

Reflections



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9

Reflections

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Reflection (ri flek shen) n. 1.) The act of casting back from a surface. 2.) To happen as a result of something. 3.) Something that exists dependently of all other things and from which all other things derive. 4.) To look at something carefully so as to understand the meaning.

Contents

David Walters	Arcadia, Utopia and the Collapse of Post-Modern Space: Mythologies of the Urban Frontier	4
Gifford Pierce	Kahn's Frames and Walls	14
Robert Dell Vuyosevich	Reflections on the Nature of the Wall	24
Paul Kruty	Walter Burley Griffin	32
Mati Maldre	Portfolio of the Architecture of Walter Burley Griffin: A Photographic Essay	44
Robert I. Selby	New Visions for Philadelphia	52
	En Charrette Exhibition of Selected Projects from the School of Architecture, University of Illinois at Urbana-Champaign	58

Images on pages 23, 31, and 43 are from Jeffrey S. Hartnett's studio, University of Arkansas. The work was done by Jason Hayes.



*Cover: The Joshua Melson House by Walter Burley Griffin, 1912, Rock Crest Development, Mason City, Iowa
Detail of second-story windows.
The five-part keystones are actually monolithic blocks of reinforced concrete.
Photographs of Mati Maldre*

Arcadia, Utopia and the Collapse of Post-Modern Space: Mythologies of the Urban Frontier

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Each generation revises its history to suit its attitudes, but the sources can never be revised.

Dee Brown, *Wondrous Times on the Frontier*, p.16.

It is an acceptable generalization to say that much of our American cultural production has been informed by the dialectic between the city and the country. At various times virtue has been seen to reside in the urbane setting of the city; at others, in the rustic simplicity of the unspoiled countryside. This article is about the founding mythologies of American urban development; the dichotomous relationships between these myths and the actual circumstances of urbanization; and the relevance of this dichotomy to the contemporary crisis in urban design concerning the increasing privatization and simulation of public space and the contraction of socio-political experience in the communal realm of our towns and cities.

This article examines this mythic distance, or the separation of belief from experience, as a component of America's historical and contemporary urban expansion. During the nineteenth century the urban frontier was extending its geographical boundary across the American West—propelled by the conflicting myths of Arcadia and Utopia, or Eden and Jerusalem in the Judaic-Christian tradition. Both cultural perspectives are clearly seen in two paintings by the English-born painter (and founder of the Hudson River school) Thomas Cole (1801-48), *The Dream of*



Thomas Cole, *The Dream of Arcadia* (1838).



Thomas Cole, *The Architect's Dream* (1840).

Arcadia, dating from 1838, and the utopic *The Architect's Dream*, painted two years later. Despite their contradictions, both these expansionist myths fitted well the colonizing imperatives of new settlement and mastery of the wilderness. However, from the vantage point of hindsight, it is clear that these myths and their means of representation established belief systems that were considerably removed from the actualities of settlement in the lands of the West, and this, in turn, suggests that this concept of mythic distance (from experiential reality) may be useful in

illuminating aspects of the contemporary crisis of post-modern urbanism. Context is provided for this inquiry by means of a discussion concerning the three stages of growth in our capitalist socio-economic system to the present day and these transitions are related to changes in the cultural perceptions and spatial ordering systems of our environment.

Although the urban environment today continues to undergo a process of physical expansion, other aspects of our contemporary post-modern condition are significantly different and contradictory to the nineteenth century world of early modernism. In many ways the experience of space in our time is characterized by an opposite phenomenon, that of implosion and compaction. Our crisis is one of a debilitating ambiguity between the structure and the experience of post-modern space, and an increasing reliance on nostalgic simulations as placebos for this condition and as the primary media of urban design. The public dimension of our urban environment is being replaced by a collage of private experiences, where the simulacrum of communality is provided by the intervention of media and information technology: we sit isolated in our video worlds consuming mass culture in ways that diminish both our sense of civitas and of our individual persona.

Traditional urban concepts of propinquity are being replaced by those of accessibility: real distance itself has become suppressed and spaces saturated by a perpetual and destabilizing barrage of immediacy through ubiquitous information technology. The stabilizing concept of place is being eroded and replaced instead by the fabricated situation, where presence is defined by transitory activity rather than rooted location. Our sense of existential grounding, of being in a place whose physical characteristics dominate the experience and enhance memorability, is being replaced by environments fabricated from increasingly sophisticated images and simulacra. These environments comprise retail malls, hotel atria, eye-catching corporate plazas such as Ricardo Legorreta's series of Mexican haciendas for IBM at Solana, Texas, and, more recently, nostalgic reincar-



"...environments fabricated from increasingly sophisticated images and simulacra"; Ricardo Legorreta, "Village Center", IBM Corporate Headquarters, Solana, Fort Worth, Texas (1988) (author's photograph).

nations of the traditional American small town or garden suburb. Projects of this type have been filling the pages of magazines like *The Builder* (January 1990) and *Land Development*, *The Journal of the National Association of Home Builders* (Winter 1989/90), and they engage our activities with seductive settings which, because of their fabricated and illusory quality, are infinitely repeatable and independent of physical location.

This current, and problematic, fascination with nostalgic models of urban form in the face of far-reaching spatial and cultural transformations indicates that we seem to understand neither our present condition nor our urban future, and this is perhaps, in part, because we do not fully comprehend our urban past. In clarifying some aspects of this past, particularly those having to do with the relationships between our mythic beliefs about the environment and the experiential realities of that same environment, it may be possible to see more clearly what are the parameters of our present condition.

□

The first American frontier was settled by people whose world lay between the city and the country: their spiritual well-being was dominated by the Two Cities conceived by St. Augustine and by John Foxe in his *Book of Martyrs*, written in 1554. In these texts the history of the world was the history of the eternal struggle between two cities, the City of God and the City of Man—between the heavenly New Jerusalem and the earthly corruption of Babylon—and this Christian urban eschatology did not loosen its grip on colonial thinking until late in the seventeenth century, when it was replaced by alternative conceptions based on European experience and the humanist tradition. From the cultures of Greece, Rome and the Renaissance the founders of America's first cities inherited a view of the city as a seat of power and cultural authority—a place both intellectually and aesthetically refined—and combined this view with their expectations of possessing and exploiting a rural wilderness. The outcome of these divided aspirations is the history of the American city. Indeed, the rise of the industrial city coincided with American sentiments predicated on Romanticism and heroic myths of the frontier.

The basic agrarian myths, America as a new garden of Eden, and the frontier as a testing place for virtue and virility, were complimented by the myth of "manifest destiny" which has been pre-eminent among the foundation myths of American nationalism.¹ Manifest destiny was the belief, popular during the middle years of the nineteenth century, that the United States was impelled by providence to expand its territory westward. Works of art such as those of Thomas Cole and the Hudson River School along with works by George Caleb Bingham (1811-79), Albert Bierstadt (1830-1902) and Frederick Remington (1861-1909), to name just a few, played a central role in forming this (and other) national myths. The representations of the West in nineteenth century art served to incorporate the western regions emotionally and ideologically as a core element of national identity. The metaphorical qualities of landscape and allegorical painting existed



"...the symbol of man's fall from grace";
Thomas Cole, *The Course of Empire—Destruction* (1836).

as a counterpoint to the concrete realities of cities, but as we shall see, these concrete realities were themselves often constructed from deep mythological foundations.

Whether people believed that the West actually looked like these paintings matters less than the fact that these images are deeply etched on our collective memory. But these founding agrarian myths are challenged by two sets of circumstances, firstly, an accurate reading of contemporary nineteenth-century pro-urban sentiments in the writings of many commentators, guide book authors and critics; and secondly, modern revisionist history which recasts the "good and natural" expansion of manifest destiny as unprincipled imperialist aggression. In the wake of seminal books such as Dee Brown's *Bury My Heart at Wounded Knee* (1972), exhibitions such as *The West as America: Reinterpreting Images of the Frontier, 1820 - 1920* at the National Museum of American Art in Washington, DC (1991) and films like Kevin Costner's recent *Dances with Wolves*, the popular myths of adventure and settlement have been recast as tragedies of expansion and conquest.

The age of westward expansion itself was characterized by a combination of Enlightenment Rationalism and eighteenth century Romanticism, both of which espoused concepts of the "natural" man. Cities, as artificial constructs, were seen as "corruptive of the elemental man." For Jefferson, cities were "like sores on the human body," while for Emerson and Thoreau the city smothered the individual; greater self-fulfillment was to

be found in the embrace of nature.² But this fulfillment was transcendental, not material. Literature's metaphysical view of the unnatural city formed a general indictment of urban life and values whereby the city came to represent materialism, corruption, commercialism and the evil influences of the old British Empire. The lands of the west, by contrast, were "a screen for many projected ideals."³ These "free lands of the west" would, it was thought, produce a different society from the Old World, one that was free from the stultifying hold of the past. Virgin lands beyond the Mississippi River beckoned European settlers and invited them to turn the plains into a garden. As these western lands continued to represent a new Eden, the city, by contrast, once again became the symbol of man's fall from grace, an imaginary blend of Babylon, Sodom and Gomorrah, depicted in its ruination by paintings such as Cole's *The Course of Empire—Destruction* (1836).

Although the anti-urban philosophers, novelists and painters of the nineteenth century present a clear and powerful Arcadian vision, to think that nineteenth century Americans were uniformly hostile to the city oversimplifies the complexities of popular thought. In fact, the defenders and prophets of the new American cities reflected what was, in all

probability, a more common view of the city. Even post-Civil War intellectuals, such as Henry Adams and John Dewey, disliked the city not so much because they favored the wilderness, or felt the constraints of civilization, but because the nineteenth century American city was not civilized enough. And to represent the city merely as an agent of anonymity and dehumanization is to present only one shade of the intellectual spectrum. The city's capacity to cause isolation and depersonalization cannot be separated from its power to stimulate, educate and define personality. Cities were valued as places of opportunity, venues of societal and economic mobility, culture and social progress. Indeed, the city was also seen as a testing ground for Christian virtues, the "city upon a hill," a new Jerusalem, an ideal city that would be a monument to Christian principles of moral and intellectual beatitude. A clear distinction was made between the old cities of the eastern seaboard, representing all that was corrupt in the Old World of Europe and its autocratic capitals, and the vigorous, unsullied new urban centers of the west and south. By mid-century, visions of America's urban future had developed: the great rivers and bountiful resources of the west were to be the fountainhead of a land of magnificent cities—cities that would grow to rival the

View of Colorado Springs, Colorado (1882).



metropolises of Europe and Asia. In reality, the rise of cities such as Cincinnati, Kansas City, Chicago, St. Louis and Denver was fundamental to the economic development of westward expansion, and with schemes such as William Strickland's plan for Cairo, Illinois (1838), and Palmer and Greenwood's development of Colorado Springs, Colorado (from 1871), the West spawned elaborate visions of utopian urban futures at the same time that it sustained the Arcadian myth of America as an agrarian republic.

It took nearly a hundred years for the mythologies of American colonization of the West to be separated from the facts, and still much public support exists for the romance of myth in preference to historical objectivity. Many artists, writers and town builders of the nineteenth century did not show the West as it really was; they chose instead to mythologize it in order to promote it, and, in its representation, to aestheticize its transformation from free ethnic lands to conquered domain. Contemporary architects and urbanists, in their turn, find themselves witnessing and recording another transformation, that of public space into its privatized simulacra. These designers are the providers of the aesthetic codes in which this spurious community is masked and mythologized, and by which this political loss is dissimulated and the pain of a troubled present eased.

The Arcadian myth was dislocated from many of the socio-economic realities that shaped America during the nineteenth century, and this comprehension of the distance between fable and reality is something that helps the critic to understand the patterns of spatial extension particular to the contemporary period, that of third generation or "late" capitalism. At this present time, while the physical environment continues to undergo a process of geographic expansion, our actual experience of space and time is paradoxically characterized by an implosion and a compaction. Daily life is increasingly saturated by information that suppresses distance and fragments experience into discontinuous pieces that together form an intense collage of global proportions, a jigsaw of time and refer-

ence, rather than any narrative of experience rooted in the events of our particular place and time. This is nowhere more evocatively illustrated than in the following passage from Penelope Lively's novel *City of the Mind* (1990):⁴

...driving through the city, he is both here and now, there and then. He carries yesterday with him, but pushes forward into today, and tomorrow, skipping as he will from one to the other. He is in London, on a May morning of the late twentieth century, but is also in many other places, and at other times. He twitches the knob of his radio: New York speaks to him, five hours ago, is superseded by Australia tomorrow and presently by India this evening. He learns of events that have not yet taken place, of deaths that have not yet occurred. He is Matthew Halland, an English architect stuck in a traffic jam, a person of no great significance, and yet omniscient. For him, the world no longer turns; there is no day or night, everything and everywhere are instantaneous. He forges his way along Euston Road, in fits and starts, speeding up, then clogged again between panting taxis and a lorry with churning wasp-striped cement mixer. He is both trapped, and ranging free. He fiddles again with the radio, runs through a lexicon of French song, Arab exhortation, invective in some language he cannot identify. Halted once more, he looks sideways and meets the thoughtful gaze of Jane Austen (1785-1817), ten feet high on a poster, improbably teamed with Isambard Kingdom Brunel and George Frederick Handel, all of them dead, gone, but doing well—live and kicking in his head and up there guarding the building site that will become the British Library. And then another car cuts in ahead of his, he hoots, accelerates, is channelled on in another licensed burst of speed. Jane Austen is replaced by Saint Pancras. Thus he coasts through the city, his body in one world and his head in many. He is told so much, and from so many sources, that he has learned to disregard, to let information filter through the mind and vanish, leaving impressions—a phrase, a fact, an image. He knows much, and very little. He knows more than he can confront; his wisdoms have blunted his sensibility. He is an intelligent man, and a man of compassion, but he can hear of a massacre on the other side of

the globe and wonder as he listens if he remembered to switch on his answering machine. He is aware of this, and is disturbed. The city, too, bombards him. He sees decades and centuries, poverty and wealth, grace and vulgarity. He sees a kaleidoscope of time and mood; buildings that ape Gothic cathedrals, that remember Greek temples, that parade symbols and images. He sees columns, pediments and porticos. He sees Victorian stucco, twentieth-century concrete, a snatch of Georgian brick... The resonances of the place are universal.

Fractured experiences such as these provoke stresses within our urban lives, tensions which are resolved in part by the substitution of compatible myths for problematic realities, thereby creating our own post-modern version of "mythic distance." In a recent essay, Michael Sorkin has described post-modern culture as being "about the weaving of ever-more elaborate fabrics of simulation, (and) about the successive displacement of authentic signifiers."⁵ What this is coming to mean in an American context is the continuous transformation of urban images, icons and signs into a system of ersatz geography where the city is no longer lived as authentic experience, but rather consumed as a spectacle, a means of bringing "closer" our preferred images and simulations in an attempt to overcome our alienation from the urban environment in all its fragmentary delirium. Citing examples such as the mega-malls in Edmonton, Alberta, and Minneapolis; ever more sophisticated theme parks that synthesize and propagate seductive urban myths; the corporate plazas that fabricate the illusion of public space; and the "exopolis" or "city-without-a-city" that is Orange County, California and many other cloned locations, Sorkin examines the ways in which "computers, credit cards, phones, faxes and other instruments of artificial adjacency are rapidly eviscerating historic politics of propinquity, the very cement of the city, (leading to) the emergence of a new kind of city, a city without a place attached to it."⁶ This virtual city, apart from its revolutionary electronic simultaneity, is different from traditional experiential urban reality in another, vital, at-

tribute. It is a sanitized reality, an apparatus for keeping urban problems of blight, homelessness and errant behavior out of sight. It is also, by this process, a substitute for a truly democratic and public urban reality: in "stripping troubled urbanity of its sting,"⁷ this post-modern city of privatized simulation is in the process of obliterating the power of its citizens to act, either alone or in concert. It is a crisis, many critics claim, not only for urban design, but for democracy itself.

□

This relationship is clearly a vital issue, for from the moment of its inception forward into its history, any city is the result of decisions about the use and arrangement of space for human activity, whether individual or communal. Even the most primitive town plan, or a town developed without a plan, has something to say concerning the way in which the town was thought about by its inhabitants. Urban design can be the outgrowth of a multitude of private decisions about the use of land, or a visual representation of a cultural identity arrived at by deliberate planning and architectural execution.

The people who planned America's early cities had access to several traditions of urban design, but the predominant method of forming new towns and cities was the grid, which was seen largely as a utilitarian and strategic device. With the significant exception of Washington, DC, spatial ideas patterned on Baroque planning, were far less numerous, although urban historian John Reps reminds us that such plans are more common than often supposed, citing Verlé's plan for the westward extension of Philadelphia (1802), and Woodward's famous plan for Detroit (1807), amongst others less well known.⁸ Neo-Baroque plans placed greater emphasis on set-piece civic aesthetics than did the simple orthogonal plan, which allowed the easy quantification of urban space for a multitude of pragmatic and varied circumstances. It was this ease of laying out a grid, and its capacity for extension that made it the preferred method of American town building and a very suitable tool for a society preoccupied less with the aesthetic expression of a communal vi-

sion than with private ownership and speculative exchange of landed property.

This illustrates very clearly the relationship between the spatial system of the new towns and cities that colonized the American landscape and the socio-economic conditions that produced them. Unencumbered by the presence of any older and more complex patterns of sacred or hierarchical space, the logic of the grid, with its geometric and Cartesian homogeneity, provided a spatial system that was ideal for the efficient operation of a capitalist expansionist economy. The development of the modern and post-modern city in America is inextricably bound up with the successive transformations of the capitalist economy; the critic Frederic Jameson has identified⁹ three qualitative differences in the spatial systems pertaining to the three phases of capitalism. These distinctions highlight the crisis of post-modern space particularly as it relates to the design of our urban environments, and provide better opportunities for understanding present dilemmas.

The first of these three phases, that of classical or market capitalism, took place in Europe during the fifteenth and sixteenth centuries. In this instance the spatial envelope of individual experience still broadly coincided with the limits of influence of the economic and social forms that governed that experience. That is, if one lived in a city state such as Siena, Italy, the limits of one's experiential world were, in the main, congruent with the boundaries of Siena's economic influence. But in the next phase of capitalist development, that of national monopoly capital, exemplified by the expanding British Empire, these two levels of reality—economic structure and lived expression, or "essence" and "appearance"—drifted apart into a dialectical opposition. For example, the experiential reality of a person living in Victorian London no longer coincided geographically with the complex framework of social, political and economic factors and the series of discontinuous places across the globe that together conditioned the setting for his or her daily life. The forces that combined to promote the urban growth and spatial exten-



"....the creation of urban disguises": the Venetian Canal, Las Colinas, Dallas, Texas. A typical Edge City development. (author's photograph)

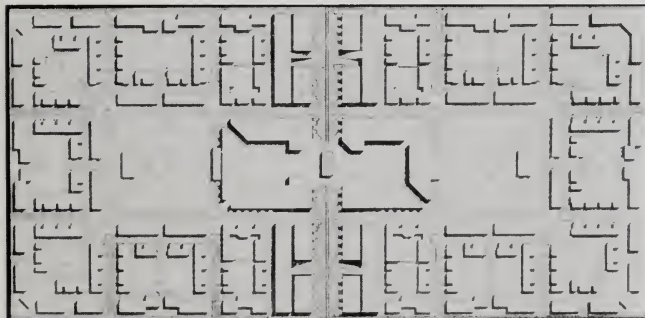
sions of Britain's capital city in the nineteenth and early twentieth centuries were a function of the colonies of India, Hong Kong, Southern Africa and similar economic bastions of the Empire. Wealth and political power produced from these distant and "invisible" locations helped to structure the patterns of space and the patterns of life of the typical Londoner; similarly, the world of the Bombay merchant was largely influenced from London. The concrete experience of a person's world and that person's cognitive understanding of it had become divorced and discontinuous, with profound consequences.

Jameson has suggested that the spatial structure of the third phase of capitalism, that of multi-national or "late" capitalism, is different again in ways that heighten the tension, contradictions and discontinuities evident in the Imperial model. Nation states have ceased to play the major roles: the operation of capitalism has expanded beyond them into a global network of instantaneous communication operated by multi-national corporations that transcend the authority of indi-

vidual countries. But paradoxically this global network has returned to the locus of individual cities, dealing across national frontiers. The post-modern city is a city-world whose space is characterized by the suppression of distance between its global components, and by the saturation, also through information technology, of all remaining voids and spaces. This condition has reached the point that the post-modern citizen, whether wandering through a post-modern hotel, locked into sound and music through headphones, doing business from a laptop, or just moving through the city like the fictional architect of Lively's novel, is exposed to a perceptual barrage of immediacy from which all sheltering layers and intervening mediations have been removed.¹⁰ This implosion of the urban frontier inserts the individual into an urban collage of destabilizing intensity and simulation, a setting that comprises a "multi-dimensional set of discontinuous realities, whose frames (of reference) range from the still surviving spaces of bourgeois private life all the way to the unimaginable decentering of global capital itself."¹¹ This destabilization leads to what has been called, in other contexts, "the death of the subject," or at least the fragmentation and dispersion of the individual's sense of self betwixt and between this multitude of discontinuous realities.

Nowhere is this problem more clearly evident than in the contemporary American city. Here are found most vividly the sufferings of the homeless poor, the failing schools, the rising rates of crime and drug abuse, and other more general conditions of waste, squalor, stress and pollution, usually in the context of decaying inner cities or the endless sprawl of bland and minimal subdivisions that exacerbate the problem of urban alienation. Here are found also the affluent suburbs and office parks, which exist more and more without reference to any traditional center and public focus, substituting instead the connections of media, and of synthetic and nostalgic imagery, from which are loosely woven the new and problematic urban fabrics of Edge City. This discontinuity of experience within and between such fragmented settings creates the breeding ground for our own contemporary version of mythic distance. Born of the desire to substitute a comforting fable for the exigencies of the troubled present, we create a make-believe world of nostalgic community, one which is specifically characterized by the transcendence of simulacra over reality. Indeed, one of the basic tenets of post-modern cultural theory, linking Baudrillard, Venturi and Disney, is that our age prefers simulation to

One of "....the better examples of post-modern urban design"; Peter Calthorpe, Generic Diagram for a 60 Acre Pedestrian Pocket.



reality. In this context, the profession of urban design "is almost totally preoccupied with reproduction, with the creation of urban disguises,"¹² creating an architecture of deception that significantly increases the mythic distances particular to the post-modern city, protecting its citizens with elegant fictions and nostalgia.

However, the better examples of post-modern urban design—be they derived from Koetter and Rowe's "Collage City," from Calthorpe and Kelbaugh's "Pedestrian Pockets," or from Duany and Plater-Zyberk's Traditional Neighborhood Developments¹³—do suggest some degree of optimism. Such design strategies attempt to fabricate, once again, meaningful worlds of urban enclosure, to reinvest the urban environment with human qualities, and to look towards our urban futures in creative and radical ways. Yet all of this quest for enclosure is happening in the societal context of the well charted demise of public man; and this raises the question of the irrelevance of traditional urban enclosure in a culture where invisible technology is taking over the role of historical urban form. With electronic media infiltrating a seamless web of news, propaganda and advertisements into the controlled "public" spaces of airports, convention centers, hotels, malls and corporate plazas, what is the role of the square, or the street, or any traditional forum of public interaction? The malls and the theme parks may be "physically bringing us together again—but they are doing it in a most false ...and temporary way."¹⁴

With a century of hindsight, the power of mythologies and their artistic representation to guide the tumultuous urban expansion that created modern America is evident. Despite their inherent contradictions, these mythologies matched the public and national spirit (for better or worse) while artists pro-

vided precise representations of these divided aspirations of Eden and Jerusalem. For all their inaccuracies and deviations from reality, these nineteenth century myths of urban expansion were integrative in nature; they wedded the past to the present, promulgated an expansionist and idealized future and, in so doing, expounded a society's totalizing vision of itself. By contrast, contemporary mythologies which ostensibly promote the virtues and settings of public life do so by representational means and methods which undermine and fracture the very substance of communality, providing "public" space only as a restricted commodity leased out from private enterprise, and substituting electronic interaction for the shoulder-rubbing contact of the polis.

What, then, are the choices in the face of this litany of problems? Is state-of-the-art urban design irrelevant to the prevailing socio-economic form of the post-modern city? Is the general return to traditional urban forms no more than a feeble and misguided nostalgia, escapist historicism at its worst? Is there an alternative authentic urbanism out there, waiting to be invented? Should architects and urban designers learn to love Edge City as they were urged to love Las Vegas and other productions of popular culture? No easy answers present themselves, but clear historical understanding coupled with a detailed attention to the intellectual discourse circling around us are pre-requisites for any substantive solutions to our complex problems. But even as we seek accuracy in historical analysis, perhaps a yet more difficult problem arises: does not the ubiquitous relativism of all the eclectic pastiche that is so apparent in post-modern urban fabrications erode our very ability to make meaningful historical references and judgments? Or, put more bluntly, will we be able to think historically at all?

Notes

- 1 Alan Trachtenberg, "Contesting the West," in *Art in America*, vol. 79, no.9, Sept. 1991, p. 118.
- 2 Charles N. Glaab and A. Theodore Brown, *A History of Urban America* (New York: Macmillan, 1967), p. 60.
- 3 Trachtenberg, op. cit., p. 120.
- 4 Penelope Lively, *City of the Mind* (New York: Harper Collins, 1991), pp. 2-3.
- 5 Michael Sorkin, "See You in Disneyland," in *Variations on a Theme Park*, Michael Sorkin, ed. (New York: Hill and Wang, The Noonday Press, 1992), p. 229.
- 6 *Ibid.*, p. xi.
- 7 *Ibid.*, p. xv.
- 8 John W. Reps, *The Making of Urban America* (Princeton, N.J.: Princeton University Press, 1965), pp. 263-293.
- 9 Jameson, "Cognitive Mapping," in *Marxism and the Interpretation of Culture*, Cary Nelson and Lawrence Goldberg, eds. (Chicago: University of Chicago Press, 1988), pp. 347-360; and in "Spatial Equivalents: Postmodern Architecture and the World System," in *The States of Theory*, David Carroll, ed. (New York: Columbia University Press, 1990), pp. 125-148.
- 10 Jameson, op. cit., p. 351.
- 11 *loc. cit.*
- 12 Sorkin, op.cit., p. xiv.
- 13 There is some qualification to this praise concerning the work of Duany and Plater-Zyberk because of the Traditional Neighborhood Development's (TND's) heavy reliance on historicist stylistic imagery. This renders it more easily commodified by the market to the extent that its sensible planning strategies may be too easily subverted and supplanted by its imagery alone, a quality more easily and cheaply fabricated by private developers. The more radical policies of the Pedestrian Pocket, or Transport Oriented Development (TOD) make it more likely to resist such pressures.
- 14 Doug Kelbaugh, "After Four More Days at Disney World," in *ACSA News*, vol. 21, # 9, May 1992, p. 24.

Kahn's Frames and Walls

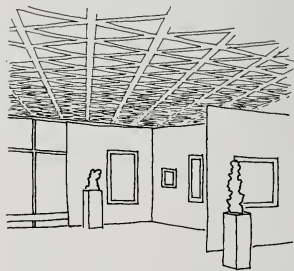
Gifford Pierce

The University of Idaho

In Kahn's mature work, it is possible to trace a design evolution that proceeds from the exploration of framed buildings to buildings enclosed by walls. Kahn's early effort to express every element of a column and beam structure was part of concurrent architectural thought. However, when Kahn found that he could give framed structures more architectural significance by reinforcing structure with servant spaces, he developed an original direction in modern architecture. Work in countries with hot climates and without advanced mechanical equipment led him to an architecture of walls. The walls first were intended to modify light, but evolved into systems of coordinated layers which reinforced his design intentions as the introduction of servant spaces had earlier strengthened column and beam systems.

With both frames and walls, Kahn's objective was making architectural space. "Architecture," he said, "is the thoughtful making of spaces."¹ Therefore, architectural space will be the criterion for evaluating Kahn's success with both frames and walls. In general, the walled spaces are more successful because they allowed him freedom to better utilize light as a space-making device.

Looking back at his early career, Kahn explained his first spatial objectives. "I think an architectural space is one in which it is evident how it is made; you will see the columns, you will see the beams, or you must see the walls, the doors or the domes in the very space which is called a space."² With



Yale Art Gallery

these words, Kahn indicated his predilection for an exposed structural frame, the direct expression of structural materials, and static units of space defined by each.

Although the Yale Art Gallery was a major building and a first step in a new direction in modern architecture, it must have been a frustrating design for Lou Kahn. The building demonstrates his struggles with contemporary modern architecture. This is a Miesian building insofar as it contains a regular bay system fronted by brick panels or glass curtain walls. It might also be compared to LeCorbusier's domino system because its regular structure constitutes a building system that leaves interior space-making to surface materials and movable partitions. Of course the tetrahedral concrete ceiling gives the gallery a substance and character absent in the building systems of Mies and LeCorbusier. Perhaps Kahn's ma-

ture work developed from the potential in that ceiling. It is not only a spanning device of character. It is also an efficient means for transmitting services.

The Yale Art Gallery ceiling reflected contemporary architectural interest in space frames whose diagonal struts could both support and enclose space. Kahn's "Tomorrow's City Hall" projects, designed soon after the Yale Art Gallery, are supported by angular columns and their irregular outlines are generated by space frame floors. The expanse of interior spaces sandwiched between space frame floors and ceilings, however, are universal Miesian spaces rather than "space which is called a space," a concept that later became the focus of Kahn design.

The Yale Art Gallery ceiling was originally intended to be a space frame, a continuous pattern of angled concrete planes propped up by columns. Horizontal distribution of air and electricity was to be fed through the space frame voids. Because the horizontal mechanicals can be glimpsed through the built concrete ceiling, they play a small part in reinforcing the building's most prominent architectural feature. Vertically, mechanicals and circulation were both the tetrahedral ceiling and building columns. As distinct secondary elements, circulation and mechanicals anticipate Kahn's exploration of served and servant spaces.

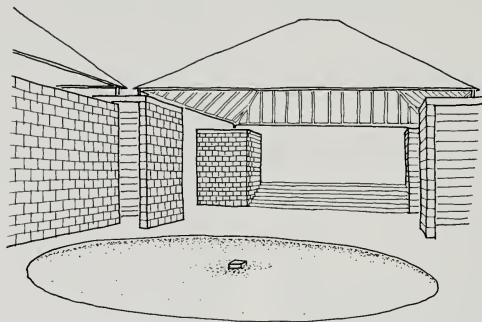
The New Haven building inspector would not approve Kahn's tetrahedral space frame intentions and required that the ceiling be designed as a one way 40' span between rectangular beams and columns. The result was a compromise structure. Concrete beams and columns connect two sides of the building while the space frame, now a secondary structural system, spans between these beams in the opposite direction. The interior bays are defined by columns and two edge beams, but not across the diagonals of the tetrahedral ceiling. A more straightforward system, units of space defined by four corner columns with beams connecting their tops and an infill ceiling, became a characteristic module for the work that followed.

When later house designs allowed Kahn to design spaces outlined by independent column and beam units without the regular frame requirements of a multistory building, he developed an active interrelationship between structure and service or, consequently, between space and substance. The Adler House offsets a regular bay system so bay units emphasize their individual identity. These framed spaces are each formed by four column legs and spanned by a layered wood ceiling. The plan of these offset tables is not arbitrary; it is ordered by an effort to bring servant necessities within zones established by column widths or by the double widths of adjacent columns. The house's ordinary necessities such as closets, bathrooms, and stairs are lined up between columns so that all four space-making columns and the ceiling are visible in most units.



The Adler House

The capacity of the column zones is not sufficient for all the house services, however. One table unit is split by a partition and closets dividing it into two bedrooms. In another, storage and bathroom enclosures extend from the column zone to obscure a full view of its corner bounds. Although the Adler House aligns most service requirements with structure, the result is an imperfect order that even offset columns cannot rectify. It appears that Kahn here realized that service allied with structure can strengthen the space within. The Adler House demonstrates the difficulty of fully integrating servant spaces with structure in a program that contains so many unique demands.



The Bath House

What a breakthrough the Trenton Bath House was for Kahn's design. His office colleagues recall that they joyously celebrated the design for that simple concrete block building. Kahn, himself, remembered that triumph.

That was a very exciting period. The Trenton Bath House gave me the first opportunity to work out the separation between the serving and the served spaces. It was a very clean and simple problem. It was solved with absolute purity. Every space is accounted for; there is no redundancy.³

At the Bath House, the service requirements are not organized between solid columns; they are within the columns themselves. When this design opened columns to enclose servant spaces, it gave the necessities of the building a presence that could be used to develop a complex architectural space. The cross plan of hollow service columns set the order of the building, but variation or absence of connecting walls or roofs proposed alternative interpretations of the units formed by servant space columns. For example, is the center volume an unroofed unit or an empty space surrounded by roof enclosed units? Should the porch be consid-

ered a roofed version of the center or a wall-less alternative to the dressing rooms? Since the column servant spaces set such a rigid compositional base, one cannot help guessing about additional enclosure-pattern alternatives for the five units they define.

The Bath House breakthrough may have derived from a simple program and a fortuitous proportion of servant and served spaces. Other projects in the same period show how difficult it is to translate the spatial balance of the Bath House into more complex formats. Of these, the Richards Medical Research Laboratory is the only built project that integrated the servant-served distinction with untitled planning. The Richards Laboratory develops the Yale Art Gallery ceiling into a vierendeel trussed distributor for mechanicals connected to hollow brick shafts on the exterior. The laboratory ceiling designates a place for columns by placing them at the point where the truss cantilevers. The columns, in turn, provide a center harbor for the servant shafts that connect with the deepest portion of the truss.

As orderly as these individual units are, they have not been arranged to produce the kind of spatial complexity found in the Bath



The Richards Medical Research Laboratory

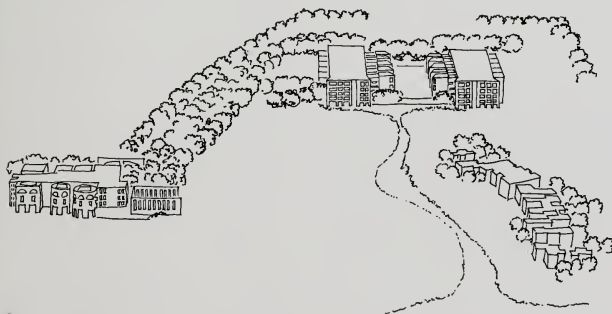
House. The Richards servant shafts dominate exterior views of the building since they mask the laboratory trusses and extend above the building roofs. Also, the shafts are not consistently applied to the trussed stacks. Some shafts are missing from the column pairs and others are clustered apart from the laboratory units. Since the laboratories are arranged irregularly, neither shafts nor col-

The Salk Institute Laboratories

umn and truss structures develop an overall pattern. Variation in the Richards Laboratory is merely picturesque; it does not invite the alternative readings possible at Trenton.

Although the flat faces of the Richards columns and shafts are visible from the interior of the laboratories, they do not have the forceful space ordering effect of Trenton's intrusive columns. They are plug-ins to the laboratory volumes, not space-makers, and the laboratory interiors are stacks of timidly defined framed spaces. The exterior columns and interior trusses do meet Kahn's requirement for an exposed structural frame, but the columns and mechanical shafts attached to the laboratories are more important to the elevation than they are to interior space. While structure and services have little effect on interior space, they do provide a simple interior room appropriate to the rearrangements often required in laboratories. The size and location of the building also argue against such a rigid order as Trenton's plan. Were the Trenton Bath House enlarged to the height of the Richards Medical Research Laboratory, it would impose an overpowering presence on the campus.

Faced with another laboratory design problem at the Salk Institute Laboratories, Kahn de-



40

signed wide span laboratory rooms that would accommodate furniture and equipment changes. Although the interior is also flanked by columns supporting vierendeel trusses, these trusses form an interstitial floor for utilities separated from the laboratory interior by a flat concrete ceiling. The result is another universal space, but one containing fewer columns and a ceiling plane less articulate than that at the Yale Art Gallery.

In section, it is possible to see how horizontal mechanicals are housed in the interstitial floor and how vertical service towers and study units are regularly arranged along each side of the laboratories. The diagram shows how service is parallel to structure, but the services have no space-making effect in the laboratories themselves. Horizontal runs are hidden by the flat ceiling plane and the perimeter towers are isolated from the interior by a corridor. To fully articulate interior spaces, it would appear that servant spaces must be organized to visibly reinforce the exposed space-defining structural frame. Perhaps the combined order of frame and servant enclosure also requires a rigorous pattern if the space is to realize the complexity found in the Trenton Bath House.

Another opportunity for space design exists in the courtyard between the laboratories. Kahn struggled with this exterior space, but never reached a realization of its spatial possibilities. He did grasp the nature of an interior court in the planning of the Fort Wayne Arts Center.

It would be well to differentiate such a place (the Fort Wayne courtyard) from a square created for buildings. A square preceding the buildings can have a life independent of the buildings that gravitate to it. But a place that depends on each building for its completion is one which gives no life until its parts are assembled. There is a different desire, a different will, a different way of making such a place.⁴

These words might have described the courtyard in the Trenton Bath House. It is the product of an ordered assembly of structure

and servant units. The parallel edges of the Salk Laboratories set the outline of courtyard space, but the study and lounge structures extending into the courtyard neither amplify that original perimeter nor the laboratory structural system. As independent entities with angled walls, they disrupt the rectangle of courtyard space formed by the laboratories and obscure the courtyard as a negative version of the enclosed laboratories. These units might have made a spatial connection between the laboratory interiors and the courtyard had they played a space-making role in the laboratory design.

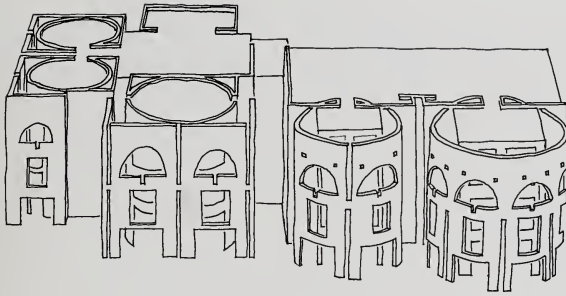
Possibly the Salk Laboratories do not meet their spatial potential because Kahn and his client, Jonas Salk, focused on the requirements of scientific work. Kahn may have directed his spatial thinking to the unbuilt Salk Meeting House. Dr. Salk requested that the Meeting House be a place where Picasso might visit the Salk scientists. Kahn responded by inventing a new spatial configuration: buildings within buildings.

Kahn had previously built buildings within buildings in his Tribune Review design. There, independent walled offices without ceilings are placed within a larger wide-span enclosure. Vertical window slits are cut into both the office walls and the exterior building walls. As one moves in an office, the exterior slits seem to slide by the office slits, heightening one's awareness of a double-walled-space enclosure.

Explaining the Salk Meeting House, Kahn developed a "theory of walls" and explained,

I came to the realization that every window should have a free wall to face. This wall receiving the light of day would have (a) bold opening to the sky. The glare is modified by the lighted wall and the view is not shut off.⁵

This design marks Kahn's shift from an architecture of frames to an architecture of walls. Kahn must have been aware of the change because early diagrammatic meeting house designs show a circle within a square, a square within a circle, and half circles



The Salk Meeting House

within a square. Columns are inserted at the point of geometric tangency in each diagram, but the columns are not present in subsequent drawings and models. The column and beam frame that had been the prerequisite for earlier designs gives way in the meeting house to wall structures containing large openings cut to simple geometries. Not only are opening shapes different in adjacent walls, but curved walls oppose planar walls and vice versa.

Kahn's shift from framed spaces to wall enclosures greatly enhanced his opportunities to exploit light and geometry. The columns that bounded framed spaces were each sculptural elements with individual identities. The solid presence of the columns confined discrete units of space and separated one unit from another. Columns require a rigid and perceivable ordering system to work together in a building. Moreover, columns may be seen as solid competitors to space. Even when a column is whittled down to its least structural necessity, it remains as a self-sufficient straight line within space.

Walls have a less aggressive presence. Walls may be curved or angled. They may be cut with patterned and shaped holes. Wall surfaces may reflect or contrast with ceilings and floors. The line of barring within a wall may be displaced. The sun can bathe a wall in light or cast a shadow upon it. Walls mold space

or make it dynamic by the opposition of differing geometries. Spatial connections may be made between wall openings to give energy to the space between walls.

The building within buildings space was entirely appropriate for the extreme light and heat conditions in India and Bangladesh. Deep porches behind walls cut with primary geometries provide shade and protection against glare. Shafts between opposed geometric volumes gather prevailing winds cooled by lakes adjacent to the buildings. Kahn's housing, in both countries, turns on a diagonal to amplify air movement. These provisions for a difficult climate also develop, at great scale, light as a means for identifying a building and the hierarchy of its spaces.

Speaking of the National Capitol of Dhaka, Kahn wrote:

In the assembly I have introduced a lightgiving element to the interior of the plan. If you see a series of columns, you can say that the choice of columns is a choice in light. The columns as solids frame the spaces of light. Now think of it just in reverse and think that the columns are hollow and much bigger and that their walls can themselves give light. Then the voids are rooms and the columns is the maker of light and can take on complex shapes and be the supporter of spaces and give light to spaces.⁶

Here Kahn uses the same word, "column," that he used in his original definition of architectural space. He calls the exterior forms of the buildings within buildings "columns," but these are not columns that support beams to make a frame. They are columns made of walls that are themselves frames that surround another structure within. The light columns in the Capitol building evolved into courts within eight servant buildings surrounding a sixteen-sided central assembly chamber. Every other perimeter servant building is a rectangular box whose corner light courts are each lit by huge triangular, rectangular, and circular openings. The alternate buildings are composed of primary geometries and all but the top-lit prayer hall are cut with similar openings to light courts.

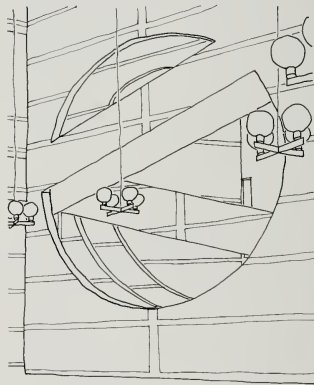
Dramatic as these openings appear from the exterior, the inside faces of the Capitol light courts are divided into regular patterns of much smaller rectangular openings. The opposition of differing geometric openings that gave energy to the space between walls at the Salk Meeting House is missing from the Capitol perimeter. Its great exterior openings and the courts behind are symbols of the building's importance, but do not maximize buildings within buildings space.

Just as the size and nature of the Capitol's wall-formed columns are greatly different from the columns of Kahn's earlier buildings, so the served-servant relationship has also taken a new form. While the Trenton Bath House columns were a means of enlarging circulation and toilets to a point where they might play a part in building organization, the Capitol servant spaces are themselves buildings that surround the central assembly chamber. These servant spaces do not fix the building order. They merely amplify the shape of the central hall.

In the top-lit spaces between the independent servant buildings and the central assembly chamber, within the entrance block, and within the prayer hall, large geometric openings do oppose or reinforce one another. Through the interior, an observer's path

changes direction as it makes its way around the assembly chamber. One may view the faceted corridor and the buildings fronting it from many elevations. There are opportunities to move in or around the faces of units adjacent to the corridor. Such a variety of geometric wall openings exist at close quarters that they develop interwall space in a greatly magnified version of the Tribune Review building. Within the Capitol, these interactions produce an intense space that contrasts with the calm institutional space of the assembly hall at the building's heart.

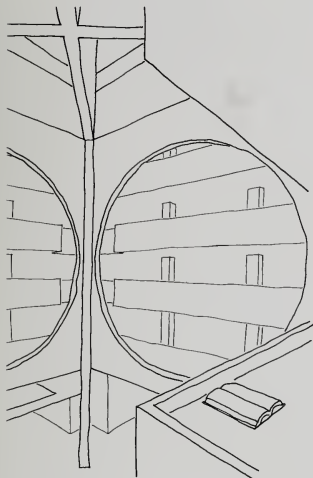
The finest of Kahn's wall-made spaces is the Phillips Exeter Academy Library. This building is designed with both frames and walls. The library's central space is surrounded by



Interior of the Capitol

a concrete wall cut with huge circles, an exterior brick wall whose rectangular windows are stacked vertically, and a book stack zone between. Exeter's central space is especially intense because it is surrounded by several independent concentric wall columns, each formed of its own appropriate geometry, and all penetrated by natural light from the outermost layer.

The filling of this sandwich is especially interesting. Square brick interior servant shafts set the limits of the stacks at the building corners much as the Adler House columns



established a zone for servant activities. Concrete columns at the edges of the stacks, ordered by brick shafts in the building corners, give the light metal shelving a presence at the third points between the brick shafts. Those columns are collected by concrete walls cut with trapezoidal openings in a mezzanine level. The stack floors extend beyond their columns toward the center and are faced with rail high oak paneling. The filling, then, presents both vertical stacks and a horizontal wood edge. These are bracketed by concrete circles on the interior and vertical window stripes on the outside. A clerestory lit X beam at the ceiling, trapezoidal openings at the mezzanine, and two half circle stairs to the entry level add a garnish to this geometric dish. The library interior is a "maker of light" because it leads natural light through a series of geometric sieves on its way to the central court.

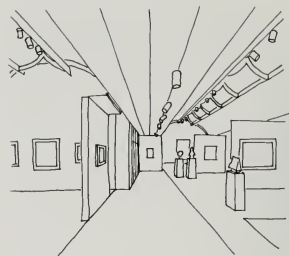
In this wall building, space is not energized by geometries that can be justified only as light modifiers. The geometries of the Exeter Library derive directly from the necessities of framing masonry openings, supporting book stacks, spanning a large interior room, and collecting loads for transmission to the foundation. At Exeter, we "see the columns, see the beams, ...see the walls... in the very space that is called a space."⁷ Moreover, we see several layers of space making materials, each with its own necessary geometry. The depth of these layers of walls and columns make this interior the most intense of Kahn's spaces.

Two of Kahn's late buildings cannot be easily put into either the frame or the wall categories. The finely crafted Kimbell Museum recalls the Yale Art Gallery's universal space. From a long view, the interior floor and its strips of ceiling seem to stretch from one extremity to the opposite in a 100 foot span. Within the building, a ceiling of cycloid vaults is revealed that have a space-making effect far superior to Yale's space frame. Natural light is introduced at the vault apex and its interior surface lights the space below. William Jordy suggest that these long vaults give the universal space a "grain." One moves from one long, overhead tunnel to another. This is certainly an appropriate enclosure for a changing display, but the space is too consistent to allow the highlighting of one area or the identification of a path through the interior.

The Center for British Art design also goes back to Kahn's beginnings. This is a multi-story version of space units defined by columns and beams. At the top level, the columns support a deep skylit concrete ceiling. After a modest exterior elevation and a dark nondescript porch, a visitor is amazed by the impact of a four-story light court carved out of simple structure of rectangular bays. The concrete skeleton that frames this first hall is infilled with wood panels as is a second rectangular skylit court beyond.

These multistory frames, however, do not have the impact that Kahn's early frames did.

Below the top floor, narrow columns support shallow beams that do not emphatically define space units. The beams at the top of the building are required to house ducts, span across columns, and channel natural light into the interior. The requirements so enlarge the ceiling structure that it seems to rest uneasily on the slight skeleton below. While space-making was the chief objective of earlier frames and servant requirements were arranged to contribute to the effort, these frames are either too narrow or too wide to seize and control interior space. On the floors below the roof, such service elements as duct shafts or horizontal duct runs are independent of the structural frame and sometimes disrupt the structural order.



Kimbell Art Museum

The more closely integrated are the served and servant spaces in either framed or walled buildings, the more successful are the spaces contained within. One of Kahn's unique contributions to modern architecture was the realization that secondary enclosures, usually hidden from public view, can be used to reinforce the structure and light can be used to develop interior space. Within the

"form follows function" or "the house is a machine for living" moralities of modern architecture, Kahn made spaces as memorable as those that existed within the poché of traditional architecture. The Trenton Bath House and the Exeter Library are the most successful framed and walled spaces because they most completely accomplish this integration.

Notes

1 "Wanting to Be: The Philadelphia School" from a special edition of *Progressive Architecture*, 1969. Recorded in "What Will Be Has Always Been" by Richard Saul Wurman, (New York, NY: ACCESSPRESS Ltd. and Rizzoli International Publications, Inc., 1986), p. 82.

2 "The Invisible City", International Design Conference at Aspen, CO, 19 June 1972. Recorded in Wurman, *op. cit.*, p. 156.

3 John Cook and Heinrich Klotz *Conversations with Architects*. (New York, NY: Praeger Publisher, 1973), p. 215.

4 Heinz Ronner and Shamad Jhaveri, *Louis I. Kahn, Complete Works 1935-1974*, 2nd ed. (Boston, MA: Birkhauser, 1987), p. 202.

5 *Ibid.*, p. 134.

6 *Ibid.*, p. 239.

7 *Ibid.*,



Reflections on the Nature of the Wall

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Introduction

The practice of cladding in architecture is no recent phenomenon. It arises when one seeks the advantage of separating the enclosing skin of a building from its structure. A framed structure requires little more than a covering for protection—the tent, the wood-frame house, the steel-frame highrise are similarly framed, then clad. A rubble wall can also be clad with an outer layer of stucco, stone, tile, etc.; Romans and Mayans alike practiced this art.

In both frame and wall-bearing construction, the issue arises of whether the actual cladding is “revealed” as such. This question, as well as the one regarding the revelation of the mode of structure, preoccupied modern architects and is still with us today.

The nineteenth century marked a turning point in the way large buildings were assembled. Increasingly, masonry construction was replaced by framed construction in iron and concrete, and often the cladding was manipulated to recapture characteristics of the former masonry wall. John Ruskin and Gottfried Semper, writing at the midpoint of the century, responded to this situation. Ruskin, while consenting to cladding done honestly, preferred walls “all of noble substance”; Semper saw cladding in a more positive light, regarding the covering as the essence of the wall. Both theorists left their mark on Adolf Loos who, at the end of the century, formulated specific “laws” of cladding to help govern architectural practice.

The burden of demonstration rested on Otto Wagner; well aware of the implications of modern building techniques, he elevated the art of cladding to a level unsurpassed in modern architecture.

This paper begins with a review of insights on the nature of the wall from Ruskin, Semper, and Loos. A discussion of Wagner follows, focusing on a Wagner building—the Post Office Savings Bank (1904-06), which exemplifies the art of cladding.

The Wall: Substance or Surface

“It is true that there is no falsity, and much beauty, in the use of external colour, and that it is lawful to paint either pictures or patterns on whatever surfaces may seem to need enrichment. But it is not less true, that such practices are essentially unarchitectural ...”

—John Ruskin, The Seven Lamps of Architecture, 1849

“It was therefore the covering of the wall that was primarily and essentially of spatial and architectural significance; the wall itself was secondary.”

—Gottfried Semper, “Comparative Building Theory,” 1850

John Ruskin regarded mass as a critical characteristic of architecture. He preferred the wall to the frame, the lane to lines:

Now, both these principles are admitted by Nature, the one in her woods and thickets, the



"Post Office Savings Bank: Part of the main projecting face in perspective." Otto Wagner, *Einige Skizzen, Projekt und ausgeführte Bauwerke*, Volume III (1906), 345, from *Otto Wagner 1841–1918*, #174.

other in her plains, and cliffs, and waters; but the latter is preeminently the principle of power, and, in some sense, of beauty also... And, it is a noble thing for men to do this with their cut stone or moulded clay, and to make the face of a wall look infinite, and its edge against the sky like a horizon...¹

Mass was at the foundation of aesthetic judgement in architecture, and when it came to evaluating contemporary work in iron and glass, Ruskin lamented its want of mass. Stone was the preferred material of architecture, and the wall was best suited to reveal stone's inherent massiveness.

Covering stone with stucco or other veneers was admissible, but such coverings were temporary and decorative as compared with the permanent and architectural qualities of the core wall.

It is well known, that what is meant by a church's being built of marble is, in nearly all cases, only that a veneering of marble has been fastened on the rough brick wall... If it be clearly understood that a marble facing does not pretend or imply a marble wall, there is no harm in it... Nevertheless, as we esteem the shaft of a column more highly for its being of a single block...so I think that walls themselves may be regarded with a more just complacency if they are known to be all of noble substance...²

Gottfried Semper, like Ruskin, commented on contemporary iron and glass structures and complained of their want of mass. In practice, Semper built stone-clad buildings in the current Neo-Renaissance and Neo-Baroque style—nothing new here. But in his writing, Semper's insight on the nature and significance of cladding breaks new ground.

In the Introduction to "Comparative Building Theory" (1850), Semper identifies four basic elements of primitive building: hearth, mound, roof, and enclosure. Roof and supporting column are treated as a unit, leaving enclosure as a separate non-loadbearing element, serving to demarcate space. Semper asserts that these first walls were of wickerwork, mats, and hurdles, as distinct from the material of the roof/column (wood) or mound (clay bricks or stone). It is what Semper goes on to say about these first walls and their transformation over time which is particularly valuable.



"Der große Kassensaal mit Glasdecke." Photograph: Courtesy Studio Herbert Urban, Wien 13, and Kurt L. Polke, Purkersdorf, from Otto Wagner: Die Osterr. Postparkasse.

In Chapter 10 of "Comparative Building Theory," Semper discusses the significance of the carpet in Assyrian-Chaldean architecture:

The primary material establishing the norm for the vertical enclosure was not the stone wall but a material that, though less durable, for a long time influenced the development of architecture as strongly as stone, metal, and timber. I mean the hurdle, the mat, and the carpet... Using wickerwork for setting apart one's property and for floor mats and protection against heat and cold far preceded making even the roughest masonry. Wickerwork was the original motif of the wall. It retained this primary significance, actually or ideally, when the light hurdles and matting were later transformed into brick or stone walls. The essence of the wall was wickerwork.

Hanging carpets remained the true walls; they were the visible boundaries of a room. The often solid walls behind them were necessary for reasons that had nothing to do with the creation of space; they were needed for protection, for supporting a load, for their permanence, etc. Wherever the need for these secondary functions did not arise, carpets remained the only means for separating space.

Even where solid walls became necessary, they were only the invisible structure hidden behind the true representatives of the wall, the colorful carpets that the walls served to hold and support.

It was therefore the covering of the wall that was primarily and essentially of spatial and architectural significance; the wall itself was secondary.³

Semper demonstrates the influence of the carpet in the later development of walls which, in their surface cladding, pay homage to the carpet:

The covering of the wall retained this meaning even when other materials than carpets were used... as for instance when carpets were replaced by stucco, paneling, alabaster, or metal plates.

For a long time the character of the new covering followed that of the prototype. The artists who created the painted or sculpted decoration on wood, stucco, stone, or metal, following a tradition that they were hardly conscious of, imitated the colorful embroideries of the age-old carpet-walls.⁴



"Post Office Savings Bank: Pillar in counter section." Photograph by Josef Dapra, from Otto Wagner 1841-1918, #192.

Unlike Ruskin who finds the essential wall within, Semper finds it in its covering or cladding. Ruskin admires the wall, stripped by the ages of its secondary attachments; Semper accords to these attachments the higher ground.

The influence of Semper on Adolf Loos is clear. In "The Principle of Cladding" (1898), Loos acknowledges Semper as the first person to have articulated the principle of cladding. Loos agrees with Semper that the covering is of a higher order than the structures:

The architect's general task is to provide a warm and livable space. Carpets are warm and livable. He decides for this reason to spread out one carpet on the floor and to hang up four to form the four walls. But you cannot build a house out of carpets. Both the carpet on the floor and the tapestry on the wall require a structural frame to hold them in the correct place. To invent this frame is the architect's second task. This is the correct and logical path to be followed in architecture. It was in this sequence that mankind learned how to build. In the beginning was cladding. Man sought shelter from inclement weather and protection and warmth while he slept. He sought to cover himself. The covering is the oldest architectural detail.⁵

Having asserted the significance of cladding, Loos goes on to discuss its uses and abuses. He derives a simple law and provides examples:

The law goes like this: we must work in such a way that a confusion of the material clad with its cladding is impossible. That means, for example, that wood may be painted any color except one—the color of wood... Applied to stuccowork, the principle of cladding would run like this: stucco can take any ornament with just one exception—rough brickwork... In general, any and all materials used to cover walls—wallpaper, oilcloth, fabric, or tapes—ought not to aspire to represent squares of brick or stone.⁶ In all these prescriptions, Loos reiterates those offered by Ruskin, one-half century earlier. In the "Lamp of Truth," Ruskin had identified three architectural de-

ceits, among them, "surface deceits," which he defined as "the painting of surfaces to represent some other material than that of which they actually consist..."⁷ And like Loos, Ruskin had provided examples: "To cover perfectly legitimate... But to cover brick with cement, and to divide this cement with joints that it may look like stone, is to tell a falsehood..."⁸

Ruskin was not opposed to the practice of veneering or cladding, if the covering be admitted and revealed. To clad was a legitimate operation, if less virtuous than building "all of noble substance." The admission of the act, the determination not to deceive but rather to reveal cladding for what it is, is central to the work of Otto Wagner.

Masterful Cladding

Echoing nineteenth-century sentiment regarding truthfulness in material expression and construction, from Pugin and Ruskin to contemporaries like Berlage, Wagner calls for a way of building which places construction at the foundation of architectural practice. In his treatise *Modern Architecture* (1896, revised 1898, 1902, and 1914), Wagner posits construction as the germ cell of architecture which over time raises its constructional motifs to the level of art. "Every architectural form has arisen in construction and has successively become an art-form."⁹ Sensing that a new era is at hand (a changing world with new technologies), Wagner declared: "It is therefore certain that new purposes must give birth to new methods of construction, and by this reasoning also to new forms."¹⁰

Wagner compares the new method of construction ("modern") with that of the old ("Renaissance"). The old stacks stones on stones, expending great labor and material—this is clearly the wall-making favored by Ruskin who considered the increase in labor and material an increase in the value of the architecture. Wagner describes the new, or "modern," way of building:

For the exterior cladding of a building a panel system will be used for the planar surfaces. Since these panels can be assumed to have significantly less cubic volume, they can be

*designed for a nobler material (for example, Laase marble). They are to be fastened with bronze bolts (rosettes).*¹¹

After weighing the advantages of time, cost, and ease of maintenance, Wagner concludes:

*Certainly the advantages are sufficient to prefer the modern way of building in such cases. But the list of advantages is not exhausted; the greatest advantage is that in this way a number of new artistic motifs will emerge...*¹²

The new method takes shape—it is cladding. One presumes the new artistic motifs to be the thin panels and the skin-like surface they form, as well as the anchoring agent, the bolt which punctuates the surface at intervals.

Wagner's Post Office Savings Bank of 1904-06 is a fine essay in cladding. Both outside on the principle facade and inside in the central banking hall, cladding is the rule. The core form of the exterior wall is rough brick which infills a reinforced-concrete frame. Attached to the brick are panels of granite, Sterzing marble, and black porcelain. In the lower section of the facade, thicker sections of granite are used, along with countersunk anchoring bolts, in a detail which provides greater visual weight or strength at the base of the building. Above this, thinner panels of Sterzing marble, with bolt heads projecting out beyond the surface, emphasize the tauter and more delicate skin of the building's mid-section. At the parapet, areas of black porcelain alternate with the lighter marble panels to effect the dematerialization of the wall in its upper reaches. The beveled edges of the panels reveal the depth of the cladding, especially at window and door openings and where the facade projects or turns corners.

Passing from the street to the main banking hall, cladding remains the dominant motif. The vestibule, with its contained stair, has simple plaster walls, clad in the lower sections with marble panels and accented with projecting aluminum bolts. The upper sections of these walls show the art of stenciling: small squares of black establish a cornice and accentuate the door and window openings.

The main banking hall is a masterful study in structure and surface. Here, the supporting columns of an overhead double-shell roof and the enclosing skin (a translucent canopy of glass) are viewed simultaneously. The separation of elements, roof/column from enclosure, is reminiscent of early buildings described by Semper. The canopy, its glass panels kept flush with the supporting mullions, is curtain-thin, in contrast to the columns which rise up to pierce the canopy and seemingly disappear in the diaphanous space of the upper roof. The canopy adjusts its pattern at the lines of structure, allowing the column to "slide through" the canopy. Similarly, as the upper vault of the canopy turns down and meets the beams of the frame, the beam takes on fins similar to the canopy mullions; this allows the upper canopy of the central space to "slip across" the beam and become one with the lower canopy of the side aisles. In a detail where structure and surface become fused, the "material" beam is dematerialized. The columns themselves, wrapped in aluminum sheets and "buttoned" at the edges, lose some of their corporeality. The two end walls of the space, similar to those in the vestibule, are plastered, their lower sections clad in marble, upper sections stenciled. Add to this the detailing of the floor, where large areas of glass block infill a reinforced-concrete frame, and the structure and surface of the banking hall dematerialize and open up the room to light and space above, beyond, and below.

It is no small achievement that this room, "wanting of mass," is so successful at holding together as a space and achieving an appropriate monumentality. Semper and Ruskin, both uneasy with the use of iron and glass in architecture, might well have warned to this example. Ruskin had said:

*Abstractedly there appears no reason why iron should not be used as well was wood; and the time is probably near when a new system of architectural laws will be developed, adapted entirely to metallic construction.*¹³

By the turn of the century, the time is at hand, and the law, if we may call it that, of

volume, enclosed by thin planes of glass and other skin-like materials, as opposed to mass, is on the rise. Wagner senses the possibilities of the new aesthetic; cladding imparts the impression of contained space as opposed to sculpted mass.

At the Post Office Savings Bank, the outer facade and inner canopy are like fabrics pulled tightly across their frames. The sheathing of an apartment house at Linke Wienzeile 40 with majolica panels, decorated with colorful floral patterns, refers even more so to the carpets described by Semper. Given Wagner's adherence to the Semperian model, it is curious that Wagner criticizes Semper in *Modern Architecture*: "...he lacked the courage to complete his theories from above and below and had to make do with a symbolism of construction, instead of naming construction itself as the primitive cell of architecture."¹⁴ It appears Wagner is overlooking the decorative and dressing-like nature of his work, preferring to think of his "art motifs" as the result of the painstaking development and articulation of constructive ideas.

In his Introduction to the reissue of *Modern Architecture*, Harry Francis Mallgrave states that "...the anchor bolts had only a limited 'functional' value."¹⁵ It seems the panels were actually held in place by the mortar bed in which they were set, the bolts serving to hold the panel in place during the three-week setting period of the mortar. The anchor bolts are, at best, representational of a constructive idea having to do with anchorage. Wagner does not address himself to their decorative or ornamental value of which he was quite unaware. In other buildings, we find similar surfaces, carefully composed and ornamental in nature, leading Mallgrave to conclude "does not Wagner's architectural conception, woven through many surface transformations of his buildings, remain Semperian in its visual or 'dressing' formulation?"¹⁶

Wagner appears to have been much closer to Semper than the materialist in him, the one concerned with placing construction at the center of the discourse, would have liked to admit. At the turn of the century, Wagner was exploring ideas of cladding, sowed years before by

Semper, and as Semper would argue, long before that in man's first building endeavors.

Notes

1 John Ruskin, *The Seven Lamps of Architecture* (New York, New York: E. P. Dutton & Co., 1928), pp. 77-78.

2 *Ibid.*, pp. 50-51.

3 Gottfried Semper, "Comparative Building Theory," in *Wolfgang Herrman Gottfried Semper: In Search of Architecture* (Cambridge, Massachusetts: MIT Press, 1984), pp. 204-206.

4 *Ibid.*, pp. 206.

5 Adolf Loos, "The Principle of Cladding," in *Adolf Loos Spoken Into the Void: Collected Essays 1897-1900* (Cambridge, Massachusetts: MIT Press, 1982), p. 66.

6 *Ibid.*, pp. 67-68.

7 Ruskin, op. cit., p. 34.

8 *Ibid.*, pp. 45-46.

9 Otto Wagner, *Modern Architecture*, 3rd ed., 1902. (Santa Monica, California: The Getty Center for the History of Art and the Humanities, 1988), p. 92.

10 *Ibid.*, p. 93.

11 *Ibid.*, p. 96.

12 *Ibid.*

13 Ruskin, op. cit., p. 39.

14 Wagner, op. cit., p. 93.

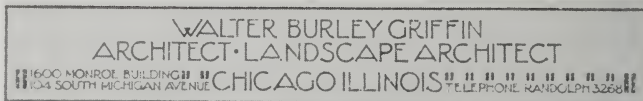
15 Harry Francis Mallgrave, "Introduction," in *Otto Wagner Modern Architecture*, p. 37.

16 *Ibid.*, p. 40.



Walter Burley Griffin and the University of Illinois

Paul Kruty
University of Illinois
at Urbana-Champaign



Letterhead used by Walter Burley Griffin

Among the many successful architects who had attended the University of Illinois by the turn of the century—including Henry Bacon, Clarence Blackall, William Drummond, William L. Steele, and George L. Rapp—none was destined to leave as significant a mark on the twentieth century as Walter Burley Griffin (1876-1937), Class of 1899.¹ A prominent member of the group of progressive architects known as the Prairie School, Griffin garnered an international reputation in 1912 when his design for the new capital city of Australia, Canberra, was awarded first prize. Griffin's fame brought him to the attention of the University of Illinois's president from 1904 to 1920, Edmund J. James (1855-1925), who offered him the position of Head of the Department of Architecture. Although Griffin chose to decline because of his new commitments in Australia, his dealings with his *alma mater*, as preserved in the University Archives, reveal an unknown chapter in his career.

Griffin, a precocious lad who grew up in Chicago's western suburbs, was drawn to landscape gardening in the early 1890s while in high school; his desire to create buildings to be placed in these imaginary landscapes was secondary. The Australian architectural

historian, James Weirick has traced this interest to the overwhelming impact made on the impressionable youth by the Chicago World's Fair of 1893, the Columbian Exposition, where the ensemble and landscape setting of the gigantic buildings was, in many ways, more important than their particular expression.² By his senior year, Griffin had formulated his intention to unite architectural design and landscape gardening into a single discipline—landscape architecture. Discovering that there simply was no academic program in his chosen field, Griffin pragmatically decided to study architecture instead. Indeed, Griffin later recalled that he studied architecture "as I might have taken up any other science or art."³

In the fall of 1895, Griffin entered the University of Illinois and began the study of architecture in the newly-completed Engineering Hall. The forty-seven members of the College of Engineering, Class of 1899, were given the choice of majoring in architecture; or architectural, civil, electrical, or mechanical engineering.⁴ Griffin studied architectural engineering for three years, changing to architecture his senior year. At the time of his graduation, Griffin was one of nine architecture students.



Walter Burley Griffin, Junior Class Picture (marked "9"). From *Illio*, 1899.

He remembered that his instruction "was devoted for the first two years to general science and mathematics, and to the necessary mental training to lead up to the professional work as the last two years of the course."⁵

During Griffin's schooling, the Department of Architecture was guided by Nathan Clifford Ricker (1843-1924). Ricker, a towering figure in American architectural education and a strong presence on the Illinois architectural scene, stressed a scientific and rational approach to architecture. Although design at the school was taught through a modified Beaux-Arts method involving competitions, program analysis and stylistic suitability, in the overall education of the students these were subordinate to the examination of structure and materials. Thus, while Classicism was the expected language in which architectural thoughts would be expressed, style was not the primary emphasis of the program of instruction. This point of view profoundly shaped Griffin's approach to architecture, perhaps more than he himself realized. It provided him with a rational approach to design and construction

that later allowed him to cast off what he considered to be the thin veneer of the historical styles to reveal what he could argue was a modern, rational kind of architecture. Even when his buildings began to show strongly expressive and "irrational" elements, Griffin continued to explain them in rational terms, stressing the practicality of his plans and economic use of materials.

Griffin's four years at Illinois were pleasant enough, if uneventful. He found lodgings near West Park in Champaign.⁶ It was necessary for him to take a job to help pay his expenses. There is no evidence that Ricker took any special interest in him, but this is not necessarily a reflection on Griffin. Professor Rexford Newcomb, the school's architectural historian for many years, later recalled that "in Griffin's time, Dr. Ricker was, at once, Professor of Architecture, Head of the Department and Dean of the College of Engineering; thus he could not have had much time for individual students."⁷

Griffin's temperament—as well as his diminutive size—precluded his participation in athletics, but he was an active member of

building which he exhibited the next year, in June 1900, at the exhibition of the Pittsburgh Architectural Club. Although this project is lost, its simple title was to carry great significance for him. Twelve years later, Griffin placed a building, which he also called the Capitol, at the very center of his design for the Australian capital city, Canberra. This capitol was to be the symbolic heart of the whole of Australia.⁹ Whether the senior project was submitted as a design thesis is not clear. However, Griffin did submit a written thesis, "Comparison of Costs in Architectural Construction," which survives in the University Library. Griffin researched and wrote this detailed work with a classmate, James Franklin Kable (1876-1933), who earned his degree in Architectural Engineering.¹⁰ The student newspaper, *The Daily Illini*, reported on 25 November 1898, "Griffin, senior architect, spent the first of the week in Charleston and Mattoon collecting data for his thesis. The most important building which he visited was the Eastern Illinois Normal at Charleston."¹¹ When their hard-boiled analysis was completed, Griffin and Kable were able to demonstrate graphically a wealth of data "on the costs of various alternatives open to the architectural designer in the selection of his structural systems and materials," enabling him to "compute the ultimate economy in any case for the purpose at hand." This rational approach to an architectural problem instilled in Griffin at the University of Illinois would dominate his thinking and writing about architecture for the rest of his career.

Shortly after graduation, Griffin found work as a draftsman in the office of Dwight H. Perkins (1867-1941), in Chicago's Steinway Hall Building on Van Buren Street. While learning the realities of architectural practice, Griffin was gaining professional experience as a landscape architect. Apparently capitalizing on the connections he had made in 1898 while researching his thesis, he was commissioned in 1900 to landscape the campus of the State Normal School at Charleston, Illinois.¹² But Griffin was still lacking a fundamental component to his architectural persona. As he recalled, "I

would probably have followed the line others had if I had not had the advantage of contact with an independent thinker in Chicago, Mr. Louis H. Sullivan."¹³ In his writings, lectures and buildings, Sullivan (1856-1924) challenged contemporary architects to attempt to create a modern, American architecture that would be free of overt historical reference. Sullivan's call was being answered by the circle of architects with whom Griffin worked in Steinway Hall. In addition to Dwight Perkins, Myron Hunt, Robert C. Spencer, Jr., and Frank Lloyd Wright formed the ardent core of the followers of Sullivan, who have come to be known as the Prairie School.¹⁴ Griffin was soon to prove himself the most important member of the "second generation" of this group.

After drafting for two years for the Steinway Hall architects, Griffin took the Illinois licensing exam in July 1901,¹⁵ and accepted a position in the Oak Park studio of Frank Lloyd Wright (1867-1959). For four years, Griffin worked at Wright's side, immersing himself in Wright's particular solution to the problem Sullivan had set before them. He provided landscape plans for some of Wright's most famous buildings, including the Ward Willits and Darwin Martin houses; consulted on costs and materials; oversaw construction; and occasionally designed buildings for Wright.

In March 1906, Griffin returned to Steinway Hall and established his own office. Slowly, he built up a successful domestic practice, dividing his energies between designing middle-class suburban houses and low-cost housing ventures, and creating landscape plans for individual buildings and, eventually, whole communities. Between 1906 and 1914, Griffin designed some 130 buildings and saw about half of them constructed. In November 1909, he was accepted into the American Institute of Architects. He noted on his application form that by that time he had practiced architecture for eight years.

Griffin experimented with new materials, including hollow tile, concrete block and

reinforced concrete. He also continued searching for new products that might solve problems of construction and be useful in the implementation of his ideas. Of particular concern to him were the casement-window cranks that were so important to the favored fenestration of the Prairie School architects. Dissatisfied with the available hardware, in 1911 Griffin designed and produced his own window adjuster which he was using on his own houses by 1912. He was granted a patent for his version of a casement adjuster in 1913.

Friendships made at Illinois continued to serve Griffin. In 1912, he received the commission for a public library in the small, southern Illinois town of Anna. The result was one of his finest buildings. However, the commission seems to have come, not through an appreciation of Griffin's advanced style, but because of his friendship with Harlow B. Kirkpatrick (1879-1948), Class of 1901, a civil engineer and Anna native, who was then working in Chicago.¹⁶

By this time, Griffin's career had taken a remarkable turn. In April 1911, the Australian government had announced an international competition for the design of Canberra, its new capital. Griffin was well prepared for the news. "While yet a student in architecture at the University," the *Illinois Alumni News* reported years later, "he read of the new federal consolidation of Australia and the resulting necessity for a new capital city. 'I'd like to be the man to design that city,' he said."¹⁷ Griffin struggled with the enormous project during the winter months of 1911-1912. When his spectacular design, as magnificently rendered by Marion Mahony Griffin, was judged the winner in May 1912, an amazed architectural press, from trade journals to vanity publications, took note of the young architect from Chicago. For example, the story dominated the 1 June issue of *Construction News*, which began its editorial, "It is not often that a young man jumps into fame over night." Its lead article explained that "as an architect [Griffin] believes in designing in accordance with the nature of the materials at hand and the function of the building under consideration,

and in entire independence of the historical styles."¹⁸ Newspapers and the popular press also gave lengthy coverage to the architect and his city. *The New York Times* presented it with a banner headline announcing "American Designs Splendid New Capital for Australia."¹⁹

The Associated Press issued a laudatory statement, printed in newspapers and journals around the country, noting, "The fact that Walter Burleigh [sic] Griffin graduated in the architectural course of the University of Illinois serves naturally to call attention to this school and its remarkable growth and services to the country."²⁰ In addition to applauding Ricker's great personal achievement at Illinois, the article praised many of the school's graduates, including Clarence Blackall, "recognized as one of the most successful architects in the city of Boston," and A. C. Martin of Los Angeles, who has "won a reputation in the west for his bold work in the construction of concrete domes." The Department of Architecture could not have asked for a better endorsement. In September, Ricker acknowledged a congratulatory note from President James by praising his colleagues, his students, and the program in general. Ricker also made what appears to be his first reference to the red-headed boy who had been his student, confidently reporting to James that, "I believe that you will in future be further gratified by the success of graduates, like Griffin, Blackall, Llewellyn, Martin, and others."²¹

Ricker would soon be able to test his memory first hand, for Griffin was invited to speak in Urbana before the Architect's Club, the student society whose president he had been fourteen years earlier. Requests for his Canberra lecture poured into Griffin's office during the fall of 1912. Returning from a tour that had taken him to the East Coast, Griffin combined several duties in one trip through "downstate" Illinois. On Friday, 10 January 1913, he conferred with the board members in Anna about the Stinson Library.²² The next morning, at 11:00, he addressed the Architect's Club, meeting new students and renewing his acquaintance with old teachers. Accompanying his presentation with "a

number of valuable stereoptican slides of his drawings," Griffin described his design for Canberra, and compared his entry to several of the others.²³

By the time of Griffin's lecture, it had become generally known that the Illinois State Architect, William Carby's Zimmermann, who had held the post for eight years, had decided to resign following the outcome of the November election, when the Democratic party captured the White House and a number of governor's mansions, including Illinois'.²⁴ A month later, Griffin took what was for him an unusual step—and an ironic one, in light of his later troubles with Australian officialdom. On 12 February 1913, he wrote a letter to President James asking James to endorse him for the post of Illinois State Architect.²⁵ Griffin used the opportunity to enunciate his personal credo, his belief that a rational approach to design combined with a synthetic decoration could produce an architecture that was truly of its own time. He explained that the principles he was trying to practice were intended to create "an architecture which will be disassociated from literary cults and have better possibilities of becoming democratic and American than an architecture loaded down with non-functional, superimposed and really irrelevant features."

Griffin noted that his name already had been recommended to the newly-elected Democratic governor of Illinois, Edward F. Dunne, by the editor of *Western Architect*, Edward Purdy (who had also headed Woodrow Wilson's Minnesota campaign effort). Griffin explained in his letter to James that, in conversation with Professor Ricker after his Canberra lecture, he had discovered that a young novice from Peoria had requested a university endorsement for the position. Griffin now asked President James to consider recommending him instead.²⁶ In his reply of 14 February, James declined, citing conflict of interest, but took the opportunity to explain, "I was sorry that I did not get a chance to hear your lecture when you were here in January, but I was ill in the hospital."²⁷ Applauding Griffin's achievement, James concluded by adding, "I am greatly

interested in the record which you have been making, and I assure you that we are all very proud of your success."

In fact, the University had other plans for Griffin. Three years earlier, in 1910, Frederick Maynard Mann (1868-1959) had come to Illinois to replace Ricker, who wished to step down as head of the department he had served faithfully since 1873. Mann, trained at the University of Minnesota, had received additional B.S. and M.S. degrees from the Massachusetts Institute of Technology in 1894 and 1895. In 1910 he was serving as head of the Department of Architecture at St. Louis' Washington University, a post he had held since 1902. Letters of recommendation for Mann stressed his academic training and, as the Boston architect C. Howard Walker explained, his

*good, clean, sane architecture in which plans, proportions and details were all carefully studied and of which the rendering was unusually good, and which was devoid of the tricks and frippery so prevalent in modern work influenced by a mistaken idea of the Beaux Arts training.*²⁸

He was hired at a salary of \$4,000 per year.²⁹

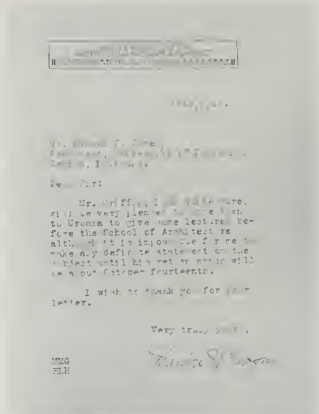
In 1913, Mann accepted a position as head of the architecture department at his *alma mater*, the University of Minnesota. A new search at Illinois was now necessary, and word of it spread through the network of academic colleagues and university alumnae. On 6 July, a recent graduate, Max Montgomery, wrote James White to recommend Huger Elliott (1877-1945), a graduate of Columbia's architecture school and the Ecole des Beaux-Arts, and then serving as educational director of the Boston Museum of Fine Arts.³⁰ White forwarded the suggestion to President James, who doubtfully replied that, "as far as Mr. H. D. Elliott is concerned, I think he gets a salary of ten thousand dollars where he is and I do not believe you could tempt him to come out here."³¹

In July, President James, making his own inquiries about Mann's successor—and

clearly with an eye toward Walter Burley Griffin³²—wrote to an architect whose integrity was absolutely beyond question, Dwight H. Perkins. And Perkins unhesitatingly recommended Griffin. On 16 July, James wrote back that “your suggestion of Mr. Griffin falls right along the general line of my own thought,” and closed by declaring his intention to “follow the matter.”³³ James ended his letter by asking Perkins how he thought Griffin’s appointment would be greeted by Chicago architects as a whole. Perkins, clearly taken aback by such a query, tried to explain the position held by the followers of Louis Sullivan in their quest for a modern American architecture—without jeopardizing Griffin’s chances. His reply of 21 July 1913 is worth quoting at length:

...it would be quite impossible for any selection to be made which would be satisfactory to a majority of the [Chicago] architects. I believe they are divided into a number of minorities, but no group is in the majority. Their division concerns the use of precedent... [Griffin’s] ideas are not held by the ‘big’ successful architects who are erecting the greatest number of important buildings in Chicago. Their advice to you no doubt would be to go straight to the School of Fine Arts [i.e., the Ecole des Beaux-Arts] and get a graduate of Paris training to come and take charge of your department. Such architects would probably regard Mr. Griffin’s appointment with scorn or indulgent silence...Of the small number of architects who may be classed as progressive, I believe a large number would approve Mr. Griffin’s selection...

Apparently satisfied with this response and impressed with Griffin’s talents and fame, President James decided to make the thirty-six-year-old architect an offer, despite his lack of academic experience. But James decided first to invite Griffin to give a series of lectures at the University; he did so on 14 August, concluding that he wished to express again “my great delight as President of the University of Illinois at the brilliant success of one of its alumni.” On 19 August, he received the reply from Marion Mahony Griffin that



Letter from Marion Mahony Griffin to President Edmund J. James, dated August 19, 1913. University of Illinois Archives.

her husband would not be able to give a definitive response until after 14 October, when he returned from Australia. In fact, on 19 July, Griffin had left Chicago to examine the Canberra site first-hand, leaving Marion Griffin in charge of the office. Several of the exchanges that immediately followed are unfortunately missing. Apparently, James decided to invite Griffin to head the architecture department without the lectures. Nevertheless, the invitation from the President—as well as the Board of Trustees, apparently—reached Griffin in Sydney in the form of a telegram. He made a public announcement of its contents during a lecture to Sydney’s architects, repeating his news a few days later before the Royal Victorian Institute of Architects in Melbourne in the following way:

Very recently the architects of my city were consulted by the University of Illinois to recommend a head for its Department of Architecture, which is second in age and largest of the Architectural schools in the United States, and these architects have made a representation to the President and the Board of Trustees that there is an opportunity to establish a school in the West

which would represent the ideals I have just been giving you. I have received a cable here asking me if I would be willing to assume that chair.³⁴

Rhetorically asking for their advice, Griffin admitted the difficulties of “taking a school that has been established in the old way, with several hundred architectural students with a score or so of instructors, all trained in the academic methods.”

What an extraordinary and unprecedented opportunity for an architect of Griffin’s ideals, interests, and architectural perspective! No such offer to head an architecture department was ever made to any other member of the Prairie School. Of course, neither had a Chicago architect or landscape architect ever been given the chance to create a national capital. And Griffin had already become so entranced by Australia—and apparently was himself so appealing to his new acquaintances—that the two parties had begun pursuing the possibility that he might be offered a contract to supervise the actual construction of Canberra. Torn between the two mutually exclusive developments in his career, he wired Marion in Chicago. “Write University return delayed month. Continuing consideration while open. Will wire any development precluding.” On 25 September, she relayed this cable to President James, adding that “there has not been time for Mr. Griffin to receive any of the correspondence of the University with me except the very first letter.” She added that Walter was staying the additional month in order to consult on five city-planning projects that had come his way. James replied that “there is no haste in the matter,” and asked only that Griffin come down to meet James upon his return. But when Griffin received a definite offer from the Prime Minister of Australia, his decision was made.³⁵ On 25 October, Marion reported the following:

We have the final good news from Mr. Griffin. He has been made director of design and construction of the Australian capital city with one half his time free for private practice.

This has delayed his return another month but we expect him the middle of December and he will not return to Australia until the spring. This we feel is all we could possibly hope for.

On 27 October, fully understanding the finality of Mrs Griffin’s note, James sent his last message to her, concluding, “We all rejoice in Mr. Griffin’s good fortune which he has clearly deserved. We are proud of him and his work.”

We can only guess how Griffin would have managed with his academic colleagues had the negotiations ended differently. What would his relationship have been with the conservative James White? White’s main association with the “New School of the Middle West” is the rumor that he personally prevented the Phi Gamma Delta fraternity in Champaign from using Harry Robinson’s bold Wrightian proposal.³⁶ Indeed, there is not a single major work of the Prairie School in Urbana-Champaign. Similarly, it is tempting to wonder what the subsequent University building campaigns, including the campus plan of Charles Platt, would have entailed had Griffin weathered these storms and remained at the university into the 1920s.

We do know what happened after Griffin’s withdrawal, however. In the spring of 1913, a second position in the school had also become vacant. On 12 May 1913, President James asked Professor White his opinion of Loring Harvey Provine (1880-1975, class of 1903) for this position. White responded candidly, if unenthusiastically, “I am sure you would make no mistake in securing Mr. L. H. Provine,” naming among his strong points “the right kind of personality.”³⁷ Provine was hired and began teaching in September. He appears to have been unaware that a search for department head was underway. A few months later, he explained to Professor Newton Wells, who was away on sabbatical, that “my appointment last August [1913] implied that I was to have nothing but Architectural Engineering but upon my arrival at the University it was found that Professor Mann has resigned, and I was asked to serve as

acting head until a Head of the Department could be secured."³⁸ Although Provine continued to be listed as "acting head" for several years, no further search appears to have been undertaken. Finally, in 1920, Provine was officially made head of the department of architecture, a position he retained until his retirement in 1948.³⁹

Griffin's near-appointment to this position was never again mentioned. In 1915, Provine included Griffin's name among a long list of distinguished graduates of the program; but after that references to him stop. When Canberra was officially dedicated as the capital of Australia in 1927, after fourteen years of construction, from the last seven of which Griffin himself was excluded, the international press recounted Griffin's role and the University again took note of an alumnus who was all but forgotten.⁴⁰

Sixteen years after Griffin's death in 1937, his partner and successor in Australia, Eric Nicholls, explained to the architectural historian, Mark Peisch, "It was Mrs. Griffin's intention to give all the original drawings and documents to Mr. Griffin's University."⁴¹ Alas, thus far not a single original Griffin drawing has found its way to his *alma mater*; instead they were dispersed by Marion M. Griffin primarily to three institutions to which Walter had virtually no connection.⁴² Today, he is remembered by the University of Illinois in the Griffin Exchange Program, which the School of Architecture has established with the Department of Architecture and Building, University of Melbourne, Australia. But Griffin's contribution to twentieth century architecture, and the role his training at the University of Illinois played in his formation, will finally be examined with the scrutiny they deserve after the completion of the long-awaited retrospective of his work, which the two universities are sponsoring jointly. When this exhibition arrives at Urbana-Champaign, Walter Burley Griffin, a prophet of American architecture, will finally find honor in his own land.

Notes

1 The standard work on Griffin remains Donald Leslie Johnson, *The Architecture of*

Walter Burley Griffin (South Melbourne: The Macmillan Company of Australia, 1977). Recently the context of Griffin's career has been examined in James Weirick, Anna Rubbo and Conrad Hamann, *Walter Burley Griffin: A Re-View* (Clayton, Victoria: Monash University Gallery, 1988).

2 James Weirick, "Walter Burley Griffin, Landscape Architect: The Ideas He Brought to Australia," *Landscape Australia*, March 1988, 243.

3 Walter Burley Griffin, "Architecture in American Universities," *Journal of the Proceedings of the Royal Victorian Institute of Architects* [Australia], September 1913, 171.

4 For the class list see Alumni Register of the College of Engineering (Urbana: University of Illinois, 1913), pp. 37-41.

5 Griffin, op. cit., 171.

6 He boarded at 210 W. Clark (1897-8) and 312 W. Clark (1898-99), both in Champaign.

7 However, Newcomb continued, "Ricker gave strong courses in the History of Architecture and a seminar for seniors; here Ricker most markedly influenced the student;" Rexford Newcomb to Mark L. Peisch, 18 June 1956, Peisch Papers, Avery Library, Columbia University. Years later, Barry Byrne, who was not academically trained and never met Ricker, was less enthusiastic in his assessment of Ricker's contribution: "In the cases of Walter Griffin, [William] Drummond and Harry Robinson, all of whom worked at Wright's with me and who had been students under Ricker, I never encountered anything that they might be said to have brought with them from the University of Illinois....If Professor Ricker gave them anything it could only have been an attitude of mind and, perhaps, a sense of his purely personal integrity;" Byrne to Mark Peisch, 21 April 1955, Peisch Papers, Avery Library.

8 A copy of Griffin's hand-written transcript may be found in his "morgue" file in the

University Archives. Mark Peisch's transcribed version, with helpful course titles in addition to the simple numbers found on the transcript itself, may be found as an appendix to his dissertation, "The Chicago School and Walter Burley Griffin, 1893-1914," Columbia University, New York, 1959, pp. 199-201.

9 After that building failed to materialize, Griffin honored its memory by naming the elaborate office block and movie house in Melbourne that he designed in 1921 the "Capitol Theater."

10 Kable taught at Illinois and at the University of Wisconsin, and worked in Chicago for D. H. Burnham & Co. before moving to Portland, OR, and forming a partnership with his brother, C. H. Kable (class of 1902). He became a noted bridge builder.

11 I am grateful to Wm. Michael Lawrence for uncovering this reference for me.

12 The reliable date for this project, for which no drawings have survived, comes from Christopher D. Vernon, "Walter Burley Griffin, Landscape Architect," in John S. Garner, ed., *The Midwest in American Architecture* Urbana, IL: University of Illinois Press, 1991, p. 218.

13 Griffin, op.cit., 173.

14 For a discussion of the significance of this loft space to the development of Chicago architecture see H. Allen Brooks, "Steinway Hall, Architects and Dreams," *Journal of the Society of Architectural Historians* 19 (1960), 2-10.

15 Griffin passed with a grade of 90; see "New Architects Admitted to Practice," *Construction News* 12, 13 July 1901, 456.

16 Information from Kirkpatrick's alumni file, University Archives.

17 "The Steadfast Ideals of Walter Burley Griffin," *Illinois Alumni News* 5, April 1927. The story was repeated in a feature story

presented on WILL radio on 29 October 1930, a transcript of which survives in Griffin's alumni file, University Archives.

18 "Capital of Australian Commonwealth," *Construction News* 33, 1 June 1912, 6.

19 *New York Times*, 2 June 1912, pt. 5, p. 3.

20 "Distinguished Graduates from Architectural School," *American Contractor* 33, 13 July 1912. Nearly identical text appears in "The Proposed Australian Capital City," *Park and Cemetery* 22, July 1912, 103.

21 Ricker to James, 14 September 1912, University of Illinois Archives.

22 *Jonesboro Gazette*, 17 January 1913. My thanks to Wm. Michael Lawrence for this reference.

23 See *The Daily Illini*, 8 January 1913, "Noted Architect to Lecture;" 11 January 1913, "Griffin to Speak;" and 12 January 1913, "Walter Burley Griffin Lectures to Architects."

24 James White, the university's own supervising architect, had informed President James on 6 December 1912 that "Mr. Zimmerman will unquestionably retire from the office of State Architect;" White to James, University Archives.

25 Griffin to James, 12 February 1913, University Archives.

26 "Mr. Harris of Peoria, another graduate," as Griffin described him, seems to be Ralph C. Harris, a thirty-two year old, who had attended the University of Illinois from 1906-1909, but apparently finished his degree at Chicago's Armour Institute of Technology. James White confided to President James that "the two men most prominently mentioned for State Architect are Mr. [Zachary Taylor] Davis of Chicago and Mr. Harris of Peoria, neither of whom is qualified for the position;" White to James, 14 March 1913, University Archives.

27 James to Griffin, 14 February 1913,

Archives.

28 Walker to W. F. M. Goss, 16 July 1909, University Archives.

29 Mann was offered the position on 9 May 1910 and heartily accepted six days later; James to Mann, 9 May 1910; and Mann to James, 16 May 1910, University Archives.

30 Montgomery to White, 6 July 1913, University Archives. For Elliott, see *Who's Who in America*, vol. 15, 1928-29.

31 James to White, 15 July 1913, University Archives.

32 Mark Peisch, in *The Chicago School of Architecture* (New York: Random House, 1964), p. 15, claimed that Griffin was interested in a another position, a new lectureship in Civic Design, instituted in 1913. Although Peisch is correct that the first appointment to this position was Charles Mulford Robinson (1869-1917), the position itself was not in architecture but in horticulture. And it was a minor post; Robinson was hired on a part-time basis for \$1,200 at the Trustees meeting of 23 July 1913; see *27th Report of the Board of Trustees of the University of Illinois for the Two Years Ending June 30, 1914* (Urbana, 1914), p. 619. Robinson's appointment clearly was unrelated to the negotiations with Griffin, which had barely begun by this date. D. L. Johnson repeated the error in *The Architecture of Walter Burley Griffin* (Melbourne: the Macmillan Co of Australia, 1977), p. 11.

33 James to Perkins, 16 July 1913, University Archives.

34 Griffin, op. cit., 175.

35 George Taylor, Griffin's fervent supporter who became his chief detractor, announced the appointment with a headline that read "Canberra Saved! Expert No. 1 Appointed. Walter Burley Griffin retained for Australia," in *Building* 13 (11 October 1913), p. 46.

36 The important design is part of the Harry

F. Robinson papers, donated to the School of Architecture, University of Illinois at Urbana/Champaign, by Robinson's son, Joe, and grandson, James. Robinson (1883-1959), Class of 1906, worked for both Wright and Griffin, serving as the latter's chief draftsman from 1908 to 1911.

37 James to White, 12 May 1913; and White to James, 14 May 1913; University Archives.

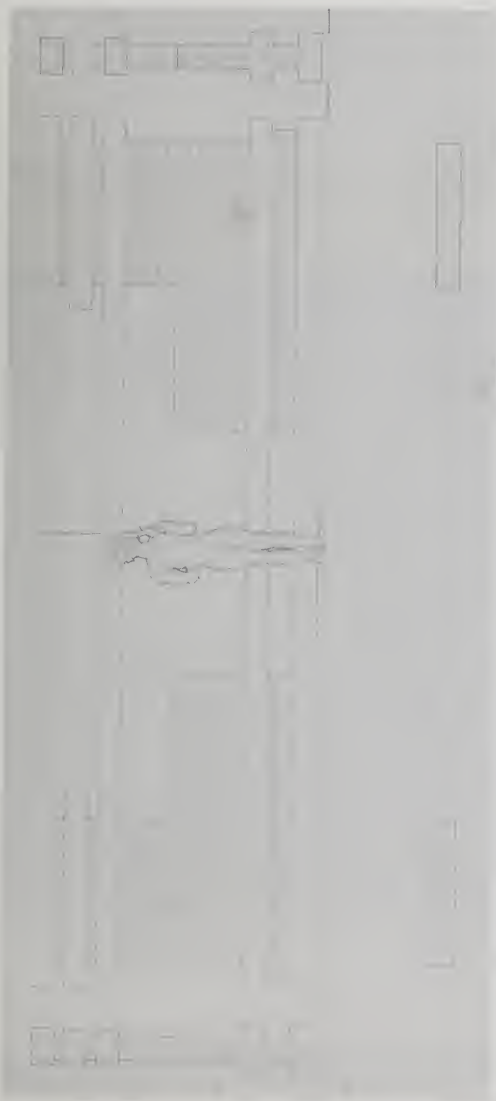
38 Provine to Wells, 10 February 1914, University Archives.

39 Provine's contracts clearly list him as "acting head," for which he received an extra \$500 on top of his salary of \$3,500, until the Trustees Report of 9 March 1920, when he became "head of department;" his salary remained \$4,000.

40 See "The Steadfast Ideals of Walter Burley Griffin," *Illinois Alumni News* 5, April 1927.

41 Nicholls to Peisch, 30 November 1953, Peisch Papers, Avery Library, Columbia University.

42 Today the bulk of the silk drawings, lithographed and watercolored, are in the Avery Library, Columbia University; the ink-on-linen originals from which the silk drawings were made are at the Block Gallery, Northwestern University; and the remaining collection—a fairly diverse group—are part of the permanent collection of the Art Institute of Chicago.



Portfolio of the Architecture of Walter Burley Griffin: A Photographic Essay

Mati Maldre
Photographer



Rock Glen Development, 1912
Mason city, Iowa

A sweeping view across Rock Glen showing Griffin's landscaping of (left to right) the Blythe House, 1913, and the Page House, 1912.





Stinson Memorial Library, 1912-13

Anna, Illinois

Detail of the clerestory windows.

These buildings and details were taken by the Chicago photographer Mati Maldre between 1988 and 1990, assisted by a grant from the Graham Foundation of Chicago. Maldre's photographs of all the Griffin buildings standing in the United States, with an essay and catalog by Paul Kruty, will be published by the University of Illinois Press.

Joshua Melson House, 1912

Rock Crest Development, Mason City, Iowa

View from Willow Creek





Joshua Melson House, 1912
 Rock Crest Development, Mason City, Iowa

Detail of second-story windows. The five-part keystones are actually monolithic blocks of reinforced concrete.



House 1 for Hurd Comstock, 1911
 Evanston, Illinois

Detail of second-story windows.

Four Houses Designed for the Real-Estate Developer Russell L. Blount

The south side of 104th Place (Walter Burley Griffin Place) east of Wood Street, Chicago, showing (left to right) the Jenkinson House, 1912; the Clarke House, 1913; the Newland House, designed by Spencer & Powers, 1913; and the Furneaux House, 1913.



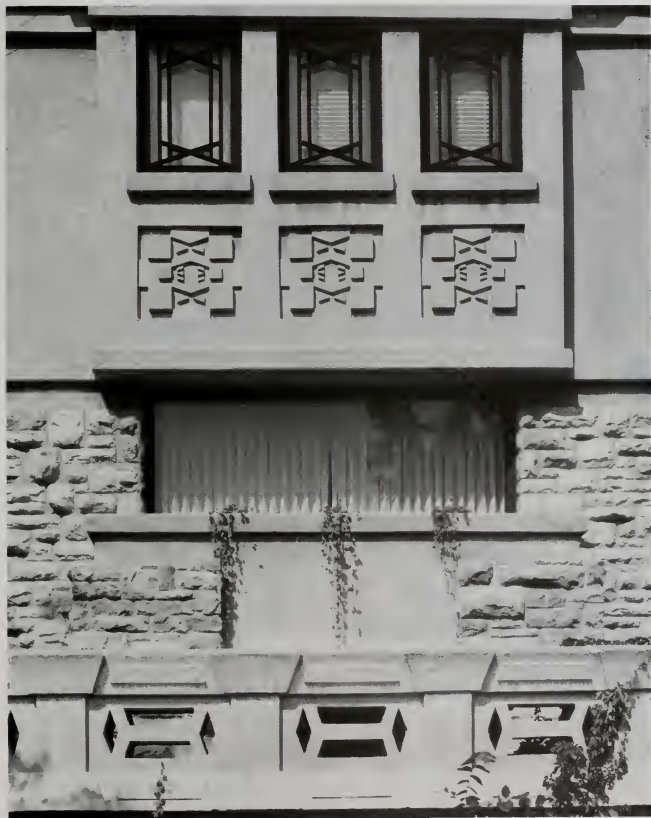
Benjamin J. Ricker House, 1911
Grinnell, Iowa

Fireplace in the study.
Marion Mahony designed this fireplace using green and tan glazed "Teco" tiles made by the American Terra-Cotta Company of Crystal Lake, Illinois.



James Blythe house
Mason City, Iowa, 1913

*Detail of the east facade constructed with
reinforced concrete and limestone facing.*



**Combination gas/electric brass wall fixture,
1904**

William Emery House, Elmhurst, Illinois

Griffin designed this fixture while working for Frank Lloyd Wright. It appears in several of Wright's houses, including the Susan Lawrence Dana House in Springfield, Illinois.



Ralph Griffin House, 1909
Edwardsville, Illinois

Corner fireplace in the library.





Harry Peters House, 1906
Chicago, Illinois

This was the first of Griffin's houses to be built after his departure from Wright's office.

Harry Mess House, 1912
Winnetka, Illinois

Detail of second-story corner windows.



Mary Bovee Two-flat, 1908
Evanston, Illinois

This was Griffin's earliest use of concrete and stucco over hollow tile.



New Visions for Philadelphia

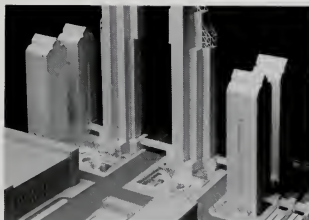
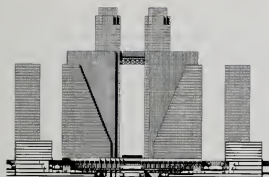
Robert I. Selby, AIA
University of Illinois at
Urbana-Champaign

An exhibition entitled "New Visions for Philadelphia" was held in the Atrium of the Mellon Bank Center in Philadelphia on January 15-30, 1993. The exhibition, sponsored by Mayor Edward G. Rendell and the City Council of Philadelphia, Richard I. Rubin & Co., Equitable Real Estate, and the Athenaeum of Philadelphia, was produced by Edmund N. Bacon, the 1991-92 Recipient of the Plym Distinguished Professorship in Architecture. "New Visions" featured the work of University of Illinois students: Kenneth Allen, Peter Courtas, Mark Freudenwald, John Lesak,

Mira Metzinger, Robert Neu, Michael Pipta, Hariri Yahya, and Wan Zawber. Projects exhibited were from the Fall Semester, fifth year design studios conducted by Professors Johann Albrecht, Botond Bognar, Ernest Clay, Carolyn Dry, Bruce Hutchings, Henry Plummer, James Warfield, Hub White, and Ronald Schmitt, Course Coordinator, and from the Spring Semester 1992 Plym Studio conducted by the author. This article is a brief description of the two semester urban design process illustrated with a few of the projects shown in the "New Visions" exhibition. Full

Mark Freudenwald's Master Plan Model.





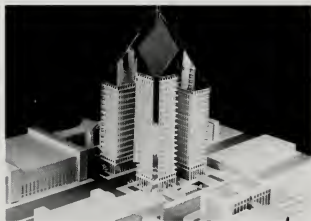
Top: Mira Metzinger's Master Plan. Left: Mark Freudenwald's Towers. Right: Mira Metzinger's Towers. (All Photographs Courtesy of the School of Architecture, UIUC.)

documentation of the projects may be found in a monograph, *Urban Synergy: Process, Projects, and Projections*, by the author, in papers listed in the endnotes, and in a video produced by Greg Buchanan, a student in Professor Hutchings' studio.

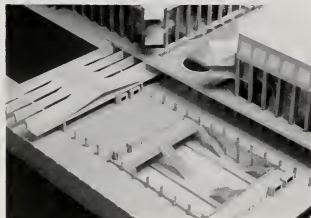
Students in fifth year design studios focus on urban design projects. In the fall semester of 1991, fifth year students and their faculty worked with Edmund N. Bacon, celebrated city planner of Philadelphia, author of *Design of Cities*, and recently appointed Plym Professor. Bacon suggested students undertake an urban design study for the westward expan-

sion of Philadelphia, on a site across the Schuylkill River from the main portion of the city, on the historic Market Street axis. The project site, called City Center West, is occupied by two landmark buildings, the Post Office and newly restored 30th Street Station.

Professor Ronald Schmitt wrote the urban design program detailed in historic and physical descriptions of the site, but implicit and open-ended as to specific building requirements. Schmitt's document challenged students to define their own programs explaining that "master planning and urban design encompass decisions of what, why,



Top: John Lesak's Master Plan Model.
 Center: John Lesak's Towers.
 Bottom: John Lesak's Subway Station.



and where as well as when to build." Bacon informed students in his public lectures that "creator/city builders" set agendas as opposed to reacting to agendas set by others.

Bacon urged students to understand, to respect, and to continue Penn's 1682 concept of axes (Market Street from Penn's Landing on the Delaware River to our site on the Schuylkill River) and open space (especially the "checkerboard" park system). Bacon also advised students to study how architectural development of Philadelphia related to Penn's Plan, for example how the profile of historic City Hall marks cross axes of Market and Broad Streets. He then admonished students to create their own archetypal images against the skyline symbolic of their important site.

The fifth year faculty divided the urban design project into three phases: comprehensive master planning at a scale of 1" = 400', City Center West district planning at 1" = 200' and architectural design at 1" = 100'.

Mark Freudenwald's model is representative of master plan studies. Working in Professor

James Warfield's studio, Freudenwald developed an urban design strategy which would eventuate in a wall of individually designed buildings conforming to a holistic urban design idea. Buildings are arranged in ascending heights culminating at the Market Street axis with a pair of gateway towers. Thomas Hine, reviewing the "New Visions" exhibition for the *Philadelphia Inquirer* wrote, "The most convincing master plan, by Mark Freudenwald, arranged office towers in a great arc that would project the curve of the Schuylkill River into the skyline. This would give the city two great ridges of skyscrapers, perpendicular to each other, one following such man-made phenomena as subway and commuter rail lines, the other marking the natural phenomena of the river and geologic transition."

Mira Metzinger, developed a comprehensive master plan in Professor Ernest Clay's studio which, like Freudenwald's, created a landmark gateway on Penn's Market Street axis using a pair of archetypal towers. Metzinger also continued the "checkerboard" park system of the 1682 Penn Plan by proposing two additional parks on the north-south axis and an open urban space fronting her towers.

John Lesak's master plan, developed in Professor Schmitt's studio, proposed a research park in close proximity to the campuses of Drexel University and the University of Pennsylvania, with a group of four glass towers on the Market Street axis.

Bacon was pleased with these and other projects from the fall semester. He thought these designs might influence the actual growth of City Center West if they could be developed in further detail. Accordingly, he proposed that he return the following semester to keep working on this project with students, something no previous Plym Professor had done.

Bacon invited several students with projects he particularly admired to form a special Plym Studio in the spring semester of 1992. These and a few others eager to work with Bacon joined the studio, conducted by the author. Most of the master plans of this

group were strongly influenced by Bacon's vision. Bacon called for extending Penn's ideas west with archetypal buildings designed to provide human scale and stimulation as pedestrians move through the district, a quality he calls "architecture", and most students responded with groups of towers. Visiting critic, Laurie Olin, whose internationally significant landscape architecture practice is located in Philadelphia, asked, "What if you could see a tree from the subway?" Students answered with urban gardens stepping down to track level.

Students refined their urban designs at 1" = 50', and architectural designs at 1/16" = 1'-0" as represented by the following projects.

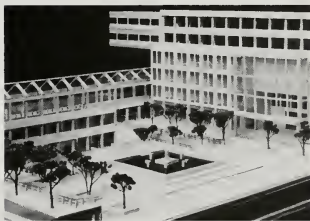
Freudenwald lowered the height and width of his towers, adjusting their scale to fit his proposed stepped plazas and urban gardens connecting street level to subway level. He refined the design of his tower base to incorporate a multi-story colonnade, linking lobby with subway.

Metzinger's towers and formal plazas were detailed to meet the same goals. She proposed fountains and indoor/outdoor cafes to provide places for watching people come and go. Lesak's and Metzinger's building lobbies are multi-story volumes admitting sunlight and public circulation from above to subway. Lesak's subway station is designed to recall traditional railroad stations with a trussed gable roof.

Hariri Yahya redesigned the group of four towers he designed for another site in the previous semester in Professor Botond Bogнар's studio to fit behind the Post Office and 30th Street Station. He proposed articulated twin towers with surrounding upper level loggia, plaza level colonnade, and a plaza descending, worked on by his partner, Wan Zawber, gracefully to the track level of the subway enclosed behind a two story glass wall affording waiting commuters and train passengers a view of fountains, pools, trees and other vegetation. At the top of this glass wall is a glass roof overhanging the sidewalk to give shelter to those waiting for a bus or



Above: Hariri Yahya and Wan Zawber's Towers.
Center: Hariri Yahya and Wan Zawber's Plaza and Subway Entrance.



Below: Pictured left to right in front of Mark Freudenwald's model: Pete Courlas, Michael Pipta, Ken Allen, John Lesak, Mark Freudenwald, Professor Robert Selby, Hariri Yahya, Mira Metzinger, Rob Neu, and Greg Buchanan. (Not pictured, Wan Zawber.)



cab. The subway is entered from within the towers, from the plaza, or from glass pavilions connecting street level to track level. Hine wrote of this project, "The multilevel square provides an opportunity to explore one of Bacon's longtime obsessions: the subway in the garden."

Of the collection of projects in the "New Visions" exhibition Hine observed,

At local architectural schools, this problem is an old chestnut, and it has received professional attention a number of times. As Bacon has remarked, these efforts have produced mere jumbles of buildings, none of them memorable.

The Illinois students did produce something that, while it is the logical extension of Bacon's principles, is something Bacon never thought of. Their insight was that the (City Center West) development must be tied into city's fundamental structure in a way that is immediately understandable and that this must involve something that would straddle Market Street, just west of the 30th Street Station and Post Office. Previous plans for this area, even

when they continued the street grid, were never readable as part of the city. The logic of Philadelphia's design is that truly important things—City Hall, for instance—interrupt the grid. The students did not propose to close Market Street to traffic, but they did create a multilevel public place, called Universe Square, along with towers that would create a symbolic gateway.

The projects selected for this brief article are those which most closely aligned with Bacon's visions for Philadelphia, executed by students who worked most closely with him and were most influenced by him. This article does not permit a presentation of the many alternative master plans, architectural designs, and pluralistic thinking of eighty creative students in fifth year studios. A number of these projects proposed significantly different visions for City Center West, some suggesting more green open space and fewer, even no high rise buildings. In the Plym Studio, for example, Ken Allen and Michael Pipta designed a hotel and commercial complex with buildings scaled to relate more to the campus architecture of Penn. and Drexel than to the downtown buildings.

Readers interested in learning more about the Philadelphia project may wish to contact the author for a copy of one or more of the references cited below.

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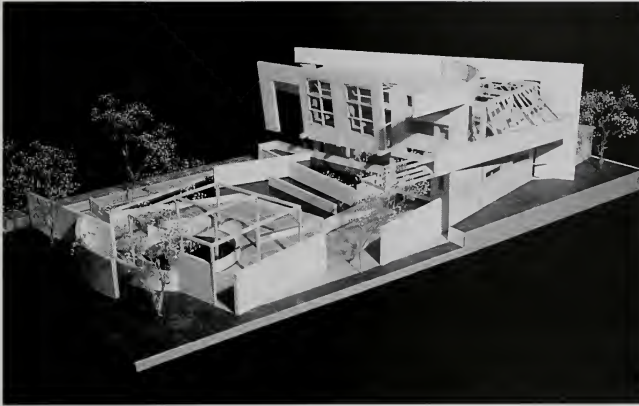
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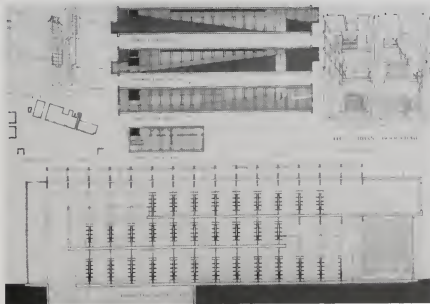
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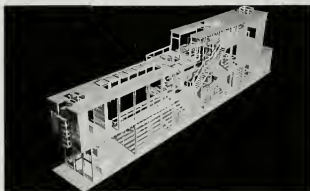
Paul Kinnavy, "Pavillion Permatore,"
Sophomore Design, Fall 1991
Studio critic: Paul Armstrong

Matthew Sanders, "Urban Bookstore,"
Junior Design, Fall 1991
Studio Critic: John Reese

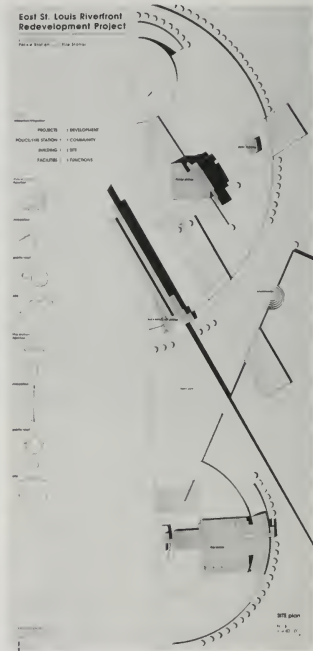




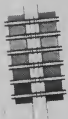
Louie Vavaroutsos, "Furniture,"
Senior Design, Fall 1991
Studio critic: Jeffery Poss



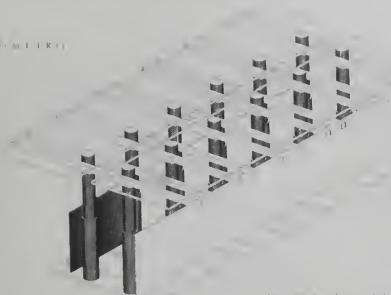
Yoon Kang, "Urban Bookstore,"
Junior Design, Fall 1991
Studio critic: Anne Marshall



Erich Stenzel, "East St. Louis Riverfront
Redevelopment, Police and Fire Station,"
Senior Design, Fall 1991
Studio critic: Earnest Clay



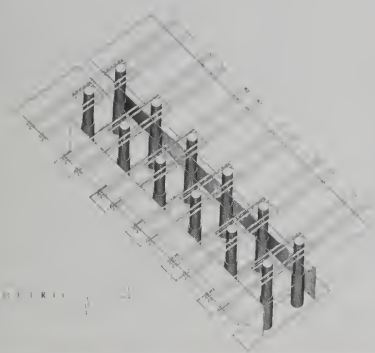
EXAMPLERY



Suggestion of materials and the position of the structure of the table is expressed by the lines of the model and is made in a way that describes how it works.

Two perforated metal screens peel away from the defined structure of the table. These transparent membranes create screen patterns which activate the structure, simulating the machine in motion. Springs on the table's legs concern matters of action and reaction, the physics behind the function of a table.

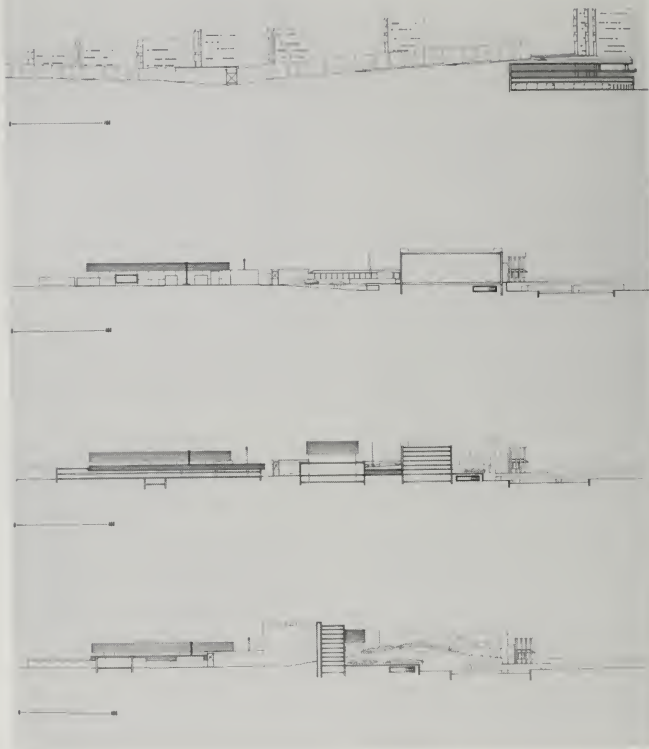
table



EXAMPLERY

Kurt Winkler, "Furniture,"
Senior Design, Fall 1991
Studio critic: Jeffery Poss

S E C T I O N S



Sean Gallagher, "Urban Philadelphia,"
Graduate Design, Fall 1991
Studio critic: Ronald Schmitt

(All Photographs Courtesy of the
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