painter" is a little better because we are just copying, we should be just copying.*
>
> –Scenic artist.

The use of digital images in this instance obfuscates the communication between the designer and the scenic artist and creates extra work to bridge this gap in understanding. It also seems to foreshadow the senescence of the craft because designers trained in a different skill set start to appreciate different aesthetics. One employer discusses this difference in perception between those working with digital and paint mediums:

> *Certainly, digital is squeezing the scenic artwork out, but I think that is also brought out by a couple of things: you have younger designers now who don't know how to render, don't know how to paint, don't know how to draw—they do it all on a computer tablet. So, they ask for something to be painted and the painter paints it in a painterly fashion and they look at the computer tablet and they look at the drop and say, "Well, that is not what I drew." So, that generation of designer is generally a lot more comfortable with printed art than someone in their late fifties and sixties who has been designing with a paint brush and pen his whole life. They know what a painterly drop is, they have a certain understanding of colour, of texture, and that's what they want. You can't get the texture in a printed drop the way you can in a painting. But as designers working now are*

more accustomed to the flatness of the printed drops and certainly the producers

and everybody paying for the printed drop will tell you the printed drop is way

cheaper. If the designer wants a printed drop no one is going to fight him on a

monetary level.

–Workshop project manager.

Scenic artists gain artistic autonomy when not enough information is provided in the

image they are given because they must intuit what is not there, but they do not have

creative control. Many workers I interviewed seemed to be comfortable in the role of

being a sort of tool to help the designer realize a creative idea. However, most scenic

artists are accustomed to having a collaborative relationship with designers; this is part of

the work and, over time, when a relationship has been established it can be a very

enjoyable process. This often involves helping the designer to "speak the speak":

They don't know how to speak the speak, but then you have to ask them questions.

"Do you like that it is that blue? Would you like it deeper? Would you like it less

blue?"

I had a designer . . . he couldn't say anything because he didn't know how to

approach it. So, I asked him: "What don't you like? What do you like?" He said:

"Oh, I like this bit here." And then I ask: "What do you like about that?" You

know. You sort of have to help them through it and then they will go, "What do

you think?" And I think well, you know! It doesn't matter what I think.

–Scenic artist.

For the scenic artist, it is the "workmanship of risk" that brings intrinsic values to the

work process because the challenges in the work come from thinking about *how* to do it

and the physical action of painting on a large scale. The freedom to make decisions about process is something that is also constantly a matter of negotiation with the employer. This was an issue for several scenic artists who commented that they had to constantly justify and explain the approach to a manager who wanted the work done as quickly as possible. Their sensibility of the proper way to approach a process is something that has been learned through experience and from other members of their community of practice.[65]

The shared knowledge that there is an agreed upon way to do something is a source of autonomy that must be defended on an almost daily basis in the workshop when justifying to managers the approaches used to complete tasks. This quality of the scenic artist's work has an affinity with Robert Faulkner's observations that for the studio musicians who work on Hollywood film productions, "an important component which shapes their beliefs and behaviour is the pride these performers have in themselves and talents in *general*" (Faulkner 1971, 172).

The scenic artists are similar to the studio musicians that Faulkner interviewed, because "they have a situational view of themselves as freelancers, which sees only the immediate problems generated by their studio calls" (Faulkner 1971, 172). When they take work in a commercial shop, they are quite pragmatic; they are very aware that the work will often require letting go of certain standards and being more innovative in their

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[65] Jean Lave and Étienne Wenger (1991) defined a community of practice as a group who share a craft and/or profession; identity is formed through membership in a group. The person as a participant in a community of practice is not an autonomous individual but a "person-in-the-world" and participation then "dissolves dichotomies between cerebral and embodied activity, between contemplation and involvement, between abstraction and experience" (Lave & Wenger 1991, 52).

approaches to save time in the work process.

3.8   Intensification and Standardization

When asked about changes in time frames and expectations for the completion of
building projects, many of the craft workers felt that they have less time to do the actual
construction work than in the past. There was also a general understanding that now more
time is spent on the technical drawing in the workshop to write software for the CNC,
and this means there is less time for assembly. An owner of one of the workshops
described in an interview how schedules for set construction building projects have been
subject to intensification:

> *The entertainment industry tends to build as tight to schedule as they can. A*
> *Broadway show that is going to open in November, start loading in the theatre in*
> *September won't be awarded until May. Why don't they go look for a shop in*
> *January? I'm not sure. In the early nineties–91-92–we had twenty-seven weeks to*
> *build a show: we worked two Saturdays that were scheduled, we worked nine-*
> *hour days that were scheduled, there was no overtime on that show whatsoever*
> *other than the hours that were built right into the budget. So, the show was built*
> *efficiently: there was time to go back to the producer and ask questions and get*
> *answers, do prototypes, samples and get answers. Now for the same size show we*
> *will often get seven, eight, maybe nine weeks.*
> –Scenic carpenter.

The shorter time frames are difficult for the workshops to control because they bid for
work and parts of building projects will be awarded to other shops if they cannot

complete the work within the time frame they specified in their bid. The workshops must be flexible in a competitive industry:

> *It also becomes self-fulfilling, you build up a certain skill set to deal with a client and that's the kind of work that you are going to get, whether it be for a different client or even a different industry. Had we come on with the digital printing and got a digital printer ten years ago rather than a CNC machine, we would be a print shop rather than a fabrication shop. The economics of running the business means that you've got to make use of the space and tools and the skills that you have.*
>
> –Workshop owner.

This reflection by one workshop owner on the trajectory of his business reveals the interplay between market forces and choices made by the management of the workshop to invest in certain tools. The owner must make use of the tools and equipment they have to compete in an uncertain business. Although his interest and experience are in the production of theatrical scenery, this owner's business takes on corporate display contracts and theme park installation work along with the available theatre production work.

Standardization is becoming more common in the theatre production industry, leading to an increase in the standardization of work processes in the workshops. Along with set industry standards, which can mean adhering to rules and regulations about containers, materials, and tools, workshops must often provide detailed notes on the craft processes employed in the build. A recent contract required the workshop to provide extensive documentation of work processes.

They will hire locally, open the book up and say "do this." This has to be done for

every single thing we build. Even the install of the project, we have to write a

procedure for the install of the project to the detail of take it out of the box, lay

the template on the floor....

–Scenic carpenter.

Another example of this is that certain corporations insist workers abide by the "standards book" of regulations. For one project, a workshop had to provide large samples of painted elements of the build, and these were tested in a special fire-testing facility by a third-party subcontractor hired by the corporation to ensure the set met specific safety criteria. The paint process had to be figured out beforehand, tested, and then applied to the surfaces. The craft workers skills in working with materials are evaluated by the corporation that has hired the workshop. In one case, the welders who worked on a contract had to have a certain certification and had to perform aptitude tests to prove their skills in working with the different types of metal used in the build. The corporation also required that the workshop space be certified to work on the build.

This tightening of control over craft standards is managed by the corporation that hires the shop for the contract, not the unions or craft guilds. Another way that corporations can control work is by dividing projects into piecework. Sometimes, a workshop will be awarded the contract for the whole show, but often other shops in the region and elsewhere will be simultaneously working on other elements of the same build. The increase in standardization, together with the Taylorization of tacit knowledge and skills some large companies are starting to require from their independent contractors, limits the autonomy of the workshops. When the workshops must submit to

the specific standards set by the corporation, the work process becomes more regulated and controlled by the employer.

Work for employees remains precarious and contingent on the ability of the workshops to secure contracts. One workshop has recently started up a subsidiary company in China and is training the craft workers there to try to take advantage of the recent creative industry growth in Shanghai. Chinese cultural policy has an influence on the decision to start a company within its borders, because policy regulations stipulate the workshop cannot work on a large contract for an international corporation without employing local talent. The fact that workshops currently have an alternative workforce to draw from is sometimes difficult for the workers in the Canadian workshops, as one worker explained:

> *Here comes the nightmare for us: we are doing a job for a touring show starting in Australia [that is] touring the world. It was like a really tight timeline and the project manager said, "Can you get the people to paint the drops to finish the work six weeks from now?" And I said, "I don't know," and he says, "If you don't get the people today, we are going to ship the drops to China and they are going to paint them out there."*
>
> –Scenic artist.

3.9   Conclusion

In the past few years, there have been several changes in the organization of work in the workshops and the skill sets required of craft workers. The work on theatre productions in the studied region has been replaced, to some extent, by corporate display

environment projects and contracts to build the scenography elements of theme parks. When theatre workshops are awarded theatrical display contracts from megaconglomerates, there is an increase in regulation and the standards the workshops are required to follow and, in general, there is also an intensification of the work due to tighter time frames set by producers and companies than in the past.

The occupational identities of the craft workers in the commercial workshops reflect the ideals and ethos related to their training in stagecraft practices, as well as the structural conditions of the work in the shop. The social relation of belonging to a community of practice is a mitigating factor that brings intrinsic values and meaning to the work. The labour is still divided by gender, with men working in trades like stage carpentry, technical drawing, and welding, while women work as scenic artists and props builders. Labour is further divided with digital fabrication tools; for example, some workers are now "assemblers," while others have learned to use the digital tools. Finally, labour is divided by contracts between different workshops—the piecework nature of the labour relations with large companies, workshops in the area will work on separate parts of a large build.

As stagecraft practices increasingly include digital media in the design and fabrication process, a gulf in the knowledge between designers and crafts worker appears to be increasing and in the case of the scenic artists, this facilitates the senescence of their craft. The incorporation of digital fabrication in stage carpentry work and the carving of stage props means as certain hand skills are required less often, they are no longer developed. Experiential and practice-based knowledge is mediated by software and machinery in these workshops. It is sometimes argued that digital fabrication might

"empower" the amateur maker or offer utopian potential for a new industrial revolution (Anderson, 2012), but it is also incorporated into production work practices that, up until now, have been left to craft workers to organize. Nevertheless, digital fabrication brings the possibility of a new area of craft innovation and skills development. Digital crafts in theatre production work increasingly intersect with amateur "maker culture." Many props builders are using open-source design programs and physical computing platforms to make mechanisms and fantastic props that could not have been fabricated before the technology became accessible.

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4   Chapter 4: Painting a Backdrop: Scene Painting and Digital Media[66]

Figure 1: *Alcina*. Designer, Gerard Gauci; scenic artists, Richard Mongiat, Elizabeth Bailey, and Leslie Furness.

The images of the process of painting scenic backdrops were taken by scenic artists Richard Mongiat and Anna Treusch and are included here with their permission. All of the scenic backdrops in the following photographs were designed by Gerard Gauci for

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[66] A version of this chapter has been published:

Hambleton, Jennifer. 2017. "Painting a Backdrop: Scene Painting and Digital Media." *The Journal of Modern Craft*. 10 (3):pages NA.

Opera Atelier. Opera Atelier is a Canadian baroque opera company based in Toronto, Ontario and founded in 1985. The collaboration between some of the scenic artists pictured and the designer is longstanding and captures a more traditional process of collaboration.

Those who are most affected by this are those who have done it. Those who have never done it will never miss it. They won't know, and this applies to a great many things, drawing being one of them. When people live their experience through a screen, it translates.

–Scenic artist.

This chapter provides a more comprehensive account of the occupational identity of the scenic artist and details of scenic art practice briefly sketched in the previous chapter in relation to the concept of craft autonomy. The craft of scenic art is an analogue practice of copying. Copying is a type of craft practice that has been denigrated since the machines were invented that could reproduce drawings and writing. However, the scenic artists I have worked with and interviewed for this study take pride in mastering the difficult physical and interpretive skills required to do this work. Along with the required manual and embodied skill, this work demands a particular way of seeing, including a trained perception based in linear perspective and Euclidean, geometric understandings of space.

4.1   Introduction: "Unruly Moments"

New tools often have disruptive effects when incorporated in craft practices. In his study of film and television "production culture" in Hollywood, John Caldwell (2008) provides several examples of how technicians in film and television industries have responded to technological change. He describes these cases as "unruly moments," precipitated by the incorporation of new technologies in work practices: "[n]ew tools emerge at unruly moments involving the realignment of worker relationships and

entitlements" (Caldwell 2008, 192). Caldwell observes that, "new production tools generate considerable artistic debate within worker communities, in this way the arrival of new tools can be viewed as collective conceptual and aesthetic deliberations and not just corporate business activities" (Caldwell 2008, 192-194). In this chapter, I discuss an unruly moment described by the scenic artists I observed. It reveals how this craft has been traditionally supplemental to the scenic designer's artistic vision, and how this hierarchy has served to maintain the craft practices dependent on it.

It appears that changing skill sets of designers inadvertently undermines the traditional authority of the designer based in "artistic authority, the specific form of power wielded by cultural workers which flows from recognition of their capacities as various forms of artist" (Ryan 1992, 129). This authority is linked to management control of commercial cultural products: "this is a central axis of management–worker relation in creation operating alongside and articulated to the organization's bureaucratic power structures" (Ryan 1992, 129). The work of the scenic artist becomes, in a certain sense, more invisible—the problems to be solved are not easily controlled or even recognized by management as the craft process becomes less rote and more complex.

During the last few decades. the production work of theatre and live performance has become more industrialized (Burston 2009; Hesmondhalgh 2013). While scenic art remains an important element of scenography, scenic backdrops and designs are often replaced with digital media. This change in practice represents a deskilling; John Roberts describes this as "the expressive unity of the hand and eye is *overridden* by the conditions of social and technical reproducibility" (Roberts 2007, 3). We might then ask, to what

extent does a *reskilling* occur, as artistic labour becomes reinstated within particular production contexts?

4.2   Contemporary Scenography

What has been called "the scenographic turn" refers to a "shift taking place in the performing arts, brought about by the migration from mechanical to digital technologies and the import of software into scenography" (O'Dwyer 2015, 48). A plethora of digital technologies offer scenic designers compelling alternatives to hand-painted backdrops. Set designers are increasingly integrating animated digital projections and other web-based interactive tools. Digital prints on fabric, and digitally facilitated image enlargement on to vinyl, now offer a cheaper alternative to traditional techniques. A hand-painted backdrop is expensive to make, requires skilled scenic artists to paint it, and cannot be produced as quickly as a printed backdrop. In addition, the quality of digitally printed drops now rivals that of hand-painted ones. Until about ten years ago, the digitally printed image was "pixelated"–made up of small squares of individual colours when enlarged and printed–but now the detail and accuracy of the printed backdrop has greater fidelity to the designer's rendering.

The use of digital fabrication tools in commercial scenery workshops has affected the work patterns of the scenic artist. Tools that shape material and are digitally controlled via software, such as CNC (computer numerical controlled) milling machines, are now used to cut out scenic properties: fences, columns and other props that were previously carved with hand tools. However, using digital tools for these tasks is determined on a project-to-project basis; such factors as the need for repetition (as is the

case if a project will be replicated and used in other productions, for example) determine the approach taken. Often, it makes more sense for props to be carved on a one-off basis, rather than to program a digital tool. Scale is still a problem, as well: for some larger set elements, digital fabrication and printing is still not feasible.

Today, digital set models are now often 3D-printed. As one designer comments, "The drawing… is the maquette… is the finished product." This statement reflects what might be achieved, however, rather than the current situation. While scenic carving and sculpting is not done by hand to the same extent if digitally drawn models are used, elements of the sets still have to be covered with scrim and painted, and scenic artists are still needed to paint props and hard scenery elements. However, the use of digitally controlled shaping tools has contributed to a deskilling of labour. With the influx of digital technologies in set design, it has become difficult to reproduce the knowledge required to make a scenic backdrop and train young scenic painters. In an effort to develop scenic artists, one workshop in the region has introduced a co-op placement program in partnership with the technician's union.

4.3   Division of Labour

In order to grasp the significance of changing scenic practices, it is necessary to have some understanding of the collaborative social relations between scenic artists and designer as historically constituted in the Western theatrical tradition. In communities of practice, "understanding the technology of practice is more than learning to use tools; it is a way to connect with the history of the practice" (Lave and Wenger 1991, 101). The use of renderings and models of the set design has long-established the role of the set

designer as the "author"—the creative worker responsible for the conception of the scenography. The scenic artist was considered the copyist, who mechanically executed the design. Despite changing skill sets, this understanding of the collaboration between scenic artist and designer still holds in the more industrialized context of manufacturing sets in scenery workshops.

Figure 4.2: *Lucio Silla*. Designer, Gerard Gauci; scenic artists, Richard Mongiat. Not shown in this image: Anna Treusch, Grace Eakins, Mark Reid, and Elizabeth Bailey.

Figure 4.3: *Lucio Silla*. Designer, Gerard Gauci; scenic artists, Anna Treusch, Grace Eakins. Not shown in this image: Richard Mongiat, Mark Reid, and Elizabeth Bailey.

Figure 4.4: *Médée*. Designer Gerard Gauci and scenic artist Richard Mongiat in conversation.

The use of a model by the designer to communicate visual concepts to the painters

became standard practice in Western scenography at the end of the eighteenth century.

The painter Philip de Loutherbourg, in his scenic design work for the Drury Lane theatre

in London (1772-1780), is credited with having an important influence on practices in the

trade (Baugh 2013, 11). Christopher Baugh suggests that de Loutherbourg's work was

important "not only in initiating a new scenic style, but also a period of seismic transition

in the functioning of the theatre" (Baugh 2013, 11-12). In the following passage, de

Loutherbourg outlines his aims—a paradigm that became entrenched in scenography

practices until the beginning of modernism:

> I must invent scenery which will have the effect of creating a new sensation upon
> the public. To this end, I must change the manner of lighting the stage so as to
> serve the effects of the painting. I must also change the method of pulling off
> simultaneously an entire scene-and generally, alter such machinery as might be
> necessary to the aspiration of my talents. Furthermore, I must make a small model
> of the settings and everything that is needed, to scale, painted and detailed so as to
> put the working painters and machinists on the right track by being able to
> faithfully copy my models (quoted in Baugh 2013, 14).

The "new sensation" to which de Loutherbourg refers is material realism, a

conception of the scene painting as a kind of window on the world, which combines with

mechanisms and machines to create an immersive simulacrum for audiences. de

Loutherbourg believed in the importance of the set designer's "aesthetic control" over the

theatre production (ibid) and that the scenic artist's role was to follow the set designer's

designs to the letter, using the model as reference.

The values and attitudes developed and practiced by de Loutherbourg and his

contemporaries still occupy a significant place within much of contemporary

scenography theory and practice.[67] The scenic artist working today understands their

work as copying, an analogue practice. As one scenic designer stated, "You could

literally take the rendering and just make it bigger. It is just the same thing, so we really

are almost like [a] human Xerox machine." However, despite this self-identification as a

kind of living tool, this craft—that might appear at first glance to be mechanical,

---

[67] Though modernist designers were interested in exploring different conceptions of space, it was
not until the late twentieth century that some of these ideas could be effectively incorporated in
theatre scenography through the use of digital media. In the nineteenth century and until the late
twentieth century, however, experiments with theatrical space were achieved with manual labour,
for example by stagehands hauling on ropes and pulleys (see Baugh 2013).

mundane and by rote—requires a high level of manual and interpretive skill to undertake.

In the workshops, structural components and scenic elements are fabricated and built by carpenters and welders. The space is constantly reorganized; a large area must be cleared to lay out the scenic backdrop in a workspace that is filled with dust and constant movement and activity. Homasote panels made of crushed paper, laid down by the carpenters, serve as temporary flooring for the backdrop. On top of this flooring, a large canvas (25' by 60' in the case I observed) is stretched and primed by the scenic artists. To work on the backdrop, the scenic artists take off their steel-toed boots and treads on the surface of the drop in their socks or bare feet. To square the backdrop, three metal retractable tape measures are arranged to create a right-angle triangle in one corner of the floor. Two scenic artists, each holding one end of a string dusted with blue chalk powder, square up the expanse of canvas by snapping the lines in a grid. The designer's drawing is then scaled up; distances are measured, proportions are mapped, and over the course of the day, the drawing takes shape.

Figure 4.5: *Lucio Silla*. Designer Gerard Gauci and scenic artist Richard Mongiat. Using a drawing as a reference to sketch the drawing on the backdrop.

4.4   Collaboration

The craft of the scenic artists is based on a visual understanding of space, and the job requires a high level of proficiency with the medium of paint and an elastic ability to copy the style of the designer. For example, linear perspective is often employed to create an illusion of space framed by the proscenium arch. The model, rendering or drawing the designer creates is an artifact used to communicate the

designer's visualization [68] of the text of the play or performance (Figure 4.2). In *Everyday Arias*, an ethnography of the Welsh National Opera Company, Paul Atkinson (2006) describes the important function of the set design as a material signifier for the conceptual apparatus of the production. Production teams themselves do not have to subscribe to elaborate semiotic frameworks, even if those are intrinsic to the set; in this sense, set design translates between abstract ideas and practical work (Atkinson 2006, 48).

However, the scenic artist could hardly work without a conceptual framework. The collaboration between designer and maker is influenced by experience, training, individual skill sets and preferences for certain ways of working. Some designers know exactly what they want, and expect the scenic artist to be exact in interpreting their design—others give scenic artists quite a lot of leeway. Particular scenic artists also have their own proclivities in this relation:

> *There was always a struggle within scenic artists too, because some scenic*
>
> *artists were of the mind that, "If it is on the page it is on the stage." They used*
>
> *to say that. "You give me what you want, I'll do it." Other scenic artists would*
>
> *feel no, no; it is my job to interpret the designer's wishes and that comes down*
>
> *to a personality, I think. So, certain scenic artists will come with the attitude*

---

[68] The meaning of the term "visualization" has changed over time and "is a modern convention, only appearing in 1883 to depict the formation of mental images of things 'not actually present in sight.' Throughout the next few decades the meaning of the term expanded to encompass any 'action or processes of making visible.' Visualization slowly mutated from the description of human psychological processes to the larger terrain of rendering practices by machines, scientific instrumentation, and numeric measures. Most important, visualization came to define bringing that which is not already present into sight. Visualizations according to current definitions, make new relationships appear and produce new objects and spaces for action and speculation" (Halpern 2015, 21).

[that] the designer should give [the scenic artist] what [the designer] wants. Other people want to be involved in the process more and that is a personality thing.

–Scenic artist.

Figure 4.6: *Lucio Silla*. Designer Gerard Gauci and scenic artist Richard Mongiat. Here Richard is scaling up a drawing using a grid.

Most scenic artists do expect to have a dialogue with a designer. This is part of the work and especially once a relationship has been established, it can be a very enjoyable process. This often involves helping the designer to "speak the speak," that is, articulate what works about the scenic painting. Over time, designers and scenic painters develop relationships, and designers will request collaboration with certain scenic painters that they perceive as understanding what they want to achieve. This can also create a certain sense of security for the scenic artist because they know what will please the designer:

> *It is different if I know the designer like [name of designer withheld]. He gives me beautiful renderings and I know what he wants... he wants them not quite as loose as what he does, but the general feel is what he wants and the colours are right. And [another designer] will give you exactly what he wants.*
>
> –scenic artist

Collaboration is quite context-dependent. The designer's absence from the work in progress can be problematic for the scenic artist because the collaboration with the designer is an important part of the process for the scenic artist.

As a scenic artist explains, the pace is often faster in the workshops and the designer is often removed from the process;

> *You don't have time to interpret all the time and a lot of the time you may not even see the designer. He may live somewhere else and he may not even come. The designer can now send their designs easily all over the world and you will never see the designer.*

And you are looking at stuff on a screen and you are interpreting and you are

hoping for the best. You are hoping that when they do see it they do not scream

bloody murder.

–Scenic artist.

4.5   Drawing and Painting with Software

In theatre production, it is becoming a common practice for set designers to use

digital tablets instead of hand-painted renderings and models. Many still conceive their

designs with physical tools and materials, but there is a transition happening in the

scenery workshops. Many scenic painters feel that designers who prefer digital tools do

not appreciate the art of scenic painting, because they lack an understanding of the paint

medium. Though many designers continue with analogue methods, the use of digital

images to communicate scenic designs has interesting implications for the collaboration

between the scenic artist and designer.

> *As things started to change, it was really frustrating because painting is a*
>
> *subjective thing and it is coming from the mind of the designer, who knows the*
>
> *play, who is trying to appease the director. The actors are now trying to crawl*
>
> *into their brain because they don't have the language to explain what it is they*
>
> *want. It is really hard because you are there to help them but are not there to*
>
> *make it up, and that is where sometimes it can be problematic.*
>
> –Scenic artist.

The lack of experience with the material, the medium of paint, also changes the

way designers can think about using its affordances in their designs. In Erin O'Conner's

ethnographic account of learning the skill of glassblowing, she describes how as a novice, her imagination was limited by her lack of knowledge about the material. When she brings in a sketch of a wine glass she wants to make, the instructor, though he is proficient in the art, cannot interpret it:

> Though I knew that the openings in the piece could be formed from a bubble, which is always on center, I had not brought this knowledge to bear on the sketch, placing the pen well off-center. I sketched without thinking of the techniques I had learned in my fledgling four months of glassblowing… I had not thought to translate the form into glass terms. When asked to "envision" an object, I lacked the ability to "see," to "envision" with the glass, an act necessarily rooted in the corporeal memory of the interaction with the material in practice itself (O'Conner 2007, 59).

O'Conner reflects on her lack of hands-on experience with the glass. As novices train their bodies to respond to the material of the glass, they are also gradually able to "see": to visualize its potentialities and properties.

Scenic artists working with a digital image are in the position of the instructor in O'Conner's narrative. They cannot easily copy the drawing because it was made with different medium. They have trouble interpreting a rendering that is not made with an understanding of the tactile and textural qualities of paint. The digital image is flat and does not reveal how the layers work together. Moreover, a scenic designer who does not paint and draw may not have developed the imaginative ability to envision the effects of many layers of glazes and hand techniques. This leaves the scenic artists with the more conceptual task of materializing the design from the digital image. One scenic artist interviewed relishes this situation because it allows him to be creative: "I have been doing it for so long now I feel very comfortable, because when somebody gives me that (a computer drawing) I automatically go–in my head of course–I'm doing what I want."

The design does not function as communicative artifact. Instead the painters must intuit, make up, guess, and have more dialogue with the designer. This was resented by several scenic artists interviewed; it alters the amount of control the scenic designer has over how the process unfolds, and often the scenic artist must provide endless samples for the designer in a context where there is little time allotted for this work. The designer can then pick and choose from the scenic artists interpretations instead of the scenic artist following the drawing as a guide.

Figure 4.7: *Lucio Silla*. Designer Gerard Gauci's colour charts for reference.

4.6   Colour

An understanding of colour—how to interpret, mix, and apply it using flat scenic paints—is an important aspect of this work. Individual perceptions of colour are informed by the medium used to create and manipulate it. The scenic artists mix colour for different processes, getting the texture right for different elements of the backdrop. A colour is matched properly when you can drop a spoonful in another batch of the same and it seems to disappear. At one of the workshops I observed, there is a ritual of painting the floor of the paint area each time a big project is completed. The addition of another layer of paint is a way of cleaning the floor, to control the dust. In preparation for this task, "the fiver," the large pail of leftover paint slops, is stirred. Today the paint in the fiver is a green-grey colour, but with some effort some dark blue pigment that had settled on the bottom starts to rise to the surface. After a good sweep, this mixture is poured on the floor, and a roller with a long extension is used to roll the paint around starting at the back of the room and working out towards the door closest to the rest of the shop. While moving back and forth with the rollers the scenic artists talk about colour:

> *I keep telling these people [the set designers], it happens all the time. They are like, you know, "I'll send you a picture of a colour I like," and by the time I get and mix it, it is going to look totally different… like 90%.*
>
> So, somebody is giving you the information digitally and you have to match it and people who don't work with paint think that it is the same?
>
> *It is full of light behind it, isn't it? (laughs) We are not making a computer drawing, we are making a painting. But then on the other hand, some people see colour very differently.*

True.

Tom sees colour differently than I do. I know he does.

How?

His colour is more grey than mine. It seems that way. I don't know to describe it. But like I said, the computer drawing is full of light behind it. And you have taken it from where you have taken it, put it on a camera, put it on your device, sent it through some electronic thing, and now it ends up on my device. So it has gone through four or five things already.

But does it really change?

Yeah it does. Come on man, I can have two computers side by side and they look different. I will look at two Rosco reds (the brand of a professional scenic paint) *and they are totally different.*

This conversation, though only half-serious, exposes the mechanism of collaboration and how it can function. Orit Halpern asks: "in that no computer actually sees the way a human being does, one needs to ask what it is that is being invoked with the language of vision?" (2015, 21). Halpern argues that vision "operates as a holding term for multiple functions: as a physical sense, a set of practices and discourses, and a metaphor that translates between different mediums and different communication systems" (ibid). The scenic artist understands something that is often disregarded: if computers see colour differently, so too do people.

4.7   Medium

Lev Manovich, in his influential book, *Software Takes Command*, defines a physical or "traditional" medium as "a specific kind of artistic technique or means of

expression as determined by the materials used or the creative methods involved" (2013, 206). For Manovich a key difference between using software to create media and traditional physical media is that in a program:

> [M]any materials are mapped into a single data structure. Thus, the move from physical media to software apps involves a redistribution of the roles previously played by the physical tools and materials. When I use a watercolor brush and a rough-textured paper, the resulting brushstrokes are equally the result of the brush, the liquid, and the paper. But when I use a "water-color" brush in Photoshop, or apply a "watercolor" filter to an already existing image, the result is determined solely by an algorithm that modifies the colors of the pixels in a particular manner. The pixels are only memory locations, which hold the color values—they do not have any properties of their own, unlike physical materials (2013, 207).

Another important distinction between software and traditional drawing tools is that "we do not have one-to-one mapping between physical materials and data structures. In the simplest possible terms, the algorithms set into motion by the software command becomes the medium (2013, 207). According to Manovich, there are significant differences between digital media and the physical media that are not readily apparent:

> A naive answer is that computers simulate the actual media objects themselves. For example, a digital photograph simulates an analog photograph printed on paper; a digital illustration simulates an illustration drawn on paper; and digital video simulates analog video recorded on videotape. But that is not how things actually work (2013, 199).

Manovich points out that "to simulate a medium in software means to simulate its tools and interfaces," rather than its "material" (2013, 200). Manovich is interested in trying to simplify and categorize the operations of software applications to formulate a theory about "how software applications participate in shaping our worlds and our imaginations (what people imagine they can do with software)" (2013, 125). His analysis of

Photoshop, a program often used by set designers, helps us to understand why the digital image often does not provide enough information for the scenic artist.

Software techniques often simulate physical tools and require manual control: "the user has to micro-manage the tool…directing it step-by-step to produce the desired effect" (Manovich 2013, 128). In Photoshop, the process resembles working with traditional media at times: the user moves the mouse, which controls the brush that softens the edge of a form. But, in addition to simulation of tradition media, Photoshop also has commands to automate a series of processes. So instead of just controlling a tool, drawing with a pen, the user is setting an algorithm in motion. By commanding this action by the algorithm, also called a "generative" or "procedural" technique—the user specifies the parameters. The different ways the tools function, some simulating the act of drawing, are now part of user experience: "although users may not care that one software tool does something that was not possible before digital computers while another tool simulates previous physical or electronic media, the distinction itself between two types is something users experience in practice" (Manovich 2013, 129).

Designers often use this function of the program to replicate such tasks as filling in a wall with bricks. Instead of rendering each one individually, they use an automatic fill feature, or cut and paste the same motif multiple times. In Photoshop, filters are named after physical techniques of image manipulation and creation. The options that each filter allows are manipulated by the user, who controls the values by moving sliders or selecting a numerical value giving it new properties (Manovich 2013, 130). Manovich uses the Wind filter as an example:

> We are all familiar with the visual effects of a strong wind on a physical
> environment (for instance blowing through a tree or a field of grass)–but before

you encountered this filter, you probably never imagined that you can "wind" an image. Shall we understand the name of this filter as a metaphor? Or perhaps, we can think of it as an example of a conceptual "blend"… "wind" plus "image" results in a new concept actualized in the operations of the Wind filter (2013, 131).

Digital images "now share a relationship with all other information types, be they financial data, patient records, results of scientific experiments" (Manovich 2013, 133). Manovich suggests that this capacity of digital images is important to consider in the broader context of the shift from analogue to digital media.

The copying of digital images requires that the digital must conform to analogue terms of representation, and it is not adequate to the task without the conversations that happen with collaboration. The digital image is thin, and lacks the information that the analogue image provides. If digital images increasingly stand in for hand-painted models as a means of communicating ideas to the scenic artists, a broader understanding (and conversation) of how aesthetics can be mediated by technology ensues.

4.7   Conclusion

Artificial intelligence is now being integrated in the collaborative work of theatre production. *Beyond the Fence*, which premiered in London in 2015, was the first musical designed through a collaboration between humans and computers. This suggests possible future developments in the field, but digital tools are already increasingly embedded in stagecraft practices today, and these tools are altering the materiality of the labour process in complex ways. This examination of how digital images are used to convey visual concepts in scenic art has shown that quite often, more collaboration is required as a result, in order to bridge a gulf of knowledge. While it may appear the work is

deskilled, this is not always the case. In fact, even as the work of the scenic artist in more industrialized contexts becomes more invisible, the problems that must be solved through the craft process are becoming less rote and more complex.

Similarly, at this "unruly moment" in scenic design and practice, one might expect that specialized skills are not as necessary. But in fact, new technologies are changing the work in ways that are not always apparent—particularly to those who do not do the work, and have not had the opportunity to develop certain ways of seeing and doing. As one scenic artist suggests, "those who have never done it will never miss it. They won't know."

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5 Chapter 5: From Seniority-Based to Skill-Based Hiring Practices: A Case of Collective Organizing in the IATSE[69]

5.1 Introduction

Workers in North America have long participated in collective action to offset the inequality inherent in employer and employee relations. Unions have adjusted in tandem with industry: "the forms of these unions changed as the shape of industry and the economy changed, but the impulse toward collective activity, mutual aid, and solidarity has been as much a part of the American labor landscape as the possessive individualism of the employers they confronted" (Moody 1988, xiv). Yet Kim Moody (1988) argues that the opposition between individualism and solidarity is not cut-and-dried, and that individualism has permeated worker consciousness and collective action in America: "in the late 19th century the AFL (American Federation of Labor) was founded in 1886 largely with the view that the sole purpose of collective bargaining was the advancement of the individual worker" (xiv). This contradiction, that collective action is engaged for the purpose of benefiting the individual has meant that "[b]eyond the advancement of the individual members that composed the union, labor in this view, had no broader responsibilities to the working class as a whole" (Moody, xiv). It compromised anticapitalist principles that had guided earlier collective actions; "[u]nlike its

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[69] A version of this chapter has been submitted for publication and is presently under review in *Work Organisation, Labour and Globalisation*.

predecessors the AFL embraced the basic premises of capitalism; it's goal was to help skilled workers secure larger shares of the material rewards of capitalism than they had secured in the past" (Kraft 1996, 21) and to this end, the AFL "focused its attention on the issues of wages, hours and working conditions rather than on larger matters of social reform" (ibid, 22). This concern with protecting and serving the interests of union members has at times resulted in the exclusion of non-members to preserve work for the rank and file.

The IATSE, The International Alliance of Theatrical Stage Employees and Allied Crafts, in keeping with the belief that collective action should serve the needs of individuals. has consistently relied on strategies of exclusion—limiting access to employment for non-members—to better working conditions and collective bargaining power for its members. Early versions of IA constitutions until the 1920s explicitly stated: "no Negros. This organization is for white males only" (Perkins 1982, 160). In New York in the 1920s, "scenery built by others would be ferreted out by IATSE stagehands once it arrived at a Broadway house. Anything confirmed to be non-union would be promptly torn up and thrown onto the street as garbage" (White 2016, 48).[70] The response of the IATSE to economic changes in the 1950s and the shift to more project-based flexible working conditions was to regulate hiring practices by establishing a roster system to maintain seniority lines and to certify skill and experience in the film industry in Hollywood (Christopherson, 1996). However, in the mid-1990s, IATSE International's official policy shifted ideological gears, faced with a sharp decline in

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[70] After the implementation of the Paramount Act in 1948, legislation meant to curb the major studio's violation of the Sherman Anti-Trust Act, the studios lost the right to own theatres, which affected their control over film distribution (for overview see Christopherson 1996).

membership, the Alliance altered its structure in response to new technologies and economic re-structuring in media and entertainment industries in Canada and the United States. In the IATSE, a new focus on organizing after 1995 has meant that in many locals' hiring practices that were seniority-based now follow a skill-based model.

This change in approach to hiring workers for jobs, which ostensibly means that a worker is hired for a project based on perceived skill rather than the amount of time a worker has been a member of a local, appears to pit worker experience acquired through many years of practice against worker skill. In this paradigm, it seems that experience is valued less within a "culture of enterprise" in which individual subjects must develop and train themselves to become "entrepreneurs of the self." These terms refer to power relations that put the onus on individuals:

> Once a human life is conceived of primarily in entrepreneurial terms, the owner of that life becomes individually responsible for his/her own self advancement and care; within the ideals of enterprise, individuals are charged with managing the conduct of the business of their own lives" (Du Gay and Open University 1997, 302).

As Mark Banks has commented (following the work of Nickolas Rose and Paul du Gay), a "discourse of enterprise" that allows for "strong incitements to become more self-directed, self-resourcing and entrepreneurial may enhance possibilities for worker *self-exploitation* and relatedly *self blaming,"* as individuals are disconnected from "collectivized environments and structures of support" (Banks 2007, 43). However, it is not possible to understand occupational cultures represented by IATSE locals solely in these entrepreneurial terms. Within the IATSE, collective goals remain important to members. In skill-based locals, new members can be inducted if they accumulate enough hours to be considered (though they must be nominated by at least two members and their

membership is decided by vote). Members of IATSE locals volunteer their time to better their working conditions, work together to negotiate collective agreements with employers, and maintain a sense of community within the cultural institution of the IATSE.

This article examines a case of collective organizing in which a group of scenic artists in southern Ontario formed a skill-based IATSE local in 1998. There are several key factors integral to this story, namely the convergence and integration of media entertainment industries and the emergence of a new genre of musical theatre. However, the focus here is placed on the stance taken by the IATSE International regarding the economic restructuring of the industry that contributed to this group of workers forming a skill-based local. This collective action was directly related to the IATSE International's strategy to organize as many workers as possible in the live performance, film and television sectors of the entertainment industries to gain some control over bargaining within a more flexible, project-based work organization. The research methods used for this case study are participant observation at three workshops that have contracts with IATSE, an IATSE Canadian district convention, and twenty-four semistructured interviews with IATSE members. The article explores the complexity of the concept of skills-based labour and how a study of practices reveals it is fundamentally inseparable from seniority-based labour. For in this case, hiring practices based on the skills model allow experienced charter members to maintain their positions as gatekeepers with the power to decide which new members can be brought along and trained, protecting an "exclusionary network" (Christopherson 2008; 2009). For Ulrick Beck and Elizabeth Beck-Gernsheim, understanding individualization as creating an "autarkic human self,"

isolated and alone contradicts "everyday experience (and sociological studies of) the worlds of work, family and community, which show that the individual is not a monad, but is self-*in*sufficient and increasingly tied to others" (2002, xxi). The change and continuity in IATSE practices bears some relation to what Beck and Beck-Gernshiem would term "institutionalized individualism." In an individualized "risk society" where individuals experience a "dis-embedding without re-embedding" as institutional structures change (Beck and Beck-Gersheim, 2002), there is continuity as informal kinds of supports or networks develop just as they did in the past.

Richard Biernacki's (1996) historical study of British and German textile industries in the nineteenth century interrogates how different conceptions of labour manifest through material practices. Biernacki builds on Marx's conceptual approach "that concepts of labor, like the other categories of political economy, are more than tools of analysis. They are also forms of social consciousness." This leads him to form the hypothesis that the "everyday practices by which labor was conveyed as a commodity and consumed in capitalist manufacture must have had correspondingly different structures in Germany and Britain" (Biernacki 2002, 179). For Biernacki, it is how labour is imagined as a thing: "the strangely objectified form that labor assumes to mediate producer's relations to each other" that is particular to capitalist relations and can be discovered through a careful study of material practices. Accordingly, it is possible to argue that the ideological underpinnings of the terms "skill-based" and "seniority-based," currently used to refer to hiring practices in IATSE locals, are representative of diverging concepts of labour.

5.2 The IATSE

The IATSE began as a collective of seventeen stagehands who worked in New York theatres in 1886. In 2017, it is one of the largest entertainment industry unions in the United States and Canada. In 2015, the IATSE represented 122,000 members and by 2016, that number grew to 130,000 in North America. There are 40 IATSE locals and over 20,000 members in Canada.[71] The Alliance represents craft workers in skilled trades as well as other workers in media entertainment industries and could be said to be a hybrid between a craft union and an industrial union, because it represents workers of various types (child guardians who work in the film and television industry are a group of workers that have recently joined the IATSE). The membership of the IATSE that are part of locals that represent craft trades includes occupations such as carving, plastering, painting designing, animation and sign painting. As well, the IATSE represents camera technicians, costume designers, stagehands, fly-men, carpenters, electricians, and welders. IATSE members work in several sectors in media and entertainment industries, including live theatre, film and television production, trade shows, television broadcasting, concert venues and set-construction workshops.

Soon after the signing of its first charter in the late 19th century, the IATSE became an "international" alliance in 1893 that included Canadian locals. However, the majority of IATSE locals are American, the international office is based in New York, and patterns of bargaining in American locals influence practices in Canadian IATSE locals. There are thirteen geographical districts in the US and Canada and locals in the

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[71] IATSE Changing Workplace review pdf file 2016. This file was distributed at a IATSE District 11 and 12 convention I attended in September 2016.

IATSE are organized by geographic location and craft jurisdiction. Canada is divided into two jurisdictions, 11 and 12, covering the terrain of eastern and western Canada, respectively. Following the lead of American IATSE locals, many Canadian locals now use skill-based hiring practices. In 2017, a third of Canadian locals now recruit and hire members on the basis of skill. The issue of whether to remain seniority-based or skill-based is contested in many locals that remain seniority-based.

The autonomous and collective actions of individual locals are the building blocks comprising the larger structure of the IASTE. The role of the IATSE International executive office is to support the individual locals and members in three main ways: the negotiation of national agreements with governments in the US and Canada, policy reforms, and supporting the individual locals in contract negotiations with employers. Each local of the IATSE is unique; the contracts with employers are mainly achieved by the efforts of members voted into executive positions,[72] and in the live performance industry, are specific to each IATSE-contracted workshop or theatre. When the contracts are negotiated, they are voted on by members who have worked for a minimum number of hours for the employer. The locals are independent in that they maintain their own constitution, bylaws, elections and grievance procedures. Members can access services such as health benefits and retirement funds and since the Education and Training Trust was established in 2012 by the International, there are opportunities for members to

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[72] The executive board of the locals is made up of members approved by the membership through a nomination and voting process. In the smaller locals with less than 100 members, these individuals receive a small amount of money (about $3500 or less, depending on what executive position they fill) each year to do the work. In larger locals, there are paid positions for executive members.

access training and education. IATSE represents below-the-line workers[73] who are paid

an hourly wage for the time they work on a project. Their status as employee means that

along with other workers who work in standard employment relationships, they are

eligible for employment benefits when they are unable to find work. However, their work

relations cannot be confused with those of standard employees because their work is

project-based.

5.3   Occupational Cultures

The particular cultures within entertainment industry unions and guilds and in

turn within individual locals are influential in policy formation: "unions are also cultural

institutions and the distinctive cultures associated with a self-consciously guild-oriented

group of film workers (SAG) and a union-oriented organization who come out of a

broadcasting tradition (AFTRA) also matter" (Mosco and McKercher 2006, 131). The

diversity of occupations represented by the IATSE is considered a strength (Gray 2001).

Variations in occupational identity can be divisive, however. In a case study that

examines a decision on the part of two unions in Hollywood not to merge for the purpose

of consolidating bargaining power, the authors argue that: "[t]he particular characteristics

of the unions, including their history, culture, sense of craft identity and the lived

experience of members, derailed the unity effort" (Mosco and McKercher 2006, 133).

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[73] Residuals, sometimes referred to as "re-use fees" or "supplemental contributions," were first implemented to pay individuals for their performances in 1941 by the American Federation of Radio Artists (Paul and Kleingartner, 669). The terms above- and below-the-line were originally used to refer to how workers were paid in the film industry in Hollywood in the 1940s (Randle and Aitkenson 2014). Depending on the kind of contract they have with the employer, workers are often able to receive residuals as payment as well as the fee or wage negotiated, but residuals are only paid to occupations considered above-the-line.

The occupational cultures of various groups of workers in cultural production are often at cross-purposes (Caldwell 2010), though there are also instances of successful partnerships between unions (Ross, 2009, 21). Workers of one profession or trade might expect very different working conditions and relations with employers in comparison to another. For example, the perception that a group of freelance writers are exploited because they must work in teams and they do not receive royalties or recognition for their creative contributions (Cohen 2012) stems from ideas of what it means to be a writer and how a writer is remunerated for their work. In contrast, scenic artists who work collaboratively in teams do not consider themselves exploited for not receiving royalties every time a live show is performed. These are "cultures that are known of in advance of entering the terrain, and that also give rise to distinctive pathways in the longer term within each sector" (McRobbie 2016, 78). In the past, the "least individualistic arrangements" were thought to be "those of the IATSE which specify that producer's payments go into the Motion Picture Industry Pension Plan and the Motion Picture Health and Welfare Fund, both of which benefit the union's membership as a whole" (Paul and Kleingartner 1992, 671). On the other side of the spectrum, "the most individualistic entitlements are found in the DGA[74] and the WGA[75] basic agreement, which specify that residuals be paid directly to the individuals who contributed to the final product" (ibid). Though members of the IATSE are considered less individualistic than some worker organizations in the entertainment industry, some members or certain occupations within the union can still be described as "self-employed employees" or

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[74] DGA is the acronym for the Director's Guild of America.

[75] WGA is the acronym of the Writer's Guild of America.

"*Arbeitskraftunternehmer*," a concept developed "to illustrate a highly market-oriented and individualised form of labour supply" (Haunschild and Eikhof 2009, 156). Cultural workers who are members of the IATSE must often act like independent contractors because of the project-based nature of the work in media and entertainment industries even though the hours, location and other aspects of work are more controlled by employers: "[t]he extent to which workers have to exhibit self-management and self-marketing skills to succeed depend not on their legal employment status, but rather on the actual enactment of their employment relationships" (Haunschild and Eikhof 2009, 160). So, while they may be employees, the way these members attain work takes the form of independent contract work; work is precarious, workers have the freedom to refuse work and getting calls relies on informal networks. Moreover, the distinction between employee and independent contractor has caused some confusion; it is a common practice for employers in media industry production to try and take advantage of employee's ignorance of their rights by pressuring them to sign forms granting the employer's permission to treat them as independent contractors.

5.4   The Collective Individualism of the Scenic Artist

The craft of scenic art necessitates the possession of individual talent that must be directed toward collective work with others. Scenic art is not considered to be an art by those who make a living as scenic artists, though the job requires a high level of technical skill and the ability to interpret renderings—skills that are often considered to be artistic. As one scenic artist comments, "It is not the skill of inventing or having a vision. That's why I think the word scenic artist is a little misleading. Scenic painter is a little better

because we are just copying; we should be just copying." This statement reflects an understanding of the work that is characteristic of craft labour: "labour in service of the artist, one who supports the 'talent' while operating under the scrutiny of managers" (Banks 2010, 312). In theatre production work, scenic artists (or "scenics") are paid an hourly rate, and generally will not receive any recognition or prestige for the work. The scenic artist's labour being craft labour is "abstract labour, unnamed and uncelebrated" (ibid).

In my interviews and conversations with scenic artists about their work practices, the desire to express themselves in their work is often spoken of as something that must be suppressed or disciplined. There is a phrase scenics use to caution other workers about being too invested in the work: "You are loving it too much." Or another saying, "You have to turn it off and turn it on." That means sometimes you really put yourself and your soul into something, and sometimes you do the minimum amount of work required by the job.

The disciplining of creativity is important because projects are worked on collectively. A lead scenic who manages projects comments that some scenics "must be watched" so that they do not ruin the collective project everyone is working on:

They understand colour and stuff like that, but more than likely an artist has an individual agenda of their own and so then you have to reel them in and say, "Stop that, goddammit–you have got to follow this." Which is fine, but they still have to be watched. You can't say to an artist go ahead and paint this unless they are painting all of them and then they can go and do what you want.
–Scenic artist.

Head scenics break the stages of work on a scenic backdrop into different steps, often assigning painters of different skill levels different "passes" over the surface. There is often competition to have those jobs that are considered to require more skill. Even scenics who are lead painters with many years of experience will, at times, have to do jobs that do not reflect their skills and abilities. In the following exchange, a lead scenic describes someone who was new to the group, a very talented painter, but who eventually could not be "kept going" because of her attitude.

She told me, "I can't work with people who aren't on the same level as me."

She said that?

Yeah, and I'm like well, you have to! And all sorts of things, like she told me how to approach painting a drop, how to do it, and I'm like, you know that is not going to work because of this and this. "Oh, I've worked on big drops before and I know." And I said, "So has everyone else in this room—we all know—but we are doing it this way." So, she was overly confident and she was a great painter and great with colour, but you have to then get other people to follow you and you don't get people to follow you by telling them they are not as good as you. That is not going to work, so you have to have social skills.

One day we ran out of stuff to do, nice stuff that week, we were waiting for more so I said come back to the shop and glaze some things—she had to put the clear coat on. She was mad and then she called in sick the next day. She just did not want to paint barrels anymore. She just wanted to do the fun stuff, so…

Right.

That doesn't work. You have to do some of the crap stuff and some of the fun stuff.

–Excerpt from conversation with scenic artist.

Studies of creative labour that reflect on the "romance" of cultural work show how worker's perceptions about labour can lead to exploitation (McRobbie 2016, 38). Angela McRobbie examines "how this romance is translated at an institutional level so that it functions as a kind of *dispositif,* a self-monitoring, self-regulating mechanism." As such, McRobbie's analysis of contemporary incarnations of creativity in cultural work require workers to "participate in a practice of self-romanticism" (38). The occupational identity of scenic artists, while ostensibly "not-creative," entails a romantic notion of what this labour is, but with a caveat. The way they understand their labour as romantic and artistic is tempered by a collective craft ethos in the context of work that is decidedly unglamourous manual labour. There is an identification with a group of peers and enforced humility, and there is little possibility of a scenic artist achieving recognition for having talent except within the community of other scenics. Recognition is dependent on membership and status within the group.[76]

For McRobbie, what "individualization means sociologically is that people increasingly have to become their own microstructures, they have to do the work of the structures themselves by themselves, which in turn requires intensive practices of self-monitoring or 'reflexivity'" (McRobbie 2002, 518). A scenic describes this dilemma:

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[76] Keith Negus (2002), in a study of musicians, also comments on this dual individual/collective aspect of certain forms of cultural work:

> Artists and cultural producers may be notoriously individualistic, continually questing for "autonomy" and "independence" and desiring the "freedom" to pursue their own whims. Yet, at the same time, creative artists are continually contributing to solidarities in a way that dissolves any simple individual collective dichotomy or pattern of us versus them prejudice and discrimination. The practices of cultural producers continually bring about such possibilities (129).

You are not going to be able to please everyone all the time. This has been the huge ongoing narrative of my career. Who to go and work for when without pissing the other one off, and not being part of that project because this one is going to take me further. I can't tell you how many times I have felt guilty. I've worried about letting someone down. The fear that I have chosen the wrong project because essentially, I have been in charge of my own employment for the last thirty years because no one else is making these decisions for me.

–Scenic artist.

It is necessary for this person to be part of a group, to cultivate alliances, show loyalty to others, while also "being in charge of [their]own employment" by being able to choose who to work with and where to work. Taking the wrong project can be costly, because the project that is turned down could go on for months, while another might fizzle out in a few weeks and it is difficult to gauge the more secure path.

Living an artist's life. That is the norm, and I do think that if you work very hard and you are good at what you do, the universe does take care of you. You know, I have gone through lean times, but somebody always calls at the right time and says there is a job. It may not be the job you want to do, but it will be the job that gets you over the hump. Because somebody will [say],"I remember [this scenic artist], he helped me do this." And I will do the same for people.

–Scenic artist.

However, in many interviews, participants spoke about how temporary work suited them. The unpredictable and temporal nature of the work is appealing to many of the workers.

I like to paint. I like not having to make decisions and I like that it is temporary. I like that it is going to be gone [in] three weeks or six weeks. Even if it is a year, it is going to be gone and maybe somebody will take pictures of it, maybe they won't.

I like this and I recognize this and at some level I think well, I should be a contract person. I imagine working at the same place every day for a year. You start with a year contract and I think, my god, how am I going deal with that?

I never cared too much for stuff like that—security.

I am happiest, I have realized, not being too long in one place.
I have never wanted someone to have that much control over me that I couldn't walk when I needed to. And certainly, I have been very poor and I know how easy it is when you have no money to fall behind. [You]slip behind the cracks and lose control of your destiny. It terrified me, really. I think that fear has motivated me all my life to make sure I can look after myself. I just picked an odd way to do it. (laughs) I'm a thrill-seeker.

–Statements from several interviews with scenic artists.

These statements reveal a preference for risk and precarious work, and suggest it might be more alienating to be in a steady job than to have the ability to choose projects and to move on, if that is what the scenic wants to do.

During interviews with this group of workers, there was often an identification with employers of small shops and theatres; that the employers didn't really have an obligation to provide work for employees because they were (like their employees) in a

similar situation of being unable to predict what the work would be or when it would be available.

> *They don't know when the work is coming; we don't know how long we are going*
>
> *to be there. They can't give us that.*
>
> –Scenic artist.

In a certain sense, the employers of small commercial workshops are perceived by their employees as being equal because there is risk and unpredictability inherent in this type of work, for employers as well as employees. The comments tend to gloss over the dynamic of competitive work environments in which:

> *There are people that really say mean things about other people, and [will] just*
>
> *push you right over in just two seconds to get you out of the way.*
>
> –Scenic artist.

It seems it might be difficult to reconcile the ways the precarious aspects of this work are negotiated and taken on as part of the technician's identity in the context of collective worker interactions on the job. When they speak about their work, they often will use "we" when referring to practices or the ways tasks are accomplished. When referring to the precarious labour relations underlying the social relations at work, they tend to use "I."

5.5   Organizing a Skill-Based Local

> *The unions executives came up from New York quite early on to try and certify us.*
>
> *They used to call us "icebacks" because Mexicans were "wetbacks." We were*

called "icebacks" because our dollar was cheaper and we were taking their

work.

–Scenic artist.

This section describes the circumstances leading to a group of scenic artists and

props-builders deciding to form a new IATE local in southern Ontario in 1998. The

reflections of charter members on the decision to form a local offers a Canadian

perspective during a period in the 1990s where there was an increase in "runaway

production," or the outsourcing of theatre production to Canada from Broadway

producers based in New York. Drawing from my interviews and conversations with

members, it is clear this collective action cemented relationships between them as they

became not only individualized freelance workers, but also members of a local.

As scenic set construction work was outsourced from theatre producers based in

the US in the 1990s, set construction workshops moved outside of the city of Toronto

This allowed employers to take advantage of cheaper rents and labour beyond the

boundary of the IATSE Local 58's jurisdiction in Toronto. The workshops were located

in Local 129 territory, a stagehands local that had been chartered at the beginning of the

last century. Along with the members from Local 129 who worked in the shops, there

were also non-union scenic artists that worked on the same productions as independent

contractors. There was quite a lot of work—the Canadian dollar was low relative to US

currency, and the success of the megamusical genre had driven more investment by large

media conglomerates into the live performance sector. The runaway production, the fact

that scenic painting and construction work was moving away from New York, was not

seen at all favourably by the locals that represented scenic artists in New York, but it provided an opportunity for organizing.

These events coincided with changes in the IATSE. In 1995, under the leadership of a new IATSE International president, Tom Short, there was a push within the Alliance to organize as many workers as possible. Short curtly stated his agenda at the time: "control the workforce, control the industry" (Gray 2001). Instead of attempting to ensure steady employment for members—a job for life,—the Alliance adjusted to changes in economic organization and policy by going with the flow of precarious work. They focused on organizing rather than trying to limit precarious work, bringing in more members to improve the working conditions of precarious workers in below-the-line crafts. This agenda was met with anger and resistance from some members during a time when there was an increased amount of runaway production from Hollywood and Broadway to Canada and elsewhere. A member who attended an International Convention during this period recalls Short resorting to turning off the microphone when discussions got too heated:

> *There were huge fights between the American and Canadian IATSE locals and Tom Short was the president. He was a stagehand from Cleveland and, you know, he was a tough guy. Guys would walk up to the microphone in this huge room– like 2000 people–and get up there and they would start screaming, you know "The film industry in Canada is killing the film industry here!" and blah and, "The companies in Canada are taking our work!" Tom Short would say "F—you, we are all in the same union," and "If we are all in the same union and the work is up there, you support your brothers up there."*

–Scenic artist.

Short made his position clear: a divided union would never be able to withstand the more mobile production processes now possible in the film and television industries, what little power the union had in negotiations would be broken if it did not bend. By the mid-1990s, it had become apparent that IATSE must adapt as the bargaining power of the organization declined along with the numbers of members. There was a gradual decline in IATSE membership from 1979 to 1988 (-3%) and from 1988 to 1994, there was a loss of 17% of members (Gray and Seeber 1996, 36). Short used his constitutional power as International President and forced locals to merge and consolidate bargaining power and to be more open to organizing new members (Gray 2001).[77]

One of the challenges IATSE faced was that in the United States, the power of unions to organize workers was and still is limited by government legislation in many states. Starting in the late 1940s, this "right to work" legislation that meant "banning closed shops (all-union workforces)" diminished worker power to challenge employers (Kraft 1996, 175). As film and television production became more mobile due to new technologies, employers began to set up production hubs in right-to-work states. As IATSE attempted to bolster a decline in membership in the mid-1990s, this central tenet of union busting by doing away with the closed shop was taken on as part of a new organizing strategy. At the IATSE 62nd Biennial Convention in July 1995, Victor Van

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[77] When Short retired in 2008, the membership of IATSE had increased by 50% during his tenure as president (Simmons July 31, 2008). Short "won a court challenge in 1996 and followed with preemptive moves in other sectors, reducing the number of local unions from 750 in 1993 to 473 today. He also challenged traditional local union practices with respect to membership admissions. Locals are now expected to reach out to all who are employed in their jurisdiction or face the prospect that new members will be forced on them" (Gray 2001). Though the membership of the IATSE has grown since 2001, presently there are now even fewer locals.

Bourg, a lawyer representing the General Counsel of Ironworkers and honourary member of the IATSE, gave a persuasive speech that simultaneously called for organizing *and* the elimination of the closed shop in the IATSE:

> So, as business becomes deregulated, you become more and more regulated, and you sit peacefully and watch it happen, and you almost are impotent in demonstrating against it because our culture and tradition is that if it's a law, you must obey it.
> We cannot couple a closed shop with a closed union. You bet, but not because of the law, because it's immoral to keep people out of our union membership. You have also become imbued with the notion that it's dangerous to admit new people into membership.
> So, we have a constant clash between organizing and exclusion, because if you bring too many people into the union you might not have enough jobs. But the concept of organizing is not merely the concept of organizing into membership, it's organizing the industry so you organize jobs too.[78]

His argument is emphatically against exclusion, but the replacement of seniority-based hiring with skill-based hiring implicitly fosters a more individualistic notion of labour that has since been incorporated into the IATSE structure.

By 1997, the Canadian scenic artists working in the scenery workshops that had contracts with producers in the United States began to feel pressured because the scenic locals in New York affiliated with IATSE and USA (The United Scenic Artists of America) would insist on having head scenics from New York oversee the quality of the work done in Ontario. At times, the arrangement worked and there was little tension, but in other cases, the work of the Canadian artists was managed by the American scenic artists and they felt patronized, and that their work was not considered to be as good as the work done by American scenics:

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[78]IATSE official convention transcripts. Bound volumes of these transcripts are given to each local and I was able to borrow these from an older local established before 1910.

In a lot of cases we were discredited, not fairly because the truth of the matter,

and I found this out afterwards firsthand, the scenic artwork we were doing here

was at least equal in quality to the artwork people were doing elsewhere. In some

cases it was better, and they were really threatened.

–Scenic artist

So, all of this started happening and_____and they were going down there and

vigourously bidding on shows and getting them up [here]. And then_____

started to drop because the dollar was cheaper and there were times when they

sent up American scenics who would head the show and then we would have to

work under them because they were not quite trusting, that they knew how to do it

and so they were a little bit patronizing. But okay, we thought we are the colonies

and we can't do it. Then we started getting good at it and we started to realize we

can do this.

–Scenic artist.

The tensions created by this dynamic were one factor that motivated the

Canadians to consider becoming part of a union. At that time, there were two American

unions that they could join, IATSE and the United Scenic Artists of America— both

approached them with invitations to organize.[79] The USAA (the United Scenic Artists

Association) was formed in 1812 and later became the USA. The USA was part of

IATSE for a brief period in the early twentieth century, after which time they chose to be

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[79]There was a scenic artist and props builder local–IATSE 873–with a jurisdiction in Toronto that represented these occupations in the film and television industries established in the mid-1950s, but their territory did not extend to the suburbs, the greater Toronto area. At that time, it was a seniority-based local, but has since made the transition to skill-based.

autonomous from IATSE for almost a century (White 2015).[80]

Previous attempts to discredit the work of the Canadians had made them dubious about joining the United Scenic Artists of America. They felt that if they joined the American scenic local, their work might be more controlled by the Americans and fewer scenic projects would be given to Canadians. IATSE had many old and established locals in Canada while the USA only represented American scenic artists and set designers:

We decided we could go with them (USA), but it would be very expensive and it didn't make much sense because we would be the only people up there and we didn't know how much support we would get, and everyone else was IATSE.
–Scenic artist.

Another consideration was the inequality of pay between male and female scenic artists. In negotiations with employers as individual contractors for each project, there was often an inequity between the wages men and women received from the companies. In one situation, several scenic artists who were working on the same project compared

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[80]An early association that preceded the USA, The Scenic Art League, wanted to cut ties with what was then the National Alliance of Stage Employees (later the IATSE) because "the idea of labor intervention was distasteful and the goal of the League was to protect the dignity of the profession" (qtd in Crabtree and Beudrat 2005, 413). They saw themselves as artistic and felt there was little to be gained from joining forces with the stagehands represented by the National Alliance of Stage Employees. The USA was also affiliated with the Commercial Papers and Wallpaper Hanger's Union. Scenic artists in New York organized a local in 1892, the American Society of Scene Painters was the Broadway branch of the International Brotherhood of Painters, Decorators and Paper Hangers (IBAP). The USA left the security of salaried positions in theatres on Broadway and chose to work on contracts in the early years of the twentieth century: Broadway's painters, designers and carpenters finally abandoned the in-house employment of the nineteenth century for good, making their bed in the far more industrialized option of a trade union. They bypassed older notions of apprenticeships and loyalty to a mentoring actor-manager or producer and took a rotating series of regulated contract gigs on a contract basis (White 2015, 46).

A year after Local 828 was chartered in 1998, the USA, after almost a century of being separate from IATSE, joined the Alliance and became Local 829, adding another 3,100 members to the Alliance.

paycheques and found the men were all making more money for the same work. For the female scenic artists who made up half of the group, it was of great advantage to have equal pay for equal work and membership in a local that negotiated a standard wage for the work from each employer.

The option to be skill-based was more appealing and was something that the USA couldn't offer. As part of IATSE, while they had to abide by a general charter outline, they could make up their own work rules and decide how they wanted to organize their local.

> *They offered us–was which was great–was what the other union couldn't do- said the whole International was trying to move to a non-seniority-based union. He said because you are painters, [you] cannot have a seniority-based local because it doesn't work that way. If you need to paint a drop, you can't send somebody who doesn't know how to paint a drop just because they joined three years earlier. So, he said you will be Canada's first non-seniority-based local where it is a craft-based local, and you will send people according to their talents to the jobs.*
>
> –Scenic artist.

The decision of the scenic artists to become a skill-based local meant that their local, while still offering their members some of the benefits of a trade union like registered retirement savings plan contributions and health coverage did not follow the traditional trade union organization based on seniority.

> *But it was the type of situation like if you needed someone to paint a drop, and if [a worker] didn't know how to draw or paint, you could get them to base coat but*

you could not get them to do the things you do. You couldn't use them past their

ability, and the International are moving past that and more locals are going non-

seniority. It just makes it fairer [to be] skill-based rather than, "Bob has been

here for forty years; he doesn't do anything but he gets the first call because he

has been here."

–Scenic artist.

The scenics believed they could have a more meritocratic type of organization

while enjoying these benefits and this would make their local more competitive. In the

above quotes, it is apparent the seniority-based labour provided by "Bob" is assumed to

be less skilled and there is a belief that a worker hired for a job must have the capacity to

move flexibly from one task to another. A worker who "can't be used past their ability" is

not as useful to the collective. The scenics also thought of their labour as more artistic

and thus more individualized when compared with that of the stagehands and carpenters

of IATSE Local 129:

I think the language of scenery and construction easily dovetails into technology.

Rather than somebody draw it out on a blueprint, they can now AutoCAD it. So,

the carpenters can still understand it, because the end result is the same. It is not

as subjective as a designer who wants a design painted in a certain way because

that can be interpreted in so many ways. A cut is a cut, a joint is a joint.

–Scenic artist.

This notion of their labour as individualized, or more individualized in comparison to the

labour of the seniority-based local they work alongside, contributed to a feeling that they

could not have the same type of hiring based on seniority. There was no provision within

the structure of the skill-based organization of employment for members if they did not remain competitive—members must teach and better themselves—but the reasoning was that this kind of stability was something new to these workers, so they did not expect it. They were also aware that Local 129, still seniority-based, was not able to provide a guarantee of steady work for its members, either.

The move to act collectively was eventually sparked by the instability of their employment relations with their employers. Scenic workshops are often fly-by-night operations; just before Local 828 was chartered, one of the scenery shops that employed scenic artists for projects was unable to pay its employees. As independent contractors, the scenic artists realized the challenges they faced as individual workers, for example negotiations with employers and the timely payment of wages, could be mitigated by collective action. The shop went bankrupt, but soon after the owner started to build sets in another location. This incident is remembered by several people as influential in the decision to form a skill-based local.

This decision to choose skill over seniority was a source of conflict with the members of 129 with whom they worked alongside in set construction workshops and theatres in the area.

> *That was a huge thing, because all the stagehand locals were terrified because they didn't want to lose seniority and we embraced non-seniority because we felt we couldn't do it any other way. All the carpenters would come and yell at us and all this stuff. They understood it but it was threatening to them.*
> –Scenic artist.

These fears were not unwarranted. Though Local 129 is still considered by its members as seniority-based, recent contracts with one of the workshops included in this study indicated the local had given up the "closed shop" aspect of their seniority-based hiring, rendering it almost meaningless in practice:

> *It took a long time for us to give up and it wasn't giving up. The ability to hire– [the employer] always wanted that and I said, "Look, it is hard for us to find people." I was on his side–you have a brick and mortar building, they will come and drop off resumes rather than to us (the local), rather than go through the BA[81]–and finally we just put it into an agreement that they are free to hire. There are still restrictions, of course. If people do not want to become members then they will fire them.*
>
> –Stagehand.

The change from seniority to skill in hiring remains contested in many locals that have remained seniority-based. There is the fear that failure to adopt a skill-based organization will encourage the kind of workers who "give unions a bad name," or "those who have lost their passion for the work" to have access to work. Many members of skill-based locals feel it is the only way to stay competitive, meaning to offer employers a talented and passionate workforce. In the case of Local 828, being part of a collective has been positive in many respects; the formation of the local gave the scenic artists access to standardized wages, collectively they were able access health care and other benefits through membership in the IATSE organization. Many members of the local have

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[81] BA is the Business Agent for a local. The responsibilities of this executive position tend to vary with each local.

worked hard at negotiating contracts for better working conditions and the local currently has contracts with ten workshops and theatres. Many of the charter members of the local are still working on projects together, after almost twenty years later in the live-performance sector, and have been core members of the scenery workshops and worked in theatres in the area.

Some charter members are teachers in local colleges and universities and they often select talented potential new members from their groups of students. The difficulties of developing and training young scenic artists and maintaining these standards in a changing industry is something the members of the local must deal with on their own. What is often not discussed however, is that there is really no formal consensus as to what skills actually are. It is the experienced member's view of what skill is that dictates the training and learning of new potential members, and their expertise (which is effectively seniority that is enforced informally) affords them the skills to do this.

In 2017, almost twenty years after the local was chartered, Local 828 still lacks a formal way of assessing member skills. There is little guidance for new members on the skills needed to apply to be a member and no technical exam has been organized. The fact that the local remains relatively small means that everyone knows each other and a reputation needs to be established. A potential new member will often only have one chance—one call to audition. Though there have been some attempts over the years to discuss making member acceptance more formalized or standardized, there are presently two pathways to be considered for membership in this local. One is to work a certain minimum number of hours and then apply for membership, the other is to submit a

portfolio and resume or both if possible. The new member's eligibility is then voted on by the membership at a meeting. The membership in the local has remained steady for the last several years, hovering around seventy-five members. Some new members stay for a time, but if they cannot get the amount of work necessary to keep going, they leave and are replaced by others who want to work in the industry.

5.6 Conclusion

An emphasis on organizing has been crucial in maintaining and growing the IATSE's membership and could be considered a successful response to economic change: relative to other industries these unions have "survived and even thrived in an environment that from all appearance would seem hostile to union organizing" (Amman 2002, 113). While a focus on organizing did contribute to a growth in IATSE membership from 1995 to 2016, there is a lack of employment data on the percentage of members who can sustain a living through their membership in the IATSE. Not every member can access the RRSP and health benefits that require a member to work for a minimum number of hours to be eligible for benefits without "topping up" or paying a fee on top of union membership. In one of the few studies of employment relations in entertainment industries that includes the live performance sector, the factors that make entertainment industries distinct also create challenges for researchers organizing and analyzing employment data. These challenges include: workers often have multiple union and guild memberships; a high level of unemployment and many workers have to hold jobs outside the industry to make a living; collective bargaining often provides only the minimum wages workers can negotiate (i.e. in the film industry, the practice of scale pay

systems allow below-the-line workers to negotiate individually above standard collective rates); the project-based nature of the work, which means the workers work for multiple employers; and the fact that unions are "more isolated" from other sectors of employment in collective bargaining (Gray and Seeber 1996, 6-7).

As the IATSE responded to economic restructuring by attempting to organize the occupations in the industry as a whole, it was necessary to become open to a more individualistic concept of labour. In this case, the occupational identity of the scenic artists was influential in their decision to join the IATSE because the skill-based concept of labour and the practice of hiring based on skill was compatible with how the workers viewed their labour. This case study illustrates how in practice, these seemingly opposing concepts of labour—skill-based and seniority-based—are entangled and can undermine basic collective values.

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6 Chapter 6: Conclusion

Values can be thought of as radiating in layers from the self. There are values that are the most private and basic, that give a person identity and guide personal action. Personal action engages with other "lines of action," formal or informal patterns of association of work and community, through a fitting together of several individual sets of values and beliefs. This fitting together, however cannot be taken for granted, for it is an ongoing process, often fraught with conflict (Harper 1987, 186).

A collective is formed when the values of individuals are similar enough to provide a common ground to stand together. For the members of this community, the technicians, I have observed there is often conflict about what these shared values are, "a fitting together" is necessary to do this work. The practical ways the technicians come to terms with change in their practices are reliant on agreed-upon ways of knowing and of doing things. The ways different tools are incorporated in practices are telling of the histories of the practices the technicians engage in together, and illustrate their occupational identities.

In this study, it was found that several aspects of the work that the technicians do is altered with the incorporation of digital fabrication and digital media. Collective tacit knowledge is built into software and used in place of somatic tacit knowledge and more of this technical work requires digital literacy. For the experienced technicians, this means a keen understanding of the properties of the materials they are working with and the need to communicate this knowledge to the designers in order to realize their ideas in material forms.

Stagecraft production work is beginning to incorporate both analogue and digital tools, opening up the possibilities for experimental work with materials, and this coincides with a trend towards standardization in the entertainment industry. At this

juncture, the technicians' collective tacit knowledge remains crucial to the fabrication of scenery and automated special effects. While from the mid-1990s to the present there has been an intensification and standardization of stagecraft production work for this community, their work has become less defined in some trades and occupational roles are less certain.

A scenic artist once expressed to me her exasperation that "people don't understand what craft is!" Craft is relational in these labour contexts and dependent on work organization. In this thesis, I considered what work is like for the workers in this community, for the work that they do is not represented in scholarship on cultural labour. Adamson suggests that craft is often perceived as somehow distinct from other types of cultural production, "it is not that craft is devalued under modernity, exactly; rather, it is valued differently" (2013, xvii). For Adamson, too often craft "is positioned as fundamentally conservative, both in the positive and negative sense of that word. Progress is always located elsewhere in political radicalism, machinery and technology, organizational structures but never in skilled hands themselves" (xvii). For Adamson, this has had the effect of confining craft to a "mere mechanical role, as the execution of designs, ideas, and imperatives, or given responsibility for static traditions" (xvii). An examination of craft practices in the industry of theatrical display shows how craft practices are embedded in social relations. It considers the values inherent in these practices, and how culture is constituted from material practices. Craft is not always "slow" or oppositional to capitalist aims of valorization and making a profit. Though the work is often routine and rote, this work is necessary to innovation and experimentation.

In the introduction to a collection of essays that explore the question of "what is a case?," Charles Ragin (1992) outlines several possible perspectives that might inform case study research. His outline of a case as "found" influenced the approach I have taken in this case study. In this method, it is part of the research process to establish what the case is through the use of different analytical frames (Ragin, 1992). In this project, the group of craft technicians is imagined as a "community," a group that I am a member of, but it is a community constantly changing as members come and go; it has no set boundaries. To create a fuller representation of this community, I have made use of several analytical frames in order to emphasize different facets of the case under observation in my fieldwork and interviews.

The articles in this thesis cumulatively depict what the work is like and show what the collective tacit knowledge of the community values. The labour of the stagehands and scenic carpenters is compared to bricolage to convey how the craft technicians must apply their tacit knowledge within certain structural constraints. In turn, understanding the work in this way led to an exploration of the workshop is a space conducive to experimentation and relative autonomy. I analyzed self-determination or control using the example of two different types of craft practices, that of the stagehands, scenic carpenters, and scenic artists. Using specific examples of technological change and how different forms of organizational control are implemented in concrete ways serves to highlight how different craft occupational identities contribute to the creation of cultural commodity forms in the workshops.

This case also explores a more material and embodied notion of autonomy than has been previously explored in scholarship on cultural production labour. The builders

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who were united in their skills as manual workers drew directly on material have experienced divisions of labour in their practices. Some technicians are more occupied in using design software, what is sometimes jokingly referred to as "an ass job" because it is not physical, manual labour. Other technicians still manipulate material and time is spent on finishing cut objects. Presently, many of the carpenters have the skill to multitask: they can use digital tools and have considerable manual skills in working with the materials, but there are others whose work involves only manual tasks. There is also an interesting intersection between DIY and "maker culture" and stagecraft practices taking place in the workshops at this time, which was evident in many conversations and influenced approaches to solving design problems. Such practices merit further exploration.

Building on these examples, I examine the collaboration and communication between the scenic artist and the scenic designer. Changing material practices via the use of different artifacts to communicate visualizations alters the collaboration between scenic artists and designers. The craft of scenic art is still practiced using simple tools, including brushes and liner sticks, as the scenic's traditional role of copier becomes more complex and needs to take on more of the conceptual work. Craft in these contexts is maintained through hierarchy—these technicians must always privilege what the designer wants to see in the final product. The boundaries between craft and art are constructed through agreed-upon roles in production that can be specific to particular craft practices. Howard Becker (1978) has argued that what is considered "art" and what is considered "craft" have more to do with work organization than anything else. It is context that determines how art and craft practices are distinguished from each other and: "[t]he

person who does the work that gives the product its unique and expressive character is called an 'artist' and the product itself 'art.' Other people whose skills contribute in a supporting way are called 'craftsman.' The work they do is called a "craft"(Becker 1978, 863). In the case of the scenic artists detailed in chapter 4, the scenic artist is now tasked with more creative labour. This is one example of new kinds of collaborative relationships that are a by-product of new tools in practices.

Moving from discussion and description that details what this work entails and how technology and work organization have altered material practices and occupational identity, I examine in more detail the unionized labour relations in the workshops. These labour relations with employers are imagined by different groups who work together on projects as individual and collective and are maintained within the institutional structure of the IATSE union. This is discussed by drawing from IATSE members' reflections of their experiences of collective organizing almost twenty years ago. This chapter is a contribution to the relatively thin scholarship on culture industry craft unions. For the first time, my research identifies a discourse among members of the IATSE organization that distinguishes between the hiring practices of senority-based and skill-based labour. I argue these hiring practices are exemplary of the different conceptions of labour. This case highlights the conflict between individualism and collectivism in this contemporary context of cultural labour by tracing the narrative of the community about their decision to become a collective almost twenty years ago.

The synchronicity between technological change and the production practices in media industries is not new. In this thesis, I have emphasized that the labour processes in the workshops that incorporate shared understandings are never static, but must

constantly adapt to technological and organizational change. What does remains constant throughout and is, ironically, almost a stable aspect of the technicians' working lives, is the precariousness of their employment relations.

What I have learned about the practices and labour relations of this community has led to more questions and avenues of inquiry I would like to explore. For instance, one area of interest inspired by the findings from this case study concerns the issue of learning tacit skills in precarious cultural labour: how is access to learning skills maintained by the IATSE?

The IATSE is an organization with a long history of responding to technological changes and economic restructuring in cultural industries in North America. In the IATSE organization, there is a new commitment to training members coupled with an entrepreneurial ethos. On the IATSE official website, a page on training is introduced with this statement: "in today's world of rapid change every person must be a lifelong student."[82] For years, IATSE representatives have had discussions at International conventions about member education and training initiatives, framing these as a strategy to help members keep abreast of industry changes. In 2012, a new education and training program was established by the IATSE International. While the IATSE has always maintained the skills of its members informally through on-the-job assessment, for the first time in the history of the organization, there is now a widespread effort to develop courses and educational programs for members. There are now three streams of educational programming that have been recently developed to serve members.

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[82] http://www.iatse.net/member-resources/member-education

These new training initiatives raise interesting questions about how tacit skills have been developed in the past and how these skills will continue to be learned and maintained in entertainment industry unions. In the last decades of the twentieth century, as colleges and other educational institutions began to offer courses in the technical aspects of theatre, film production and other industrial crafts, the IATSE International began to concern itself less with work roles and training skilled workers. By the mid-1990s, educational institutions were "primary providers of skills in these industries in both craft and talent fields" (Christopherson 1996, 108). It has been suggested that the fact that technical training for production occupations was learned outside the IATSE had important implications for the occupational cultures within its locals: "the sense of owning skills that were individual rather than social, the expression of a particular craft, was heightened" (Christopherson 1996, 108). In the last several years, it has become very difficult to be considered for work in the IATSE without a post-secondary degree in technical production. In some IATSE locals, the new courses now offered are a prerequisite to being able to work as a potential member for the IATSE. If a worker wants to be considered for calls with the union, they will have to invest money in training from the IATSE before they can be considered eligible to work. The identity of the individual worker as a member of a collective and the practices that shape collective values in this union is an important theme informing this research.

A gradual professionalization of skills that were once learned only informally has been happening for many years and has only recently become a more formalized component of union membership. Employees in craft professions in cultural industries are still predominantly "male and pale" in certain trades, and these courses might offer a

more equal access to experience and networking to mitigate this. These new educational initiatives are also representative of an effort to delineate what these skills are, and this could be construed as a movement within the IATSE to reassert more control over work practices.

There has been very little scholarship on the history of the IATSE. The IATSE International Convention transcripts contain incredible detail; I have read dialogue and speeches from convention proceedings dating back over fifty years, but these have not been the subject of academic study. These documents could potentially provide compelling data about how the IATSE has maintained collective values over its long history and how these values have changed as the IATSE has adapted to economic change and new technologies. In addition, participant observation at training courses and interviews with IATSE members of the rank and file and executive members are other research methods that are appropriate to gathering information on the impact of training on hiring practices and the adoption of new technologies and tools in on-the-job work practices.

Another important area of inquiry is the persistence of gendered divisions of labour in cultural production. Women who work in craft production occupations are just starting to organize and create representations of their work on IATSE social media sites. Recent social media initiatives of the IATSE International attempt to ameliorate the history of discrimination and exclusion of women and minority groups within the craft union and address the ongoing issues surrounding a lack of diversity in IATSE skilled craft trades. Along with these efforts, at the last IATSE International Convention in 2013, a plenary discussion was held to highlight the contributions of women and racial

minorities to the organization. This gesture was a first for the organization and represented an important step towards a politics of inclusion in the trade union. At the International Convention during the summer of 2017, there were more presentations that centred around the history of women's contributions to the work of the IATSE in the last century. I was able to attend a District 11 and 12 convention in Montreal in the fall of 2016, where there were presentations and open discussion on the topic of women's issues in the organization. The event began with a mass exodus of men, when in the large conference room with hundreds of delegates, over two-thirds left (though they were encouraged to stay), leaving the women to talk to each other about issues they faced in their working lives. The conversation that ensued revealed many issues and concerns that are worthy of future research. While recent initiatives and lip service for a politics of inclusion within the IATSE trade union are encouraging, racial minorities and women are still underrepresented in many of the technical trades in creative and culture industry work. I have discovered through this research that there is a growing consciousness of this inequality demonstrated by the actions of a largely female minority of members in the IATSE.

Individualization (Beck, 1992) and precarious working conditions in creative and culture industries are aspects of creative and cultural work that have garnered much attention in academic scholarship in recent years. While some studies have considered issues of social justice in the context of creative and cultural working conditions (Hesmondhalgh and Baker, 201; Banks 2017), there has been very little empirical research that considers race and gender inequality in cultural work, the "stark and continuing inequalities related to race, gender and class" (Gill 2014, 16). Scholarship on

culture industry work and the creative economy that examines the gendered subjectivities of cultural workers tends to represent female cultural workers as rather apolitical and individualistic (see McRobbie 2002; 2016). This is beginning to change. Though this research is a significant contribution to the literature on creative work, it is also important to consider the labour and occupational identities of women who work in technical trades and are members of trade union organizations. The research I conducted as part of this qualitative case study suggests that their political beliefs and work experiences are different from the more individualistic female creative workers studied by some theorists.

While in this thesis I have explored how collaboration between people in workshops has been mediated with digital media and new tools, I would also like to consider how collaborations between humans and computers are now increasingly part of theatrical performances and theatrical production labour. There are software programs in use now that generate musical compositions for musical theatre, allowing people to pick and choose scores that have been programmed to sound similar to the genre. The workshop space as a site of production in some circumstances has become reduced to a laptop computer that can generate the effects required for low-budget television programs (Banks 2010). And, as digitization allows for a globally distributed network of workshops that work on sections of a single project, it also facilitates more fine-grained divisions of labour in craft practices. These developments will enable more complex types of collaboration between artists, machines and makers and the formation of new collective knowledges.

The articles in this thesis are about the working lives of stagecraft technicians in a particular time and place. I set out to capture what work is like for the craft technicians at

a moment when great changes are occurring in the production and consumption of cultural commodities. While there are exciting possibilities for collaboration using digital tools, it is striking that there is very little documentation about the human collaboration and collective efforts to create theatrical works of art and entertainment. The materiality of manufacturing work, the use of computers in fabrication processes does not diminish, but underscores the importance of collective tacit knowledge. For human skills are never simply *replaced* by technology, human skills are enmeshed in a web of social relations that stand for particular values.

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Appendices

Appendix A: Western Ethics Protocol

Western Research

Research Ethics

Western University Health Science Research Ethics Board
NMREB Delegated Initial Approval Notice

Principal Investigator: Dr. Tim Blackmore
Department & Institution: Information and Media Studies, Western University

NMREB File Number: 106589
Study Title: Craft Labour in Cultural Production
Sponsor:

NMREB Initial Approval Date: June 04, 2015
NMREB Expiry Date: June 04, 2016

Documents Approved and/or Received for Information:

Document Name	Comments	Version Date
Instruments	Interview Questions	
Revised Western University Protocol		2015/05/21
Recruitment Items	Brochure	2015/05/21
Other	Letter Requesting Permission from Owners	2015/05/21
Recruitment Items	Recruitment Email of craft techs	2015/05/21
Recruitment Items	Recruitment email Managers	2015/05/21
Letter of Information		2015/04/29

The Western University Non-Medical Research Ethics Board (NMREB) has reviewed and approved the above named study, as of the NMREB Initial Approval Date noted above.

NMREB approval for this study remains valid until the NMREB Expiry Date noted above, conditional to timely submission and acceptance of NMREB Continuing Ethics Review.

The Western University NMREB operates in compliance with the Tri-Council Policy Statement Ethical Conduct for Research Involving Humans (TCPS2), the Ontario Personal Health Information Protection Act (PHIPA, 2004), and the applicable laws and regulations of Ontario.

Members of the NMREB who are named as Investigators in research studies do not participate in discussions related to, nor vote on such studies when they are presented to the REB.

The NMREB is registered with the U.S. Department of Health & Human Services under the IRB registration number IRB 00000941.

_____
Ethics Officer, on behalf of Riley Hanson, NMREB Chair or delegated board member

Ethics Officer to Contact for Further Information

_____ Erika Basile	_____ Grace Kelly	_____ Mina Mekhail	_____ Vikki Tran

This is an official document. Please retain the original in your files.

Western University, Research,

General Info

Event Form Name	File No	Title	Start Date	End Date	Keywords
Non-Medical Form 2.0	106589	Craft Labour in Cultural Production	04/06/2015	04/06/2017	craft,technology,gender,creative labor

Project Members

Principal Investigator

Prefix: Dr.

Last Name: Blackmore

First Name: Tim

Affiliation: Information and Media Studies

Rank: Professor

Gender: Male

Email:

Phone1:

Phone2:

Fax:

Mailing Address:

Institution: Western University

Country: Canada

Comments:

Others

Rank	Last Name	First Name	Affiliation	Role In Project
PhD Student	Hambleton	Jennifer	Information and Media Studies	Co-Investigator
	Farber	Carole	Information and Media Studies\Faculty of Information & Media Studies	Co-Investigator

Common Questions

1. Registration Information

#	Question	Answer
1.1	Do you confirm that you have read the above information and that based on that information you are completing the correct form?	Yes

1.2	Are you requesting delegated review? (Please see the blue "i" for a definition of minimal risk. Please note requesting delegated review is not a guarantee as it is determined on a case by case basis)	Yes
1.3	If you answered yes to question 1.2 please justify why you believe your study qualifies for delegated review.	I believe that this study qualifies for a delegated review because the information gathered is not of a highly sensitive nature, but concerns the work practices of the participants.
1.4	Please indicate the faculty you are affiliated with.	Information and Media Studies
1.5	Has this study been submitted to any other research ethics board (REB)? If yes, please include the approval letter (or relevant correspondence) as an attachment in the attachments tab.	No
1.6	If YES is selected in question 1.5 above, please indicate where this project has been submitted and when.	
1.7	Is this a sequel to previously approved research?	No
1.8	If YES is selected in question 1.7 above, what is the REB number and what are the differences?	

1.9	Indicate the funding source for this study or if there is no funding simply indicate "NONE".	None
1.10	Is this a student project?	Yes – PhD
1.11	If YES Other was selected in 1.10, please indicate what you mean by this.	
1.12	Please list the names of ALL Local (Western affiliated) team members who are working on this project and their roles and responsibilities. Please see the "i" for this question for instructions on how to link their Romeo accounts to this form so they have access to it.	Dr. Tim Blackmore- Principal Investigator and Supervisor; Dr. Carole Farber- Co-Investigator and dissertation committee member Ms. Jennifer Hambleton- PhD candidate and student researcher will be recruiting participants, interviewing participants and analyzing the data from the semi-structured interviews and participant observation.
1.13	Lay summary of the study (approximately five lines).	This study will examine recent changes in the organization of the work of crafts professionals in culture industry scenery workshops. Digital fabrication tools that have been incorporated in craft practices mediate experiential and practice-based learning in workshops that build theatrical sets and display environments for media conglomerates. The study will focus on how craft skills that are tacit, are now often represented in the more explicit formats of design software programs and will explore

#	Question	Answer
		the implications for the autonomy of these workers, gender inequality and the division of labor in these workplaces.
1.14	Briefly provide any plans for feedback of results to participants.	Participants will have access to transcripts of their interviews.
1.15	If this form was started by a team member, has the role of Principal Investigator been changed to the Faculty member who will hold this role for the study? This is required for review of your submission, and any forms submitted without this change being made will be returned without being reviewed. (The blue information "i" has the instructions on how to change the role of PI.)	Yes

2. Methodology

#	Question	Answer
2.1	Outline the study rationale, including relevant background information and justification. Cite references where appropriate.	Many skilled craft professionals in culture industry production are facing several issues that affect the quality of their working lives: a lack of or faltering union representation, precarious working conditions, and stepped up deadlines that affect intrinsic values gained from working experiences. These issues tend to diminish autonomy for some types of technical work practices in culture

industry production. Culture industry workshops that make scenery and sets for theater productions have traditionally held to a production process that grants their workers a certain degree of autonomy and this facilitates collaborations between crafts and creative labor in these places (Banks, 2010). The craft technician's autonomy has been traditionally grounded in knowledge of material and ability to manipulate it. These challenges that crafts technicians face represents a re-configuration of working skills rather than deskilling, but this shift merits attention, as it is indicative of broader changes in working conditions in a post-Fordist and globalized economy. For this reason, it is important to learn more about the perspective of those individuals who work as crafts technicians and the impact of re-structuring on their work experiences. The culture industry workplaces that are the focus of this study are small independent enterprises located in the greater Toronto area that fabricate projects for large media corporations and are part of a global production chain or network. A company that I work for quite often, a small workshop that bids for work from media conglomerates, is now sending elements of their building projects offshore to China. The culture industry workshop in some

circumstances has become reduced to a laptop computer that can generate the effects required for low-budget television programs (Banks, 2010). As digitization allows for a globally distributed network of workshops that work on sections of a single project, it also facilitates more fine-grained divisions of labour in craft practices. While working as a soft-props builder and painter in scenery workshops in the last ten years, I have observed a marked increase in the precariousness of the work, especially in the wake of the 2008-2009 global economic crisis. Precarity exerts pressures on communities of professional craft practice that are an integral part of culture industry production. People who have years of experience and expertise must constantly prove themselves and this situation aggravates "tensions between the urges to compete and to collaborate," (Huws, 2010, p. 504). Precarity affects intrinsic values and meanings associated with the work. Recent research has found that in film and television culture industry work, cheaper digital alternatives have had a negative impact on more established craft practices. There have been marked shifts in production practices and the incorporation of digital technologies in production processes have facilitated a kind of re-ordering of work

		flows and "inter-craft" strife in media production industries (Caldwell, 2012; Christopherson,2008). David Lee's case study of British television craft technicians addresses how changes in the material conditions of labour in British independent television sector have diminished the intrinsic values and "sense of craft" that workers experience on the job (Lee, 2011). Recent research (Fraticelli et al, 2014) has also found that increasingly, a discriminatory 'digital divide' excludes women and minorities from succeeding in professions based in technical knowledge and skill in the Canadian film and television industries. These findings suggest that creative and collaborative aspects of the work of craft technicians in the cultural industries are also presently undergoing rapid changes as work is re-organized. An examination of the working lives of crafts professionals in culture industry work in Canada can be applied to understanding what issues should be prioritized in policy advocacy strategies for union organizations that are affiliated with federal and provincial cultural policy networks.
2.2	Please provide a clear statement of the purpose and objectives of this project.	Craft tech work involves concrete or material labour. In the culture industry, skilled craft labour is grouped with 'below

the line' work. It is labour that is considered to be 'the work of the hand,' separate from the 'work of the mind' (Sennett 2008). Moreover, this kind of work involves particular relations with materials and tools. To make things it is necessary to become closer to them, know them, and tools become extensions of the worker. Craft involves embodied knowledge of materials and tools as situated in processes to execute a creative vision. The notion that craft is a practice that facilitates a connection between body and mind has been an influence on ideas about making ever since William Morris promoted the Arts and Crafts movement in the late 19th century in Britain. A craftsperson is sentient of the fact that creativity is not severed from material knowledge but is often grounded in a self-reflexive practice of working with materials. The steps involved in "manual" craft fabrication are often difficult to articulate and represent because the skills thus engaged incorporate tacit embodied knowledge. Tacit knowledge is not always possible to put into words, for it is not explicit (Polanyi, 1967). A craftsperson routinely draws from material knowledge when fabricating or building an object. This material knowledge is developed through practice and familiarity with materials, but is

also acquired through social means as knowledge and skills are acquired through collaborations that take place in often highly competitive and precarious work environments. The kind of professional craft labour that I will examine has roots in traditional crafts in theatre production: the scenic artist, who paints on a large scale and adds depth and texture to objects, or a properties builder who works with metal or wood or fabric to create custom designs for the employer and designer. These professions involve technical work, and are craft oriented, "they require special skill and workers preforming them identify collectively with each other in terms of the work they do" (Hesmondhalgh, 2007, p. 64). This is creative work, but it is grounded in the execution of the form of the work, not the ideas that underpin the work (Hesmondhalgh, 2007, p. 64). The skill and knowledge that the crafts technician applies in creating the material form of cultural commodities is essential to the creative process. However, there is a hierarchical division of labour in culture industry production, some jobs have more status than others. The designation of 'creative' or 'technical' in particular contexts is often determined by whose work boosts the value of the commodity the most (Hesmondhalgh

		p.66). In cultural industry production, those with higher status are most often the 'creatives' who contribute original ideas that form the basis of the cultural commodity. The division of labour is a necessity in cultural production but it means that much creative work is not recognized and rewarded. This dissertation will examine several inter-related aspects of craft labour: the intrinsic values that are grounded in material practices of making things; selfhood and identification with objects and tools; an understanding of autonomy as being constituted in a kind of negotiation with material.
2.3	Describe the study design/methodology and attach all supporting documents in the attachment tab.	Method 1: This project will be based on standard methods of ethnographic research in the discipline of anthropology. Researchers in cultural anthropology (ethnographers) engage in participant observation, a fieldwork method based on social relationships between individuals and the ethnographer, in which the ethnographer assumes the position of a student or apprentice who learns through observing and participating in everyday activities with community members and observing activities and work practices. The student researcher (Jennifer Hambleton) will employ this method of participant observation. The

participant observation will take place in commercial workshops that fabricate theatrical scenery and display environments for industry and commercial theatre venues. As is standard anthropological practice there will be no formal recruitment process for this component of the research. To gain permission to observe the work at these sites permission will be obtained from the owners of the workshops (see letter of permission in attachments file). The data collection should ideally begin in the summer of 2015 and continue throughout the winter of 2016 in order to allow for ample time to observe the research sites. The student researcher has many contacts among craft professionals who are affiliated with three union locals in the greater Toronto area and Southern Ontario region, IATSE Local 129, 828, and 873. A choice was made to gather data in a commercial shop because these work places hire on a per project basis and do not rely on government funding or support (as do theatres such as the National Ballet of Canada, - Theatre, Shaw Festival and Stratford Festival that also have contractual agreements with Local 828 and Local 129). The past experience and knowledge that the student researcher has of the industry and work practices in the shops through her work as a craft professional and member of

		IATSE Local 828 and the people who work in these contexts is a great advantage to gaining access to the sites and understanding the working conditions. It will also help her to establish relationships with participants in the initial stages of the research. For example, her past work experience and conversations with crafts technicians have given her a great amount of empathy for, and appreciation of the skills and commitment required to practice good technical work. But this personal experience also requires a self-reflexive questioning of biases, experiences and assumptions that might compromise interpretation of participant's answers to the questions relevant to the study. An audio-recorder will be used to record some aspects of the work in the shop, but in most cases the researcher will use hand written field notes or write up notes after work at the shop is finished for the day. In the notes the work routines and practices of the workshop will be recorded and the choice of methods and approaches to completing work tasks. Observation will include: what decisions are made by whom and how collaboration in the work is influenced by the technology being used for particular tasks, how digital media is used to fabricate elements of the build and detailed description of the setting routines and

		practices that take place over the course of the work day and on breaks. Pseudonyms will used to protect the identity of participants in the study. In order to prevent potential participants from feeling obligated to participate because some might know the student researcher or have worked with her in the past, it will be made clear to all potential participants that participation is entirely voluntary. All potential participants will be provided with a brochure, (see attachments file) that introduces the researcher, explains the research project and methods, and provides contact information should they have questions or concerns. Some portion of the analysis of the field notes recorded from this method of research will involve an auto-ethnographic component to the research because of the student researcher's past work experience in this industry. Interpretation of the data will also use a method of data analysis termed "open coding." Open coding is a qualitative method of data analysis that involves generating "as many codes as possible, at least initially without considering possible relevance either to established concepts in one's discipline or to a primary theoretical focus for analyzing and organizing them" (Emerson et al, 2003, p.182). Method 2: In addition to this participant observation

		fieldwork, the student researcher will carry out semi-structured open-ended interviews. In this type of qualitative interview "the researcher has a specific topic to learn about, prepares a limited number of questions in advance and plans to ask follow-up questions" (Rubin and Rubin 2012, p. 31). The data compiled will consist of interview audio-recordings and transcripts from semi-structured interviews with the employer, designers and craftspeople that are members or previous members of IATSE Local 129. 828, 873 and work on projects in different workplaces in the greater Toronto area. Participants will be provided with information about the study in a letter of information (see attachments file) and if they agree to participate in the study be required to sign a consent form (see attachments file) that will give them the option of deciding if they will allow their interview to be audio taped or not. If they choose not to have an audio recording made of the interview, then the researcher will take hand-written notes of the conversation. Transcripts of the participants interview will be provided afterwards to the participants and they have the option at any time to withdraw from the study. I have worked in several possible research sites and have selected several (at very least three)

		commercial workshops as potential places to recruit participants. The interviews will not take place at the workshop sites where participants work, but instead in places that are convenient for the participant such as a library or coffee shop. This will help to ensure some confidentiality for the participant, but pseudonyms will also be used to protect the identity of the participants. Using a process of open coding core themes will be developed from interpretive analysis of the audio recordings and transcripts from the semi-structured interviews. Open coding is a qualitative method of data analysis that involves generating "as many codes as possible, at least initially without considering possible relevance either to established concepts in one's discipline or to a primary theoretical focus for analyzing and organizing them" (Emerson et al, 2003, p.182). This method of coding the semi-structured interviews will allow the researcher over the course of the research to develop analytic frames and core themes that describe the subjective work experiences and occupational identities of participants in the study.
2.4	If your submission deals with groups such as aboriginal peoples, or isolated communities, or work in other	No

	countries or cultures please indicate "YES" here and complete the Cultural Research tab of form.	
2.5	Indicate the inclusion criteria for participant recruitment.	-craft professionals who are members (or members who have recently retired) of IATSE Local, 873,129, 828; who work as scenic artists, props builders, carpenters and welders for commercial scenery workshops. -owners and managers of commercial scenery workshops that have contractual agreements with IATSE Local 828,129. -designers who work collaboratively with crafts professionals in these workplaces. I will try to interview craft professionals who have worked in the industry for many years as these individuals have witnessed many changes in working conditions over this time period. Those crafts people who have "survived" in a tough industry have the long view, and have over thirty years of experience to draw from. I also want to conduct at least ten interviews with those who are in mid-career and just beginning to work as scenic artists, props builders, carpenters and welders. As gender is an important consideration, I will aim to interview more women than men in order to gather information about their perceptions and experiences.

2.6	Considering your inclusion criteria listed above, what is the basis to exclude a potential participant?	I would exclude from this study, those workers in the commercial shops whose work is not directly related to material craft-based labor, or the management of the design and construction projects; such as administrative support staff or workers hired as labourers to load the trucks during the load-outs. Craft technicians who are not members of IATSE 828, 129 or 873 are not eligible to be participants in the study.
2.7	How many participants over the age of 18 from London will be enrolled in your study? This includes hospital and university sites within London.	None
2.8	How many participants under the age of 18 from London will be enrolled in your study? This includes hospital and university sites within London.	None
2.9	How many participants over the age of 18 will be included at all study locations? (London + Other locations = Total)	45
2.10	How many participants under the age of 18 will be included at all study locations? (London + Other locations = Total)	None

#	Question	Answer
2.11	Does this study include any use of deliberate deception or withholding of key information that may influence a participant's performance or response?	No
2.12	If YES is selected in question 2.11 above, provide an explanation, including how participants will be debriefed and attach the debriefing script you will use in the attachments tab.	

3. Risks and Benefits

#	Question	Answer
3.1	List any potential benefits to the participants.	The benefits to the participants will be a more comprehensive understanding of how digitization and economic practices are re-structuring craft in culture industry work and this understanding could potentially be a useful resource for union groups to collectively negotiate with government cultural policy networks.
3.2	List any potential benefits to society.	An examination of the working lives of crafts professionals in Ontario can be applied to understanding what issues should be prioritized in policy advocacy strategies for union organizations that are affiliated with federal and provincial cultural policy networks.

| 3.3 | List any potential risks to study participants. | If participants are critical of management practices of a particular workplace and their identity is not concealed, it could affect their employment status. For this reason the LOI should inform participants that though efforts will be made to protect the participants identity as much as possible, there is no guarantee of confidentiality in regards to the description of specific projects in the interviews and in the participant observation. The risks to the participants are thus mitigated, (the risks being the possibility of any criticism of management being traced to specific participants) if they are informed of this possibility before they consent to be interviewed. |
| 3.4 | List any potential inconveniences to daily activities. | I do not foresee any potential inconvenience to daily activities as a result of this study. |

4. Recruitment and Informed Consent

#	Question	Answer
4.1	How will potential participants be contacted? Select all that apply. A copy of all recruitment tools that will be used must be included with this submission in the attachments tab.	In person|Email (mass email list)|Telephone
4.2	If other is selected in 4.1, please explain here.	

| 4.3 | Please explain in detail how the above method(s) from 4.1 will be used to recruit participants. | I will recruit participants through my list of work contacts and by contacting workshops in the greater Toronto area by email or telephone. I will also attend a union meeting of local 828 and ask for members' participation in the study. Because I am not a member of local 873 or 129 I will request permission from the executive board to inform members |

| | | (using recruitment email in attachments) of these locals of about the study and ask for their participation in it. Several potential participants have expressed interest in this project using the contact information I have for them. For the participant observation study, I will ask permission from the owners of the workshops to observe the work sites. (letter of |

		permission in attachments). Several potential participants have expressed interest in being part of this research study, though I have recruited using email or telephone numbers, but in person.
4.4	Which research team members will be recruiting the potential participants?	Jennifer Hambleton
4.5	Does the Principal Investigator have any relationship with the potential participants?	No
4.6	Does the person recruiting the participants have any relationship or hold any authority over the potential participants?	Yes
4.7	If you have answered "YES" to either 4.4 or 4.5, please explain here.	I have worked with some potential participants in the past on

		building projects.
4.8	Indicate if you will be recruiting from any of the following groups specifically for this study (Select all that apply).	Not applicable
4.9	Indicate any anticipated communication difficulties (Select all that apply).	None
4.10	If Other was selected in 4.8, please indicate what you mean by this.	
4.11	If you have selected one of the anticipated communication difficulties above in question 4.8, please describe what procedures will be used to address this issue (e.g., the use of translated forms, translator, impartial witness, etc.).	
4.12	What method of obtaining consent will you use for participants? A copy of all forms being used for obtaining consent must be included with this submission please add to the attachments tab. Please note that templates for many of these documents can be found on our website at http://www.uwo.ca/research/services/ethics/nonmedical_reb/tips.html. Failure to use these templates may result in a delay in approval.	Written consent
4.13	If you are unable to obtain consent or assent using one of the methods listed above, please explain here. (Note, this does not apply to cultural research, please see the Cultural Research tab).	
4.14	Indicate whether participants will be compensated for their participation. For example, reimbursement for expenses incurred as a result of research, description of gifts for participation, draws and/or compensation for time. Include a justification for this compensation.	No compensation will be provided, the

		participants are participating in this study on a voluntary basis.

5. Confidentiality and Data Security

#	Question	Answer
5.1	How will data without personal information be stored and protected?	Laptop|Memory Stick|Not stored electronically
5.2	If "not stored electronically" was selected in 5.1 please indicate where data will be stored.	I plan to keep some of my field notes in a notebook.
5.3	If OFF-SITE is selected above, please explain where and what security measures are being used.	
5.4	Western University policy requires that you keep data for a minimum of 5 years. Please indicate if you are keeping data in accordance to this policy, otherwise please comment on how your data retention will differ from University policy and why. If you will be archiving the data, please explain why and how here.	I will keep the data gathered in accordance with this policy.

5.5	How will electronic and paper documents as well as study data be destroyed after this period? (if applicable)	Electronic documents will be erased and over-written from hard-drive on lap-top. The memory stick will be dismantled and paper documents such as consent forms will be shredded.
5.6	Are you collecting any personal information from participants?	Yes
5.7	If you checked any of the personal information in 5.6 above, please justify this collection.	It is important to gather data about worker's perceptions of their work experiences and the quality of their working lives and this means collecting or recording personal narratives and views.
5.8	'If you checked any of the personal information in 5.6, please indicate where these identifiers will be collected. Please note that no identifiers can be collected or stored with the data. Identifiers should be stored on a master list separate from the data and linked only with a unique ID'	Identifiers will be stored separately from the data and identity will be coded using pseudonyms to ensure confidentiality.
5.9	If YES is selected in question 5.6 above, which personal information is being collected? (select all that apply)	Full name|Telephone number|Email
5.10	Please list any agencies/groups/persons outside of your local research team who may have access to any participant's	None

	personal information and indicate why such access is required.	
5.11	Describe any coding system used to protect personal information or explain why the data must remain identifiable.	It is important to conceal the personal identity of the participants to maintain their professional roles.
5.12	How will the master list, signed original consent forms or other data with personal information be stored and protected?	Paper file (Required protection: Locked cabinet in locked institutional office)
5.13	If OTHER is selected in question 5.12 above, please describe.	
5.14	Does this study require you to send any of the information listed in 5.7 outside of the institution where it is collected? This includes data taken off-site from the site it is initially collected for analysis. If yes, a data transfer agreement may be necessary.	No
5.15	If you answered "YES" to 5.14, provide details as to where and how data will be transmitted.	
5.16	How will study data be recorded?	Audio Recording|Video Recording|Audio + Video Recording
5.17	If you checked Audio Recording in question 5.16 can participants take part in the study if they do not wish to be audio recorded? This information must be included in your Letter of Information.	Yes

#	Question	Answer
5.18	If OTHER is selected in question 5.16 above, please describe.	

6. Cultural Research

#	Question	Answer
6.1	Indicate which of the following special considerations should be acknowledged when reviewing the ethical standards of your research.	
6.2	Address how the work will be dealt with and what approvals have been or will be sought from the community.	
6.3	Address how you will obtain consent from the group you are working with, if written consent cannot be obtained.	

7. Confirmation of Responsibility

#	Question	Answer
7.1	As the Principal Investigator I have read the Tri-Council Policy Statement 2 and Western University's Guidelines on Non-Medical Research involving Human Subjects and agree to abide by the guidelines therein: http://www.uwo.ca/research/ethics/non-medical/guidelines.html;	Yes

7.2	I attest that all Collaborators working on this Research Study (co-investigators, students, post- docs, etc.) have reviewed the protocol contents and are in agreement with the protocol as submitted;	Yes
7.3	All Collaborators have read the Tri-Council Policy Statement 2 and Western University's Guidelines on Non-Medical Research involving Human Subjects and agree to abide by the guidelines therein;	Yes
7.4	The Collaborators and I will adhere to the Protocol and Letter(s) of Information as approved by the REB;	Yes
7.5	Should I encounter any changes or adverse events/experiences, I will notify the REB of in a timely manner; and	Yes
7.6	If the Research Study is funded by an external sponsor, I will not begin the Research Study until the contract/agreement has been approved by the appropriate university, hospital, or research institute official;	Yes
7.7	Have you exported a copy of this submission to Word using the "Export to Word" button? Note that you will be unable to submit future revisions if this is not done.	Yes

| 7.8 | Have you uploaded the following documents, if applicable, to the attachments tab? If you are unsure of what documents are needed with your submission please contact our office before submitting to clarify. Incomplete submissions will be returned without being reviewed. | Letter(s) of Information and Consent Documentation\|Instruments\|Other |

8. Confirmation of Responsibility - Student

#	Question	Answer
8.1	Is this a student project?	Yes
8.2	As the Student I have read the Tri-Council Policy Statement 2 and Western University's Guidelines on Non-Medical Research involving Human Subjects and agree to abide by the guidelines therein: http://www.uwo.ca/research/ethics/non-medical/guidelines.html;	Yes
8.3	I will adhere to the Protocol and Letter(s) of Information as approved by the REB;	Yes
8.4	I will notify the Principal Investigator as soon as possible if there are any changes or adverse events/experiences, violations/deviations in regards to the Research Study;	Yes

Attachments

Description	File Name	Version Date
	106589 Blackmore (P).pdf	21/04/2015
Initial Approval Notice	DOC060415-06042015135212-0007.pdf	04/06/2015
Western Protocol (Revised)	Western Protocol-revised-tracked changes (Autosaved).docx	14/09/2015
Western Revised Protocol	Western revised-clean.pdf	14/09/2015
2015/09/14 – Amendment	DOC100915-10092015101134-0005.pdf	09/10/2015
2016/05/17 – CER	DOC060116-06012016145345-0027.pdf	01/06/2016

Appendix B: Letters of Information and Consent Forms

Western
UNIVERSITY · CANADA

Project Title: Craft Labour in Cultural Production

Principal Investigator: Dr. Tim Blackmore

Faculty of Information and Media, Western University

Letter of Information

1. **Invitation to Participate**

   I am inviting you to participate in this research study because you are a professional craftsperson, designer or project manager whose work involves the creation of theatrical scenery and display environments. Your insight and experience is important to learning more about how this kind of work incorporates digital design and fabrication technology and what collaborative relationships and skills are required to work on projects that utilize these methods of production as well as more traditional craft techniques in work practices.

2. **The Purpose of the Letter**

   The purpose of this letter is to provide you with information required for you to make an informed decision regarding participation in this research.

3. **The Purpose of this Study**

This study will examine the organization of the work of crafts professionals in culture industry scenery workshops. Design fabrication tools that have been incorporated in craft practices mediate experiential and practice-based learning in workshops that build theatrical sets and display environments. The study will consider how these technologies are incorporated into daily work practices and how these technologies alter the experience of work in particular ways.

4. **Inclusion Criteria**

In order to participate in this study you must be a professional craftsperson who has or has held a membership in IATSE Local 828, 873 or 129; a designer who has collaborated with craft professionals affiliated with these locals to realize a design in material form; a owner or project manager who oversees the development of fabrication projects for display environments or theatrical productions.

5. **Exclusion Criteria**

Those who are not members or have not been members in the past of IATSE Local 828, 129, 873 or whose work does not involve some aspect of creative collaboration or management of projects at the work sites selected are not eligible to take part in this research study.

6. **Study Procedures**

If you agree to participate in this study you will be asked to participate in an interview that will take approximately one hour and answer several questions about your work experience. The interview will be audio re-corded only if you give your permission with a small digital voice recorder. Your refusal to be recorded during the interview does not affect whether you can participate in the study. The interview will take place in a mutually agreed upon quiet and comfortable location.

All records, tapes and notes of individual interviews will be kept private. I will use pseudonyms in all publications and no one will be identified by name in this study.

Participant's references to specific work projects will be altered as much as possible but because of the specificity of some of the projects described I cannot guarantee complete confidentiality.

7. Possible Risks and Harms

Participant's references to specific work projects might allow for participant's identity to be inferred, and because of the specificity of some of the projects described I cannot guarantee complete confidentiality.

8. Possible Benefits

The benefits to the participants will be a more comprehensive understanding of how digitization and economic practices are re-structuring craft in culture industry work and this could potentially be a useful resource for union groups to collectively negotiate with government cultural policy networks.

9. Compensation

You will not be compensated for your participation in this research.

10. Voluntary Participation

Participation in this study is voluntary. You may refuse to participate, refuse to answer any questions or withdraw from the study at any time.

11. Confidentiality

All data collected will remain confidential and accessible only to the investigators of this study. If the results are published, your name will not be used. All data and consent forms will be stored in a locked secure place; a locked cabinet in an institutional office.
Representatives of The University of Western Ontario Non-Medical Research Ethics Board may contact you or require access to your study-related records to monitor the conduct of the research.

12. Contacts for Further Information

If you require any further information regarding this research project or your participation in the study you may contact Dr. Tim Blackmore at----------, or email:-----------. If you have any questions about your rights as a research participant or the conduct of this study, you may also contact The Office of Research Ethics--------, email:---------.

13. Publication

If the results of the study are published, your name will not be used. If you would like to receive a copy of any potential study results, please provide your name and contact number on a piece of paper separate from the Consent Form.

This letter is yours to keep for future reference

Consent Form

Project Title: Craft and Digital Fabrication in Theatrical Production

Study Investigator's Name: Dr. Tim Blackmore

I have read the Letter of Information, have had the nature of the study explained to me and I agree to participate. All questions have been answered to my satisfaction.

Participant's Name (please print):

_____

Participant's Signature:

_____

Date:

_____

I give my permission to have this interview audio-recorded.   yes / no

Person Obtaining Informed Consent (please print): _____

Signature:

_____

Date:

_____

Dear Recipient:

I am a PhD Candidate in the Faculty of Information and Media at the University of Western Ontario. A component of my dissertation research has to do with learning more about the working lives and occupational identities of craft technicians. There is very little academic inquiry that looks at the ways that this work is organized, as well as how digital fabrication technology is incorporated into the projects that are built in collaboration with designers and projects managers to create theatrical scenery and display environments. In order to study these aspects of craft technician's work I would like to ask your permission to visit your workshop and observe the work being done.

My research study is based on standard methods of ethnographic research in the discipline of anthropology. Researchers in cultural anthropology (ethnographers) engage in participant observation, a method of fieldwork, in which the ethnographer learns through observing everyday activities and work practices. I will take detailed notes and record information about how work is organized, what methods and approaches are used to solve technical challenges and how time constraints influence the nature of the work. The data gathered in this study would make a valuable contribution to a growing area of scholarship called creative labor. Moreover, all data collected will remain confidential and accessible only to the investigators of this study. If the results are published your name will not be used and pseudonyms will be used to protect participant's identity.

This research study has been approved by the Office of Research Ethics at the University of Western Ontario and should you have any questions or concerns regarding this research project or your participation in the study you many contact me, the student researcher at --------------or the Principal Investigator of the study Dr. Tim Blackmore------ -------. As well, if you have further questions, you may also contact The Office of Research Ethics.

Sincerely,

Jennifer Hambleton

PhD Candidate
The University of Western Ontario

Interview Questions: Semi-Structured Interview

Crafts workers

1. What is your educational background and what originally led you to craft related work?
2. How long have you been a member of the local and what was the process of being admitted into the local like for you?
3. What changes in work practices have you observed during your affiliation with the local?
4. Have you ever used digital fabrication or digital design programs to build something?
5. Does the design shape the whole process of making something or do aspects of the project or the approach to the project change during the process?
6. Give a specific example of how digital fabrication technology improves the quality of the work process.
7. Are you personally interested in learning more about the design process or are you more interested in working with materials?
8. Do you feel as though your opinions and thoughts about how the work process is organized matter to those in management or to the designer of the project? Do you see the relationship between the designer, craftspeople and managers as collaborative?
9. Do you have a sense that the production processes in the shop have been altered due to technological processes in any way over the past few years?
10. Why do you think that very few women work in carpentry and welding as opposed to hard props, soft goods and paint?

Managers/Owners

1. Do you think that using digital design and fabrication offers you a competitive advantage? Would you consider investing more towards purchasing new tools to print objects?
2. Do you think that the skill level of crafts workers has changed over the past ten years?
3. What is the process of bidding on work projects in an international market like, could you describe this?
4. Are you planning to outsource any elements of building projects?
5. How important is the skill of the craftspeople to the successful completion of a project?
6. How important is collaboration between the designers and craftspeople to the quality of the final product?
7. Over the past ten years, how has the industry changed and what strategies have you used to adapt?
8. As theatre becomes more industrialized, requiring the use of more materials such as fibreglass as opposed to papier-mâché, does this make this type of work less reliant on traditional craft skills that are rooted in theatrical traditions?
9. How flexible does your company need to be compete effectively?

10. Do you try to keep some workers, the core workers employed even if it might mean a loss?

Designers

1. Could you describe your educational background and reasons for choosing this type of work?
2. Do you need to travel often to visit work sites where your designs are being made or are you content to communicate through email about the progress of the build?
3. How important are the nitty-gritty details of the work, do you like to know exactly what approach is being used, choose specific materials or do you trust that your design will be interpreted in the way you want it to?

Email Recruitment script

Craft Labour in Cultural Production

Email subject line: Western University Research Study-Craft Labour in Cultural Production

I am inviting your participation in this research study because you are a professional craft person who is affiliated with IATSE local 828, 129 and 873; you are either presently a member of one of these locals or have been a member in the past. Your insight and experience is important to learning more about working conditions for craft labour in culture industry production.

The purpose of this study is to gain more knowledge about the occupational identities of workers who contribute technical knowledge and skill to the creation of theatrical scenery and display environments. The study will examine such aspects of the work as: digital design and fabrication being increasingly incorporated into building projects, precarity, and collaboration with designers and managers in culture industry workshops. By taking part in this study, hopefully more information can be obtained about recent re-structuring and organization in culture industry work and how digitization, economic practices, cultural changes and attitudes affect the working lives of craft technicians in media industries.

If you choose to participate in this study, you will asked to answer several questions about your work in a interview with the researcher of approximately one hour in length.

As well, efforts will be made to arrange for the interview to take place at a time and location that is convenient for you and you have the option to withdraw your participation from the study at any time until December 2015. I have attached a Letter of Information that provides full details about the study and a consent form.

This study has been reviewed and approved by the Western University Ethics Board and should you have any questions about your rights as a participant or about the way the study is being conducted please either respond to this email or contact:

Principal Investigator Dr. Tim Blackmore, ---------------or the Office of Research Ethics

Thank you for your consideration and I hope you decide to participate in this study.
Yours truly,

Jennifer Hambleton

Appendix C: Letters of Permission for Publications

12 December 2017

Our Ref: KA/RFMC/P17/1927

Dear Jennifer Hambleton,

Material requested: "Painting a Backdrop: Scene-painting and Digital Media" submitted for review to The Journal of Modern Craft.

Thank you for your correspondence requesting permission to reproduce the above mentioned material in your thesis and to be posted in the university's repository.
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Curriculum Vitae

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Publications:

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Hambleton, Jennifer. 2016. "Broadway North: Craft in Canadian Creative Industry Production." *Work Organisation, Labour and Globalisation*. 10(1): 64-79.

Conferences:

Congress 2017: Joint panel on Precarious Labour, CAWLS and CCA. Toronto, Ontario. May 31, 2017
Paper presentation: From Seniority-based to Skill-based: Canadian IATSE Locals adapt to Media Entertainment Industry Change.

Presumed Autonomy: Literature and the Arts in Theory and Practice, Stockholm, Sweden, May 10-13, 2016.
Paper presentation: Autonomy and the "workmanship of risk."

SWPCA, Southwest Popular/American Culture Association, Albequerque, New Mexico, United States, February 10-13, 2016
Paper presentation: Scenography and Scene Painting in the Digital Age.

Apps and Affect, University of Western Ontario, London, Ontario October 2013
Paper presentation: De-coding Gesture.