

SEEING ARCHITECTURAL PHOTOGRAPHS:

**SPACE AND TIME IN THE WORKS OF
JULIUS SHULMAN AND EZRA STOLLER**

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To my father.

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SUMMARY

This dissertation is about seeing architectural photographs. It begins by addressing a paradoxical aspect of some architectural photographs: they acquire a status as works of photographic art, yet are able to do so while ostensibly serving a documentary purpose – in fact, they take on their significance by virtue of presenting architectural content. This raises questions about the nature of architectural experience. In particular, what do we see of architecture, exactly, when we see an architectural photograph? I propose that what we see in some architectural photographs involves our visual construct of space and time, and bears upon our cognition of essential architectural qualities. To demonstrate this, I offer case studies of architectural photographs from mid-century America, the works by Julius Shulman and Ezra Stoller. The studies show how the photographers' careful manipulation of technical variables and selective inclusion of secondary subject matter bring forth distinctive exemplificational architectural qualities from what appears to be objective presentation. In Shulman's photographs of Richard Neutra's houses, what is exemplified is the quality of a lived space, modulated by subtle depictive moves. In Stoller's case, the secondary or peripheral subjects trigger various durations of seeing, against which the relative permanence of the building is made manifest. Ironically, these photographs offer the kind of seeing in question by obscuring key descriptive details of the photographed building, and letting seemingly incidental details acquire visual salience. They succeed by bringing forth the properties of the medium that exemplify those of architecture. The study thus offers telling insights into why visual representation matters to our experience of architecture.

CHAPTER 1. INTRODUCTION

1.1 Question

1.1.1 What Do We See of Architecture, Exactly, When We See an Architectural Photograph?

In this thesis, I offer a discussion about seeing architectural photographs: what we see in them, exactly, and how we see what we see. The conventional view is that we either see through the photograph the photographed building at the moment of snapping, or see in it a pictorial expression regardless of what has been photographed. A special quality of some architectural photographs, on the other hand, suggests an alternative account concerning our seeing of architectural photographs. The quality in question, in short, is to ostensibly document the building, yet achieve significance by virtue of presenting architectural content. The main purpose of this chapter is to introduce and articulate this quality, and draw attention to its pertinence in our seeing of architectural photographs.

Architectural photography is one of the more widely used mediums through which we see and learn about buildings. We frequently come across photographs of buildings, whether they are illustrated on glossy pages of architectural monographs and journals; projected on the wall of a dark lecture room; or displayed on the screen of a laptop or phone. Furthermore, we can now conveniently search, click, and swipe through a variety of architectural photographs available on the web. An amateur photographer can easily operate a camera and produce credible high-resolution images of buildings. She can reproduce, manipulate, and distribute her images without much difficulty, thanks to various

Photoshop-like applications and the internet.¹ Photography has offered us the experience of bringing buildings across space and time. It has allowed us to see and learn about distant buildings from the other side of the world, and even those that existed a century ago but no longer exist.

Buildings have been a popular subject of photography since its invention, initiated by the experiments during the early 19th century that sought to make pictures by concentrating and inscribing the world on a light-sensitive surface.² In the following years, taking photographs of buildings gradually began to solidify as a profession. The early demands came from projects that sought to document national monuments, particularly in France and England, such as *Mission Héliographique*, launched by the French government in 1851.³ Édouard-Denis Baldus's photographs of the New Louvre addition around 1855 are examples of early architectural photography in its prime [Figure 1-1].⁴ Architects also

¹ The means of photographic manipulation can range from simply adding a subtitle or cropping to more technically complex darkroom processes. Today, with the advance of digital photography, deceitful manipulation of photographic images is quite common and possible. Putative veraciousness of digitally processed photographs, in turn, has become an intriguing topic in art-photography.

² Photography may refer to a concept, a technology, a medium, or an art-form; and its origin may date back to a much further past. The optical principle of *camera obscura*, in fact, was already known to Aristotle. For a brief of history of photography, see Helmut Gernsheim, "The Pre-History of Photography," in *A Concise History of Photography*, 3rd ed. (Mineola: Dover, 1986).

³ The photographers appointed for *Mission Héliographique* included some of the prominent figures of early photography, such as Édouard-Denis Baldus, Gustave Le Gray, and Jean-Louis-Henri Le Secq.

⁴ For an early history of architectural photography, see Joel Herschman, "Part I: 1839 to 1880," in *Architecture Transformed: A History of the Photography of Buildings from 1839 to the Present* (Cambridge: MIT Press, 1987); John Hannavy, ed., "Architecture," in *Encyclopedia of Nineteenth-Century Photography* (London: Routledge, 2007).

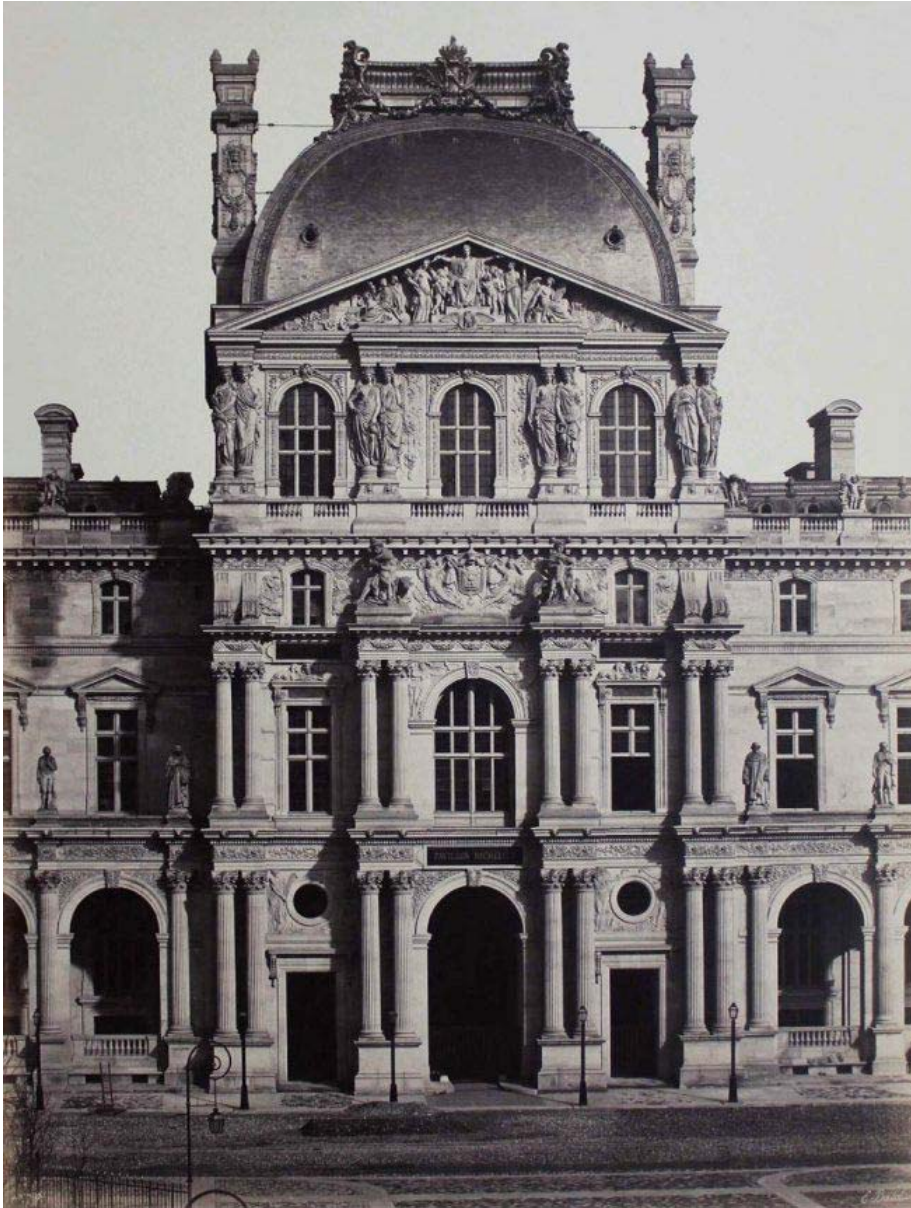


Figure 1-1 – Édouard-Denis Baldus, Nouveau Louvre, Paris, c.1855.

began to commission photographers for documentation and publicity of their works during the latter half of the 19th century. Later in the century, the excitement of the new medium began to wear out. The progress of architectural photography then experienced a hiatus until the 1920s, when architects and publishers began to take interest in foregrounding the modernist qualities of buildings through innovative photographic techniques initiated by

photographers such as Alfred Stieglitz, Edward Steichen, and László Moholy-Nagy. Since the 1930s, the exceptional works of Dell and Wainwright, F. S. Lincoln, Hedrich-Blessing, Julius Shulman, and Ezra Stoller, among others, have established the foundation of modern architectural photography.

Some of the works by these photographers have gained significance beyond mere visual projection. We know most of the buildings that we recognize because of photographs, and we occasionally identify a famous photograph of a building as its canonical image, and sometimes an icon of the architect, the style, or the age. “Every so often,” Pierluigi Serraino writes, “buildings are indistinguishable from the photographs that represent them.” He continues:

How can the viewer critically distance the Finnish Pavilion by Alvar Aalto (...) from the picture taken by the twenty-four-year-old Ezra Stoller? And where do we draw the line between Fallingwater by Frank Lloyd Wright and the photo by Hedrich Blessing looking up from the waterfall? Is the popular acknowledgment of the Kaufmann House in Palm Springs by Richard Neutra dependent on the pictorial account crafted by Julius Shulman, or not?⁵

Bill Hedrich’s famous shot of Fallingwater is an exceptional exemplification of what many consider to be the key characteristics of the building [Figure 1-2]. The low-angle shot taken from the stream on the other side of the entrance is far from something the onsite visitor is expected to see. It does, however, dramatically show the heavy – yet seemingly weightless – terrace structures, courageously cantilevering outward and floating above the waterfall and the rocks. The photograph is an iconic image not only of Frank

⁵ Pierluigi Serraino, “History’s Rejects,” *Hunch* 3 (2001). p.52.



Figure 1-2 – Bill Hedrich, Fallingwater, Bear Run, 1937 (architect: Frank Lloyd Wright; building completed in 1937).

Lloyd Wright's masterpiece, but also of the style and the culture of which the building and the architect are a part.⁶ Richard Neutra wrote in 1962 that architectural photographs could approximate the "essential memory" of architecture. Neutra applauded the works of his primary architectural photographer Shulman for providing him the opportunity to

⁶ Edward Ford notes that Bill Hedrich's photograph attempts to replicate the famous perspective of the building drawn by Frank Lloyd Wright and John Howe. Edward R. Ford, "The Inconvenient Friend: On Inaccuracy, Exactitude, Drawing, and Photography," *Harvard Design Magazine* 6 (Fall 1998): 12–21. p.17.

“remember and commemorate.”⁷ Writing for the retrospective of Stoller in 1980, Arthur Drexler claimed that the works of Stoller had been “more real to architectural students,” and “more intensely experienced” than the buildings themselves.⁸

It seems, at least to those who can concur with such appreciations to some extent, that an architectural photograph can offer some enhanced experience of its architectural subject. How is it, then, that the mediated experience of seeing a building through a photograph conveys such “realness” or “intensity?” How can the visual experience of seeing an architectural photograph be more real or intense than the immediate experience of seeing a building onsite – and what is the nature of this experience?

Seeing a photograph of a building, in comparison to in fact seeing a building, poses some obvious limitations. In addition to seeing, an onsite visit would include experiences of sound, smell, and texture prompted by the built environment. The viewer would see the building as part of the physical world of spatial and temporal dynamics, of which she also partakes in shaping. The viewer’s movement would enable her stitching of multiple partial perceptions of that physical world, and offer opportunities for verification and less chance of misperception.⁹ The viewer seeing a building through a photograph, on the other hand,

⁷ Richard Neutra, “The Photographer and Architect,” in *Photographing Architecture and Interiors* (Los Angeles: Balcony Press, 2000 (originally 1962)). pp.vii-ix.

⁸ Ezra Stoller and Arthur Drexler, *Ezra Stoller: Photographs of Architecture, 1939-1980* (New York: Max Protetch, 1980). quoted in Akiko Busch, *The Photography of Architecture: Twelve Views* (New York: Van Nostrand Reinhold, 1987). p.16.

⁹ What I describe as the viewer’s onsite experience of a building loosely conforms to what Richard Hill describes as the modernist views of an architectural or a spatial experience – i) the experience through integration of senses; ii) attention toward objects based on fragmentary perceptions; and iii) the experience in movement –, included as part of Hill’s critical review of our usual conception involving our encounters with buildings. Richard Hill, “Encounters with

sees the building as two-dimensional, enclosed in space-time by pictorial framing and the past moment of exposure. Photographic production and reproduction cannot avoid the transformative interventions imposed during the process, which is accused of deferring the image farther away from a true or more complete perception of it. The architectural historian and critic Thomas Schumacher puts it bluntly:

The worst offense of architectural photography, however, is its ability to make terrible buildings look good. This is not to say that drawings cannot perform the same task, often more egregiously, but the carefully cropped and lighted photo can make the sow's ear look like the silk purse. (...) Carefully aimed and cropped photographs can tell outright lies about famous buildings, too.¹⁰

Lines can look sharper in an architectural photograph. Some parts of space may look overly shallow, and others overly deep. Photography *re*-presents, or rather *mis-re*-presents, what the onsite viewer would see of the building.

Some argue that such limitations of architectural photography – its visual and mediative nature in particular – deprive our architectural experience of its richness. Such a proposition often considers the camera as another means of rationalization or instrumentalization of architecture, as it dissociates the building from the body. The visual medium is viewed as being detrimental to our recognition of the true cultural significance of architecture, to our genuine experience of the built environment.

Buildings,” in *Designs and Their Consequences: Architecture and Aesthetics* (New Haven: Yale University Press, 1999).

¹⁰ Thomas L. Schumacher, “Over-Exposure: On Photography and Architecture,” *Harvard Design Magazine* 6 (Fall 1998).

Such a view finds its roots in some previous thoughts concerning the nature of our experience of the built environment. Consider, for example, the late 19th century aesthetic theory of *Einfühlung* or empathy, Martin Heidegger's writings on the ontological notion of "being" and Maurice Merleau-Ponty's writings on the body as our primary site of knowledge, or Steen Eiler Rasmussen's classic writings on architectural experience. *Einfühlung*, a term coined by Robert Vischer in 1873, refers to the human capacity to incorporate the external world through bodily resonance and simulation, from which we take aesthetic delight.¹¹ The concept has been integrated into the influential theory of architectural tectonics, especially into that with the phenomenological approach. Merleau-Ponty fostered the philosophy of phenomenological perception and of body, which has fed into the relevant thinking in architecture. Merleau-Ponty writes in 1945 that our perception is a process of "integration" rather than mere visualization. We perceive through resonance with the external world, and our perception is subjectively "composed" of complex faculties of the body.¹² Rasmussen believed that our unconscious interactions with the built environment and the collective memories of such interactions were the essence of our coping with the world. Rasmussen's survey of the elements of the city, architecture, and

¹¹ The seminal writings of the nineteenth-century German theory of *Einfühlung* are compiled in Robert Vischer, Harry Francis Mallgrave, and Eleftherios Ikonomou, *Empathy, Form, and Space: Problems in German Aesthetics, 1873-1893* (Santa Monica: Getty Center for the History of Art and the Humanities, 1994).

¹² "Conversely, normal functioning [of perception] must be understood as a process of integration in which the text of the external world is not so much copied, as composed. And if we try to seize "sensation" within the perspective of the bodily phenomena which pave the way to it, we find not a psychic individual, a function of certain known variables, but a formation already bound up with a larger whole, already endowed with a meaning, distinguishable only in degree from the more complex perceptions, and which therefore gets us no further in our attempt to delimit pure sensation." Maurice Merleau-Ponty, "The 'Sensation' as a Unit of Experience," in *Phenomenology of Perception*, trans. Colin Smith (London: Routledge, 2002 (originally 1945)). pp.10-11.

space – itemized as solid and cavity, scale, proportion, and texture – was an attempt to find forms that had structured and enriched our experience of the built environment.¹³

By the 1990s, the once dominant postmodern trend – the variety of theoretical and design experiments in architecture driven by obsessive application of semiotic models – had begun to worn off. A group of architects and authors, equipped with ontological and phenomenological thinking, sought to counter architectural production and reception dependent on visual mediation with those driven by multisensory and bodily engagement with the environment. For example, Juhani Pallasmaa, a renowned Finnish architect and author, resented that architecture at large had become a “retinal art of the eye,” “of the printed image fixed by the hurried eye of the camera.” He writes:

The gaze itself tends to flatten into a picture and lose its plasticity; instead of experiencing our being in the world, we behold it from outside as spectators of images projected on the surface of the retina. As buildings lose their plasticity and their connection with the language and wisdom of the body, they become isolated in the cool and distant realm of vision.

For Pallasmaa, photography pushes architecture to be “stage sets for the eye, devoid of the authenticity of material and tectonic logic.”¹⁴ Steven Holl and Peter Zumthor have also taken this stance through their works, which effectively engage the viewer’s multisensory or bodily experience. Alberto Pérez Gómez, Kenneth Frampton, and Dalibor Vesely have criticized the so-called instrumentalization of Western architecture since the

¹³ Steen Eiler Rasmussen, *Experiencing Architecture* (Cambridge: MIT Press, 1959).

¹⁴ Juhani Pallasmaa, “An Architecture of the Seven Senses,” in *Questions of Perception: Phenomenology of Architecture* (San Francisco: William Stout, 2006 (originally 1994)). p.29.

enlightenment, and have initiated approaches that underscore the ontological presence of architecture and the phenomenological perception of it.¹⁵

In essence, some believe that the primacy of vision over other bodily senses and the process of rationalization in representation have endangered architectural authenticity. They believe that buildings have lost the capacity to communicate deep cultural meanings. In this view, photography – innately a visual medium – is bound to be a major target of criticism. Critics have accused the medium of degrading architecture into a mere spectacle, of being a deceptive surface matter with no depth. Underlying the accusation is the premise that architectural photographs appeal to no more than the eye. The proposition is that architecture via photography is a near-perfect copy at best, essentially an incomplete proxy. An architectural photograph is destined to fall short of the building it represents.

However, to assume that limitations of photography would automatically result in sparse and shortfall experiences seems much too convenient. If architectural photography were indeed a medium of incomplete defect, how would we account for its wide use for such a long period, let alone its accomplishments – the clear instances of rightfully

¹⁵ Some noteworthy sources of such an approach since the 1990s include David Leatherbarrow and Mohsen Mostafavi, *On Weathering: The Life of Buildings in Time* (Cambridge: MIT Press, 1993); Steven Holl, Juhani Pallasmaa, and Alberto Pérez Gómez, *Questions of Perception: Phenomenology of Architecture*, A+U: Architecture and Urbanism, Special Issue (Tokyo, 1994); Kenneth Frampton, *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture* (Cambridge: MIT Press, 1995); Juhani Pallasmaa, *The Eyes of the Skin: Architecture and the Senses* (London: Academy Editions, 1996); Peter Zumthor and Maureen Oberli-Turner, *Thinking Architecture* (Baden: Lars Müller, 1998). On the detrimental effects of instrumentalization of architecture and its representation, see Alberto Pérez-Gómez, *Architecture and the Crisis of Modern Science* (Cambridge: MIT Press, 1983); Alberto Pérez-Gómez and Louise Pelletier, *Architectural Representation and the Perspective Hinge* (Cambridge: MIT Press, 1997); Dalibor Vesely, *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production* (Cambridge: MIT Press, 2004).

impressive architectural photographs? Let us consider Michael Benedikt's take on a relevant issue. In his review of books on bodily and multisensory experience of architecture, Benedikt wonders, for a moment, whether the recent "appeal to move beyond the visual" may be largely based on a hasty claim that our attention to vision somehow automatically cancels out our appreciation of the richer qualities of architecture.¹⁶ In tune with this suspicion, we may also raise the question of whether adding concerns for non-visual senses, a notable strategy in recent phenomenological designs, would automatically result in richer architectural experience. To quote Benedikt, can a building not be "multi-sensory *and* shallow, or purely visual *and* deep?"¹⁷ Is the visual appearance of a building not usually the richest aspect of it, yielding the widest range of perceivable subtleties?

On a profound level, we may raise questions about the experience of architecture itself. Where does the supposed "depth" come from in our experience of a building? Karsten Harries proposes that the way in which a building generates its aesthetic appeal and significance is by representation.¹⁸ More specifically, Harries argues that buildings signify by representing other buildings that have been associated with a "more original and genuine dwelling," by "drawing from the aura of the represented buildings a special significance for themselves."¹⁹ Representation, in this regard, is to recall the "natural

¹⁶ Michael Benedikt, "Coming to Our Senses: Architecture and the Non-Visual," *Harvard Design Magazine* 26 (Spring/Summer 2007).

¹⁷ Ibid. p.84.

¹⁸ Karsten Harries, "Representation and Re-Representation in Architecture," *Via* 9 (1988): 12–25.

¹⁹ Ibid. p.18.

language of space and time” that the represented building has spoken over the long history of architecture.²⁰

If architecture itself were to gain significance by being a representation, the representative nature of architectural photography would not be a defect at all. Instead of judging the visual or mediative nature of architectural photography as detrimental, we should perhaps ask questions about what it reveals about architecture, which is what constitutes our aesthetic experience of architecture. *What do we experience of architecture, exactly, when we see an architectural photograph?* Although we are intuitively aware of the unique experience of architecture that some architectural photographs are capable of delivering – an experience quite different than what we gain from an actual encounter with a building or from another form of representation – few studies have clearly accounted for this special experience. We seldom understand what that experience is, or how it comes about. This thesis is an attempt to account for such issues.

1.1.2 Values of Architectural Photography

What is the value of an architectural photograph? Eric de Maré writes in 1961 that a response to this question is likely to be one of the following three: i) a visual “record” of the building; ii) a “picture” with an artistic appeal; or iii) an “illustration” of the building’s

²⁰ Ibid. p.24.

quality.²¹ De Maré's view still seems to prevail today. I would like to briefly review and reconsider this classic view of architectural photography.

i) According to de Maré, an architectural photograph as a record offers “as much accurate documentary information as possible.” Its greatest benefit is that its use can “eliminate hours of tedious measuring.” The expertise and effort invested in the making of a photograph are relatively modest compared to drafting or engraving, considering how accurate and prolific a photograph can be by comparison. For example, when Eugene-Emmanuel Viollet-le-Duc was appointed in 1847 to restore Notre Dame in Paris, he ordered a large number of daguerreotype photographs to document the existing state of the building, because of their exceptional capacity to record fine details.²²

Pertaining to this aspect of photography is its distinctive evidentiality, which is why photographs are used in the court or the news to reliably attest to the visual facts that they convey. Informational veracity matters, and it is supposedly guaranteed by the mechanical nature of photography. A photograph is expected to register the exact image of what was there, without discretion or intention. Likewise, architectural photography/record is of value to us as it provides visual facts about a building supposedly without discretion, yet with great efficiency.

²¹ Eric de Maré, *Photography and Architecture* (London: Architectural Press, 1961). quoted in Joseph Rosa, “Architectural Photography and the Construction of Modern Architecture,” *History of Photography* 22, no. 2 (1998). p.100.

²² James S. Ackerman, “On the Origins of Architectural Photography,” in *Origins, Imitation, Conventions: Representation in the Visual Arts* (Cambridge: MIT Press, 2002). p.112.

The value of architectural photography as a record is most apparent when referential correlations between its graphic and building properties are critical. Consider a building restoration project for which a photograph of that building is the primary source of reference – for example, the photographs of the original Barcelona Pavilion from 1929 that became the source for the building’s reconstruction in 1986. An architectural photograph/record, in such a case, must be decoded into discernible and discrete symbols, and refer to the building without confusion. The photograph, in other words, must function as a notation, not unlike a construction drawing. In essence, architectural photography/record is instrumental and cannot claim authenticity, as its unique depictive subtleties cannot contribute to content.²³ In its notational mode, an architectural photograph remains a copy. The information of the photograph cannot equal what the photographed building conveys. The photograph is a shadow, always a lesser version of its source. The record thesis thus invites the criticism that our experience of an architectural photograph is always incomplete, and that architectural photography is detrimental to our genuine and tectonic experience of architecture. Therefore, it has little to offer for my inquiry into the evocative nature of architectural photography.

ii) For de Maré, an architectural photograph as a picture functions a “work of visual art in its own right.” What matters in an architectural photograph/picture are its internal visual components and their compositional relations within two-dimensional space, which

²³ For example, a musical score as a notation cannot claim authenticity, as its copy would serve its function without any defect. Authenticity is one of the several properties of representational art discussed by Nelson Goodman, with regard to categorization of referential schemes. Nelson Goodman, *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis: Hackett, 1976 (originally 1968)).

only happen to originate from photographing a building. An architectural photograph/picture thus assumes autonomy, and its value is independent from architectural content. Whether the photograph mirrors, re-presents, or mis-re-presents the building becomes entirely irrelevant.

A picture may be of interest to the audience of art photography; yet it is of little interest here. This thesis is about photographs that matter as entities of architectural knowledge. At the same time, I should clarify that this disregard of architectural photography/picture does not necessarily mean inattention to the graphic properties of the medium. A graphic property that has no transparent correlation to the photographed building may still refer to architectural content. In other words, a photograph may not refer to a building, yet may refer to an architectural property. Judith Turner, in photographing the works of the New York Five in 1980, deliberately obscures the actual buildings that she photographs [Figure 1-3].²⁴ Turner's photographs are fragmentary close-up views lifted out of context, consisting of planar lines and patches instead of buildings. Interestingly, their autonomous and formalist nature is precisely what the New York Five's architecture is about. Turner's photographs are thus a special case of reference, of exemplification – that is, the graphic properties of her photographs that sustain attention are also the properties shared by the architecture. I discuss exemplification more in Chapter

²⁴ Judith Turner, *Judith Turner Photographs Five Architects* (New York: Rizzoli, 1980).



Figure 1-3 – Judith Turner, Benacerraf House addition, Princeton (architect: Michael Graves; building completed in 1969). From Judith Turner, *Judith Turner Photographs Five Architects* (1980).

2, as the concept relates to the architectural photographs that I examine throughout this thesis.

iii) For de Maré, to illustrate is to interpret a building, and to “strengthen” its qualities. He further claims that an architectural photograph/illustration has a twofold role: as a record and a picture. The illustration is a “satisfactory record which also makes a pleasing picture in itself.”

It presents the building in as attractive and revealing a way as possible so that we say in the same breath, “What a splendid photograph! And what a beautiful building!”²⁵

I cannot imagine an architectural photograph being *simultaneously* a record and a picture; but it can surely switch between the two depending on the occasion of its use. The photographs of Notre Dame ordered by Viollet-le-Duc, of the New Louvre by Édouard-Denis Baldus, or of the original Barcelona Pavilion are all intended to be documentary records; yet the same photographs surely have some of the qualities necessary to become artworks and to be hung on an art gallery wall for appreciation. Just as an architectural photograph is a record when and where its informative content matters, it is a picture when and where its graphic content matters.²⁶

De Maré’s illustration thesis is a conjunction of the two preceding theses. An architectural photograph/illustration is either a record or a picture, or at best both. Accordingly, it remains either an imperfect substitute or a subgenre of art. The thesis also suggests that the illustrative function of a photograph strengthens the perception of certain properties of architecture, yet seems unclear about how it does so – other than by potential improvement in appearance.

²⁵ de Maré, *Photography and Architecture*. p.100.

²⁶ This point is in line with Nelson Goodman’s proposition on judgment of art. Goodman proposes that the question for judgment of an artwork should be that of “when,” instead of “what.” According to Goodman, a thing is an artwork as it tends to activate certain referential activities, which likely lead to the viewer’s aesthetic response. An artwork, in this regard, merely possesses “symptoms” of an aesthetic. Nelson Goodman, “Symptoms of the Aesthetic,” in *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis: Hackett, 1976 (1968)), 252–55; Nelson Goodman, “When Is Art?,” in *The Arts and Cognition*, ed. David Perkins and Barbara Leondar (Baltimore: Johns Hopkins University Press, 1977).

In other words, the view that architectural photographs are a record, a picture, or an illustration does not offer a satisfactory account of the kind of compelling experiences we sometimes have in seeing good photographs of buildings. As such, in thinking of the value of architectural photography, I propose that we focus on the visual experience of it.

Architectural photography may be seen only in its role as a profession, but this view can be unfairly undermining of its value at times. Consider, for example, the following comment by Terence Riley. The quote is from Riley's introductory essay on a selection of photographs that feature buildings by photographers outside the profession of architectural photography, such as Andreas Gursky, Jeff Wall, or Hiroshi Sugimoto.

By the third quarter of the nineteenth century, architectural photography had become more of a technical sub-specialty whose goal was to document the work of the architect for publication and other purposes. This professional architectural photographer certainly still exists, providing (with notable exceptions) their clients with *objective* documentary images that follow a certain stylistic pattern: bright daylight exterior shots and interiors evenly lit by artificial sources. However, the works presented here might be considered one of the high points in the last decades wherein photographers, as artists, rediscovered architecture. (...) The distinction between architectural photography, as a profession, and the photography of architecture, as an art practice, could never be more evident than in this publication. Like portrait painters, all of the artists presented here clearly understand that the goal in photographing a building is not the simple recording of physical appearances but the revelation of less tangible qualities.²⁷

Riley's view of the profession of architectural photography, which assumes a connection between the "certain stylistic pattern" and the purpose or the end product of "objective documentary images," is only valid to some extent. Consider the architectural photography "checklist" by Esto. It contains points to consider before and during an

²⁷ Terence Riley, "Architecture as Subject," in *Architecture without Shadow*, ed. Gloria Moure (Barcelona: Ediciones Polígrafa, 2000). p.9.

architectural photography job, such as natural light and the angle of the sun, leaves on trees, moving automobiles and pedestrians, or furniture and artworks installed.²⁸ Such variables are important to an architectural photographer as they can affect her professional practice, which proclaim and value objective documentation through photography. Nonetheless, at the same time, such variables do allow for more subtleties than we may expect, with no damage done to objectivity. The “certain stylistic pattern” is perhaps not as fixated as Riley implies. The minuscule differentiations we have overlooked may be more significant than we think. Even distribution of light and exposure, for example, would generally guarantee homogeneity, but may lead to losing formal definition. Where, exactly, should the compromise be? How many pieces of furniture or art, exactly, should be included in space, and where? Such questions are endless.

Instead of restricting the value of architectural photography in its professional role, I propose that we reconsider its value as a discipline as well. Architectural photography is a profession *and* a discipline, in the sense that Stanford Anderson has defined them. It is an institutionalized practice that incorporates necessary knowledge in fulfilling the needs of the clientele and, at the same time, it is an autonomous system of behaviors defined by collective knowledge in its particular space and time.²⁹ The professional role of an

²⁸ Esto, “Architectural Photography Checklist,” 2008, <http://www.esto.com/pdf/20081224checklist.pdf>. Esto is a renowned architectural photography studio and agency, founded on the legacy of the great architectural photographer, Ezra Stoller.

²⁹ On the notions of profession and discipline, see Stanford Anderson, “On Criticism,” *Places* 4, no. 1 (1987); Stanford Anderson, “The Profession and Discipline of Architecture: Practice and Education,” in *The Discipline of Architecture*, ed. Andrzej Piotrowski and Julia Robinson (Minneapolis: University of Minnesota Press, 2001). Hyungmin Pai also offers his critical introduction to the topic of architectural discipline, with reference to Michel Foucault and

architectural photographer, with few exceptions, is to portray architecture in the most objective way possible. Objectivity, however, may be contrived in a significant amount of ways that generate subtleties that attest to the disciplinary nature of architectural photography.³⁰

1.2 Subject

This section, firstly, will articulate the quality of architectural photographs that is of interest. For this, a comparison between three photographs will be instrumental, as it offers a tangible account of what this quality is. Secondly, I will briefly introduce the two architectural photographers, whose works I will study more carefully in Chapters 3 and 4.

1.2.1 *Architectural Photography: Contrived Objectivity*

Figures 1-4, 1-5, and 1-6 are photographs of the same building: Marina City in Chicago, designed by Bertrand Goldberg and completed in 1964. Marina City is a complex of two nearly identical high-rise towers, located by the river of downtown Chicago. Each tower consists of lower parking and upper residential levels, whose distinction is blatantly

Anderson. Hyungmin Pai, "Introduction," in *The Portfolio and the Diagram: Architecture, Discourse, and Modernity in America* (Cambridge: MIT Press, 2002).

³⁰ Susan Sontag's thesis on the ethical function of photography deals with a more profound issue of the supposed objectivity of the medium. Susan Sontag, *On Photography* (New York: Farrar, Straus, and Giroux, 1977). To summarize roughly, Sontag's thesis is that the seemingly objective nature of photography has obscured its covertly embedded attitude, working as a disguise for non-objective, socio-political views. Sontag's thesis crosses beyond the concerns of the discipline, and addresses the larger structure that enables such operations of non-objectivity. Sontag's stance is more critical, and her aim is more ambitious than mine. My concern is limited to the disciplinary concerns of architectural photography, which affect our perception and conception of architecture.

marked by a separation in its cylindrical form. Marina City was once the tallest reinforced concrete building standing, and remains a landmark due to its conspicuous look.



Figure 1-4 – Myung Seok Hyun, Marina City, Chicago, 2009 (architect: Bertrand Goldberg; building completed in 1964).



Figure 1-5 – Hiroshi Sugimoto, *Marina City*, Chicago, 2001 (architect: Bertrand Goldberg; building completed in 1964).



Figure 1-6 – Ezra Stoller, Marina City, Chicago, 1965 (architect: Bertrand Goldberg; building completed in 1964).

One could argue that the three photographs all meet the requirement to be an architectural photograph: to showcase a building as their main subject. Nonetheless, we generally place them into different sub-categories. The three photographs are made and used in different contexts, and each portrays the building differently than the others do. In what follows, I articulate how they differ and underline a unique aspect of what we normally consider to be an architectural photograph: its paradoxical nature of contrived objectivity.

Let us first consider the two photographs in Figures 1-4 and 1-5. I myself took the photograph in Figure 1-4 during my short trip to Chicago in 2009. The photograph in Figure 1-5, dated 2001, is a work by Hiroshi Sugimoto. I am an amateur, taking photographs of buildings for my personal interest in architecture. Sugimoto is a critically acclaimed art photographer, whose body of work is a subject of serious debates in contemporary art. For example, his *Theaters* series, a collection of long-exposure photographs, each taken inside a theater during the runtime of a film, has attracted much attention from critics. For instance, Michael Fried claims that the *Theaters* series is representative of “absorption,” what he considers one of the key aesthetic motifs of contemporary photography. For Fried, Cindy Sherman’s *Untitled Film Stills*, Jeff Wall’s *Movie Audience*, and Sugimoto’s *Theaters* all demonstrate the qualities of absorption and anti-theatricality, as they alienate or efface the elements of the actor, the audience, or the narrative.³¹ Jonathan Jones, writing for *The Guardian* in 2002, acclaims the photographs

³¹ Michael Fried, “Three Beginnings,” in *Why Photography Matters as Art as Never Before* (New Haven: Yale University Press, 2008).

by Sugimoto as being “among the most mesmerizing images,” and puts the photographer “up there with Gerhard Richter and Richard Serra.”³²

Marina City belongs to Sugimoto’s *Architecture* series, a unique display of iconic buildings from the 20th century. The series was funded by the Museum of Contemporary Art in Chicago and has appeared in numerous art galleries. Sugimoto usually takes 8”x10” large-format photographs, often presented as a print size of more than 50 inches in width and height. Conversely, I remember shooting Marina City as I was hurrying to the airport, with a portable DSLR and a wide-angle lens. It belongs to my collection of snapshots of buildings, a private memoir of places I have visited. The two photographs operate within profoundly different contexts. They represent highly different sorts of authorship, clientele, and audience.

Despite the subpar quality of my photograph in Figure 1-4, we can still discern from it some signature properties of the building: the corncob-like shape of the tower, the break between the lower parking and the upper residential levels, the continuous vertical columns, and the arc-shaped canopies of the residential units. However, it is difficult to claim that the photograph presents the building with clarity or any deliberate intent. The photograph looks incidental, full of visual distractions. The cars on the street and the surrounding buildings hardly help to single out the main subject. A dark shadow is cast over the tower in front, and its occluded twin is anything but prominent. The vertical foreshortening causes awkward lines in relation to the frame. In fact, most amateur photographers who have tried

³² Jonathan Jones, “Slow Dissolve,” *The Guardian*, August 2002, <http://www.guardian.co.uk/artanddesign/2002/aug/07/photography.art>.

to take photographs of buildings with a portable camera would agree that even a seemingly simple and straightforward shot of a building is fairly difficult to obtain. Understanding the behaviors of lighting and exposure is not an easy task, and some imperfection always occurs due to inaccuracies caused by the inadequate size and clarity of the viewfinder.

By comparison, Sugimoto's photograph features a highly different, almost uncanny version of Marina City. The photograph provides the viewer with little information about the building other than its overall form. It is in no way a lucid presentation. In fact, obscurity is a fabricated constant in all *Architecture* photographs. Sugimoto crafts his *Architecture* photographs with a unique technique for achieving blurriness, which is to push the focal length of the lens to twice-infinity. As a result, the photographs resist immediate and complete perception. Sugimoto's *Marina City*, in addition, manages to efface the surrounding realities of the building. It excludes the haphazard matters and events through dilution and cropping. It isolates the building from the everyday contingencies. It engages the viewer by posing perceptual and conceptual ambiguities, and by reenacting the artist's unusual technique. It demands aesthetic reception, recognition of intentionality and craftsmanship.

Let us now shift our attention to Figure 1-6, the Marina City by Ezra Stoller. The photograph is a product of an assignment issued a year after the completion of the building. Stoller is one of the most important figures in architectural photography. During his career from the 1930s to the 1980s as a professional architectural photographer, Stoller led the field in portraying the canonical works of mid-century modern architecture. His clients were those who shaped the architecture of the age, and his photographs have appeared in countless architectural monographs, journals, and various other mediums.

Stoller's architectural photographs are known for their immaculate visual quality. Let us, for example, refer to the following description of Stoller's photography by William Saunders:

A Stoller picture is stripped of all distractions. It goes straight for the jugular, with some of the ferocious energy that phrase implies. There is no dead spot, no less than optimal light, no cheap effect, no fake prettiness. A key strength of the building is seen and seized. Stoller has, in fact, a sort of tunnel vision, excluding much in order to see much, in utter concentration.³³

This description applies nicely to the Marina City photograph in question. The viewer's experience of seeing the Stoller would be different from that of seeing my snapshot or that of Sugimoto. Stoller's photograph avoids contingencies or obscurity. The tones of gray vary subtly, yet each gray is vivid and conspicuous on its own. They articulate crystalline edges. The camera assumes a hovering head-on view. The framing is briskly decisive in what to include and exclude, and how things are composed. What is central inside the picture frame is the upper residential structure with its iconic corn-cob-like cylindrical form. Each residential unit is articulate, pronounced by the cast shadow of its arc-shaped balcony. It is astonishing how the photograph delivers the effect of three-dimensionality despite its straightforward view – how the building seems to magically bulge out from the flat surface. The photograph effectively informs the viewer of both the unique cylindrical form and the detailed features of the building. The margin between the frame and the main subject is reserved for depiction of the city and the sky. The background

³³ William S. Saunders, "Ezra Stoller, Photographs of Architecture: 1939-1989," in *Modern Architecture: Photographs by Ezra Stoller*, ed. Eric Himmel (New York: Harry N. Abrams, 1990). p.8.

elements add liveliness to the scene, yet retreat into the farthest layer so as to not overtake what should be the main one.

It seems that such a straightforward seize of the subject is what most professional architectural photographers aim for in their practice. Stoller, for example, saw his role in conveying “undistorted information,” and in resisting “self-expression as an end in itself.” The photographer writes in 1963: “objectivity may be only relative, but we must be concerned with it constantly, if our pictures are to have any real value.”³⁴ Stoller reaffirms this idea in an interview in 1996:

I’d just show it straight, without trying to make art photography. They’re pure documents, I hope. Occasionally I run over by a powerful aesthetic statement, but mostly they’re pure documents. I’m a historian in a way.³⁵

Julius Shulman, a contemporary of Stoller, is also explicit in defining the task of an architectural photographer as that of “re-creating on a two-dimensional piece of paper the intrinsic qualities of a three-dimensional design.” For him, an architectural photographer should avoid doing a “class exercise in artistic photography.”³⁶

The making of a photograph must depend on various elements of choice. It is a process of negotiations between photographic techniques and effects. What sustains objectivity is not only the medium’s capacity, but also the photographer’s technical finesse

³⁴ Ezra Stoller, “Photography and the Language of Architecture,” *Perspecta* 8 (1963). p.44.

³⁵ Daniel Naegele and Ezra Stoller, “An Interview with Ezra Stoller: Photographing Architecture,” *History of Photography* 22, no. 2 (Summer 1998): 105–15. p.109

³⁶ Julius Shulman, *Photographing Architecture and Interiors* (Los Angeles: Balcony Press, 2000 (1962)). p.2.

and effort in making these choices. Objectivity, ironically, requires contrivance. As Stoller writes:

Every facet of photography is subject to control, and the way in which it is manipulated affects the ultimate record. The quality of light, the perspective, the viewpoint, the relation to other objects, the instant of exposure, the distortion or lack of it, the color – all can be worked to serve a variety of objects, and it is in the use to which these characteristics are put that the results are to be judged.

At the same time, Stoller stresses that contrivance must meet the end result, “judged only by the information it conveys, how forcefully and clearly it is projected.”³⁷ The photographer’s control over variables is what makes the difference between Stoller’s *Marina City* and my snapshot. It is what keeps intact the intended objectivity, which is what Sugimoto deliberately avoids also by technical finesse and effort, but with a highly different aim than Stoller’s. In essence, the architectural photographs I examine in this thesis are no less – if not more – artificial than those like Sugimoto’s *Marina City*, yet they are those that rightfully proclaim transparency. They are architectural photographs defined by the paradox of contrived objectivity.

1.2.2 *Julius Shulman and Ezra Stoller*

In this thesis, I examine the architectural photographs by Julius Shulman (1910-2009) and Ezra Stoller (1915-2004) more closely. Shulman and Stoller are renowned American architectural photographers whose professional careers spanned from the 1930s to the 1980s. They witnessed and shaped the rise and fall of architecture during the mid-century in America, when and where the radical thinking and practice of the early-20th-

³⁷ Stoller, “Photography and the Language of Architecture.” p.44.

century avant-garde, native and imported, was reconfigured and institutionalized.³⁸ The West Coast residential projects of the Case Study House from 1945 to 1966 and what Colin Rowe referred to as the postwar version of “neo-classicism” were some of the architectural subjects that Shulman and Stoller portrayed.

To be more specific, Chapter 3 is a study of Shulman’s photographs of Richard Neutra’s Maslon House in Rancho Mirage, California (photographed in 1963, building completed in 1962). Chapter 4 examines some of Stoller’s photographs, including those of Ludwig Mies van der Rohe’s Seagram Building in New York City (photographed in 1958 and 1991, building completed in 1958), Louis Kahn’s Salk Institute for Biological Studies in La Jolla, California (photographed in 1977, building completed in 1965), and Kahn’s Kimbell Art Museum in Fort Worth, Texas (photographed and building completed in 1972). These chapters, in essence, are case studies with a specific focus – to understand our experience of architecture in seeing architectural photographs.

My selection of the two photographers’ works is due to reasons that concern the conditions of both photography and architecture. Firstly, the photographs by Shulman and Stoller demonstrate the particular quality that has initiated the question I pose: that of

³⁸ For a critical survey of the architectural history from European avant-garde to American high modernism, see William H. Jordy, “The Symbolic Essence of Modern European Architecture of the Twenties and Its Continuing Influence,” *Journal of the Society of Architectural Historians* 22, no. 3 (October 1963); Manfredo Tafuri and Francesco Dal Co, *Modern Architecture* (New York: Harry N. Abrams, 1979); Kenneth Frampton, *Modern Architecture: A Critical History* (London: Thames and Hudson, 1980); Alan Colquhoun, *Modern Architecture*, Oxford History of Art (Oxford: Oxford University Press, 2002). The postwar architecture reinventing classical forms at monumental scales is best described by Colin Rowe. See his two essays on modern “neo-classicism,” written between 1956 and 1957. Colin Rowe, “Neo-’Classicism’ and Modern Architecture I,” *Oppositions* 1 (September 1973); Colin Rowe, “Neo-’Classicism’ and Modern Architecture II,” *Oppositions* 1 (September 1973).

contrived objectivity. This is an aspect established by interrelated conditions. On the one hand, objectivity in architectural photography has its origin in the earlier pursuit of “objective” illustration by utilizing the new medium. For example, the German photographer Albert Renger-Patzsch began presenting images of natural forms and mass-produced objects with the utmost clarity and precision in the 1920s. On the other hand, in entering the early 20th century, the characteristics of documentary photography, particularly those of American landscape surveys during the mid- and late 19th century, had been established as a fully-fledged style of “Straight Photography.”³⁹

Such literalist approaches had overridden and replaced the earlier trend of subjective romanticism, the so-called “Pictorialism.” Instead of soft focus and moody ambience, Alfred Stieglitz and the new generation of American photographers – including Edward Weston, Paul Strand, and Ansel Adams – called for objectivity, which was what they believed to be the innate nature of the medium. Strand, for example, writes in 1917 that, “objectivity is of the very essence of photography.” The photographer must infuse the “point of view toward Life” into the photograph via “organization of objectivity,” and not resort to the “imbecilic use of soft focus or uncorrected lenses, or to processes in which manual manipulation may be introduced.”⁴⁰ Whereas Pictorialism remained imitative of

³⁹ The West-Coast movement in photography during the 1930s successfully incorporated in their aesthetic the technical and formal influences of the early documentary photographs, particularly those intended for landscape survey. The movement marks the prime of American. For a thorough historical account of the West-Coast movement and Straight Photography, see John Raeburn, *A Staggering Revolution: A Cultural History of Thirties Photography* (Chicago: University of Illinois Press, 2006).

⁴⁰ Paul Strand, “Photography,” *Seven Arts*, August 1917; Paul Strand, “Photography and the New God,” *Broom* 3, no. 4 (1922). Reprinted in Alan Trachtenberg, ed., *Classic Essays on Photography* (New Haven: Leete’s Island Books, 1980). pp.142-149.

painterly depictions, often emulating classical paintings of mythological or biblical narratives, those of Straight Photography sought to present real-world subjects as they are, with enhanced accuracy and subtlety made possible by technology. Weston and Adams, in particular, were the leaders of the West Coast movement during the 1930s, and brought into making art photography the major ingredients of documentary photography – the subjects of machines, rural landscape, and everyday lives of the city, depicted with pinpoint focus, sharp delineation, and finer separation in tonal values.



Figure 1-7 – Dell and Wainwright, Daily Express Building, London, 1931 (architect: Ellis and Clarke Architects); car service station, 1934.



Figure 1-8 – F. S. Lincoln, double-page spread from *Architectural Record* (January 1934) featuring photographs of Space House (architect: Frederick Kiesler).

Some prominent figures in architectural photography before Shulman and Stoller were Mark Oliver Dell and H. L. Wainwright – better known as Dell and Wainwright – and F. S. Lincoln, whose works began to feed into major architectural journals and facilitated dynamic page layouts with large-format illustrations during the 1930s. The British pioneers of architectural photography, Dell and Wainwright, were official photographers of *Architectural Review* from 1930 to 1946. Lincoln, working mostly in New York, published his works widely in journals such as *Architectural Record*, *House Beautiful*, and *Architectural Forum*. They commonly utilized dramatic lighting, radical bird's and worm's eye views, and oblique angles to exaggerate depth and express

instability⁴¹ [Figures 1-7 and 1-8]. By comparison, Shulman and Stoller – who began gaining recognition about a decade later than Dell and Wainwright or Lincoln did – took a relatively straightforward approach in composition. They were relatively quick to establish their objective attitude than their contemporaries in Continental Europe, perhaps due to the already-strong presence of Straight Photography. In short, Shulman and Stoller’s works demonstrate the most mature state of contrived objectivity in the discipline of architectural photography.

The second reason for my selection of Shulman and Stoller’s photographs for case study is that the built works that they have portrayed represent, at a profound level, two major characteristics of modern architecture: spatial continuity and monumentality pronounced in form. Shulman’s subjects – including Neutra’s Maslon House – were the product of American West Coast reinvention or adaptation of the earlier European experiments in domestic space – demonstrated in the works of Adolf Loos, early Le Corbusier, and Mies before his American years. Stoller’s subjects, on the other hand, mostly moved away from the earlier interest in space, and were primarily concerned with the tangibility of form. They formulate and rely upon the discourses of “primitivity,” “monumentality,” and “typology” that endures time.

⁴¹ Hyungmin Pai suggests that F. S. Lincoln’s most impressive photographs, those of Frederick Kiesler’s Space House published in the January 1934 issue of *Architectural Record*, radically depart from the iconic function of photography. Pai argues that they are, in essence, fragmentary shots from a spatial and temporal continuum, and achieves “less within the single picture than by a composite set of photographic illustrations.” Hyungmin Pai, “The Dislocation of the Architectural Discipline,” in *The Portfolio and the Diagram: Architecture, Discourse, and Modernity in America* (Cambridge: MIT Press, 2002). pp.273-274.

I should note that such characteristics of spatial continuity and monumentality we perceive do not rely entirely upon architecture. They are exemplified through representational medium such as photography. In other words, the photographers' interests are also in operation, and Shulman and Stoller each tends to seek the character that he is used to seeing and portraying. Shulman seeks space, whereas Stoller seeks form. My comparison between Shulman's and Stoller's photographs of the Lake Shore Drive Apartments in Chicago should clarify this point. It is rare to find a building photographed by both photographers, because Shulman and Stoller were contemporaries working in different regions. Mies's first steel-frame high-rise construction completed in 1951, the Lake Shore Drive Apartments, is one such case. The Shulman archive, in particular, has only five shots of the buildings from 1963. Of the five, two shots are diagonal views that include mostly the 990 Lake Shore Drive, also an apartment building by Mies added to the initial 860 / 880 in 1955. The Stoller archive has only four shots of the buildings from 1955, before the addition of the 990, and one of the four is a low-angle close-up of the famous I-beam mullion. In short, the comparable photographs are reduced to six in total, three from each archive [Figures 1-9, 1-10, and 1-11].

In fact, the first comparison in Figure 1-9 does not seem to suggest anything significant. The two photographs are nearly identical in view and angle, except for the notable contextual changes – the addition of the 990. Shulman's shot includes more clouds behind the buildings, whereas the buildings in Stoller's shot are under a clear sky. The difference in weather and exposure is apparent. The tones of the tower facades are relatively darker in Shulman's photograph.



(A)



(B)

Figure 1-9 – Lake Shore Drive Apartments, Chicago (architect: Ludwig Mies van der Rohe; building completed in 1951).

(A) Photograph by Julius Shulman; (B) Photographs by Ezra Stoller.



(A)



(B)

Figure 1-10 – Lake Shore Drive Apartments, Chicago (architect: Ludwig Mies van der Rohe; building completed in 1951).

(A) Photograph by Julius Shulman; (B) Photographs by Ezra Stoller.



(A)



(B)

**Figure 1-11 – Lake Shore Drive Apartments, Chicago (architect: Ludwig Mies van der Rohe; building completed in 1951).
(A) Photograph by Julius Shulman; (B) Photographs by Ezra Stoller.**

The more interesting comparison is that in Figure 1-10. Shulman goes around the buildings and takes another diagonal view toward the lake. Stoller, on the other hand, takes a head-on view of the buildings from the lake. Shulman seems interested in enhancing depth and, more importantly, in relaying the sense of space below the tower – note the clear depiction of the canopy that connects the two buildings, as well as the rows of cars and trees indicative of the block in which the buildings stand and the intersecting streets. Stoller, on the other hand, seems more interested in conveying the buildings in their austere form, their presence itself. The slight showing of a side adds a hint of depth, yet remains in stark contrast to the front facade by its severe contraction and tonal differentiation. The details that configure edge lines and surfaces are precise. As is the case in many of his photographs, the view is direct and distraction-free.

Figure 1-11 is another interesting comparison. I should first point out that Shulman's shot makes brilliant use of cast shadows, which tend to be absent in most of his photographs. Conversely, Stoller's shot presents perfect transparency of glass, which is a signature feature of Shulman's photographs. In a way, the oddly converted qualities in their treatments of light and shadows demonstrate their equipped technical abilities.

Leaving this point aside, the two photographs in Figure 1-11 exemplify highly different properties that reflect what I discussed in the previous comparison. Shulman's main subject is clearly the space below the uplifted block, and how it is defined by the upper covering, the square columns, and the canopy. He is interested in how the canopy connects the two buildings, and how the space is once circumscribed by the architectural components yet expands outward toward the lake. In this regard, the cast shadows play a significant role, as they cross over and eschew the boundary circumscribed by the

architectural components. On the other hand, Stoller's main subject is clearly the tectonic aspect of the building. The photograph cannot be clearer about the tectonic relations between the square columns, the mullions, the canopy – how they are joined and whether a component is structural or not. We have a nice view of glass window panes, supported only by the thin steel frames. To put it differently: Shulman is willing to omit Mies's signature I-beam mullions, whereas Stoller is willing to omit the other end of the canopy, which connects to the neighboring tower.

The following chapter contains a preliminary study of theories. It contains my review of literature relevant to the matters of architectural representation and photography, and of some theses on visual reference. The focus of the chapter is to articulate the existing views of architectural photography, and to understand how the properties of photography may refer to those of architecture. Chapters 3 and 4 contain case studies of Shulman and Stoller's photographs. The thesis then concludes with Chapter 5 that addresses the important findings concerning the issues of seeing architectural photographs. The final chapter also touches upon the broader question of why representation matters in communication of architectural content.

CHAPTER 2. THEORIES

2.1 Architectural Representation

As I briefly mentioned in Chapter 1, criticism against the vision-based and mediated experience of architecture through photography reflects some authors' view that the instrumentalization or rationalization of architectural representation has permeated and become detrimental to our genuine experience of architecture.⁴² This view is that architectural representation has been deprived of its ontological and phenomenal meaning, and has undermined the cultural significance of architecture. In its most sparse form, architectural representation has come to be no more than a codified machine for organization of visual data, rid of its capacity to communicate. On the one hand, I question the reasoning that instrumentalization of representation inevitably leads to instrumentalization of architecture. On the other hand, I would argue that the use of

⁴² Dalibor Vesely makes the polar distinction between the “synthesis and reenactment of meanings” in medieval architecture versus the “idealized” renaissance perspective based on the supposed nature of vision. Vesely suggests that the latter lays the foundation for abstraction and commodification of architecture. He thus seeks other possibilities in the constructive capacities of fragments and *praxis*, hoping to recuperate the communicative and symbolic virtues of architecture and its representation. Alberto Pérez-Gómez argues that the Western scientific revolution – the 17th-century development in optics, for example – has profoundly transformed the representational mode of architecture. For example, he suggests that the mode of descriptive geometry that has fed into architectural education and practice since the late 18th century, which systematically transfers buildings into drawings and vice versa by abstract data, connects to the modern instrumentalization of architecture – the state of *techne* turned self-sufficient. The result, in essence, is an architecture constrained by syntactic dimensions, failing to incorporate any poetic significance. This view also underlies Pérez-Gómez and Louise Pelletier's attempt to find positivism in the baroque, postwar Le Corbusier, and computer-aided designs. Dalibor Vesely, “Architecture and the Conflict of Representation,” *AA Files* 8 (January 1985): 21–38; Dalibor Vesely, “Architecture and the Poetics of Representation,” *Daidalos* 25 (September 1987): 24–36; Vesely, *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production*; Pérez-Gómez, *Architecture and the Crisis of Modern Science*; Pérez-Gómez and Pelletier, *Architectural Representation and the Perspective Hinge*.

architectural representation nearly always depends on the architect's way of seeing and making it, rather than its innate symbolic nature. Representation poses the question of discipline rather than of mimesis.⁴³

David Leatherbarrow⁴⁴ attempts to reconfigure the supposed polarity between drawings with an aesthetic value and those with an instrumental value, and proposes that even the latter may serve the role of “projection.” A plan, for example, “simultaneously” presents a view of a setting. A wall section reveals what is otherwise concealed. The essential purpose of architectural drawings is to “discover and disclose aspects of the world” that “normally escape attention.” Robin Evans⁴⁵ maintains the view that geometry is not the cause of the polarity between art and science, but in fact a way of resolving this polarity. This is a recurring theme in many of his essays on the modes of projection from the Renaissance to the Postmodern. For example, his study of Piero della Francesca's “Other Method” in perspectival projection demonstrates that the method permits relatively

⁴³ Here, I am dwelling on some key concepts that I think are at the basis of modern architecture: discipline and discourse. The following quote from Michel Foucault best describes the aspects of architectural representation: as a means of establishing discipline, and of understanding discourse. “In a discipline, unlike in commentary, what is supposed at the point of departure is not some meaning which must be discovered, nor an identity to be reiterated; it is that which is required for the construction of new statements. For a discipline to exist, there must be the possibility of formulating – and of doing so *ad infinitum* – fresh propositions. (...) Disciplines constitute a system of control in the production of discourse, fixing its limits through the action of an identity taking the form of a permanent reactivation of the rules.” Michel Foucault, “The Discourse of Language,” in *The Archaeology of Knowledge and the Discourse on Language*, trans. Rupert Swyer (New York: Pantheon, 1972 (originally 1971)). pp.223-224.

⁴⁴ David Leatherbarrow, “Showing What Otherwise Hides Itself: On Architectural Representation,” *Harvard Design Magazine* 6 (Fall 1998): 50–55.

⁴⁵ Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge: MIT Press, 1995); Robin Evans, *Translations from Drawing to Building and Other Essays* (Cambridge: MIT Press, 1997).

straightforward representation of figures in space without assuming the vanishing point. The method is particularly effective in projecting figures that are non-rectilinear and out of alignment with the picture plane, as it concentrates on local relations among eye, picture plane, and object. Piero's method and the traces of it found in later paintings attest to the fact that the uniformity of the Albertian method, which we ordinarily associate with the rationalization in art and architecture, is in fact far from being an innate property of perspective.

Representation as part of discourse is a common theme in studies by the following three authors: Beatriz Colomina⁴⁶, Mario Carpo⁴⁷, and Hyungmin Pai⁴⁸. Colomina argues that modern architecture is primarily a discourse, a quasi-autonomous knowledge and experience articulated by mass media, and demonstrates the distinctive discursive formulations of privacy and publicity in domestic spaces of modern architecture. According to Colomina, the negotiations between privacy and publicity, apparent in representations of Loosian and Corbusian spaces, constitute an important part of modern architectural discourse.

⁴⁶ Beatriz Colomina, *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge: MIT Press, 1994).

⁴⁷ Mario Carpo, *Architecture in the Age of Printing: Orality, Writing, Typography, and Printed Images in the History of Architectural Theory*, trans. Sarah Benson (Cambridge: MIT Press, 2001); Mario Carpo and Francesco Furlan, "Introduction: The Reproducibility and Transmission of the Technico-Scientific Illustrations in the Work of Alberti and in His Sources," in *Leon Battista Alberti's Delineation of the City of Rome*, ed. Jean-Yves Boriaud and Francesco Furlan, trans. Peter Hicks, *Medieval and Renaissance Texts and Studies* 335 (Tempe: Arizona Center for Medieval and Renaissance Studies, 2007); Mario Carpo, *The Alphabet and the Algorithm* (Cambridge: MIT Press, 2011).

⁴⁸ Hyungmin Pai, *The Portfolio and the Diagram: Architecture, Discourse, and Modernity in America* (Cambridge: MIT Press, 2002).

Carpo narrates a critical history of architectural medium from the Quattrocento Renaissance to the current digital age. According to Carpo, Leon Battista Alberti's experiments in systematic preservation and mobilization of visual representation conceived two distinctive modes of architectural production. On the one hand, Alberti foresaw the success of printed matters and the architectural design driven by application and variation of conventionalized proportions and measurements in the Cinquecento Renaissance, as well as the modern mechanization and standardization. On the other hand, Alberti's experiments conceived the essence of digital fabrication via parametric design, which also underlies the medieval tradition of handicraft. Carpo's history of medium in architectural representation is thus that of reoccurrence, wherein the seed of Alberti's radicalism flourishes into modern and contemporary technologies.

Finally, Pai narrates a history of modern architecture revolving around two decisive modes of representation: portfolio and diagram. The mimetic use of portfolios – large-format drawings of monumental works of architecture – was the means of obtaining architectural knowledge in the didactic system of the Beaux-Arts, whereas the diagram was invented for scientific and utilitarian management of space and behaviors, and became critical in modern functionalism relying on representations of human bodies and their social patterns. The portfolio is characteristically dense, figural, and analogous; whereas the diagram is discrete, generative, and digital. In essence, Pai argues that the two contradictory modes are inherent to modern architectural practice and discourse.

2.2 Architectural Photography

The literature on architectural photography can be sorted into two groups, although the distinction is not so clear-cut. In the first group, several authors have addressed or countered the point that the look of architectural photographs is profoundly affected by the conventions of architectural drawings. In another, some authors have proposed that architecture and space presented through photography is essentially a phenomenal construct.

James Ackerman⁴⁹ tracks the development of early architectural photography, and proposes that its role and the principles of composition do not differ much from those of the preexisting architectural drawings. Ackerman finds, at least until the 1920s, that the new medium's depictive attributes are often tempered by convention, despite the obvious technical differences. In connection to this point, Ackerman also proposes that photographic representation itself is never a reflection of some reality, but instead a means of casting a "concept" or a "sense" of what reality is. In comparison, Cervin Robinson and Joel Herschman⁵⁰ maintain the suspicion that an account relying on interplays or resemblances between traditional representation and architectural photography, particularly past its early stage, likely obscures understanding. This is because the operation in photography is different: "it is the effort to remove all doubt on the part of the

⁴⁹ Ackerman, "On the Origins of Architectural Photography."

⁵⁰ Cervin Robinson and Joel Herschman, *Architecture Transformed: A History of the Photography of Buildings from 1839 to the Present* (Cambridge: MIT Press, 1986).

viewer that pictures, though made by a machine, are wholly intended and therefore an individual's creation."⁵¹

Moreover, Edward Ford⁵² maintains the view that architectural photographs are intentional "misrepresentations," affected by convention in manual representation and the innate discrepancies between eye and camera. He points out, for example, that setting the relation between what is representational and what is not inside the picture frame is a problem common to both the draftsman/engraver and the photographer, and thus the solution to this problem in architectural photography has largely been to follow preexisting convention. Preference for two-point perspective over three-point perspective has been a convention in manual representation, as it has created parallel alignment between the building and the bounding edge. In turn, the fabricated two-point view has naturally transferred to architectural photography, which arguably offers the sense of straightforwardness. At the same time, Ford notes that replications of certain types of architectural experience are impossible by photography because of obvious camera/eye discrepancies. Photographs would fail to capture the experience of a large space such as the inside of the Pantheon, and would flatten the range of tones that our naked eyes are capable of registering.

⁵¹ Cervin Robinson, "Introduction," in *Architecture Transformed: A History of the Photography of Buildings from 1839 to the Present* (Cambridge: MIT Press, 1987). p.xii.

⁵² Ford, "The Inconvenient Friend: On Inaccuracy, Exactitude, Drawing, and Photography."

The essays by Daniel Naegele⁵³ and Claire Zimmerman⁵⁴ are of particular interest, as they propose cases of fictitious space constructed by the means of architectural photography. Naegele claims that Le Corbusier's uses of photography in some cases induces illusions of space, while Zimmerman looks into the spatial construct contrived by interactions between architecture and photography, such as what we find in the architectural photographs of Ludwig Mies van der Rohe's Tugendhat House.

Naegele argues that photographs in Le Corbusier's publications and architectural designs prompt the effect of tension between the real and the appearance, which then calls for dialectic construction of "illusionist" space. The theoretical cornerstone of Naegele's argument is his reading of Walter Benjamin's "The Work of Art in the Age of Mechanical Reproduction" (1936).⁵⁵ Naegele's reading of Benjamin can be summarized as follows: i) the artwork in its unique space and time maintains its cult value or the "aura," the "atmosphere that envelops the authentic object, a subtle but distinct sensation received in the presence of the original"; ii) photography, by reproducing the artwork as an image, removes the artwork from its unique space and time; and iii) photography, therefore,

⁵³ Daniel Naegele, "Photographic Illusionism and the 'New World of Space,'" in *Le Corbusier, Painter and Architect*, ed. Mogens Krustup (Aalborg, Denmark: Nordjyllands Kunstmuseum, 1995); Daniel Naegele, "Le Corbusier's Seeing Things: Ambiguity and Illusion in the Representation of Modern Architecture" (University of Pennsylvania, 1996); Daniel Naegele, "Le Corbusier and the Space of Photography: Photo-Murals, Pavilions, and Multi-Media Spectacles," *History of Photography* 22, no. 2 (Summer 1998); Daniel Naegele, "Object, Image, Aura: Le Corbusier and the Architecture of Photography," *Harvard Design Magazine* 6 (Fall 1998).

⁵⁴ Claire Zimmerman, "Photographic Modern Architecture: Inside 'the New Deep,'" *The Journal of Architecture* 9, no. 3 (Fall 2004): 331–54.

⁵⁵ Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations: Essays and Reflections*, ed. Hannah Arendt (New York: Schocken Books, 1969 (originally 1936)).

deprives the artwork of its cult value or the aura. From this reading, Naegele assumes that photography potentially deprives architecture of its aura, its authenticity endowed by the physical presence – and thus that photographic reproduction proposes a crisis of architectural authenticity. A strategy to overcome this crisis is what Naegele finds in Le Corbusier’s treatment of photography. According to Naegele, Le Corbusier generates ambiguity through his use of photography, a competition between the real and the appearance. Le Corbusier privileges “neither artifact nor representation,” but joins the two to “arrive at a new architecture of illusionist space,” and finds “access to cult value in the illusion of exhibition media.”⁵⁶



Figure 2-1 – Le Corbusier (Charles-Edouard Jeanneret), Prague; Pisa, 1911.

Le Corbusier, already as a young traveling architect, shows keen awareness of the new visual medium. For example, in 1907, he expresses disappointment in writing about the photographs he took during his trip to Florence and Siena. He writes that the “effect of photography is always distorted and offensive to the eyes of those who have seen the

⁵⁶ All quotes in my summary of Daniel Naegele’s argument are from Naegele, “Object, Image, Aura: Le Corbusier and the Architecture of Photography.” p.2.

originals.”⁵⁷ The photographs that Le Corbusier took in Prague and Pisa only a few years later, however, begin to show his master of the medium [Figure 2-1]. They are reminiscent of his travel sketches that emphasize horizontal and vertical surfaces that expand, and anticipate the later photographs of his own architecture taken by himself and Lucien Hervé.⁵⁸ Le Corbusier’s changed attitude toward the medium is evident in his 1933 essay, wherein he claims that the camera is an extended apparatus for seeing and discovering the new modern world: the camera discloses the “intensity of human consciousness to us through the intermediary of visual phenomena.”⁵⁹ For Le Corbusier, seeing through the camera is an important means of his pursuit of the “truth” of things. He thus considers that adaptation to photography and its way of seeing is a moral commitment. Le Corbusier’s camera is more than a tool for portrayal of images, but a way of seeing and knowing. As his career matures, Le Corbusier’s desire to reveal “human consciousness” through painting, photography, and architecture adopts a kind of aesthetic transcendentalism, which becomes inherent in what the architect calls “*l’espace indicible*” or the “ineffable space.” Note, for example, the following passage from Le Corbusier’s 1961 interview:

When a work reaches a maximum of intensity, when it has the best proportions and has been made with the best quality of execution, when it has reached perfection, a

⁵⁷ Beatriz Colomina, “Photography,” in *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge: MIT Press, 1994). p.101.

⁵⁸ For a detail description of Le Corbusier’s 1911 photographs, see Cervin Robinson, “Part II: 1880 to 1930,” in *Architecture Transformed: A History of the Photography of Buildings from 1839 to the Present* (Cambridge: MIT Press, 1987). p.83. Cervin Robinson explains that the emphasis on surfaces in Le Corbusier’s photographs was due to the limited ability of the camera, which could be view upward while maintaining parallel verticals.

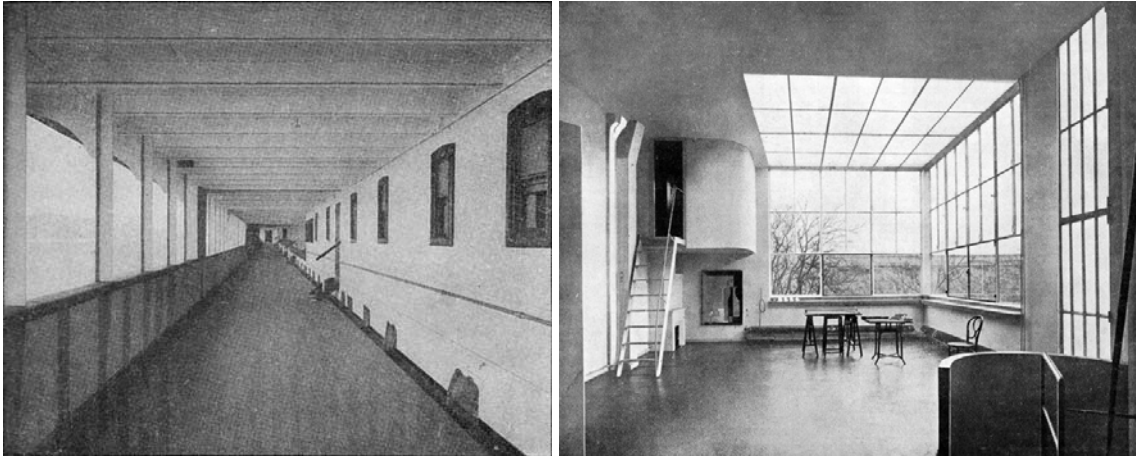
⁵⁹ Corbusier Le, “Esprit de Vérité (Spirit of Truth),” *Mouvement 1* (1933). Reprinted in Richard Abel, ed., *French Film Theory and Criticism: A History/Anthology, 1907-1939*, trans. Richard Abel, vol. 2 (Princeton: Princeton University Press, 1988).

phenomenon takes place that we may call “ineffable space.” When this happens these places start to radiate. They radiate in a physical way and determine what I call “ineffable space,” that is to say, a space that does not depend on dimensions but on the quality of its perfection. It belongs to the domain of the ineffable, of that which cannot be said.⁶⁰

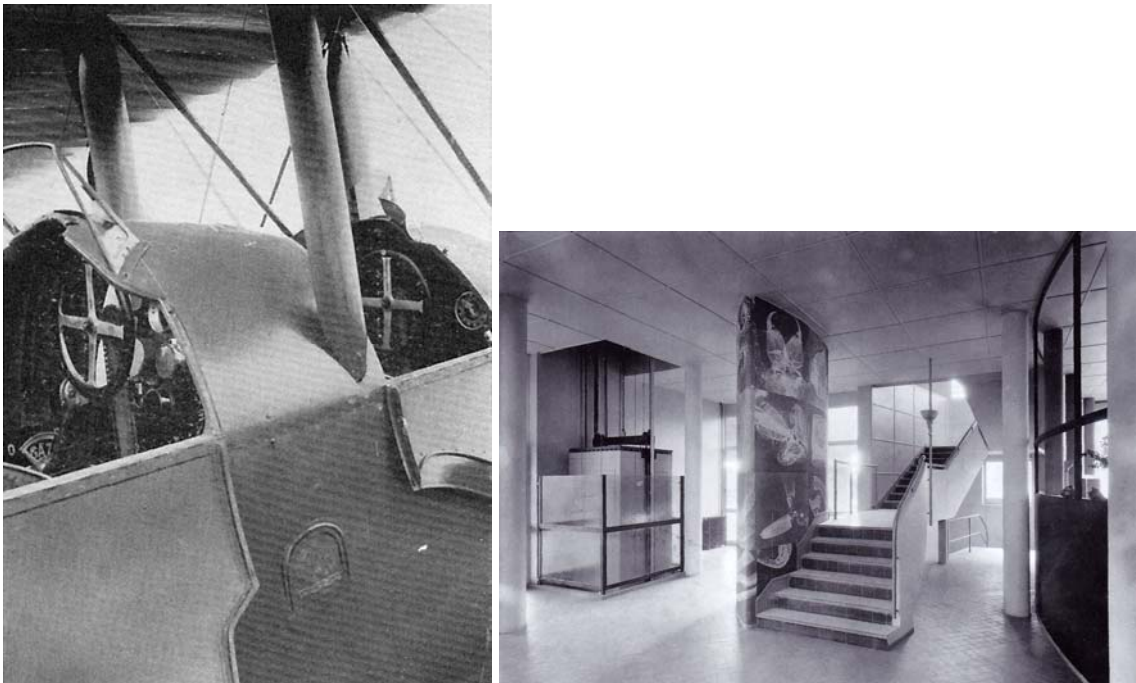
Naegele notes that Le Corbusier’s prime attention to the visual “order,” as the architect’s career matures, is replaced by that toward the “ineffable space,” for which the viewer’s psychological synthesis of senses must be active.⁶¹ What is then the kind of psychological play from which what Naegele calls the “architecture of illusionist space” arises? Naegele offers some examples, which include Le Corbusier’s particular uses of i) the Aquitania ocean liner photograph, ii) the Farman aircraft photograph, and iii) the photomurals at the Swiss Pavilion and the Temps Nouveaux Pavilion in Paris. In the following, I review these examples by offering an account of the specific perceptual operation that occurs in each case and, in doing so, reestablish the notion of fictitious space.

⁶⁰ The passage is from an interview of Le Corbusier at La Tourette in 1961, quoted in André Wogenscky, *Le Corbusier’s Hands*, trans. Martina Millà Bernad (Cambridge: MIT Press, 2006); Carla Cavarra Britton, “Prologue: The Case for Sacred Architecture,” in *Constructing the Ineffable: Contemporary Sacred Architecture*, ed. Carla Cavarra Britton (New Haven: Yale University Press, 2010). The term “ineffable space” was introduced in Le Corbusier, “L’Espace Indicible,” *L’Architecture D’aujourd’hui*, 1946, 9–17., later translated and included in Le Corbusier, *New World of Space* (New York: Reynal and Hitchcock, 1948). It was further articulated in Le Corbusier, *The Modulor and Modulor 2*, trans. Peter de Francia and Anna Bostock (Basel: Birkhäuser, 2000 (originally 1948 and 1955)). For more on this topic, see Naegele, “Le Corbusier’s Seeing Things: Ambiguity and Illusion in the Representation of Modern Architecture.”

⁶¹ The role of the subject/viewer has always been an important concern for Le Corbusier, even in his prewar years. For example, Beatriz Colomina and Mark Wigley have demonstrated that Le Corbusier’s architecture is not so much an object to see as a visual apparatus that enables the subjective “gaze,” not unlike the camera. On this topic, see Beatriz Colomina, “Window,” in *Privacy and Publicity: Modern Architecture as Mass Media* (Cambridge: MIT Press, 1994); Mark Wigley, “The Emperor’s New Paint,” in *White Walls, Designer Dresses: The Fashioning of Modern Architecture* (Cambridge: MIT Press, 1995).



**Figure 2-2 – Aquitania ocean liner. From Le Corbusier, *Vers une architecture* (1923).
 Figure 2-3 – Ozenfant Studio. From Le Corbusier, *Vers une architecture* (1923).**



**Figure 2-4 – Farman aircraft. From Le Corbusier, *Vers une architecture* (1923).
 Figure 2-5 – Le Corbusier, Swiss Pavilion, Paris, 1931.**

i) The first case is the photograph of the promenade on the Aquitania ocean liner, the image famous for its appearance on the first-edition cover of *Vers une Architecture* (1923) [Figure 2-2]. The photograph, Naegele claims, is suggestive of a truncated pyramid, an abstract form subject to conceptual reevaluation. The viewer's seeing of it "oscillates from a readily perceived receding view (...) to a less pronounced projecting view." Naegele adds that the effect is also present in other images that Le Corbusier employs, such as the famous interior shot of Ozenfant Studio [Figure 2-3].

ii) The second case is the photograph of a Farman aircraft [Figure 2-4]. Naegele suggests that the viewer seeing the image may misread the airplane as a "sheet-metal hare" or something similar, due to formal ambiguity. A similar example is the Bugatti engine photograph, included in the last chapter of *Vers une Architecture*.

iii) The third case is the space of the Swiss Pavilion or the Temp Nouveaux Pavilion, Le Corbusier's reconfiguration of space through planar photomurals [Figure 2-5]. According to Naegele, the architect's juxtaposition of the three-dimensional and the two-dimensional activates contradiction in the viewer's perception. It creates a "dialectic condition with both psychological and spatial implications."

Naegele's observation reminds us of E. H. Gombrich's claim about the role of illusion – such as the duck-rabbit illusion made famous by Ludwig Wittgenstein – in aesthetic appreciation.⁶² In accordance with Gombrich, Naegele proposes that Le Corbusier's use of the medium transfers the experience of architecture from its objective basis (the visual properties of building form) to the psychological basis (the viewer). I do

⁶² Ernst H. Gombrich, *Art and Illusion: A Study in the Psychology of Pictorial Representation* (London: Phaidon, 1960).

wonder, however, whether the cases presented truly involve contradictory “illusions,” as Naegele claims. If I were to offer a finer account of each case, I would accuse the lack of depth cues offered by the photograph of any confusion in the first and the second case. In other words, the viewer’s reading of the pyramid-like pattern that oscillates between pulling forward and backward in space is primarily due to insufficient cues, from which the viewer cannot determine with certainty what the actual layout may be.⁶³ Moreover, in addition to insufficient cues, the second case involves the viewer’s seeing of a long-eared face and two round eyes. In other words, it involves associative or imaginative seeing. The particular visual properties of the Farman picture may trigger the viewer to imagine the airplane as another figural object, because the two share similar visual properties. To use Richard Wollheim’s terms, the viewer sees the airplane *as* a hare, or sees the hare *in* the picture.⁶⁴ Seeing the hare is dependent on seeing what is in fact there, rather than an illusion. Finally, because the third case takes on the condition of seeing an image in space, it cannot avoid the possibilities of the viewer’s mobility and added binocular cues. The viewer is thus likely to discern the two-dimensional image from the ever-changing three-dimensional space, and to collect enough cues to inform herself of the true layout. In short, I doubt that

⁶³ The idea that our reading of spatial layout depends on the amount of available cues is indebted to James Cutting. James E. Cutting, “Reconceiving Perceptual Space,” in *Looking into Pictures: An Interdisciplinary Approach to Pictorial Space*, ed. Heiko Hecht, Robert Schwartz, and Margaret Atherton (Cambridge: MIT Press, 2003). I discuss Cutting’s thesis in some detail in Chapter 3, as it pertains to my reading of Julius Shulman’s photographs.

⁶⁴ Imagining fictitious content beyond what is photographed or what appears as visual properties of the photograph is what Richard Wollheim may call “seeing-as” or “seeing-in.” Richard Wollheim, “Seeing-As, Seeing-In, and Pictorial Representation,” in *Art and Its Objects*, 2nd ed. (Cambridge: Cambridge University Press, 1980), 205–26.

the viewer with an adequate perceptual capacity would *actually believe* the photomural to be a three-dimensional space.

In essence, the term “illusionist” space is misleading as it implies a kind of sensorial malfunction or misperception. No such malfunction or misperception occurs in these cases. Instead, the perceptual operations at present may fall into the category of imaginative seeing. They lead to *fictitious* constructs, in the sense that what the viewer sees and eventually comes to know is something mounted on her perception of the objective. Imaginative seeing is quasi-active – initiated by sensorial perception but determined by intention – and should be distinguished from illusion. To reiterate: i) the notion of illusion is fully perception-dependent, and thus bears the risk of referring to some malfunction in sensorial seeing, whereas the seeing of my interest involves ii) the notion of fictive seeing, a conception-dependent and intentional seeing driven by imagination.⁶⁵

Zimmerman’s case study offers a convincing thesis for understanding the dynamic between modern architecture and photography during the critical interwar years. The primary case in question is the set of photographs of Mies’s Tugendhat House by Atelier de Sandalo, a studio based in Brno, between 1930 and 1931. According to Zimmerman, the photographs attest to some covert forces that shaped an important version of modern spatiality. Namely, the compositional strategy in operation largely reflects the depictive convention of pictorial and commercial photography at the time, which was to contrast a

⁶⁵ The notion of “imaginative seeing” is derived from Kendall Walton’s aesthetic theory of make-believe. It refers to the viewer’s state and activity of imagination triggered by an artwork/prop. See Kendall L. Walton, *Mimesis as Make-Believe: On the Foundations of the Representational Arts* (Cambridge: Harvard University Press, 1990). The distinction I make between “illusion” and “fiction” is indebted to Colin McGinn. See Colin McGinn, “Modal Reality,” in *Knowledge and Reality: Selected Essays* (Oxford: Oxford University Press, 1999); Colin McGinn, *Mindsight: Image, Dream, Meaning* (Cambridge: Harvard University Press, 2006).

bold foreground against a highly detailed background in space. Such a strategy, on the one hand, was due to the mechanical aspect of the wide-angle lens. On the other hand, it contributed to stabilizing modern spatiality in its unchanging visual form via photography. Zimmerman thus manages to account for the highly complex relation between architecture and architectural photography at a critical moment in modern architecture, as well as for the spatial look that arises.⁶⁶

What continues to be an interesting aspect of architectural photography is its contrived objectivity that hides the less explicit artificiality. As Zimmerman points out, the apparent veracity of photography often “camouflages” and operates in contrast to the spatial distortions implemented by both the architect and the photographer. My case studies in this thesis rely on a similar interest – that is, in the specific techniques and behaviors of making an architectural photograph and the entailing visual properties, which attest to the carefully implemented experience and knowledge of architecture. In fact, my close reading of Julius Shulman’s and Ezra Stoller’s photographs in Chapters 3 and 4 proceeds by i) introducing the generic cues for spatio-temporal formations; ii) surveying the photographers’ techniques and behaviors in shaping and organizing such cues; and iii) identifying what visual properties and effects the cues facilitate by examining the photographs in question.

⁶⁶ In Sonit Bafna’s terms, the Tugendhat House photographs are about a particular visual content – namely, that of openness or fluidity initiated by the principle of the Miesian “free-plan” –, and thus serve a “symbolic” role independent from any technical concern. See Sonit Bafna, “Symbolic Content in the Emergence of the Miesian Free-Plan,” *The Journal of Architecture* 10 (April 2005).

2.3 Visual Reference

The photograph of a building may be a window through which we see the building, as the medium has apparently inscribed what stood before the camera without discretion. On the other hand, the photograph may also be a composite of various lines and colors from which we must discern the building. Certain visual properties of the photograph may further refer to a conception, such as that of tension, or to a particular architectural attribute. The visual properties, in other words, may function as the basis upon which we imagine things that are not immediately apparent in the photograph. What follows is a brief review of the theories of visual reference pertaining to seeing a photograph: transparency/opacity, exemplification, and imaginative seeing. The review should help us to understand how an architectural photograph delivers its architectural content to the viewer.

2.3.1 *Transparency/Opacity*

Is a photograph transparent or opaque?⁶⁷ Walter Benjamin's view of this topic reflected in his writings is twofold. His writings address the mysterious coexistence of the factual and the fictive in photography, which Kendall Walton pronounces much later as "one of the most important and intriguing characteristics" of photography – that is, the conjoined conception of "transparent picture," or "the combination of actual and imagined seeing, and interaction between the role of photographs as aids to vision and their role as

⁶⁷ The contending theses of transparency and opacity have caused an ongoing debate in understanding the referential nature of photography. See, for example, the debate in James Elkins, ed., "The Art Seminar," in *Photography Theory*, The Art Seminar 2 (London: Routledge, 2007).

representations.”⁶⁸ On the one hand, Benjamin still acknowledges the unique sense of space and time that constitutes the cult value and the aura in the early daguerreotype portraits and surrealist photographs. He notes in such photographs a kind of opaqueness, the sustained distance between the image and the real. On the other hand, he observes in snapshot photography the role in transmitting and reproducing immediate and verifiable knowledge, which counters that of the “storyteller” in contemplating and sharing experiential “stories” locally and verbally.⁶⁹ In the end, Benjamin seems to yield to the notion that photographs are immediate and aura-less, and finds in them the symptoms of a modern experience and aesthetic, initiated by the decisive shift from the optical and the contemplative to the haptic and the distracted.⁷⁰

Although the specifics of it may vary, a standard transparency thesis proclaims that the viewer sees the photographed *through* the photograph – as if the viewer were to see the things before the camera at the moment of the shoot. The thesis has persisted with the belief that the process of making a photograph involves no non-factual intention. William Henry

⁶⁸ Kendall L. Walton, “On Pictures and Photographs: Objections Answered,” in *Film Theory and Philosophy*, ed. Richard Allen and Murray Smith (Oxford: Oxford University Press, 1997). Reprinted in Kendall L. Walton, *Marvelous Images: On Values and the Arts* (Oxford: Oxford University Press, 2008). p.127.

⁶⁹ What I describe here as Walter Benjamins’ twofold account of photography is from my reading of the following two essays, Walter Benjamin, “A Short History of Photography,” in *Classic Essays on Photography*, ed. Alan Trachtenberg (New Haven: Leete’s Island Books, 1980 (originally 1931)), 199–216; Walter Benjamin, “The Storyteller: Reflections on the Works of Nikolai Leskov,” in *Illuminations: Essays and Reflections*, ed. Hannah Arendt (New York: Schocken Books, 1969 (1936)).

⁷⁰ Benjamin, “The Work of Art in the Age of Mechanical Reproduction.”

Fox Talbot writes in 1839 that the picture-making process of photography is conducted by the “picture itself”:

All that the artist does is to dispose the apparatus before the object whose image he requires: he then leaves it for a certain time, greater or less, according to circumstances. At the end of the time he returns, takes out his picture, and finds it finished.⁷¹

In this view, the mechanical process of making a photograph is seemingly in contrast to the handwork process of making a painting, as the latter must engage the painter’s intention. For this reason, a conservative view was to disregard the aesthetic value of the new medium, seeking to withhold the superior status of traditional arts. Charles Baudelaire, for example, sensed the threat imposed by the superb mimetic ability of photography, and claimed that the latter should “return to its true duty” of being a “very humble handmaid” of art, a “record-keeper.”⁷² Another view was to accept transparency as the medium’s way of conveying its aesthetic. Clement Greenberg writes in 1946 that “photography is the most transparent of the art mediums devised or discovered by man,” and that it must seek its aesthetic value in acknowledging its transparency. Rather than adhering rigorously to his project that endorses flatness in criticism of pictorial arts, Greenberg seeks a kind of “anecdotal naturalism” from photography, as it “proves so

⁷¹ William Henry Fox Talbot, “The New Art,” *The Literary Gazette; and Journal of Belles Lettres, Arts, Sciences, &c* 1150 (February 1839): 72–75. p.73.

⁷² Charles Baudelaire, “The Modern Public and Photography,” in *Classic Essays on Photography*, ed. Alan Trachtenberg (New Haven: Leete’s Island Books, 1980 (originally 1859)). p.88.

difficult to make the photograph transcend its almost inevitable function as document and act as work of art as well.”⁷³

The transparency thesis seems more plausible when it does not draw on the basis of photographic resemblance. The resemblance argument is simply not true, as a photograph often bears little semblance to its subject. More importantly, the argument preconceives asymmetry between the photographic image and the real, and thus contradicts the notion of transparency. Photographic realism depends not so much on what a photograph looks like, as how it comes about. To be more specific, consider André Bazin’s point that the process of photography is a kind of “decal” or “transfer,” producing “something more than a mere approximation.”⁷⁴ The French film critic writes in 1945:

The photographic image is the object itself, the object freed from the conditions of time and space that govern it. No matter how fuzzy, distorted, or discolored, no matter how lacking in documentary value the image may be, it shares, by virtue of the very process of its becoming, the being of the model of which it is the reproduction; it is the model.⁷⁵

Some philosophers taking an interest in the aesthetic value of photography have also argued for its transparency based on the causal, non-intentional, or passive relation

⁷³ Clement Greenberg, “The Camera’s Glass Eye: Review of an Exhibition of Edward Weston,” in *Clement Greenberg: The Collected Essays and Criticism*, ed. John O’Brian (Chicago: University of Chicago Press, 1986 (originally 1946)). p.60.

⁷⁴ André Bazin, *What Is Cinema?* (Berkeley: University of California Press, 1967 (originally 1958 and 1959)). p.14. The book *What Is Cinema?* is an unfinished project by André Bazin. Bazin initially conceived the project as a four-volume thesis. Because of his untimely death, only two of the four volumes were complete.

⁷⁵ André Bazin, “The Ontology of the Photographic Image,” trans. Hugh Gray, *Film Quarterly* 13, no. 4 (Summer 1960 (originally 1945)): 4–9. p.8. This essay later became the introductory chapter of André Bazin’s book, *What Is Cinema?* (1958 and 1959).

between the photograph and the photographed.⁷⁶ To quote Gregory Currie, photography exhibits “natural counterfactual dependence.”⁷⁷ Any change to the real would bring a correlated change to its photographic image, to what the viewer would see in the photograph. Currie accepts that the specific process of photosensitive exposure guarantees causality between the real and the image. At the same time, he argues that a photograph, in spite of exhibiting natural dependence, still offers us a visual experience different than our ordinary seeing. Therefore, photographs are “natural representations,” or “natural signs of things, as footprints are natural signs of the people who make them, and the pattern of rings on the cross-section of a tree is a natural sign of the age of the tree.”⁷⁸

Those who disapprove of the transparency thesis point to formal alterations that inevitably occur during and after the processes of photographic production – due to, for example, overexposure in making of a photograph, or even a drop of ink on the photographic surface after its completion. More importantly, they point to the control over potential alterations that is exercised by the photographer with intent. A standard opacity thesis, accordingly, is that the raw visual properties of what is photographed are trivial in

⁷⁶ For example, Roger Scruton argues that intention plays a trivial role in what the viewer eventually sees in a photograph. In Scruton’s words, photography is “fictionally incompetent” – the actual must have existed as it appears in the photographic image. For Scruton, photography is thus non-representational. A photograph is merely a “surrogate,” which, in itself, does not evoke any aesthetic experience. If the viewer were to have an aesthetic experience from seeing a photograph, it would be of the aesthetic value of the subject matter, transmitted through the transparent medium – “if one finds a photograph beautiful, it is because one finds something beautiful in its subject.” Roger Scruton, “Photography and Representation,” *Critical Inquiry* 7, no. 3 (1981). p.590.

⁷⁷ Gregory Currie, *Image and Mind: Film, Philosophy, and Cognitive Science* (Cambridge: Cambridge University Press, 1995). p.55.

⁷⁸ Ibid. p.77.

the viewer's visual experience of the photograph, and that their significance is gained by the depictive moves during the process of making the photograph. For instance, in their 1975 essay, Joel Snyder and Neil Walsh Allen offer perhaps all major elements of a standard opacity thesis.⁷⁹ They claim that the mechanical model of the transparency thesis explains little about how a photograph is made and functions. According to the authors, the mechanical process is constantly "regulated" to make the end result "acceptable," and is "augmented" by additional processes enabling various degrees of acceptability.⁸⁰ Snyder and Allen offer the case of a photograph by Dennis Stock for *Life*, featuring James Dean at the grave of Cal Dean in 1955 [Figure 2-6]. The main visual interest of this photograph comes from the ironic situation of Dean glancing away from the tombstone, the uncanny relation proposed by the way in which the subjects – Dean, his younger brother, and the tombstone of a deceased Dean – are presented. Snyder and Allen claim that the complexity between the subjects is "characterized by the photographer's choice of lens and point of view." To quote:

More to the point, we should notice that the kind of visual experience we have when looking at Stock's photograph is never (or very rarely) available to us as we walk about. (...) The sort of experience we have in looking at the photograph is available only through representations, not directly from nature. In other words, if we were to state that Stock's work in making this picture consisted of selecting – of including and excluding –, that selection does not operate directly on the scene in front of him. Instead, the principles of inclusion and exclusion are to be found in the final print that Stock has already decided upon as his goal.⁸¹

⁷⁹ Joel Snyder and Neil Walsh Allen, "Photography, Vision, and Representation," *Critical Inquiry* 2, no. 1 (1975).

⁸⁰ Ibid. p.162.

⁸¹ Ibid. p.167.

However, it is difficult to disapprove the transparency thesis entirely. Some architectural photographs, in fact, successfully evoke the viewer's enhanced experience by presenting significant architectural content. It is counter-intuitive to simply disregard the evocative ability of some architectural photographs, such as those by Bill Hedrich, Julius Shulman, or Ezra Stoller, which apparently present the architectural subject in the most objective manner. In particular, the comparison between my snapshot and the Stoller photograph in Chapter 1 seems to demonstrate that varying degrees of evocativeness may reside in them, although both are about the architectural subject more than anything. Those who argue for photographic opacity may think that such varying degrees of evocativeness connect to the qualities and the degrees of opaqueness, that they are the effects of certain depictive interventions. This proposition, again, is undermined by the pronounced intention and the ability of the profession to present the architectural subject objectively. In fact, such complexities concerning the transparent or the opaque nature of architectural photography attest to what I have called the paradox of contrived objectivity, the unique aspect of some architectural photographs that successfully contain the depictive moves and the components of opacity tightly within the boundary of transparency.



Figure 2-6 – Scott Denis, *James Dean at the Grave of Cal Dean*, 1995.

2.3.2 Exemplification

Nelson Goodman's important contribution to aesthetics is his proposal of a rigid and coherent method through which we can understand how a symbol refers to content, and thus identify and categorize the relevant rules of reference and the system of representation.⁸² A result of this is Goodman's systematic classification of various forms of representation, of the "modes and means of reference" by analysis of their "varied and pervasive use in the operations of the understanding."⁸³

To summarize the relevant part of Goodman's theory of symbolic reference, we can comprehend how a certain mode of reference behaves by assessing the semantic and syntactic "densities" of its symbolic scheme and the corresponding realm of referents, as well as the degree of "repleteness" or "attenuation" of the scheme. These points are elaborated on in the following.

i) We judge the density of a particular system of reference by assessing the rule of correspondence between symbols and referents. Low density would mean that each item of the symbolic scheme corresponds to its designated referent and vice versa, which is a common characteristic of a "notation." Consider, for example, the low-density nature of a standard musical score. Any given note is semantically and syntactically discrete, as it refers to a particular sound with a defined duration and pitch, and as it also refers to a particular location within the entire score and the music. Any given note must determine

⁸² Goodman, *Languages of Art: An Approach to a Theory of Symbols*.

⁸³ Ibid. p.xi.

the finite quality of the corresponding musical instance, and no other note can replace it without changing its corresponding instance. Density will rise, on the other hand, as symbols or referents in a system become less articulate. As another example, consider the high-density nature of a standard painting. A painting is usually semantically and syntactically dense, both in its symbolic scheme and its realm of referents. Any given mark is semantically and syntactically inarticulate, as it may correlate to an infinite number of referents or any representational content. The given mark, in doing so, may join or disjoin with an infinite number of other marks and meanings.

ii) Secondly, we judge repleteness – or its opposite, the degree of attenuation – by assessing the range of possible readings or interpretations initiated by a symbolic character or a mark. A musical score, for example, is considered less replete than a painting. We are likely to think of a gestural mark in a score as contingent, which is dismissed in our reading. In appreciation of a painting, we are likely to consider a gestural mark as significant, a meaningful element that constitutes representational content.

The properties of density and repleteness of any particular representation may vary, depending on the mode of reference in which the representation operates. In other words, the degrees of density and repleteness are not innate properties. The referential properties of a particular representation are symptomatic rather than innate; and the representation being notational or non-notational is circumstantial and tentative, rather than permanent. Goodman thus maintains a relative view regarding the definition of art. Instead of judging the aesthetic nature of a representation by assessing its innate properties, he suggests that

we can only see in the representation indications of an artwork, such as the properties of syntactic density, semantic density, and syntactic repleteness.⁸⁴

Depending on its circumstantial use, an architectural representation may also vary from being notational to dense and replete. Consider, for example, a sketch of a detail made by an architect on a construction site in order to communicate to the contractor how some building components should be put together. The sketch, in this particular case, is notational. For it to serve its purpose on the construction site, the contractor must dissect the sketch into discrete characters, each corresponding to a discrete component or its appointed properties – its location, material, measurement, or something similar. The same sketch may be considered dense and replete as it hangs on a gallery wall. A connoisseur visiting the gallery may think of its marks as referring to richer meanings apart from their notational referents.⁸⁵

Let us consider, for example, the following passage from Colin Rowe’s influential essay, “The Mathematics of the Ideal Villa” (1947), wherein Rowe compares the plans of Andrea Palladio’s Villa Foscari (la Malcontenta) and Le Corbusier’s Villa Stein-de Monzie at Garches.

Thus, at Garches, the cruciform shape survives only vestigially (perhaps it may be thought to be registered by the apse of the dining room?); and therefore, instead of the centrality of Palladio’s major space, a Z-shaped balance is achieved which is

⁸⁴ Goodman, “Symptoms of the Aesthetic”; Goodman, “When Is Art?”

⁸⁵ The relevant theories concerning denotational treatment of architectural drawings have been discussed with precision and thoroughness in Sonit Bafna, “How Architectural Drawings Work,” *The Journal of Architecture* 13, no. 5 (2008): 535–64. Sonit Bafna finds in the Brick house plan by Ludwig Mies van der Rohe a notational role, as well as its ability to direct attention toward certain properties of a Miesian “free-plan,” such as openness and continuity.

assisted by throwing the small library into the main apartment. Finally, while at the Malcontenta there is a highly evident cross axis, at Garches this transverse movement which is intimated by the central voids of the end walls is only allowed to develop implicitly and by fragments.⁸⁶

Note the language that describes the two plans: the cruciform shape “survives only vestigially,” the Z-shaped balance is achieved by “throwing” the library, and in contrast to the “highly evident” cross axis, the “intimated” transverse movement is “allowed” to develop “implicitly and by fragments.” The words are largely depictive of the anthropomorphous qualities suggested by the forms, and have little to do with how they function as notational symbols. Rowe’s language is indicative of his desire to lend indiscrete subtleties and degrees. In effect, the “apse,” the “library,” and the “end walls” do not so much refer to actual building components as to ingredients of a particular look. Such formal descriptions, Rowe asserts, aim to find the “logic (or the compulsion) of specific analytical (or stylistic) strategies.”⁸⁷ His language directs the reader/viewer’s attention to specific properties of the plan, which refer back to the “style” or the generic properties of an aesthetic form – namely, the aesthetic of implicit and neutralized centrality with implosive potential. Furthermore, the formal properties refer to a generative discipline, a disposition of likely choices in the making of architecture.

In generic terms, the process of reference in the “Mathematics” essay is that of ostensibly directing the reader/viewer’s attention toward a subset of formal properties, which constitute a representative sample of a larger generic concept. Such a process, in

⁸⁶ Colin Rowe, “The Mathematics of the Ideal Villa,” in *The Mathematics of the Ideal Villa and Other Essays* (Cambridge: MIT Press, 1976 (originally 1947)). p.6.

⁸⁷ Ibid. p.16.

fact, contrives a special kind of denotation, what Goodman calls “exemplification.” To exemplify, X has to refer to the properties of Y, and also has to possess the properties in question. Exemplification, therefore, is “possession plus reference.”⁸⁸ As X exemplifies Y, X refers to certain – but not all – properties of Y. At the same time, both X and Y sharing the properties in question, Y may refer back to X by labeling X as a sample of such and such properties.⁸⁹ Through this process of reference and counter-reference, the specificities of a particular case may signify a generic concept. The underlining of properties and counter-reference between X and Y, which establishes exemplification, is important in acquiring precision in aesthetic criticism. To quote Michael Baxandall, the language of criticism works “demonstratively – we are pointing to interest – and ostensively.” Meanings develop from “reciprocal reference, a sharpening to-and-fro, between itself and the particular.”⁹⁰ The forms of the Villa Stein-de Monzie plan come to refer to the design concept of early Corbusian architecture, through such a process of reciprocal reference.

2.3.3 *Imaginative Seeing*

⁸⁸ Nelson Goodman, “Exemplification,” in *Languages of Art: An Approach to a Theory of Symbols* (Indianapolis: Hackett, 1976 (originally 1968)). p.53. Also note the categorical difference between “ostension” and “exemplification,” explained by Nelson Goodman: “Ostension, like exemplification, has to do with samples; but whereas ostension is the act of pointing to a sample, exemplification is the relation between a sample and what it refers to.” Ibid. p.53.

⁸⁹ A case of exemplification by a sample, offered by Nelson Goodman, is that of a tailor’s swatch. “A swatch does not exemplify all its properties; it is a sample of color, weave, texture, and pattern, but not of size, shape, or absolute weight or value.” Goodman, “Pictures and Paragraphs.” p.53.

⁹⁰ Michael Baxandall, “Introduction: Language and Explanation,” in *Patterns of Intention: On the Historical Explanation of Pictures* (New Haven: Yale University Press, 1985). p.11. For Michael Baxandall’s view on writing about art in general, see Michael Baxandall, “The Language of Art History,” *New Literary History* 10, no. 3 (1979): 453–65.

Kendall Walton is an American philosopher who has written on theoretical issues of aesthetics. His writings on representational arts and photography are of particular interest in this thesis. Walton, in my view, offers perhaps the most refined account of photographic transparency.⁹¹ In essence, Walton's argument is that the viewer genuinely sees through a photograph, although indirectly, toward the photographed: "we *see*, quite literally, our dead relatives themselves when we look at photographs of them."⁹² Walton acknowledges that interventions of intention or belief can indeed occur in the making of a photograph, but he claims that such photographic interventions are not significant enough to deny transparency, the viewer's seeing-through. In other words, interventions in the production of a photograph are comparable to those that may occur in the viewer's actual seeing – the camera's framing, for example, is not so different than pointing toward the subject in actuality.

With regard to Walton's broader theory of representational arts, transparency puts photography in a unique place among other kinds of pictorial representation. In Walton's view, a picture can generate an aesthetic experience in the viewer by operating as a "visual

⁹¹ Kendall Walton has presented his transparency thesis concerning photography in various sources, including Kendall L. Walton, "Transparent Pictures: On the Nature of Photographic Realism," *Critical Inquiry* 11, no. 2 (1984): 246–77; Kendall L. Walton, "Looking Again through Photographs: A Response to Edwin Martin," *Critical Inquiry* 12, no. 2 (Summer 1986): 801–80; Walton, "On Pictures and Photographs: Objections Answered," 1997.

⁹² Walton, "Transparent Pictures: On the Nature of Photographic Realism." p.252. Kendall Walton reiterates this point later in Kendall L. Walton, "On Pictures and Photographs: Objections Answered," in *Marvelous Images: On Values and the Arts* (Oxford: Oxford University Press, 2008 (originally 1997)). p.117. To quote: "I have also argued that photographs are special among pictures in that they are transparent: to look at a photograph is actually to see, indirectly but genuinely, whatever it is a photograph of." The term of seeing "indirectly" is used in the sense that a photograph functions like a kind of visual apparatus, through which we see things indirectly – like we see things through a mirror or a telescope indirectly, we see things of the past possibly at a different place indirectly through a photograph.

prop” that aids in the viewer’s “visual games of ‘make-believe’.” The aesthetic experience, in other words, emerges through the viewer’s participation in *imaginative seeing*, for which the picture functions as a trigger.⁹³ The process from the viewer’s initial seeing of a painting to her imaginative seeing, therefore, may be decomposed into several sub-processes: the viewer i) seeing the picture, the patterns of colored marks on the picture surface; ii) imagining seeing the depicted scene; and thus iii) imagining her seeing of the picture surface to be her seeing of the depicted scene. However, seeing through a transparent photograph cannot involve seeing the patterns of colored marks on the picture surface. This is why Walton thinks of our seeing of a photograph or a film as being fundamentally different from our seeing of a painting or other kinds of visual representation.

To quote Walton:

Don’t photographs, like other pictures, put us in contact, in the first instance, with a human being’s conception of reality, rather than reality itself? (...) I answered that the difference [between photographs and other pictures] is indeed fundamental, that (with some qualifications) photographs are transparent and handmade pictures are not, and that this difference is entirely compatible with the fact that photographs, like paintings, result from human activity and reflect the picture maker’s interests, intentions, beliefs, and so on.⁹⁴

What is at odds in Walton’s transparency thesis with others is that it does not automatically reject the ability of photographs to promote imaginative seeing. Walton argues that the key difference between a camera and a mirror, a telescope, or other visual mediums that allow seeing-through is that the former is able to make pictures, transparent

⁹³ On Kendall Walton’s comprehensive theory of representational arts, see Walton, *Mimesis as Make-Believe: On the Foundations of the Representational Arts*.

⁹⁴ Walton, “On Pictures and Photographs: Objections Answered,” 2008 (originally 1997). p.126.

pictures. In other words, despite their transparency, photographs are capable of carrying out the task of making pictures, of being visual props for imaginative seeing. A photograph is thus a special kind of pictorial representation, consisting of i) a role as a prosthetic aid to vision through which the viewer sees, indirectly yet genuinely, the distant or the past; and ii) a pictorial role in supporting the viewer to superimpose upon her primary seeing further layers of imaginative seeings. Walton writes: “the combination of actual and imagined seeing, and interaction between the role of photographs as aids to vision and their role as representations, is one of photographs’ most important and intriguing characteristics.”⁹⁵

An analytical account by Walton of how additional imaginative seeings may superimpose upon what we see through a photograph will be discussed further in Chapter 4, as it is instrumental in the case study of Ezra Stoller’s photographs. For now, it suffices to state that an architectural photograph may also be a transparent picture through which we see the photographed building, and imagine seeing additional fictitious constructs. The question, then, is what fictitious constructs we are likely to establish from seeing architectural photographs that seemingly claim paramount objectivity – like those by Julius Shulman or Stoller. In fact, the photographers’ redundant crafting of objectivity perhaps relates to what we are to imagine in seeing their photographs. Their architectural photographs are transparent pictures and, at the same time, are what they have crafted by photographic means, full of depictive components. As Patrick Maynard claims about photographs, a photograph by Shulman and Stoller is also an artifact that demands that the

⁹⁵ Ibid. p.127.

viewer perceive and conceive it in a certain way, which specifies the viewer's seeing of the photograph in its aspects. To quote Maynard:

Understood simply as artifacts, things put there on purpose, we relevantly ask *why*, with respect to perception, the maker put a certain kind of mark at a certain place on the surface. In other words, as with any artifact, we want to know, "what's that for?"⁹⁶

The moral here is that an architectural photograph of contrived objectivity offers a twofold experience: seeing the actual building, and seeing the fictitious construct embedded in the photograph by depiction, preferably with some relevance to architecture. The more deliberate and skillful the photographer is in controlling the depictive components of the photograph, the more significant her command seems to be over what the viewer imagines in seeing the photograph. What becomes of interest, then, is the referential route through which such depictive components direct toward the embedded fictitious construct in question. How does an artifact refer to its fictitious content?

The architectural photographs under review in this thesis are carefully crafted artifacts, wherein lie certain visual properties that allow us to see and imagine certain fictitious constructs of architecture. I am interested in the architectural photographs operating in the mode of enough density and repleteness. Moreover, the referential mechanism of exemplification is of interest as it may be the route through which the visual properties of the architectural photographs in question refer to the properties pertaining to the fictitious constructs. In the following two chapters, using case studies, I hope to identify

⁹⁶ Patrick Maynard, "Scales of Space and Time in Photography," in *Photography and Philosophy: Essays on the Pencil of Nature*, ed. Scott Walden (Chichester: Wiley-Blackwell, 2008). p.206.

the specific components involved in such a process of reference: the photographer's depictive moves; the entailing visual properties; and the exemplified properties that further suggest our imaginative seeing of phenomenal constructs.

CHAPTER 3. JULIUS SHULMAN

*We set up lights, and I set up my camera and created this composition in which I assembled a statement. It was not an architectural “photograph.” It was a picture of a mood.*⁹⁷

*I don’t make pictures; I create images of what it’s like to be in a building. (...) To introduce people to modern architecture, you had to make them want to live in it.*⁹⁸

*When we finished the house, Soriano refused to come in and sit on my furniture. (...) He stood outside the living room and looked in.*⁹⁹

This chapter is a case study of Julius Shulman’s photographs of Richard Neutra’s domestic architecture, focusing on the photographer’s means that deliberately foreground certain aspects of space. The case study will show, interestingly, that the techniques of the medium can offer the picture-maker the ability to channel the viewer’s perception and imagination of space in varying ways without interfering with the medium’s documentary role.

3.1 Study Subject and Question

Richard Neutra was a leading architect of American West Coast architecture during the mid-century. Neutra was born in Vienna, and studied under Adolf Loos at the Vienna

⁹⁷ Julius Shulman, Oral History Interview with Julius Shulman, interview by Taina Rikala De Noreiga, Archives of American Art, Smithsonian Institution, February 1990.

⁹⁸ Julius Shulman, “One-Shot Shulman: A Lecture,” *Hunch* 3 (Spring 2001). p.61.

⁹⁹ Ibid. p.66.

University of Technology. He practiced in Berlin before moving to the United States in 1923, and settled in Los Angeles in 1925. Neutra, Rudolf Schindler, Raphael Soriano, Charles and Ray Eames, and Pierre Koenig were some of the architects who defined the stylistic tendencies of suburban houses on the West Coast, combining the clean and crisp forms of prefabricated material and modular construction with spatial openness and continuity. Their works, which include the Case Study Houses that were made from 1945 to 1966, connote influence from the European avant-garde and International styles, adapted to the American context of expansive landscape and economic prosperity. Julius Shulman (1910-2009), whose professional career as an architectural photographer spanned from 1936 until the decline of high-modernism and the rise of postmodernism in the late 1980s, was one of the significant figures in visualizing and promoting the architecture of this time and place.¹⁰⁰

Shulman was born in Brooklyn, and grew up on a small farm in Connecticut before moving to Los Angeles while still a boy. Shulman learned photography in a class he took in high school, and became fairly good at it – enough to win a regional photography competition and earn some pocket money by selling his photographs to his friends. However, his career as a professional architectural photographer began somewhat accidentally. Shulman, who had briefly attended the University of California at Berkeley, came back to Los Angeles in 1936 and was still unsure of his future. This was when he met and befriended a young draftsman who happened to be working for Neutra, and who invited Shulman on an inspection of the nearly complete Kun House, one of Neutra's early works.

¹⁰⁰ Despite his self-proclaimed retirement in 1986, Julius Shulman continued to photograph buildings until the early 2000s.

With his small Eastman Kodak, Shulman took shots of the house, and gave a few prints to the draftsman, who then relayed them to Neutra. The architect, impressed by the photographs, requested to meet the photographer, and ended up hiring Shulman to photograph his other buildings as well. It was the beginning of Shulman's great career, and also of his companionship with Neutra and a generation of architects who came to define the architecture of mid-century modern on the West Coast of America.¹⁰¹

In this chapter, I closely examine some of Shulman's photographs of Neutra's Maslon House in Rancho Mirage, California (photographed in 1963, building completed in 1962). Shulman photographed Maslon House on two separate occasions. His first shoot of the building was with Neutra onsite, under the architect's guidance. Shulman re-shot the building a few weeks later, this time not informing nor accompanying the architect. Shulman has explained the reason for this specific reshoot on several occasions. For example, in his interview with Joseph Rosa in 1992, Shulman expresses his strong disapproval of Neutra's approach to photographing the house:

Neutra's concept of a house is an empty one. So when we photographed the Maslon House, he took out all the art and most of the furniture. Never before had I been so offended! Mrs. Maslon granted my request, and two weeks later I went back and photographed the house the way she lived in it.¹⁰²

¹⁰¹ The biographical account of Julius Shulman is based on information from Esther McCoy, "Persistence of Vision," in *A Constructed View: The Architectural Photography of Julius Shulman* (New York: Rizzoli, 1994); Joseph Rosa, "A Constructed View," in *A Constructed View: The Architectural Photography of Julius Shulman* (New York: Rizzoli, 1994); Andy Grundberg, "Julius Shulman, Photographer of Modernist California Architecture, Dies at 98," *The New York Times*, July 17, 2009. The first encounter between Shulman and Richard Neutra is described also in detail in Raymond Richard Neutra, "On the Past and Future Tensions between Documentation and Esthetics in Architectural Photography," *Arts* 3 (September 2014): 335–49.

¹⁰² Rosa, "A Constructed View." p.51.



**Figure 3-1 – Julius Shulman, Maslon House, Rancho Mirage, 1963 (architect: Richard Neutra; building completed in 1962).
The upper photograph is from the first shoot; the lower from the second.**

In a lecture in 2001, Shulman makes a similar comment, showing a pair of photographs of the Maslon House – one from his first visit and the other from his second [Figure 3-1]:

Architects, please be human about architecture. Don't wipe it clean the way Neutra used to do! He was interested in the image of pure architecture, and in presenting that image to other architects, but not in reaching the public – not showing how people really live in good architecture.¹⁰³

A reshoot after such a short term is usually unnecessary for a skilled professional such as Shulman, but Shulman is clearly dissatisfied with what he and Neutra collaborated to produce, and what Shulman wishes to portray in his reshoot seems to be in conflict with what the architect wishes to portray. According to Shulman, Neutra prefers “pure architecture,” and his idea of a house is an “empty one.” Neutra, in other words, speaks to “other architects.” In contrast, Shulman claims that his interest is in showing the public “how people really live in good architecture.” Shulman seems to think that the architect’s image of the domestic space deprives it of any traces of living, thus failing to portray the true value of that space. In effect, Neutra and Shulman both see, imagine, and construct a phenomenal construct of architecture or space by their making – or, in Neutra’s case, by his active involvement in making – of architectural photographs. The two sets of the Maslon House photographs are intriguing, as their comparison may offer us a rare opportunity to identify and understand their different ways of seeing. Through comparisons, I hope to reveal in this chapter what Neutra and Shulman see, imagine, and construct: how

¹⁰³ Shulman, “One-Shot Shulman: A Lecture.” p.62.

each presents to the viewer the specific spatial properties of mid-century West Coast residential architecture.

Before delving into the specifics of the Maslon House photographs, I need to address a theoretical concern. Shulman's pronounced disapproval of Neutra's intervention and the relevant issues I have outlined are representative of an innate attribute of architectural photography: it inevitably conjoins two different parties, as well as their different professions and disciplines. The architect provides the raw material, whereas the photographer reprocesses that raw material through photographic mediation. One's aim is to conceive the end product of a three-dimensional form and space, whereas the other's aim is to conceive that of a two-dimensional picture.¹⁰⁴ A major challenge in the making of an architectural photograph, therefore, is to produce a pictorial representation of two-dimensional properties from which the viewer can read the three-dimensional properties of form and space. This raises a generic question: how are we able to see three-dimensionality or depth in the seeing of a picture that is depthless in nature?

3.2 Seeing Space in Pictures: Visual Cues of Depth

James Cutting is a distinguished psychologist whose research encompasses a wide range of topics including perceptions of depth, layout, motion, and events. In particular,

¹⁰⁴ Ezra Stoller, in an interview, makes this exact point: "I happened to meet Frank Gehry several weeks ago and he was telling me that he's never been able to take very good photographs. I had to tell him, "it only proves that you are a good architect." It is a different way of looking at things. As a photographer, your concern is with a sense of depth that you have to capture, to put on that flat piece of paper. As an architect you make a drawing on that piece of paper which *represents* depth, in other words, you are doing the opposite thing in a way. And architects don't have the same sense, fortunately." Naeyele and Stoller, "An Interview with Ezra Stoller: Photographing Architecture." p.114.

Cutting's answer to the question of how we perceive a three-dimensional space from a two-dimensional image, which is a major topic in visual science, unfolds into two correlated parts.¹⁰⁵ On the one hand, it concerns the visual properties of an image that operate as informative cues, aiding the viewer in constructing a probable instance of space. On the other hand, it concerns the efficacy of such informative cues, such as their utility at difference distances. His theory on our visual perception of depth and layout, which I will now introduce in detail, is instrumental in identifying the specific visual properties that matter in my close reading of Julius Shulman's Maslon House photographs, presented later in this chapter.

Cutting's relevant research is based on the key theory – confirmed by multiple pervasive findings – that our reading of depth and layout in seeing most natural and pictorial environments depends upon the availability of visual sources or cues that inform or aid our reading of such properties. More depth cues offer more means to refine the reading, to increase the probability or the accuracy of the spatial instance. Fewer of them, on the other hand, mean more ambiguities in judging the exact depth or layout.¹⁰⁶ With

¹⁰⁵ For an introductory outline of the relevant discussions in psychology, see Dennis R. Proffitt and Corrado Caudek, "Depth Perception and the Perception of Events," in *Experimental Psychology*, ed. Alice F. Healy and Robert W. Proctor, Handbook of Psychology 4 (Hoboken: John Wiley and Sons, 2003), 213–36.

¹⁰⁶ Theodor Künnapas argues that the accuracy of depth reading increases with the increase of sources informative of depth. Theodor Künnapas, "Distance Perception as a Function of Available Visual Cues," *Journal of Experimental Psychology* 77, no. 4 (August 1968): 523–29. James Gibson also argues that for a visual system to function normally, the visual environment must include multiple informative sources that can specify the three-dimensional properties, the shapes of objects and their spatial arrangement. James J. Gibson, *The Ecological Approach to Visual Perception* (Boston: Houghton Mifflin, 1979). James Cutting's research in this topic is presented in James E. Cutting and Peter M. Vishton, "Perceiving Layout and Knowing Distances: The Integration, Relative Potency, and Contextual Use of Different Information about Depth," in

regard to the topic of this thesis, the theory implies that our seeing of a space in a photograph emerges from its phenomenal construct by attributing metric and ordinal depths to the photographed elements, and that the visual cues that inform such information of depth are critical in our seeing of the space.

With this premise concerning depth and layout perception set, Cutting offers a comprehensive account of the depth cues in question. In “Perceiving Layout and Knowing Distances: The Integration, Relative Potency, and Contextual Use of Different Information about Depth” (1995), Cutting and his coauthor Peter Vishton systematically categorize all instances of depth cues found in their survey of prior studies and cases, and establish a neat taxonomy of nine categories of depth cues by reduction and elimination of dependencies: occlusion, relative size, relative density, height in visual field, aerial perspective, motion perspective, binocular disparities, convergence, and accommodation.¹⁰⁷ Note that the authors only consider the cues that directly inform depth. Therefore, cues such as shadows are excluded from the list. That is, a shadow per se is only useful for reading the properties of shape or transparency. It is the relative size or the height in visual field of that shadow that directly informs depth.

More relevant to the specific topic of this chapter is Cutting’s later essay, “Reconceiving Perceptual Space” (2003), wherein he tackles the particular issues of

Perception of Space and Motion, ed. William Epstein and Sheena Rogers (San Diego: Academic Press, 1995); Cutting, “Reconceiving Perceptual Space.”

¹⁰⁷ Cutting and Vishton, “Perceiving Layout and Knowing Distances: The Integration, Relative Potency, and Contextual Use of Different Information about Depth.”

pictorial space and its perception.¹⁰⁸ The basic premise that our space perception depends on the availability of visual sources or cues informative of depth, and that the accuracy of that reading primarily depends on the amount of such cues, does not vary with the special case of reading a pictorial or a photographic space. What does vary, however, is the list of depth cues, as some categories become irrelevant in seeing a fixated two-dimensional picture. In other words, with regard to perception of pictorial space, Cutting proposes a trimmed list of depth cues as a result of excluding the ones that become available only by a change in retinal position or binocular vision. Accordingly, the cues of depth in pictorial space perception are the following five: occlusion, relative size, relative density, height in visual field, and aerial perspective.

Based on Cutting's research, let us run through the definitions and the attributes of the visual cues in question.¹⁰⁹

i) **Occlusion** occurs and functions as a visual cue, when an opaque object partially conceals another object from the viewer's sight. The concealing object would be considered closer in distance to the viewer than the concealed. Occlusion is trustworthy, as it maintains its effectiveness even at a far distance, and often overrides other cues.

ii) **Relative size** refers to the relative measure of an object as it appears to the viewer. An object of a larger relative size appears closer to the viewer than another object of a

¹⁰⁸ Cutting, "Reconceiving Perceptual Space."

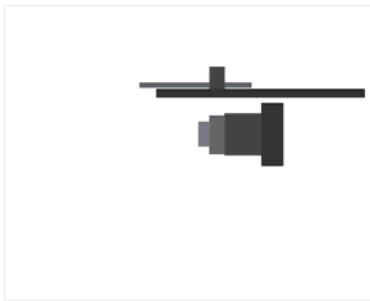
¹⁰⁹ The definitions and the detail discussions of the efficacies of the depth cues, which I summarize and partially supplement here, are summarized largely from Cutting and Vishton, "Perceiving Layout and Knowing Distances: The Integration, Relative Potency, and Contextual Use of Different Information about Depth." pp.79-89.

smaller relative size. The cue functions with less ambiguity when the comparable objects are the same or similar in actual size.

iii) **Relative density** refers to the relative number of objects or of components of a surface pattern per unit area as they appear to the viewer. Higher relative density means farther distance from the viewer. Like relative size, relative density functions better when the relevant objects or components are the same or similar in actual size or when the surface pattern is regular.

iv) **Height in visual field** refers to the relative position of an object on a vertical axis as it appears to the viewer. If the viewpoint is above the plane on which the relevant objects are placed, an object at a higher position in the visual field appears farther from the viewer than another object at a lower position. If the viewpoint is below the plane, the reading is reversed. The cue functions with less ambiguity when the comparable objects are the same or similar in actual size and their bases are on the same plane in actuality.

v) **Aerial perspective** refers to visibility, functioning as a measure of depth. It is representative of the amount of airborne particles through which the viewer must see the object. Farther distance means more particles, and thus less visibility. Conversely, an object with a discernible appearance and sharper outlines appears to remain at a relatively close distance [Figure 3-2].



(A)



(B)



(C)



(D)

Figure 3-2 – Julius Shulman, Kaufmann House, Palm Springs, 1947 (architect: Richard Neutra; building completed in 1946). Exemplary depth cues of (A) occlusion, (B) relative size and density, (C) height in visual field, and (D) aerial perspective apparent in the photograph are indicated below.

According to Cutting and Vishton, potency of occlusion, relative size, and relative density are not attenuated with the log of distance, whereas that of height in the visual field declines sharply with the log of distance [Figure 3-3]. Occlusion is the most effective in conveying ordinal depth – that is, the order of objects in a spatial layout. However, occlusion per se does not convey metric depth, such as information regarding distances between objects. Relative size, density, and height in visual field, on the other hand, may convey information concerning metric depth. The viewer may estimate the ratio between the apparent measurements of objects operating as cues of relative size, density, or height in the visual field, which may be applied for distance estimation. If the viewer were to know the actual measurements of the relevant objects, she would be able to calculate the true – or near-metric – distance between them. In particular, the reading from heights in the visual field becomes easier when the viewpoint is at a familiar eyelevel. Aerial perspective is relatively effective in reading ordinal depth of farther and wider areas, but is largely ineffective in finer reading of depth at a closer distance.

Cutting and Vishton's differentiation and definitions of the three circular egocentric zones – personal, action, and vista – are also noteworthy and instrumental in describing and understanding some aspects of depth and layout perception.¹¹⁰ Aerial perspective, accordingly, is relatively effective in reading ordinal depth outside the radius of around 30 meters from the viewer – that is, in what is called the “vista” space. The depth cues that must benefit from a change in retinal position or binocular vision, on the other hand, are largely useless in a vista space. The closest of the three zones is called the “personal” space.

¹¹⁰ On the division of visual space and the relative effectiveness of the visual cues, see Ibid. pp.100-102.

It is the zone reachable by the stationary viewer's hands and slightly beyond, approximately within the radius of two meters. Here, the cues of height in the visual field and aerial perspective are largely useless. Finally, between the personal and the vista spaces is the "action" space, wherein the viewer may navigate and interact and perceive her presence to be public. The cues of occlusion, relative size and density, and height in the visual field are all likely to be effective in an action space, although the effectiveness of height in the visual field drops sharply in far areas.

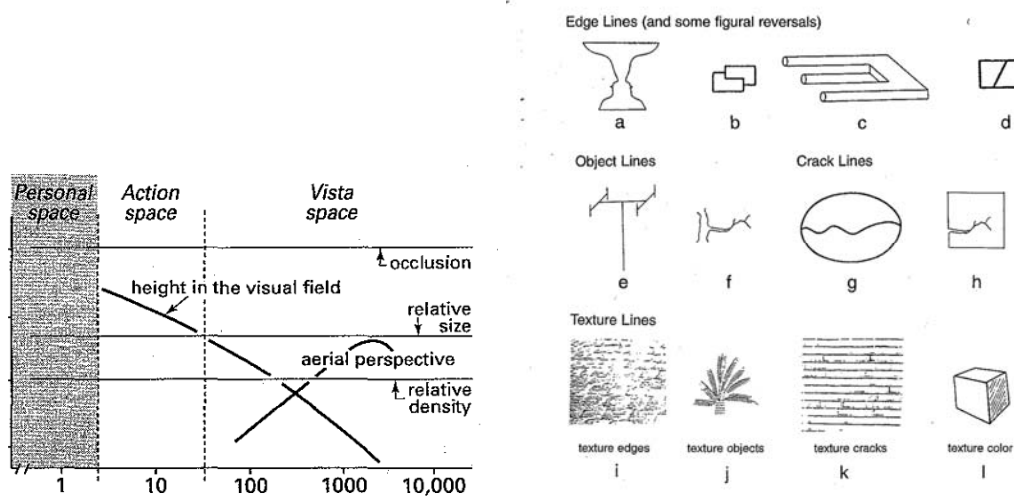


Figure 3-3 – Ordinal depth thresholds for pictorial sources of information. From James E. Cutting, “Reconceiving Perceptual Space” (2003).

Figure 3-4 - Taxonomy of lines. From James E. Cutting, “Reconceiving Perceptual Space” (2003).

In addition, I should note how lines work in spatial representation, their taxonomy, and functional attributes in relation to the depth cues. Cutting and Manfredo Massironi suggest four basic categories of lines that parse regions in visual representation of objects

and space: edge lines, object lines, crack lines, and texture lines¹¹¹ [Figure 3-4]. The edge line is of particular interest for this thesis as it is what parses and articulates the different objects on different depth planes. For better discernment of depth cues, the edge lines of an object must remain sharp and avoid adjoining with other edge lines belonging to another object or a background. On the other hand, crack and texture lines can represent surface patterns that function as cues of relative size, density, and height in the visual field. Finally, an object line rarely occurs in architectural photographs as buildings or what they contain mostly possess a notable thickness.

Now that I have introduced the depth cues, the terms for understanding a spatial construct are set. Let us now look into the ways of depicting space in reference to such depth cues – in particular, Shulman’s usual techniques that potentially create in photographic images what the viewer perceives to be depth cues.

3.3 Techniques of Photographic Depiction

We may think of many variables in the production of an analog architectural photograph – the variables that the photographer must consider and control to obtain a desirable shot of a building. As she observes the building, its form, space, and other properties, the photographer must determine what to include in and exclude from the picture frame. She must look into the viewfinder, compose within it the immobile things, and consider relocating or removing the mobile things. By optimizing the various sources

¹¹¹ James E. Cutting and Manfredo Massironi, “Pictures and Their Special Status in Perceptual and Cognitive Inquiry,” in *Perception and Cognition at Century’s End: History, Philosophy, and Theory*, ed. Julian Hochberg (San Diego: Academic Press, 1998), 137–68.

of natural and artificial lighting, she must find the adequate exposure, and the best shape and the quality of shadows. She must choose from her equipment the best options – the camera/lens and film – and add a filter if necessary. The aperture size and the shutter speed must be set. She may also need to wait for the right moment to take the shot. Then, after the shoot onsite, the photographer can experiment with various darkroom techniques that deal with the negative and the print. For example, modifications during the chemical processes can bring changes to tonal values. The photographer can reframe the shot by final cropping, or by actual trimming of the final print. The brief moment of activation of the camera shutter is merely one of the many intermediate sub-processes in making of a photograph.

The moves that the photographer makes during such sub-processes are in effect what modify the strengths of the relevant visual properties in attracting attention. In other words, they constitute photographic depiction. To use Michael Podro's words, they are the "procedures of the medium" that mobilize the "mechanisms of recognition" and "imagination." For example, optimization of lighting or the like corresponds to a painter's brushstroke, which elicits "painterly effects" and the "experiences convergent with – but always distant from – those of the pictorial subject."¹¹² Depiction of an architectural photograph, perhaps more than any other medium in visual representation, relies on exemplification of the actual properties of the photographed. For example, the decision to remove a chair before taking a shot of a living room is to remove a potential cue informative

¹¹² Michael Podro, "Sustaining Recognition," in *Depiction* (New Haven: Yale University Press, 1998). pp.5-16. See also Michael Podro, "Depiction and the Golden Calf," in *Visual Theory: Painting and Interpretation*, ed. Norman Bryson, Michael Holly, and Keith Moxey (Cambridge: Blackwell, 1991).

of depth. Julius Shulman's decision to extend exposure time may sharpen the edge lines that shape form and space. As such decisions accumulate, the spatial quality that the photograph exemplifies is established. Shulman re-appropriates the spatial qualities of the Maslon House and promotes our seeing of a particular space by photographic depiction and exemplification.

Here, I am interested in such photographic techniques as Shulman utilizes in his depiction and exemplification. The photographer has told and written about his ways of photographing buildings and interiors on several occasions – and most notably in his published guidebooks including his own exemplary photographs.¹¹³ What follows is an examination of significant items included in Shulman's guidebooks that matter as depictive elements and techniques in the making of an architectural photograph. I refer mainly to the chapters "Tools and Equipment," "Techniques," and "Photographic Case Study" in *Photographing Architecture and Interiors* (1962), although I occasionally make use of other sources.¹¹⁴ The chapter on tools and equipment explains in detail the camera, the lens, film, filters, light meters, viewers and projectors, lighting equipment, the polaroid adapter, the tripod, film processing, and the darkroom. The chapter on techniques explains the various ways of photographic composition, followed by those of utilizing natural and artificial lighting. Also included are the accounts of darkroom manipulation and the

¹¹³ For my introduction and review of Julius Shulman's photographic techniques, I shall be referring to Shulman, *Photographing Architecture and Interiors*; Julius Shulman, *The Photography of Architecture and Design: Photographing Buildings, Interiors, and the Visual Arts* (New York: Whitney Library of Design, 1977).

¹¹⁴ Shulman, *Photographing Architecture and Interiors*. Other chapters in the book deal with abstract concerns of architectural photography, such as its nature, scope, and the profession.

particulars of industrial and landscape photographs. They are then followed by a chapter of case studies, which demonstrate what Shulman discusses.

Accordingly, under the headings of “the camera,” “the lens,” “lighting and exposure,” “arrangement and composition,” and “film, filters, and darkroom,” I have assembled a brief summary and review of Shulman’s guide to the techniques of architectural photography.

3.3.1 The Camera: Position and Correlation between Lens and Negative

Shulman lists three important requirements of a suitable camera for architectural photography: it must i) produce a negative of adequate size for publication use; ii) achieve good focal depth; and iii) cover the largest visual area possible with minimum distortion. Shulman notes that the 35mm camera – the most common in use at the time – may not be suitable for producing large architectural exhibit prints. It uses a relatively small 35mm-film roll and cannot be swung or tilted to a large degree. It may thus result in low quality and apparent distortion. “Generally speaking, the small negative camera lacks versatility.” Instead, Shulman prefers the relatively larger 4”x5” or the 8”x10” camera – otherwise called the “view camera.”¹¹⁵ The advantage of a view camera is that it allows its front and back elements to move independently from each other. The front, holding the lens, and the

¹¹⁵ A view camera generally uses a relatively large-scale negative, and possess a variety of means for altering the relative position of the lens to that of the negative. Sometimes called a field camera, it is often used for advertising and commercial work, and notably for architecture and landscape studies. David Michael Levin, ed., *Modernity and the Hegemony of Vision* (Berkeley: University of California Press, 1993). p.83.

back, holding the negative, can be swung and tilted to rectify perspectival distortion or achieve depth of field and sharpness.¹¹⁶

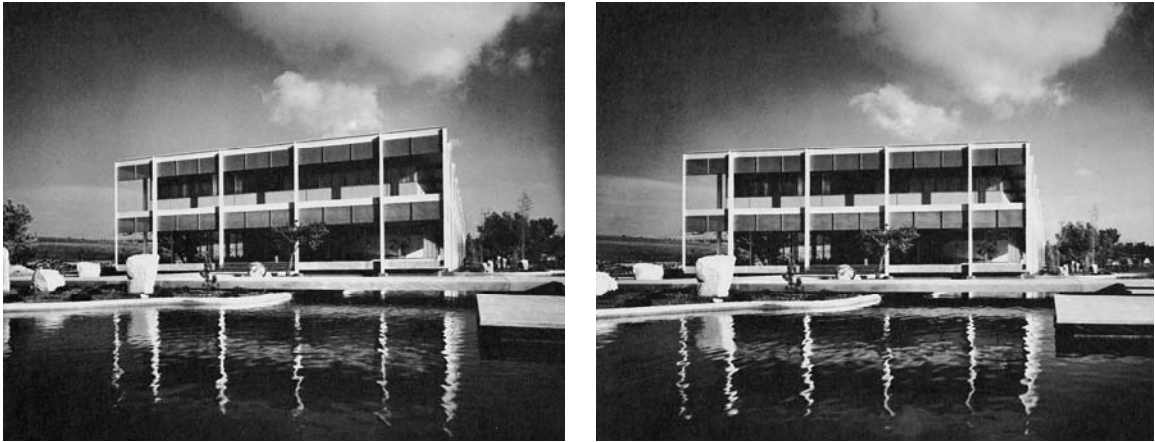


Figure 3-5 – Julius Shulman, Northrop Corporation, Nortonics Division Building, Palos Verdes (architect: Charles Luckman Associates). From Julius Shulman, *Photographing Architecture and Interiors* (1962).

Shulman's comparison in Figure 3-5 demonstrates this depictive function of the camera. The problem with the first photograph is that it distorts the form of the façade. The second photograph rectifies the problem by moving the front/lens or adjusting its point of view slightly obliquely toward the side elevation of the building, yet maintaining the back/negative plane parallel to the front.

A slight fraction of a side of a building adds dimension and perspective to a photograph. But such a view can create a disturbing angle to the front of the building. (...) In the lower picture the receding left end of the building has been restored to an almost natural visual perspective.¹¹⁷

¹¹⁶ Shulman, *Photographing Architecture and Interiors*. pp.19-23.

¹¹⁷ Ibid. p.53.

With a view camera, the photographer can set up an optimum correlation between the front/lens and the back/negative to maintain a receding view, without any notable distortion to the orthographic-like frontal view. The front/lens may be placed slightly obliquely to the building front, whereas the back/negative should remain parallel to it. In doing so, the photographer can minimize distortion to the façade and add the effect of perspectival convergence.

Here, the photographer's technique, the depth cues, and the effect establish a tight correlation. To the near-orthographic head-on view, Schulman adds the perspectival view and thus the cues of relative size and height in the visual field. He offers additional information about the building, and enhances the effect of three-dimensionality without undermining formal integrity. The informative and integral façade, more importantly, contributes to the look of objectivity. The technique offers a quality of uncanny realness, as it combines immediate flatness with a sense of spatial depth. In fact, the conjunction of two-dimensional frontality and three-dimensionality is a common feature found in Shulman's many architectural photographs, both in interior and exterior shots [Figures 3-6 and 3-7].

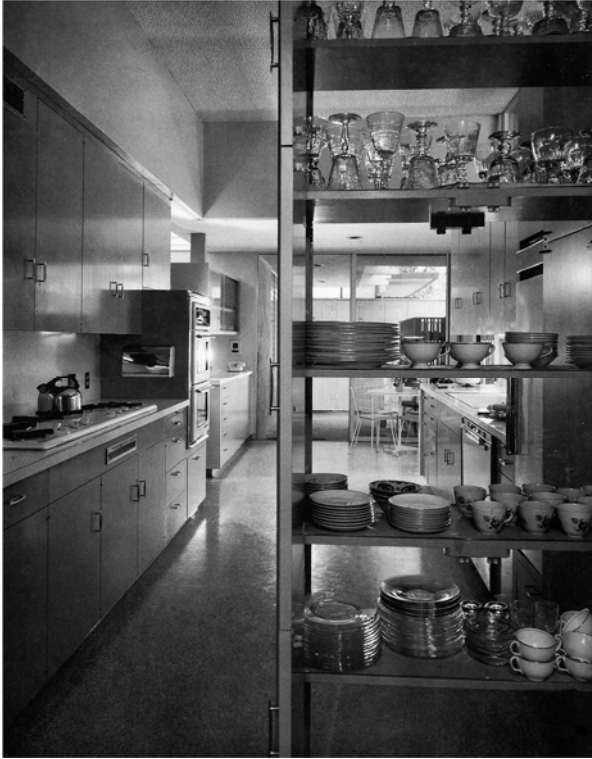


Figure 3-6 – Julius Shulman, Residence, Bel Air, Los Angeles (architect: Ernest W. Le Duc) From Julius Shulman, *Photographing Architecture and Interiors* (1962).
Figure 3-7 – Julius Shulman, Church of the Resurrection, Cedar Rapids (architect: Crites and McConnell) From Julius Shulman, *Photographing Architecture and Interiors* (1962).

Another important factor concerning the position of the camera is its height. It determines how much of the ground/floor or the sky/ceiling area the photographic frame includes. In photographing interior spaces, Shulman explains that positioning the camera low “makes the room look higher and gives an illusion of a more expansive floor area.” Shulman goes on to note that it may yield the following effects: i) furniture pieces may seem less important; ii) if furniture is removed, a long view toward a focal point can be created; or iii) the surface texture of the floor covering can attract attention. With a high position, on the other hand, the room may not appear to be as tall. A high camera may place a “greater emphasis on the floor area, as opposed to its textures.”¹¹⁸

The height of the camera is directly linked to how the depth cues construct the pictorial space, particularly concerning those of height in the visual field. Assuming that all other variables are fixed, the camera at a lower position projects more ground/floor objects closer to the camera, and their heights in the visual field appear tighter or closer in distance. Combined with the use of a wide-angle lens, which is often the case in architectural photography, Shulman notes that the camera at a high position may create the effect of a “rapidly diminishing,” “uncomfortable downhill perspective.” Shulman’s comparison of the three photographs in Figure 3-8, although primarily about different lenses, also concerns the factor of the camera height. Photograph C is shot with a wide-angle lens at a relatively low position – just above the pew and below the eyelevel – on

¹¹⁸ Ibid. p.55.

which Shulman comments that the pews are “higher and in better relationship to the height of the church,” portraying a “more natural visual appearance.”¹¹⁹

3.3.2 *The Lens: Focal Length, Angle of View, and Depth of Field*

For Shulman, it is essential that the lens – particularly when used with a view camera that allows the distance and the angle between the lens and the negative to be adjusted – admits the image in “equal light intensity” to all areas of the negative. In Shulman’s words, “without proper optical quality, the lens is not able to transmit correctly, and parts of the negative are exposed unequally.”¹²⁰

In photography, the focal length refers to the distance between the lens and the light-sensitive negative. It determines the angle of view, the angular extent of the scene projected onto the negative. The focal length and the angle of view are conversely proportional. The depth of field refers to the extent to which the photographed objects appear clear and sharp, and is dependent on the focal length of the camera lens, the size of the aperture, and the distance of the camera from the subject.

The standard focal length for a 4”x5” view camera is approximately 115mm. Shulman explains that the standard lens achieves photographs with “realistic” proportions, closer to those “as seen by the eye.” Nonetheless, he notes that it is often advantageous to use a lens of a shorter focal length – and thus a wider angle – for architectural photographs. In particular, Shulman prefers a 90mm lens for a 4”x5” camera. The wide-angle lens may

¹¹⁹ Ibid. p.57.

¹²⁰ Ibid. p.32.

create distorted lines or awkward proportions, but it can cover a greater area at a closer distance.

The wider angle lens creates new effects in the photograph. Perspective is increased causing walls or other elements of a structure to appear longer and higher than normal. This effect is not always undesirable, but the wider the angle covered by the lens, the more pronounced it becomes and the photographer must use his judgment as to the limits to be set on this phenomenon.¹²¹



(A) narrow-angle lens

(B) standard lens

(C) wide-angle lens

Figure 3-8 – Julius Shulman, First Methodist Church, Glendale (architect: Flewelling, Moody, and Horn). Three photographs taken with different angle lenses. From Julius Shulman, *Photographing Architecture and Interiors* (1962).

Another advantage of the wide-angle lens is that it guarantees a deeper depth of field – that is, a greater area between the closest and the farthest points, in front of and behind the point of critical focus, that will be in acceptable sharpness or definition. In fact, Shulman explains that he favors the aperture size of f/32, which “creates an almost infinite

¹²¹ Ibid. p.27.

depth of focus.”¹²² In short, Shulman favors the wide-angle lens for its coverage and because, with a smaller apertures size, it can deliver a sharper image of the subject from close to far.¹²³

To demonstrate the variations in focal length and angle of view, Shulman offers the three photographs in Figure 3-8. The photographs A, B, and C are shot with a narrow, a standard, and a wide angle, respectively. Shulman’s assessment is that the narrow angle presents a better illustration of certain design elements – in this case, the details of the chancel – and that the standard angle presents a “natural” proportion between the length of the nave and the size of the chancel. On the other hand, the effect of the wide angle is “bold,” yet can be unnatural due to the “extended perspective and height.”¹²⁴

Chapter 2 of this thesis included a brief review of Claire Zimmerman’s essay, “Photographic Modern Architecture: Inside ‘the New Deep’” (2004).¹²⁵ An important point of the essay is that the technical nature and the effect of the wide-angle lens are essential in transferring the qualities of a Miesian domestic space into those of a photographic space, into those apparent via two-dimensional and visual mediation. Architecture and its photographic representation share the interest of amplifying the middle-ground depth, wherein multiple discernible layers of architectural components gain

¹²² Shulman, *The Photography of Architecture and Design: Photographing Buildings, Interiors, and the Visual Arts*. p.16.

¹²³ Shulman, *Photographing Architecture and Interiors*. pp.23-33.

¹²⁴ Ibid. pp.57-58.

¹²⁵ Zimmerman, “Photographic Modern Architecture: Inside ‘the New Deep.’” My review of the essay is included in “Spaces of Architectural Photography,” Chapter 2.

significance, and of compressing the foreground and the background. Such a spatial quality seems to be what Shulman generally achieves with his use of the wide-angle lens. However, my later in-depth reading of the Maslon House photographs will note some subtle depictive adjustments between the earlier and the later takes, which connect to a slight yet important difference between the intentions of the architect and the photographer.

3.3.3 *Lighting and Exposure*

Lighting and exposure are some of the important – if not the most important – things to consider in defining and articulating forms in a photograph. Open planning and large glass windows, a few of the common architectural attributes of most mid-century West Coast houses that Shulman photographed, pose the certain conditions of maximum transparency and of immense and unobstructed natural lighting in interior space. They are conditions that require the photographer's discipline, an attitude, and a range of technical means that must involve careful consideration and control of lighting and exposure to achieve the look that the photographer conceives. In fact, Shulman makes an interesting point about this particular issue in an interview in 1990:

Now a strange thing occurred, too, at that period of time, representative of the fifties and sixties, even into the seventies. Many photographers didn't quite know how to use light and flash, and if they came into a house which had a lot of windows, they would (a) draw the draperies, or (b) photograph at nighttime, and still leave the draperies closed. They weren't getting any ambient light.¹²⁶

For Shulman, the closed draperies are a problem as they defy what should be the architectural photographer's "sincere desire to represent the true meaning and significance

¹²⁶ Shulman, Oral History Interview with Julius Shulman.

of architecture.”¹²⁷ The closed draperies efface the obvious significance of the large glass windows, representative of the mid-century modern that seeks to bring inside the views of the West Coast landscape and to integrate them between spaces. More importantly, the lighting condition within a space of closed draperies seems far from Shulman’s preference. Intense lighting that often causes imbalance in overall exposure is also to be avoided, as it creates whitewashed areas or conflates the tones that need differentiation. Instead, Shulman prefers the natural daylight to gently flood in and brush on the walls, the ceiling, and the objects. He describes what he considers to be the ideal lighting scheme on several occasions:

Ambience is the nature of lighting; it is a property, a phenomenon which when utilized with photographic, supplemental, or natural light sources can infuse a rare imagery into a scene, reflecting the spatial qualities which were assembled by the many participants involved in the total design of good architecture.¹²⁸

I like to achieve a lighting which borders on ambient quality: to illuminate a room or a detail without overpowering the area or object. I avoid flooding an entire area with a flat sameness of light values, as evident in so many magazines which publish interiors.¹²⁹

Coexistence of a space of soft and moody ambience and articulate forms requires the photographer’s finesse and effort. Adequate natural lighting and supplementary artificial light sources are often essential. If considerable natural light is unavailable, Shulman advises that a “spotlight will probably be used to accent textures, forms, etc.” Although this may cause “dramatic shadow areas,” such strong shadows can be “softened

¹²⁷ Ibid.

¹²⁸ Shulman, *The Photography of Architecture and Design: Photographing Buildings, Interiors, and the Visual Arts*. p.7.

¹²⁹ Ibid. p.27.

by floodlights.”¹³⁰ See the comparison concerning lighting in Figure 3-9, illustrated in Shulman’s guidebook. Both photographs utilize the natural light coming in from the left edge of the picture frame and from the right foreground. The difference between the photographs is that in the second photograph a shorter exposure time has been applied, a spotlight and a floodlight have been added behind the fireplace block, and a backlight has been used at the entrance. Shulman thus rectifies the indistinctive or whitewashed forms in the first photograph – compare, for example, the brick patterns on the walls. The photographer’s control of lighting and exposure adds tonal definition and articulation. In Shulman’s words, the second photograph underlines the “separation of furniture by strengthening its forms.”¹³¹

Because Shulman’s architectural subjects mostly comprise open plans and large transparent glass windows, the photographs often include and portray multiple segments of interior and exterior spaces in a single shot. Therefore, even in a single shot, the default exposure values are likely to vary significantly, the resolution of which requires top-level craftsmanship – that is, precise calculation and application of optimum lighting and exposure to each and every local area to level the varying exposure values toward a universal one. Edge lines must not become blunt and forms must not lose definition, of courses, despite the universal exposure value in all areas.

¹³⁰ Shulman, *Photographing Architecture and Interiors*. p.63.

¹³¹ Ibid. p.69.



Figure 3-9 – Comparison between different applications of lighting.

The first photograph is taken with the natural light only, and the second with additional supplementary light sources: note the backlight from the entry and two other lights from behind the fireplace. From Julius Shulman, *Photographing Architecture and Interiors* (1962).

The large glass windows potentially carry the problem of reflection and glare, which may interfere with the photographer's desire to depict all spaces transparently across boundaries.

It is of utmost importance that the photographer accept responsibility for conveying the design concept. If the light outside a window is so glaring in the exposure that one cannot discern details of exterior design or landscaping or even, on occasion, the interior, what is the point of taking the photograph in the first place?¹³²

See, for example, Shulman's stunning 1960 shot of Pierre Koenig's Case Study House #22 [Figure 3-10]. The photographer's orchestration of lighting and exposure for the making of this summarizes what I have discussed: his superb techniques in exposure and lighting. With no artificial lighting, Shulman first exposes the negative at f/22 for five minutes under the twilight. The narrow aperture and the relatively long exposure inscribe the far cityscape with acceptable sharpness. The next process is then to turn on the hanging lamps, and then to flash the interior space for an instant exposure. Shulman is also clever in locating the artificial light sources so as to minimize their glares and reflections. Note how the reflections of the lamps and the flash on the glass wall are occluded by the steel frame.¹³³

¹³² Ibid. pp.68-71.

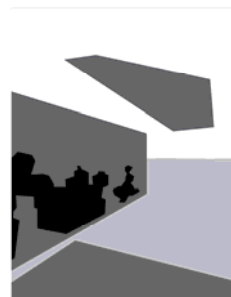
¹³³ “ To photograph this scene a disposition of lights was necessary which would not reflect in the walls of glass. (...) The girls were placed and the exposure for the city lights was made, approximately five minutes at f/22, while the girls sat in darkness. The pre-set lights had been fitted with #50B blue flashbulbs. Just before they were flashed for the interior effect the girls assumed their poses for the photograph and the hanging fixtures were turned on.” Ibid. pp.82-83.



exposure 1
5' under twilight



exposure 2
shortly under lamps



exposure 3
instantly with flash

Figure 3-10 – Julius Shulman, Case Study House #22, Los Angeles, 1960 (architect: Pierre Koenig; building completed in 1960). Below are the scenes registered by separate exposures.

3.3.4 Arrangement and Composition

Shulman once called his application of techniques in lighting and exposure – for taking the famous Kaufmann House photograph or the Case Study House #22 photograph – a “composition” or an “assembly of light elements”¹³⁴ [Figures 3-2 and 3-10]. Then again, in addition to the complex task of arranging multiple light sources and optimizing exposure, spatial composition of the actual subjects revealed by such lighting and exposure is as essential to making a quality architectural photograph. What make visible the photographer’s composition of light elements are the actual subjects of the photograph, such as the components of the building and its surroundings, the furniture pieces and other movable objects, or the human figures that occupy the space. In Shulman’s words, “what design elements shall we arrange within the frame?” The photographer must make “a specific visual estimation of the scene before the camera is set up,” and “establish the edges of the anticipated composition.”¹³⁵

In fact, the apparent conflict between Neutra and Shulman over the Maslon House photographs concerns the photographer’s disapproval of the architect’s removal and rearrangement of the “design elements” more than anything. Shulman’s general approach,

¹³⁴ “It is like the composition of the Pierre Koenig House. Or the composition of that Neutra night/twilight Kaufmann House picture in the Palm Springs Desert. I assembled that composition; that was an assembly of light elements. Of course, I took a continuous 45-minute exposure, closing and opening the shutter during times when I turned lights on and off in the house.” Shulman, Oral History Interview with Julius Shulman.

¹³⁵ Shulman, *The Photography of Architecture and Design: Photographing Buildings, Interiors, and the Visual Arts*. p.11.

interestingly, is that the photographer must engage actively with the arrangement of such elements through all means available, rather than remaining passive. He writes:

Camera angles dictate furniture placement, so the photographer must learn to relocate furniture specifically for the compositions. Although the actual appearance of this arrangement often shocks the designer, who may arrive on the scene, the photographer's judgment must be accepted for the purposes of the photograph.¹³⁶

The effects of rearrangement or re-composition from Shulman's first take of the Maslon House to the second may seem subtle, yet I aim to reveal their significance in my later comparison. Accordingly, what Shulman generally intends to communicate through his arrangement and composition will become clear.

3.3.5 *Film, Filters, and Darkroom*

Shulman's specific preference for certain film or filters and his techniques in the darkroom commonly aim to achieve one of the essential qualities apparent in his architectural photographs: notable tonal variations for definition and articulation of forms.

For architectural photographs that include a view of foliage or a sky, Shulman recommends using infrared negative film. Infrared film is sensitive to the wavelengths of infrared light, outside of those visible to the naked eye. It particularly affects how foliage, skies, and clouds are rendered: green leaves attempt to reflect infrared light, whereas blue skies contain a limited amount of infrared light in a sparse and scattered manner. Therefore, with the infrared film, tree leaves and grass turn into a moody light gray in black-and-white

¹³⁶ Shulman, *Photographing Architecture and Interiors*. p.55.

photographs. Skies become darker, and thus clouds are rendered as bright white. The effect is that noticeable brightness is added to the colors of foliage and clouds.

An otherwise dull landscape scene or a hazy atmospheric background can spring into powerfully dynamic contrast with its use. Clouds barely seen by the eye or panchromatic film are vividly rendered, and foliage becomes a lacy white. Water in a pool or lake turns black, with clouds beautifully reflected.¹³⁷

Shulman suggests using various camera filters for better separation of tonal values.

On a black-and-white photograph all the tonal values of nature from white through the intermediate gray tones to black can be captured by the selection of the proper filter.¹³⁸

A yellow filter, for example, absorbs colors other than yellow. The filter thus lets the rays of red and green pass – the primary colors that combine as yellow – whereas it absorbs the ray of blue. Therefore, blue skies are underexposed with a yellow filter, and are rendered dark. A red filter, on the other hand, produces black-and-white photographs with a much darker gray. A dark yellow or a red filter lightens the tones of dark red bricks, making them brighter and more vivid against the sky or other surroundings. Another noteworthy tip from the photographer concerns the use of a polarizing filter, which reduces reflections or glares from reflective surfaces, such as glass windows.¹³⁹

¹³⁷ Ibid. p.37.

¹³⁸ Ibid. p.37.

¹³⁹ Ibid. pp.37-40.

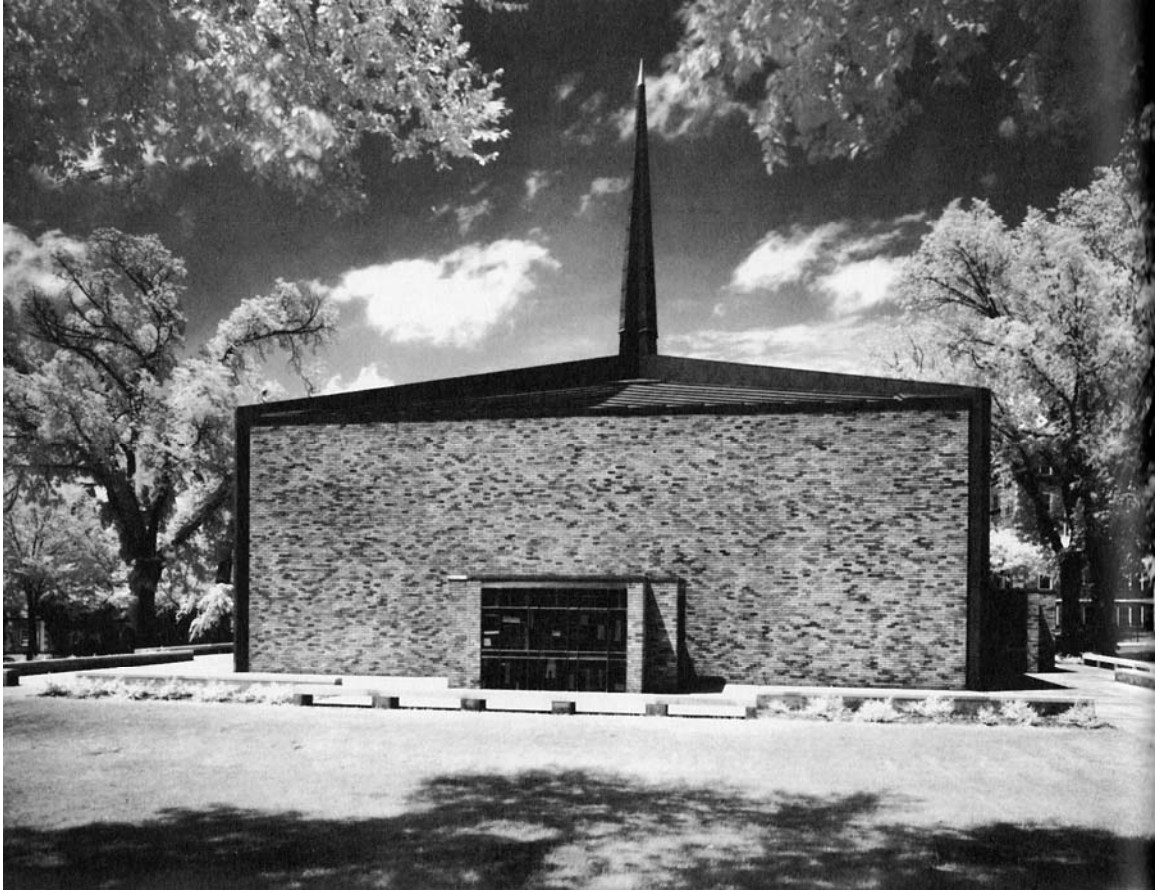


Figure 3-11 – Julius Shulman, Stephen College Chapel, Columbia, 1957 (architect: Eero Saarinen; building completed in 1956).

To showcase the effect of infrared film with a red filter, Shulman presents his photograph of Stephen College Chapel, designed by Eero Saarinen [Figure 3-11]. Note the vivid depiction of the clouds against the dark sky, as well as the “delicacy and brightness of new foliage.” The “red brick becomes lighter as does the green grass.” Shulman’s

concluding assessment is that the photograph reflects his most profound intention: “the building is thus delineated with complete clarity.”¹⁴⁰

For Shulman, an important purpose of the darkroom techniques is to “control the tonal values” that may not have been satisfactory during the shoot due to limited onsite conditions. Shulman illustrates a series of cases that may be improved with the technique of “dodging” or “flashing,” which can infuse the expansive area of a ceiling, a floor, or other background surroundings with a proper tone.¹⁴¹ A prime example of decreasing exposure in the darkroom is the famous Kaufmann House photograph in Figure 3-2, wherein the photographer fabricates subtle tonal variations between the mountain ridges far behind the house. Shulman explains:

Because of photographic limitations a direct print from the original negative of this photograph was not desirable. Photographing into the western sky shortly after sunset with a prolonged exposure had destroyed the residual tones. They were restored in the darkroom.¹⁴²

Figure 3-12 illustrates the basic components that I have introduced so far that will be instrumental to my study of the Maslon House photographs. It is a matrix based on my summary of the depictive elements and the photographic techniques favored by Shulman, and lists also the depth cues and the potential pictorial effects that may form correlations.

¹⁴⁰ Ibid. p.37.

¹⁴¹ Ibid. pp.81-87. In a darkroom print, dodging is to decrease exposure than basic for a specific area of a print, thus depicting the area lighter. Flashing refers to a specific means of dodging: actively moving a small occluding object over a larger area of a print during exposure. Burning, on the other hand, refers to increasing exposure for a specific area.

¹⁴² Ibid. p.70.

For example, Figure 3-13 illustrates a particular case that highlights how certain technical components (proposed by the comparison between the three photographs) may closely pertain to certain depth cues and pictorial effects. The following section that contains my close reading of Shulman's Maslon House photographs develops from this matrix, with the basic task to clarify how the medium (techniques), the percept (depth cues), and the content (architectural quality) may correlate. Identifying and understanding the correlations between such components are to demonstrate with clarity how the medium of photography embodies the matters of architecture, and to answer a key question of this thesis: what we see of space and how we see it in seeing space via photography.

photographic technique			cue	effect
camera location and angle	horizontal:	frontal view lateral view	occlusion	spatial expansion and division:
	vertical:	decrease or increase in area		perspectival depth
lens	narrow:	decrease in depth decrease in objects and area	relative size and density	dis/continuity across interior and exterior
	standard:	proportion close to natural seeing		foreground middle-ground background personal action vista
	wide:	increase in depth increase in objects and area infinite focal depth		heterogeneous or homogeneous distribution
lighting and exposure	shadow:	self- and shading cast	height in visual field	formal quality:
	artificial lighting:	floodlight for softening spotlight for accent and definition		orthographic integrity
	exposure balance between interior and exterior			layered and exploded surfaces
	glare and reflection			modular repetition
arrangement and composition	quantity and grouping of objects		aerial perspective	secondary figural elements:
	framing			human
film, filters, and darkroom	tonal variation			furniture
	glare and reflection			

Figure 3-12 – Photographic techniques, depth cues, and effects.

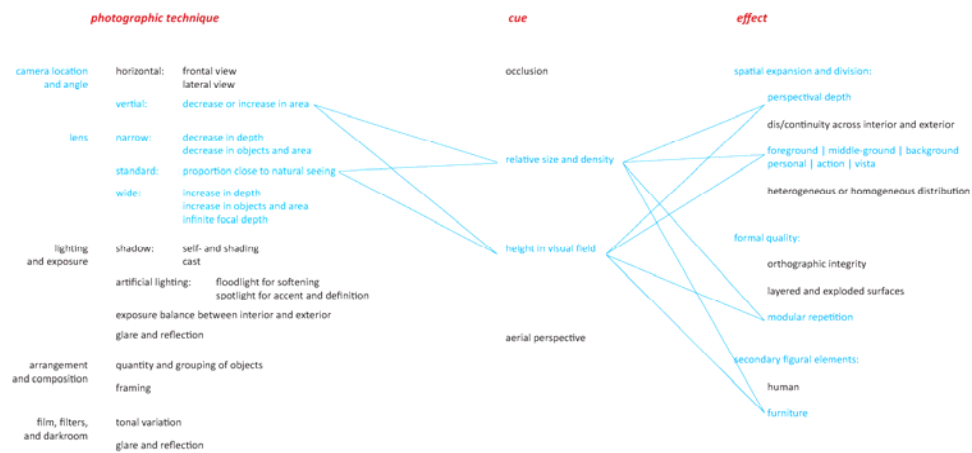


Figure 3-13 – Correlations of photographic techniques, depth cues, and effects proposed by the comparison between the three photographs.

3.4 Subtle Variations in Photographing Space

As I noted at the beginning of this chapter, Julius Shulman photographed Richard Neutra's Maslon House on two separate occasions in 1963. Shulman's first shoot of the house was with and under the guidance of Neutra, whereas his reshoot a few weeks later was without the architect.¹⁴³ I have surveyed the negatives and prints from the shoot and the reshoot and selected six comparable cases, each consisting of two or three photographs from both shoots [Figure 3-14]. The selection, firstly, is only of the photographs taken from inside the house. Shulman's dissatisfaction with the first shoot, according to the photographer, originates from Neutra's decision to remove furniture pieces and other movable objects from the spatial and photographic compositions, thereby eliminating what the photographer sees as evidence of genuine living. One of the important criteria for my comparison, accordingly, is the arrangement and the composition of such objects. The photographs of an exterior view wherein such factors are less relevant have therefore been excluded from my scope. Secondly, the selection is of the photographs that share the subject of a similar area, seen from a similar viewpoint. This makes comparable the subtle discrepancies implemented by the photographer between the two shoots despite the given commonalities offered by the same architectural subject. The specific means for my reading draw on the visual cues informative of depth and Shulman's depictive elements and techniques, which I have already introduced.

¹⁴³ The source for the Maslon House photographs is the Julius Shulman photography archive at the Getty Research Institute. The archive contains nearly all negatives, prints, and transparencies produced by Julius Shulman from the 1930s through the early 2000s.



Figure 3-14 – Julius Shulman, Maslon House, Rancho Mirage, 1963 (architect: Richard Neutra; building completed in 1962).
The photographs of the left column are from the first shoot (Neutra + Shulman set).
The photographs of the right two columns are from the second shoot (Shulman set).



(A) Neutra + Shulman



(B) Shulman

Figure 3-15 – Case 1: Julius Shulman, Maslon House, Rancho Mirage, 1963.

3.4.1 *Case 1*

Let us first compare the pair of photographs of the living space in Figure 3-15. Photograph (A) is from the first shoot, the Neutra+Shulman set, whereas photograph (B) is from the reshoot, the Shulman set.

Recall Shulman's words, his expressed dissatisfaction with the photographs from his first shoot with Neutra: "Neutra's concept of a house is an empty one. So when we photographed the Maslon house, he took out all the art and most of the furniture."¹⁴⁴ Indeed, the most apparent difference between the two photographs is the relative amount of furniture and other movable objects. Photograph (A) features a neatly organized interior space with three distinctive clusters of movable objects: the near coffee table and things atop; the round sofa and two round tables; and the dining table and chairs partially shown at the left edge of the picture frame. Photograph (B), on the other hand, features an interior space that is fairly crowded. It adds the following movable objects: a piano bordering at the lower edge; two three-seat sofas; and two sculpture pieces. The dining table is now accompanied by a full set of four chairs, and the two round tables have been relocated to their more likely places, next to the long sofas. Rather than being distinctive local clusters, the objects are now distributed evenly and globally. The piano looks to be within the reach of the viewer or the photographer behind the camera. Just beyond the piano is the long sofa. It forms an L-shaped enclosure with the other sofa and the two round tables, and at the center of this enclosure is the large coffee table: a familiar setting for a standard living room. In relation to the picture plane and the larger building envelope of the two

¹⁴⁴ Rosa, "A Constructed View." p.51.

intersecting planes, the three distinctive clusters in photograph (A) remain independent. Photograph (B), on the other hand, features the many movable objects interfering with the viewer's clear perception of the spatial boundaries. While the two long sofas and the coffee table occupy the center, the piano, the two sculpture pieces, the round sofa, and the dining furniture occupy the peripheral areas, which encompass the four sides.

In photograph (A), the depth cues of occlusion occur locally, contained within each cluster. The clusters are distant enough from others to avoid occlusion among each other. More effective and critical than occlusion, instead, is height in the visual field. Among the elements within the space, the coffee table appears to be the closest, as it is at the lowest height. The table borders on the lower edge of the picture frame, within the viewer's reach. It defines the foreground, the personal space. At a higher location in the visual field are the two other clusters: the dining furniture at the left edge and the round sofa and round tables. Together with the building elements of the drapery and the steel frame – which make visible the otherwise transparent glass envelope – they configure the middle-ground or the action space. Photograph (A) presents, through only a minimum number of clusters or cues of height in the visual field, a relatively simple and clear-cut tripartite layout: a distinctive foreground, a middle-ground, and a distant background of vista.

Conversely, photograph (B) exemplifies no such scarcity or distinctness in layout. Instead, it is dense and crowded with furniture and sculpture pieces remaining in their likely places, which generate multiple depth cues throughout the space. The increase of the amount of such objects brings an increase of overlapping occlusions and various heights in the visual field. The tightly arranged and overlapping depth cues tell the finer nuances of what the space is like, specifically its dimension and scale composed of measurable in-

between spaces. With regard to conveying depth, the role of the two sculpture pieces – works by Jean Arp and Ernst Barlach – are important.¹⁴⁵ They are set relatively apart from the other movable objects, yet underscore the architectural elements. Closer to the viewer is the Arp piece, which adds a foreground to the otherwise compressed wall bordering at the right edge of the picture frame. Moreover, the Barlach piece adds a depth plane as it occludes the drapery engaged with the steel-framed glass wall. From the piano to the facing wall, and from the Arp piece to the dining furniture, the many occlusions and the different heights in the visual field establish a homogeneous construct of space throughout.

The efficacy of relative size and density increases when the relevant objects are similar in shape and size, and when the pattern is repetitive or regular. Accordingly, the architectural components – steel columns, mullions, carpet modules, or ceiling light sockets – or the furniture pieces – such as sofa cushions – may function as meaningful cues of relative size and density for perception of depth and layout. For example, having fewer objects on the floor, which leads to revealing more carpet modules that are reduced in relative size, adds to photograph (A) the effect of amplified depth and perspectival convergence. More importantly, an interesting strategic difference between photographs (A) and (B) exists in how they frame and compose the cues of the columns. In general, the columns decrease in their apparent size and increase in height in the visual field to suggest depth. Visible in each photograph are three columns, two of which are shared by both

¹⁴⁵ The residents, Samuel and Luella Maslon, were major collectors of modern and contemporary art. Their collection included the works of abstract expressionism, pop art, and minimalism. Some of the works presented in Julius Shulman's photographs are Ernst Barlach's *Singing Man* (conceived in 1928; cast in 1950s), Alberto Giacometti's *Large Head of Diego* (1955), and Adolph Gottlieb's *Dialogue II* (1960).

photographs. Within the frame of photograph (A), Neutra and Shulman include the farthest exterior column, and position and angle the camera to compose the corner column – where the glass walls intersect – at the center of the picture frame. Here, strong emphasis on the intersection is quite apparent. Photograph (A) creates the effect of sharp convergence by clearly displaying how the two planes intersect and extend outward, particularly the extension from the near right to the far left. The viewer cannot miss the concave edge of the architectural envelope, the configuration of the two intersecting transparent walls and the horizontal floor and ceiling. Photograph (A) clearly informs the viewer of how the box that she is in is made. I should also note, as is apparent in the plan, that the actual distribution of the columns is that the distance between the farthest column – excluded in photograph (B) – and the adjacent column is nearly twice the next intercolumniation. Inclusion of the farthest column in photograph (A) thus amplifies depth and convergence, whereas its exclusion in photograph (B) eliminates such exaggeration. Shulman, in effect, seems to promote through photograph (B) a highly different spatial construct or the effect of near-frontality. With the camera position and its angle adjusted, and as the farthest column in photograph (A) is now out of the picture frame, the two planes that intersect to form a three-dimensional volume have seemingly turned into a single plane that is nearly parallel to the picture plane.

In the distant vista of both photographs, the cues of occlusion, height in the visual field, and aerial perspective are all effective to some extent, although detail depth information on the elements of foliage is somewhat insignificant. The cues offer the sense of a distant and compressed background, and merely serve the need to inform the viewer of the exterior landscape, which is seemingly contiguous with the interior space.

Framing and cropping or the position and the angle of the camera also compose the photographic space. In particular, they determine which architectural components are included, and how. As I have noted, Neutra and Shulman emphasize the concave edge by placing it only slightly off the center of the picture frame. The viewer is presented with a clear view of the two transparent planes foreshortening toward the intersection, one of which, implied by the steel frame, extending outward and beyond. The architectural configuration of the two planes, in fact, is hinted at by some additional elements. The left plane or the expandable wall in fact seems absent or open, yet the drapery bordering at the left edge, the clearly defined sliding track, the parallel row of light sockets, and the corner column at the center all imply its presence. The right plane is outlined by the steel frame, and bookended by the drapery bordering at the right edge. Photograph (B), in comparison, has the picture plane only slightly tilted from a parallel position to the steel-framed glass wall. The elements that hint at the expandable wall on the left in photograph (A), are largely unavailable. The drapery is cropped out, and the light sockets have lost definition. Shulman, as I have noted, does not show the end of the steel frame, and thus offers no hint of its intersection with the left transparent plane. What gains relative prominence is on the other side: the wall bordering the right edge of the picture frame, standing nearly perpendicular to the picture plane. The architectural configuration that is presented with clarity in photograph (A) is largely replaced with a lateral space, nearly parallel to the picture plane.

Photograph (A) replicates a two-point perspective. The viewer is confronted with a concave edge, toward which two intersecting planes notably foreshorten and converge. Shulman, in composing photograph (B), attempts to minimize the effect of perspectival distortion. Reflecting his preference demonstrated in Figures 3-5, 3-6, and 3-7, Shulman

reconfigures the two-point perspective into a near-frontal view that contains a space of lateral extension and an indication of depth at the right edge of the picture frame. In other words, photograph (A) clearly informs the viewer of the two intersecting walls, and of the steel frame and the cantilevered overhang that cross over from the interior to the exterior. In contrast, photograph (B) seems uninterested in communicating this configuration. The viewer cannot know of the intersection, or where the steel frame and the overhang end. Moreover, photograph (A) exemplifies the quality of emptiness and continuity, uninterrupted from close to far. The foreground coffee table leaves enough room for the viewer's fictitious entrance into the space, as well as for her uninterrupted movement away and into the landscape. The space is primarily empty, wherein only a minimum number of things inform and amplify the middle-ground depth. On the other hand, photograph (B) offers a different sense of continuity, which emerges from succession and accumulation. The viewer's travel inside the space of photograph (B) would constantly run into obstacles – note, for example, the first hurdle of the piano that borders on the entire lower edge of the picture frame. The many movable objects in space yield only a narrow vacant space between the coffee table and the fireplace, yet the space never seems to lead outside – its continuity is immediately impeded by the draperies and the steel frame. Although Shulman's flawless control of lighting and exposure makes the glass seem absent, the physical presence of the facing wall seems more substantial here. In essence, photograph (A) offers a topology of a continuum with an amplified middle-ground, whereas photograph (B) offers a space shaped by the building envelope and the many movable objects, and a negative defined by the matters in actual use.

The divisions of space in photograph (A) may each offer a distinctive visual experience. Atop the nearest coffee table are several hands-on objects, which promote fictitious interactions inside a personal space. The clusters engaged with the building components define the architectural middle-ground. The interaction suggested here is the viewer's navigation. The contracted backdrop of foliage outside is visible, yet distant and unreachable by the viewer's hands or feet. In contrast, such a division between the foreground and the middle-ground is not apparent in photograph (B). Here, Shulman seeks to avoid the appearance of amplified depth – the effect of the wide-angle lens and perspectival convergence. The space is homogeneous rather than distinctive, and is filled with familiar objects in their familiar spots available for the viewer's haptic interaction.

In this vein, I would like to revisit James Cutting's claim concerning the correlation between available depth cues and perception of space. This may help in establishing a better understanding of what my case studies could mean. Cutting writes:

I claim further that when ordinal depth information is sparse, perceived depth is also crude, confined to a few depth planes. When ordinal information is richer, perceived space becomes more articulated, allowing first for many depth planes (and an essentially affine representation). When that information is extremely rich, (...) ordinal constraints can become sufficiently tight to approach a metric representation.¹⁴⁶

Accordingly, the sparse nature of photograph (A) is a disadvantage in offering the viewer accurate measurements of space. Although the cues of height in the visual field are present, the distant and independent clusters merely create a division between the foreground and the middle-ground. Perspectival convergence tends to only exaggerate

¹⁴⁶ Cutting, "Reconceiving Perceptual Space." p.236.

depth – especially with irregular columniation. In effect, photograph (A) exemplifies the visual properties that closely resemble what Claire Zimmerman identifies as those of the “New Deep.” It resembles a standard two-point perspective, to which amplified depth initiated by the use of the wide-angle lens is added.¹⁴⁷ Photograph (B), on the other hand, offers the many objects that add to depth planes. The multiple and tightly organized depth planes from close to far enrich ordinal depth information, which then aids the viewer’s construct of space to approach the actual space. The repetitive familiar objects – sofa cushions, dining chairs, and columns arranged at a regular pace – also aid the viewer’s more accurate reading and her near-metric construct of space.

3.4.2 Case 2

The three photographs in Figure 3-16 also portray some views of the living space. Photograph (A) is from the first shoot, the Neutra+Shulman set, whereas photographs (B) and (C) are from the reshoot, the Shulman set. The views are all looking southwest, defined by the two walls that we saw in the first comparison. In all three photographs, the camera faces the virtual plane of the open expandable wall, and their views commonly feature the steel-framed glass wall at the right edge.

¹⁴⁷ “To the “invisible” distortions of perspective we must add the “invisible” further distortions of the photographic lens.” Zimmerman, “Photographic Modern Architecture: Inside ‘the New Deep.’” p.347.



(A) Neutra + Shulman



(B) Shulman



(C) Shulman

Figure 3-16 – Case 2: Julius Shulman, Maslon House, Rancho Mirage, 1963.

The contrast between emptiness and crowdedness, apparent in the first comparison, persists in this second case. Photograph (A) includes partial views of furniture at a fairly close distance, bordering the left bottom corner. At a far distance are a sculpture piece and

a tree, which become part of the farther foliage and landscape. The middle-ground – the space under the cantilevered overhang or between the open glass wall and the end column – is entirely empty. The central space that leads from the picture plane to the foliage backdrop continues without interruption. Like Figure 3-15 (A), photograph (A) presents a simple tripartite layout of minimal components, with an added sense of depth from the converging steel frame. For photograph (A), Neutra and Shulman frame the architectural components fairly tightly and closely. The correlations between the ceiling/overhang above, the floor below, the open expandable wall, and the steel frame extending outward are presented with utmost clarity. Note the shadow cast on the ground, which reiterates the forms and the relations between the steel frame and the overhang, and the pronounced definition of the sliding track on the ceiling, which delineates the virtual plane. The furniture pieces, on the other hand, are moved to the side and underexposed, so as to not be obstacles in fully revealing the relevant architectural components and their configuration.

Photographs (B) and (C) feature successions of many furniture and sculpture pieces – such as *Singing Man* or the coffee table close to the camera – from close to far or between the picture plane and the building envelope. In addition, rather than centralize the empty ground in his picture frame, Shulman moves and angles the camera to centralize the figural elements. Photographs (B) and (C) are thus rich with occlusions and suggestions of ordinal depth information, whereas only minimal cues of height in the visual field inform the simple layout of photograph (A). Clearly, the increase in the amount of depth cues from photograph (A) to photographs (B) and (C) closely relates to the camera's relocation and re-composition of pictorial space. Shulman, in fact, shoots photographs (B) and (C) at a relatively distant position from the open expandable wall compared to where he shoots

photograph (A). The move allows for more room, wherein the photographer can showcase and arrange the many furniture and sculpture pieces – the everyday objects of the living space. Observe, in particular, photograph (C). Despite the camera taking a relatively low and distant position from the building envelope, little floor area is in fact available for the viewer's seeing. The picture frame is populated with close views of figural everyday objects. The architectural configuration that is fully disclosed and emphasized in photograph (A) seems here to be a trivial concern, and has become obscure. However, if we were to apply Cutting's claim, the increased number of depth cues here would lead to a more affine reading of the spatial layout.

3.4.3 *Case 3*

The pair of photographs in Figure 3-17 is also of the living space. The views are obtainable by turning the camera approximately 180 degrees in plan from the viewpoints of Figure 3-16. Photograph (A) is from the first shoot, the Neutra+Shulman set, whereas photograph (B) is from the reshoot, the Shulman set. The camera now faces the wall and the built-in fireplace, which appears severely contracted in Figure 3-15 (B), at the right edge of the picture frame.



(A) Neutra + Shulman



(B) Shulman

Figure 3-17 – Case 3: Julius Shulman, Maslon House, Rancho Mirage, 1963.

Let us briefly examine the overall arrangement of movable objects and architectural components. Barlach's *Singing Man* and the Arp piece, excluded from the picture frame in both photographs we saw from the Neutra+Shulman set, are now present in photograph (A). With the Alberto Giacometti piece on the coffee table at the bottom right corner, the three sculpture pieces are all that occupy the interior space. A pocket of greenery extends outward, parallel to the tile-cladded wall that intersects with the fireplace wall. In addition to the basic components of the floor and the carpet, the ceiling, and the walls that divide the space, the tiles, the transparent glass, the drapery, the steel frame, and the natural elements outside add materiality to both photographs. Also noteworthy are the relocation of the drapery between photographs (A) and (B), and the apparent lightwell above the fireplace.

Not unlike the previous comparisons, photograph (B) from the reshoot delivers more depth cues than its comparable first shot; it includes a series of these cues. A succession of depth planes is formed from close to far – by the coffee table and the smaller objects on top, the sculpture pieces, the walls and the drapery, the members of the steel frame and the canopy, and the natural elements outside. The tile-cladded wall and the narrow lot extending outward appear significantly compressed, and pair with the side glass wall and the steel frame to construct a view of a one-point perspective. In comparison, in photograph (A) Neutra and Shulman seem to focus more on establishing the correlation between the two planes. *Singing Man* is the focal point that underscores the convex edge, from where the two planes extend outward, left, and right. The minimal depth cues that run along the converging two planes, such as their decreasing heights or the relative sizes of the ceiling light sockets, only serve to underline this scheme of a box delineated as a two-

point perspective. The three main sculpture pieces in photograph (A) are all pushed to the peripheral areas, merely indicative of the topological division between the close foreground and the wall that recedes toward the right edge. Photograph (B), on the other hand, adds a habitable space into the scheme. The key difference between the two photographs stems from the change in the position and the angle of the camera, from Shulman's re-composition of the photographic space. Shulman moves the camera away, and rotates it slightly counter-clockwise. The expanded living space is indicated by the relocation of *Singing Man*. It is an L-shape, consisting of a lateral space supported by the near-frontal view of the facing wall, which turns the corner and extends outward.¹⁴⁸ It now includes a larger partial view of the coffee table and a hint of a sofa at the bottom right corner. Between photographs (A) and (B), the interior void has thus been enlarged, interfered, and reshaped by the everyday objects.

Let us observe, in detail, how the role of Barlach's *Singing Man* changes between photographs (A) and (B). In photograph (A), the Barlach piece underscores the corner, the point from which the depth cues are accumulated tightly in sync with the two converging planes. It enhances the three-dimensional quality of the volumetric box. In photograph (B), the same piece is relocated to the left edge of the picture frame, and marks with the coffee table the lateral space that spans from left to right. The lateral depth plane bookended by *Singing Man* and the coffee table initiates a series of successive parallels, with the facing wall itself becoming its major part. In essence, photograph (A) presents a three-

¹⁴⁸ I should mention that what initiates our perception of the L-shape scheme is, in fact, Richard Neutra's architectural design. Neutra removes and reveals the corner portion of the building, through which the viewer can then perceive the convex edge in question and the two intersecting planes.

dimensional, architectural form – which is in fact the exterior of the master bedroom. By deliberate positioning of the camera, Neutra and Shulman crop out the corner of the space that the viewer is in from the left edge of the picture frame. Photograph (A) is thus composed of two axes extending diagonally outward from the convex edge marked by *Singing Man*. The two-point perspective functions to claim the viewer's perception of the three-dimensional form. The depth cues informative of the living space, where the viewer is, are on the one hand reduced to a minimum. Photograph (B), on the other hand, includes the concave edge of the living space inside the left edge of the picture frame. The viewer thus becomes clearly cognizant of her position, and can put herself inside the living space reshaped by the coffee table, the familiar everyday object.

The camera for the first shoot is angled for more foreshortening of the wall that it faces, yet for less foreshortening of the canopied space that extends outward. The camera for the reshoot is pulled away, and is angled so that the picture plane is nearly parallel with the facing wall. The compositional difference, therefore, reiterates what I underlined in my previous two comparisons. The photographs in Figure 3-17, in their abstract forms, are inverted versions of the photographs in Figure 3-15. The decision to move away from the building envelope, thereby portraying a habitable interior space, is repeated in the reshoot photographs in Figures 3-16 and 3-17. To be more specific, Figures 3-15 (A) and 3-17 (A) both offer a balanced two-point perspective, whereas the reshoots both juxtapose a near-frontal view and a one-point perspective. In fact, we are already aware of the latter composition, for which Shulman has specifically expressed his preference. This composition is essentially an L-shape, an added sense of three-dimensionality by a

compressed one-point perspective with a dominant and undistorted near-frontal view of the main subject.

In summary, like the previous two photographs from the Neutra+Shulman set, Figure 3-17 (A) conveys a two-point perspectival view of a three-dimensional form, clearly recognizable by the convex edge and the two planes that conjoin and converge. From the conspicuous convex edge, the depth cues are associated with the two planes that converge toward the opposite sides. Therefore, the cues function to underscore the form, rather than to inform the layout of the living space that the viewer is in. On the other hand, Figure 3-17 (B) conveys a near-frontal view of the facing wall with an overly compressed one-point perspective, not unlike the view of Figure 3-15 (B). In comparison to photograph (A), the viewpoint is more distant from the building envelope. Photograph (B) thus informs the viewer of the living space that she is in and of her surroundings.

3.4.4 Case 4

The three photographs in Figure 3-18 are of the gallery space, and include partial views of the living space. Photograph (A) is from the first shoot, the Neutra+Shulman set, whereas photographs (B) and (C) are from the reshoot, the Shulman set.



(A) Neutra + Shulman



(B) Shulman



(C) Shulman

Figure 3-18 – Case 4: Julius Shulman, Maslon House, Rancho Mirage, 1963.

Photograph (A) features the familiar coffee table in the foreground. Photograph (B) features the sofas and the dining furniture, in accordance with the populated arrangement of the photographs that we have seen from the Shulman set. The locations of the Barcelona

table and chairs and the painting – *Dialogue II* by the abstract impressionist painter, Adolph Gottlieb – remain unchanged between the shoot and the reshoot. A small difference concerns the location of the houseplant against the freestanding display wall. Gottlieb's painting, one of his *Imaginary Landscape* works, seemingly replaces the actual natural landscape that has been presented in all of the photographs that we have seen. Intensive lighting and overexposure around the wall bookshelves add the effect of aerial perspective.

The compositional principle of photograph (A) is again nearly identical to that of Figure 3-15 (A). The space is defined by distinctive clusters of objects. The coffee table occupies the foreground. The houseplant and the display wall mirror the dining furniture and the drapery from Figure 3-15 (A). The Barcelona table and chairs mirror the round sofa and two round tables. The two planes converge toward the center, yet do not fully enclose it. The space continues toward the wall bookshelves. Like the depth cues in Figure 3-15 (A), the occlusions in photograph (A) are limited, effective locally within each cluster. The viewer's reading of depth and layout largely depends on the cues of height in the visual field, which divide and articulate the foreground and the middle-ground. Photograph (A) features a spatial construct of a close-by foreground, an amplified and vacant middle-ground, and a distant space of a few compressed layers. On the other hand, no such tripartite division occurs in photographs (B) and (C). The depth cues of occlusion, height in the visual field, and relative size and density are distributed homogeneously from close to far, and allow for finer and subsequent differentiations of depth. For example, the repetitive sofa seats or the ceiling light sockets in photograph (B) or the Barcelona furniture pieces in photograph (C) align axially from the viewer toward the facing wall, from which the cues of height in the visual field of relative size emerge in a successive manner.



(A) Neutra + Shulman



(B) Shulman

Figure 3-19 – Case 5: Julius Shulman, Maslon House, Rancho Mirage, 1963.

3.4.5 Case 5

Both photographs in Figure 3-19 are of the gallery and the living space. Each photograph portrays a view from behind the Barcelona chairs looking toward the fireplace. Photograph (A) is from the first shoot, the Neutra+Shulman set, whereas photograph (B) is from the reshoot, the Shulman set.

Neutra and Shulman's photograph (A) frames an unusually large amount of the ceiling area – more than half of the entire picture plane – because of cropping, and possibly of the camera at a relatively higher position. Although proportionately a small amount of the floor area is projected, the depth cues established by available furniture and sculpture pieces resemble those of the photographs from the first shoot that we have seen. The coffee table and *Singing Man*, which seem fairly apart from one another, are a single cluster here. They are pushed to the edge of the picture frame, and because the sofas have been removed, a fairly large and vacant space exists between the close-by Barcelona chairs and the distant coffee table. Photograph (B), on the other hand, is populated with the familiar everyday objects that keep their usual places in the living space, and accumulate multiple depth cues from close to far.

It seems apparent that Neutra and Shulman's interest in photograph (A) is to showcase the ceiling light design and features. The impressive depiction of the circular lighting owes much to the photographer's control over lighting and exposure – and possibly additional work in the darkroom. The light coming in from the right edge gives definition to the rows of ceiling light sockets. The sockets add notable depth cues of relative size and density, and complement the relative lack of cues on the ground. They also lead the

viewer's gaze toward the large circular lighting, whose brightness clearly articulates itself in contrast to the surrounding dark-toned surface. Also noteworthy is the lightwell above the fireplace, and how with some exposure work in the darkroom its lighting depicts a clear vertical line that coincides with the Arp piece, a separation of tones on the wall surface. In essence, photograph (A) is a depiction crafted with technical finesse, which puts emphasis on Neutra's lighting design and its intended effect.

In photograph (B), on the other hand, such matters seem to be of no interest. The large circular lighting on the ceiling is cropped out and absent, and the lightwell above the fireplace is treated with no such subtlety. Rather, Shulman here seems interested in showcasing the space. The longitudinal quality of the gallery hall along the display wall that converges outward and toward the right is unreadable in photograph (A), whereas the wide angle of photograph (B) clearly communicates that quality. The expanded view into the living space and the natural landscape sifted through the steel frame offer the viewer a sense of spatial continuity, despite some physical divisions by the display wall and the building envelope. Moreover, what continues is not simply a vacant ground. It is a series of familiar things. Photograph (B) provides the viewer with a sense of how the space may be laid out in its actual use.

3.4.6 Case 6

Both photographs in Figure 3-20 are of the kitchen/dining space. They portray a similar view, looking southwest into the space and the distant natural landscape beyond the pool outside. Photograph (A) is from the first shoot, the Neutra+Shulman set, whereas photograph (B) is from the reshoot, the Shulman set.



(A) Neutra + Shulman



(B) Shulman

Figure 3-20 – Case 6: Julius Shulman, Maslon House, Rancho Mirage, 1963.

Let us leave aside for a moment the most notable difference, the featuring of Mrs. Maslon in photograph (B), and first focus on the subtle change of the camera's position or its angle of view. As I noted in my review of Shulman's photographic techniques, the photographer is aware of the effects of the camera at different heights: to recall, a lower camera "makes the room look higher and gives an illusion of a more expansive floor area."¹⁴⁹ Shulman, for his reshoot, chooses a lower camera position, which provides the look of a higher ceiling and of a larger and expanded floor area. This choice, in effect, is fitting for photograph (A), as it features a focus of attention. It nicely shapes a central path, and initiates the sense of a longer progression toward the end. The viewer's gaze is led along the path, through the doorway, and arrives at the posing human figure.

What change the mood significantly between the two photographs are in fact the specific techniques in lighting and exposure. Neutra and Shulman take photograph (A) with the ceiling lights on, which delineate their conspicuous gridded pattern and add the look of perspectival convergence. The lighting gives definition to the architectural components on the ceiling, and also creates a boundary on the reflective surface that coincides with the adjacent edge lines. Tonal variations are treated with care, with the intent of clearly differentiating surfaces and articulate forms. Note the clear differentiation between the overhang surface and the sky, or the sharp depiction of furniture, that of edge lines by adjoining surfaces of different tonal values in photograph (A). No such distinction is offered in photograph (B). In photograph (A), a sense of clarity and articulation is offered by the relative balance of lighting and exposure in all areas of the space. In photograph (B),

¹⁴⁹ Shulman, *Photographing Architecture and Interiors*. p.55.

some obscure shadows and glares are created by factors such as the spotlight from outside the left edge of the picture frame, or the imbalance of lighting and exposure due to the natural light entering in some areas. Also noteworthy in photograph (B) is the light gray tone of foliage – perhaps due to the use of infrared film. Instead of clarity, Shulman’s intent seems to be in exemplifying the mood of diluted vividness in the photograph (B).

3.4.7 Case Study Summary

The following summarizes my observations [Figures 3-21 and 3-22].

i) The amount and the arrangement of movable or figural objects differ significantly between the two sets. This means that the amount and the arrangement of depth cues also differ. The photographs from the Neutra+Shulman set commonly implement a clear distinction between the foreground, the amplified middle-ground, and the background through the smallest possible and heterogeneous population of figural objects. The depth cues are thus reduced to a minimum, and are just enough to inform the tripartite division and maximize vacant areas. The photographs from the Shulman set, on the other hand, commonly present a layout of homogeneous population, wherein no such division exists. The increased number of depth cues, importantly, includes those of successive occlusions, which are known for their efficacy in conveying finer ordinal and near-metric information regarding depth and layout.

ii) Because the number of figural objects is reduced to the minimum possible, the Neutra+Shulman set presents a clutter-less expansive middle-ground and a compressed foreground/background. Because the figural objects are located toward the edge of the picture frame, the Neutra+Shulman set offers relatively clear views of architectural

components and their tectonic configuration. On the other hand, the Shulman set puts forth the figural and familiar objects in their usual locations. More importantly, the successive occlusions initiated by the many objects allow for an affine perception and construct of depth and layout – that is, they allow for accurate reading of the space close to the real space.¹⁵⁰ In short, the Neutra+Shulman set offers a straightforward view of the architectural components and their tectonic configuration, whereas the Shulman set offers a view of figural objects in their familiar setting, and promotes accurate reading of space.

iii) What is put forth and what the viewer likely reads from each set are solidified by the applied compositional principle, which concerns the camera's position, angle, and framing. The composition of the Neutra+Shulman set, in its abstract form, typically resembles that of a two-point perspective. Near the center of the picture frame is a concave/convex edge, where the enveloping planes adjoin and intersect. The Shulman set, on the other hand, typically conveys a frontal view by rotating the main axis of the elongated space parallel to the picture plane. As a result, the latter often obscures the aforementioned tectonic aspect.

iv) The techniques of lighting and exposure also solidify what is represented in each set. The examples of Figures 3-19 and 3-20, in particular, demonstrate this point. The relevant techniques applied to the Neutra+Shulman set add definition to forms by

¹⁵⁰ To support this point, I quote again James Cutting. "I claim further that when ordinal depth information is sparse, perceived depth is also crude, confined to a few depth planes. When ordinal information is richer, perceived space becomes more articulated, allowing first for many depth planes (and an essentially affine representation). When that information is extremely rich, (...) ordinal constraints can become sufficiently tight to approach a metric representation." Cutting, "Reconceiving Perceptual Space." p.236.

delineating edge lines, created by different tonal values between adjoining surfaces. Shulman, on the other hand, is seemingly uninterested in such refinement of tones in his reshoot. This causes overexposure and conflation of tones in some areas, which in turn lead to a moody and diluted ambience.

In essence, the Neutra+Shulman set presents a topology of a largely vacant field divided by the fewest possible elements. The most expanded middle-ground incorporates architectural components whose tectonic assemblies are clearly revealed. The Shulman set presents a homogeneous construct of familiar figural objects that act as cues for an affine reading of space. The figural objects, by comparison, tend to interfere with the viewer's reading of architectural components and their assemblies.



Figure 3-21 – Case study summary: comparison in plan and angle of view.

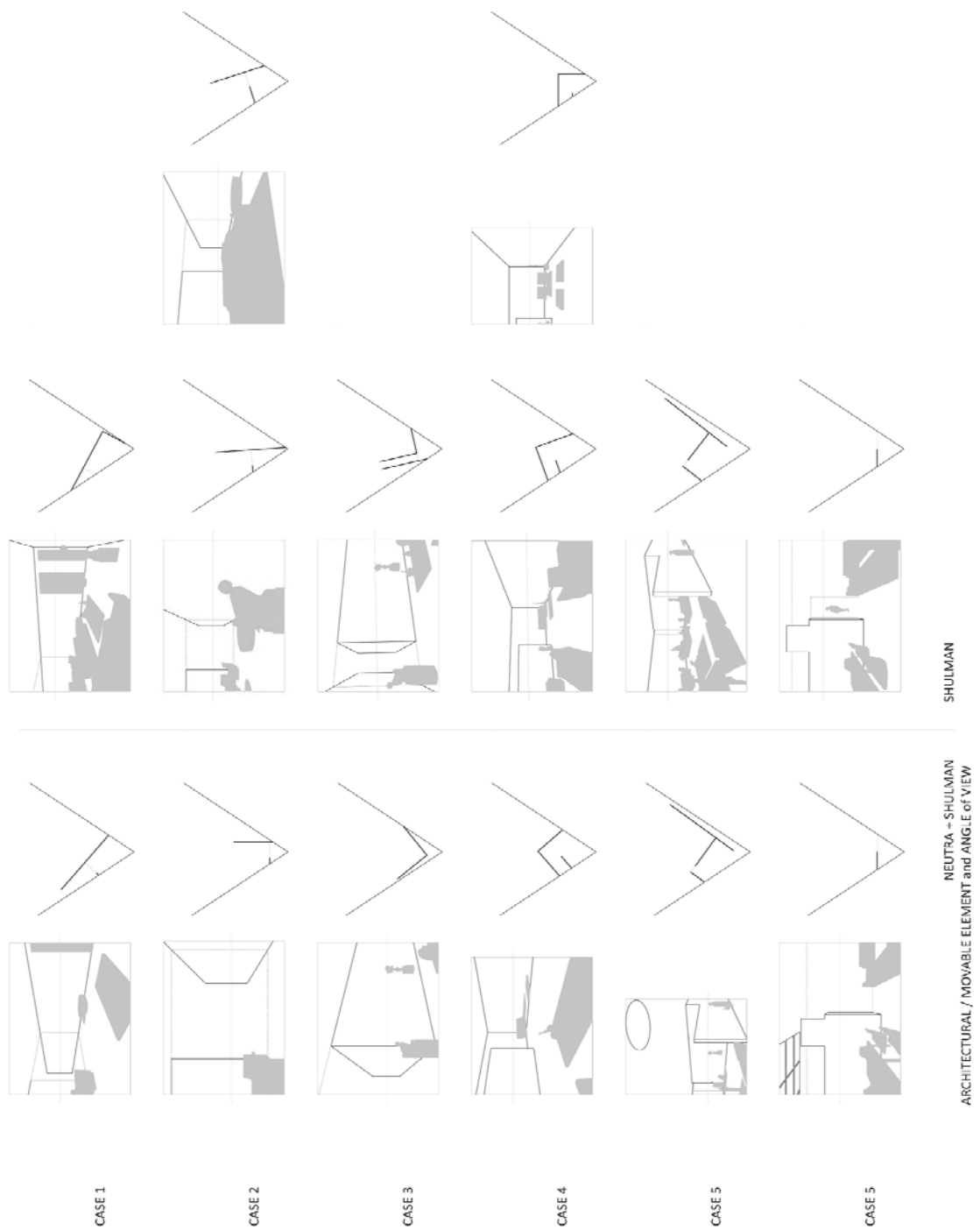


Figure 3-22 – Case study summary: comparison in architectonic and spatial elements and angle of view.

3.5 Content of Photographic Space: Architecture or Life

At first glance, the changes between the first shoot of the Maslon House and the reshoot may not stand out, or may seem trivial at most. The photographs from both shoots are commonly demonstrative of the properties that constitute what we normally consider to be a quality architectural photograph. All photographs portray the building with a level of objectiveness, clarity, and a sense of three-dimensionality, which are expected from the great photographer's work. They depict clear edge lines and distinctive tonal variations, which sometimes require complex depictive techniques. Not only is this quality essential for achieving the look of objectivity, but it is also suitable for portrayal of Richard Neutra's architecture, which often facilitates views that must integrate multiple interior and exterior spaces in a single frame. Neutra and his contemporaries who shape West Coast modern architecture – such as Rudolf Schindler, Raphael Soriano, Charles and Ray Eames, and Pierre Koenig – seek to establish a typology of American suburban settlement that seamlessly integrates the realms of architecture and landscape. For Neutra, architectural design is an act of adaptation, a way of achieving “biological balance” between the incomprehensible chaos in nature and the orders of human conception. He seeks to reflect and contain in architecture a new healthy lifestyle maintained through balance. Neutra's call for “organic design,” driven by physiological and psychological needs, is an attempt to reassert in a manmade environment the gratification that we experience in nature.¹⁵¹

¹⁵¹ The design that integrates the biological needs with the environment is an overarching theme of Richard Neutra's work; and is explained throughout his writings. See, for example, Richard Neutra, *Survival through Design* (New York: Oxford University Press, 1954); Richard Neutra, “Inner and Outer Landscape,” in *The New Landscape in Art and Science*, ed. György Kepes (Chicago: Paul Theobald, 1956).

Shulman's architectural photographs successfully reenact this sense of integration. Apparent continuity between spaces and across boundaries is a critical concern for Neutra's architecture, and Shulman's control over lighting and exposure, which guarantees transparency in glass surfaces by avoiding reflection or glare, is highly valuable for adequate conveyance of such a quality.

Despite this apparent, near-perfect sync between Neutra's architecture and Shulman's photography, my aim has been to draw attention to the subtle differences between some comparable photographs, selected from the photographer's first shoot of the Maslon House and his reshoot. My comparison has been founded on attentive descriptions of visual properties caused by arrangement and composition, lighting and exposure, and other depictive techniques; and on the different constructs of depth cues that these properties entail. In conclusion, I would like to claim that the subtle variations that Shulman implements for his reshoot are far from trivial, and that they constitute a distinctively different way of seeing, which the architect may not have understood.

In essence, Neutra's way of seeing space is based upon the architectural components installed by his design. What gives depth and topological order to the space presented in the Neutra+Shulman set photographs are a clear view of the floor, repetitive columns, concave/convex edges formed by partitions, and a gridded pattern of ceiling light. Shulman's way of seeing, on the other hand, is based on elements that constitute the true living inside the space. In other words, Shulman's dissatisfaction with the first shoot must have stemmed from his awareness of what in fact constitutes space other than architectural components, and from his knowing that his approach can arguably better exemplify the qualities of the space that Neutra has installed. Shulman's reshoot thus involves subtle re-

framing and re-inclusion of everyday objects in their familiar settings, which not only enhance the viewer's perception of depth but also add to it the exemplificative content of a lived-in space. In Shulman's words, what he strives to make is a "picture of a mood."¹⁵²

The inquiry into what content these photographs convey and what we experience from them requires some elaboration and interpretation, and I would like to suggest one such interpretation through the metaphors of "map" and "tour." Through photography, the architect Neutra conceives a map of the space, whereas the photographer Shulman tours the space. I am borrowing the terms of map and tour from the French social scientist Michel de Certeau, who has suggested that we experience, understand, and describe space by ways of mapping and touring, among others.¹⁵³ Mapping and touring, in short, are operations in "spatializing." Descriptions in mapping usually take a form such as, "A is next to B." Those in touring take the form of, "turn right at A, and come into B." Whereas mapping involves "seeing" – knowledge of an order – touring involves "going" – knowledge by actions. Combinations of such operations, according to Certeau, are the itineraries that structure our everyday travels in space. Certeau does note the totalizing effect of a map, which tends to eliminate figurations and collate heterogeneous places on a universal plane. In this regard, Shulman's alternative approach may be seen as an attempt to recover those eliminated components of the tour, which are in fact the bases of our actual and everyday spatialization of where we live. A compelling aspect of Shulman's project, in fact, is that it is contrived

¹⁵² "We set up lights, and I set up my camera and created this composition in which I assembled a statement. It was not an architectural "photograph." It was a picture of a mood." Shulman, Oral History Interview with Julius Shulman.

¹⁵³ Michel de Certeau, "Spatial Stories," in *The Practice of Everyday Life*, trans. Steven Rendall (Berkeley: University of California Press, 1984), 117–30.

of subtle variations, and that these subtle variations are capable of channeling specific content of life.

CHAPTER 4. EZRA STOLLER

*You view a photograph or you view a building in your own time frame and at your own pace. In a photograph, you can also do that. In a film, somebody else has set that time pace for you. It just doesn't work to have somebody lead you around by the nose.*¹⁵⁴

This chapter is a case study of Ezra Stoller's photographs of buildings, which include those of the Seagram Building, the Salk Institute for Biological Studies, and the Kimbell Art Museum. My study focuses on the photographer's treatment of secondary or peripheral subjects other than the building itself that triggers a sense of complex temporal durations. As I will demonstrate, such perceived temporal durations initiated by the depictive abilities of the medium construct in the viewer's seeing a fictitious world of passing elements, wherein only the building seems to remain permanent.

4.1 Study Subject and Question

Ezra Stoller (1915-2004) was born in Chicago. While studying to be an architect at New York University, Stoller began taking photographs of buildings and models to support himself. He graduated with a degree in industrial design in 1938, and worked with Paul Strand, a renowned American photographer, between 1940 and 1941. After the Second World War, Stoller continued his career as an architectural photographer until his retirement in 1985. The photographer worked closely with the leading architects of mid-

¹⁵⁴ Naegele and Stoller, "An Interview with Ezra Stoller: Photographing Architecture." p.115.

century America, including Frank Lloyd Wright, Ludwig Mies van der Rohe, Paul Rudolph, Marcel Breuer, I. M. Pei, Gordon Bunshaft, and Eero Saarinen.¹⁵⁵

Despite his achievements as a photographer, Stoller was largely unknown to the public outside the fields of architecture and architectural photography until the late 1970s. He was perceived primarily as a consummate professional – a top craftsman capable of producing quality photographs of buildings. What gained Stoller recognition outside the limited audience in architecture and architectural photography was the retrospective exhibition of his work at Max Protetch Gallery in New York in 1980. Notable reviews of the exhibition include those by the renowned photography critic, Andy Grundberg, and the architecture critic, Paul Goldberger.¹⁵⁶ Both Grundberg and Goldberger commonly praise the photographer's mastery of the medium and the immaculate quality of his pictures, yet are hesitant in expressing full support, as they assess Stoller's representation as overly sleek and thus deceptive to some extent in portraying the realities of the photographed building.

Consider, for example, Goldberger's review written for *The New York Times*. The review begins by setting up two camps of architectural photography: the literalist and the interpretative camps. The photographers in the literalist camp seek to "transmit, as literally as possible, the image of a building as we might see it," whereas those in the interpretative camp "interpret a building," "comment upon it in some fashion," and "bring to our eyes

¹⁵⁵ The biographical account of Ezra Stoller is based on various sources, including Saunders, "Ezra Stoller, Photographs of Architecture: 1939-1989"; Ezra Stoller, Interviews with ASMP Founders: Ezra Stoller, interview by Kay Reese and Mimi Leipzig, American Society of Media Photographers, May 1991; Esto, "Ezra Stoller: Biography," n.d., <http://ezrastoller.com/biography>.

¹⁵⁶ Andy Grundberg, "Lies for the Eyes," *Soho Weekly News*, December 17, 1980; Paul Goldberger, "Architecture: Portraits by Ezra Stoller," *The New York Times*, December 26, 1980.

something other than the literal picture of the building.” According to Goldberger, Stoller is “firmly in the second camp.” The critic mentions the “particular look” of Stoller’s photographs: their “cool, sleek, and absolutely crisp” qualities. He insists that Stoller’s photographs exteriorize the trend of their subject matter, that of the “sleek modernism of the 1950s and 60s.” In essence, despite their technically and compositionally “perfect” qualities and their capacity to sometimes tell “far more than the standard view of the building,” Goldberger worries that the photographer’s manipulative skills leave the buildings detached from the real world, making them “abstract” or transforming them into “precious objects.”¹⁵⁷

For me, Goldberger’s distinction between the two camps and his sorting of Stoller as interpretative are overly simplistic and questionable. How do we judge whether a photograph is literal or interpretative? Would a technical or compositional flaw or a sense of verve or urgency make the photograph more truthful? Stoller’s photographs do not resemble, let us say, *reportage*-like snapshots. We cannot assume, however, that complete control over the medium or superb compositional skill automatically nullifies the literalist or the realist value in photographs. Even the most candid snapshot must go through mediation, which consists of intended moves by the photographer. Moreover, Stoller has insisted on his approach being primarily objective and straightforward: “I’d just show it straight, without trying to make art photography. They’re pure documents, I hope.”¹⁵⁸ At

¹⁵⁷ Goldberger, “Architecture: Portraits by Ezra Stoller.”

¹⁵⁸ Naegele and Stoller, “An Interview with Ezra Stoller: Photographing Architecture.” p.109. I offer, in Chapter 1, a more thorough account of the objective approach, as insisted on by the architectural photographers, such as Julius Shulman or Ezra Stoller.

least, it seems unclear which properties Goldberger is expecting to see, and what would make him consider a photograph literal. Perhaps a better way to characterize a photograph may lie in understanding what it exemplifies. In a way, a typical *reportage* shot may *look* literal instead of *being* literal, as it *exemplifies* literalness – although the question of what properties constitute literalness still remains.

The important question should thus be what Stoller exemplifies in his architectural photographs – what he exemplifies of architecture through the means of photography. Some may still respond by claiming that Stoller exemplifies architectural visual qualities in an overly refined manner, and that his photographs thus institutionalize abstraction or objectification, which are the properties often associated with postwar American architecture. However, are Stoller’s photographs really all about showcasing the trend, the “sleek modernism of the 1950s and 60s?” My answer is “no.” I suspect that Stoller’s architectural photographs convey a certain richness that makes our visual experience of them more real than we usually assume. I would argue that the significance of Stoller’s architectural photographs lies in their capacity to trigger in us a rich architectural experience through visual means. The experience does comply with the architectural ideal of the time, but it also contains something much more than the mere formalist trend. In this chapter, I will demonstrate that the experience involves the domain of seeing time, which exists outside of our true encounters with buildings.

In an interview with Daniel Naegele in 1998, Stoller makes an interesting remark about the sense of space-time that he believes to reside in his photographs.¹⁵⁹ The remark

¹⁵⁹ Ibid.

is part of the photographer's response to the interviewer's comments that Louis Kahn's architecture conjoins the "permanence of architecture" and the "eternal presence of light" – "the building seems to track the sun as it descends into the Pacific" – and that Stoller captures this "cosmic or universal time" conceived in the building.¹⁶⁰ In response, Stoller refers to one of his photographs of Kahn's Salk Institute for Biological Studies in La Jolla, and explains [Figure 4-1]:

This picture of the Salk is printed much too dark. But, when I talk about space, at first it would be a simple room like Le Corbusier's Ozenfant Studio [Author's note, see Figure 2-3]. But then as I worked on, the fourth dimension of time became for me an essential element of architecture and architectural photography. (...) And time is – it's infinite – you know you have all of these vistas. You have this vista. You have that one. And you have this one here. There are all of these vistas and it takes your eye a while to get around to all of these things. And that's a definition of space. It's a time thing. (...) I mean, that fourth dimension of time... nobody says that there is any real time elapsed. In about two seconds you may have seen all of the six vistas that are involved in that picture, but *that* time is something else from *this* kind of time. And the point is that it is there, and it is what gives the picture depth. I think there *is* a sense of time... that's why films have never worked. Not enough is left to the individual viewer's imagination. Have you ever seen a good film on architecture?¹⁶¹

The conversation, which includes Stoller's specific reference to the "sense of time" in the Salk Institute photograph, unfolds an interesting debate on our visual experience of time. Naegele seems to have in mind a specific notion of time as what we perceive by tracking apparent changes in time. The reasoning is thus that architecture manifests the progression of light and shadows, which attest to the passage or the progression of time.

¹⁶⁰ Ibid. pp.112-113.

¹⁶¹ Ibid. pp.113-114.

Photography then registers the light and shadows on architecture, and thus projects the “cosmic” time.

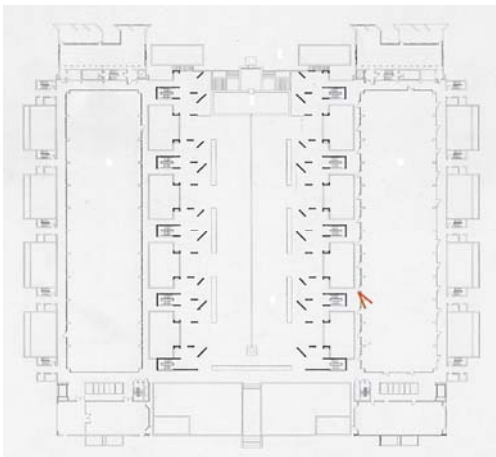


Figure 4-1 – Ezra Stoller, Salk Institute for Biological Studies, La Jolla, 1977 (architect: Louis Kahn; building completed in 1965); camera position in plan.

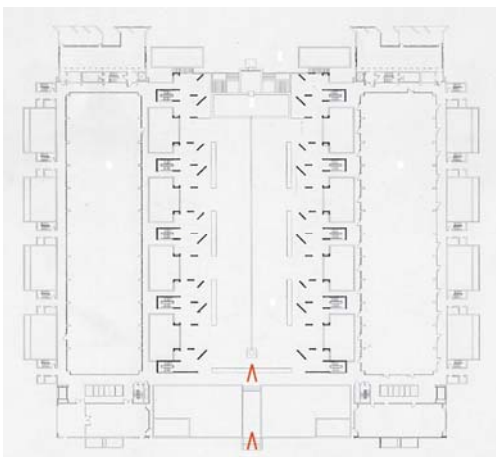


Figure 4-2 – Ezra Stoller, Salk Institute for Biological Studies, La Jolla, 1977 (architect: Louis Kahn; building completed in 1965); camera positions in plan.

However, the Salk Institute photograph that Stoller chooses to present and explain features a view from the flanking side of the plaza, instead of the views featured in Figure 4-2. The photographs in Figure 4-2 convey familiar perspectival views along the longitudinal axis of the plaza that most likely register the visual progression of time through a holistic view: those that portray water running along the channel or that imply the gradual approach of the sun toward the Pacific. In contrast, Figure 4-1 offers a diagonal view of the plaza, the study towers, and the projecting cubicles from across one of the lightwells between them and the laboratory wings. The depiction of light and shadows in Figure 4-1 appears irrelevant to any kind of linear progression. In fact, visible forms and spaces are largely fragmentary. The photograph and Stoller's remark are not so much about the time notable by the visible changes that may be captured by necessary extension in spatio-temporal frame, as about the time in the *viewer's seeing*. Note Stoller's comments: "it takes your eye a while to get around to all of these things," and "in about two seconds you may have seen all of the six vistas that are involved in that picture, but *that* time is something else from *this* kind of time." The shadows are printed more darkly than usual, whereas the brightly lit surfaces are overwhelmingly vivid. The contrast in effect functions to reveal and emphasize certain formal aspects, such as subtle textural patterns of the exposed concrete and the teak, or to give detail definition to edge lines, incisions, and form-tie marks. The dark cast shadows that skew against whitewashed surfaces inform profiles of walls and ordinal depths. Light and shadows here contribute, more than anything, to the viewer's perception and conception of form, material, and tectonics. How do such qualities relate to the visual experience of time? In generic terms, what do we experience of time when we

see Stoller's architectural photographs? And what kind of architectural knowledge does the experience institute?

In Chapter 3, I focused on revealing the properties of different spatial conceptions despite the limited nature of two-dimensionality imposed by the medium of architectural photography. In this chapter, I focus on revealing the properties that let us perceive and conceive time in an unusual way despite the limited nature of stillness imposed by the medium.

4.2 Seeing Time in Pictures

Among the things that make and are portrayed through a photograph, time is of a mysterious nature. On the one hand, a photograph is a product that requires time of exposure, sometimes only an instance and sometimes a longer duration, during which things, events, and changes are fixated as a single image. On the other hand, a photograph also conveys the visual properties of what has existed and passed. It lets us travel in time, at least in our visual perception of it, by bringing the past to the present. It allows for our reflection of the past, often by triggering our mining of memories or by making us cognizant of how things were then in comparison to how they are now. Interestingly, although time constitutes what we see of a photograph in various ways, the photograph per se remains duration-less, a still image. At the same time, however, the sense of time we experience in a still photograph seems often immediate, rather than a result of lengthy nostalgic contemplation. Imagine, for example, a still photograph of leaves floating in the air, or raindrops falling on a roof. Such a photograph, despite its stillness, seems to provoke

in the viewer a sense of time; and it does so immediately, with no need for the viewer's contemplation nor any particular reference to her past memories.

How is it, then, that we see time in seeing innately motionless still photographs? As a preparation for my inquiry, in the following I review the theories of visual perception of time in motionless things and still pictures and photographs. The theories may be categorized in accordance with the two disciplinary approaches: the psychological and the philosophical. The first approach is based on empirical surveys of cases of inanimate visual representations that utilize means of motion depiction. On the other hand, the theories of the second approach commonly reflect on the temporal durations involved in seeing inanimate things, and accordingly seek to understand the experience of time that emerges. I will focus in particular on the proposition that our visual experience of seeing time in a still photograph largely depends on how long we see what we see.

4.2.1 Visual Cues of Motion

In proposing his theory of motion perception, James Cutting's question is this: how do we visually perceive motion when no motion can exist?¹⁶² To answer, Cutting takes an empirical approach whose principle and methodology resemble those for his study of visual cues in depth and layout perception, which I reviewed in detail in Chapter 3. To establish a neat taxonomy of depictive means that aid our motion perception, Cutting surveys inanimate illustrations of motion in visual arts and science. Cutting's thorough survey and

¹⁶² James Cutting's research in motion perception is presented in James E. Cutting, *Perception with an Eye for Motion* (Cambridge: MIT Press, 1986); James E. Cutting, "Representing Motion in a Static Image: Constraints and Parallels in Art, Science, and Popular Culture," *Perception* 31 (2002).

classification through reduction and elimination of dependencies result in the following list of five depictive means: i) dynamic balance; ii) multiple stroboscopic images; iii) affine shear or forward lean; iv) blur; and v) action lines. In what follows, let us briefly review what Cutting suggests as the notable qualities and efficacy of each visual means, and discuss their significance in relation to architectural design and representation.

i) *Contrapposto* is a typical case of **dynamic balance**, which generally suggests instability, tension, and motion [Figure 4-3]. It is the Italian term for “counter-pose,” and refers to the Hellenistic principle of depicting a human figure. The subject in *contrapposto* typically stands with her weight distributed unevenly, distorting and shifting her body more to one side than the other. In *contrapposto*, the body parts deviate off their axes, and the muscles appear twisted. Seeing asymmetry or dynamic balance may demand more effort from the viewer, as the qualities of irregularity and variation hinder the viewer’s immediate perception and apprehension of form. Dynamic balance, in other words, incapacitates the viewer’s perceptual fluency by defying her easy categorization, and thus triggers further interest. Apart from Cutting’s study, I should also mention that the modes of *contrapposto* and dynamic balance as well as the visual experience of motion that rises in us as a result constitute a typical case of empathy. Findings in neurobiology indicate that the human brain, with mirror neurons in function, responds to a stressed human posture by empathetic embodiment of that posture, which leads to the viewer’s actual and physical or imaginative simulation.¹⁶³

¹⁶³ On the relevant neurobiological account, see Cinzia Di Dio, Emiliano Macaluso, and Giacomo Rizzolatti, “The Golden Beauty: Brain Response to Classical and Renaissance Sculpture,” *PLoS ONE* 11, no. e1201 (November 2007); Giacomo Rizzolatti and Corrado Sinigaglia, *Mirrors in the Brain: How Our Minds Share Actions, Emotions, and Experience* (Oxford: Oxford University



Figure 4-3 – Dynamic balance. The bronze statues of *Discobolus* by Myron.



Figure 4-4 – Multiple stroboscopic images. Etienne-Jules Marey, *Vol de mouette*, 1887; Marcel Duchamp, *Nude Descending a Staircase, No. 2*, 1912.

Press, 2008); Cinzia Di Dio and Vittorio Gallese, “Neuroaesthetics: A Review,” *Current Opinions in Neurobiology* 19, no. 6 (2009). For a comprehensive review of the literature and the significance of neurobiological findings in architectural discourse, see also Harry Francis Mallgrave, *The Architect’s Brain: Neuroscience, Creativity, and Architecture* (Chichester: Wiley-Blackwell, 2010); Harry Francis Mallgrave, “Experiencing Architecture,” in *Architecture and Embodiment: The Implications of the New Sciences and Humanities for Design* (Abingdon: Routledge, 2013).

ii) By sampling discrete stills from a sequence and arranging them simultaneously, we can acquire a set of **multiple stroboscopic images** [Figure 4-4]. The technique has a long history, as it appears in some of the oldest paleolithic paintings. Its use in visual representation flourishes with the invention of modern photography, as the medium can mechanically produce multiple stroboscopic images with relatively less time and effort. Eadweard Muybridge and Etienne-Jules Marey's famous studies of human and animal motion using photography during the late 19th century are typical cases of using this depictive means.¹⁶⁴ With advancements in technology, stroboscopic photography has become instrumental in scientific analyses of various motion-related data – such as values of velocity and acceleration. Harold Eugene Edgerton's photographs of mobile subjects from between the late 1930s and the 1970s, which use high-speed stroboscopic equipment to display their varying instances, are noteworthy examples. The works by Muybridge, Marey, and Edgerton are in fact of particular interest to Sigfried Giedion. In Giedion's historiography of "space-time," their works lay an important foundation for Giedion's project, which seeks synthetic construction and visualization of what used to be obscure psychological impressions.¹⁶⁵

¹⁶⁴ Eadweard Muybridge, *The Human Figure in Motion* (New York: Dover, 1955 (originally 1887)); Etienne-Jules Marey, *Le Mouvement* (Paris: G. Masson, 1894).

¹⁶⁵ On Sigfried Giedion's account of "space-time," which includes, in particular, his recognition of the works by Etienne-Jules Marey, Eadweard Muybridge, and Harold Eugene Edgerton, see Sigfried Giedion, *Mechanization Takes Command: A Contribution to Anonymous History* (Oxford: Oxford University Press, 1948). pp.17-24.



Figure 4-5 – Affine shear or forward lean. Jacques-Henri Lartigue, *Grand Prix of the Automobile Club of France*, 1913.

Figure 4-6 – Blur. Edward Steichen, *Lillian Gish as Ophelia*, 1936.

iii) **Affine shear or forward lean** refers to the depictive means, which is to deform the subject by slanting it toward the direction of its movement [Figure 4-5]. The deformation offers the impression of the subject moving, typically toward the direction of its forward lean. The amount of forward lean may also indicate other correlated information, such as velocity. Representations of affine shear or forward lean are generally considered unsuitable for scientific purposes because of two major issues. Firstly, by its nature, the technique leads to deformation of what is depicted. Secondly, it is usually incapable of offering absolute measures of data.

iv) When a long exposure combines with a fast-moving subject or a moving camera, a photograph may bear the effect of **blur** [Figure 4-6]. A blurry photographic image

typically exemplifies two major visual properties: indistinctive edges and transparency. Blur is generally considered to be unsuitable for scientific purposes as it cannot convey information regarding the direction or the chronology of movement. By its nature, blur obscures potential information that the image may have carried and lacks the precision needed to communicate quantifiable data.

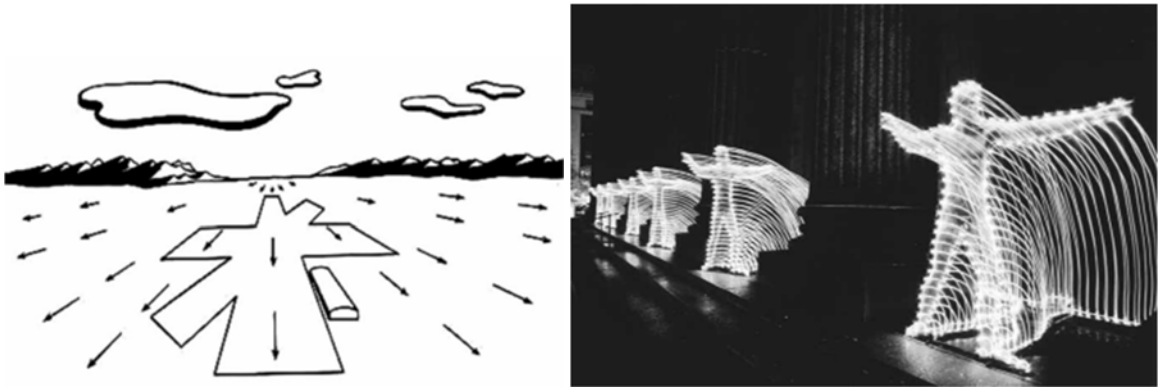


Figure 4-7 – Action lines. James Gibson, *optical flow*, 1947; Eric Staller, *Poseidon* 1980.

v) We see in various genres of visual representation the use of **action lines** for indication or simulation of the path through which movement occurs [Figure 4-7]. An action line may function as a vector, by being indicative of the direction and the extent of movement. As a means of scientific illustration and analysis, the advantages of action lines are relatively copious: they can convey quantifiable information and be added to illustrations without interference to the appearance of the subject in motion.

The depictive cues of motion have been useful in design and representation of architecture. Buildings are lifeless and mostly motionless. Although weathering and minuscule changes of buildings do occur, we generally perceive them to be without change

unless over a long period of time. Perhaps to counter or complement their inanimate physical state, architects have attempted to incorporate hints of movement in building forms by depiction in architectural design and representation. The nature of the language we speak and write, specifically for describing architectural forms, often attests to our intention and ability to see and imagine life and movement in buildings. Consider the following account, quoted from Colin Rowe and Robert Slutzky's influential essay, "Transparency: Literal and Phenomenal" (1963). The authors write of the Bauhaus complex in Dessau [Figure 4-8]:

Through the movements of the dormitory building, the administrative offices, and the workshop wing, the first floor may suggest a channeling of space in one direction. Through the countermovement of roadway, classrooms, and auditorium wing, the ground floor suggests a movement of space in the other. A preference for neither direction is stated, and the ensuing dilemma is resolved, as indeed it must be in this case, by giving priority to diagonal points of view.¹⁶⁶

Consider also the following introductory account released by Zaha Hadid Architects of their first realized project, the Vitra Fire Station in Weil am Rhein [Figure 4-9]:

Conceived as the endnote to existing factory buildings, the Vitra Fire Station defines rather than occupies space – emerging as a linear, layered series of walls, between which program elements are contained – a representation of “movement frozen” – an “alert” structure, ready to explode into action at any moment.¹⁶⁷

¹⁶⁶ Colin Rowe and Robert Slutzky, "Transparency: Literal and Phenomenal," *Perspecta* 8 (1963). p.52.

¹⁶⁷ Zaha Hadid Architects, "Vitra Fire Station," 1993, <http://www.zaha-hadid.com/architecture/vitra-fire-station-2>.

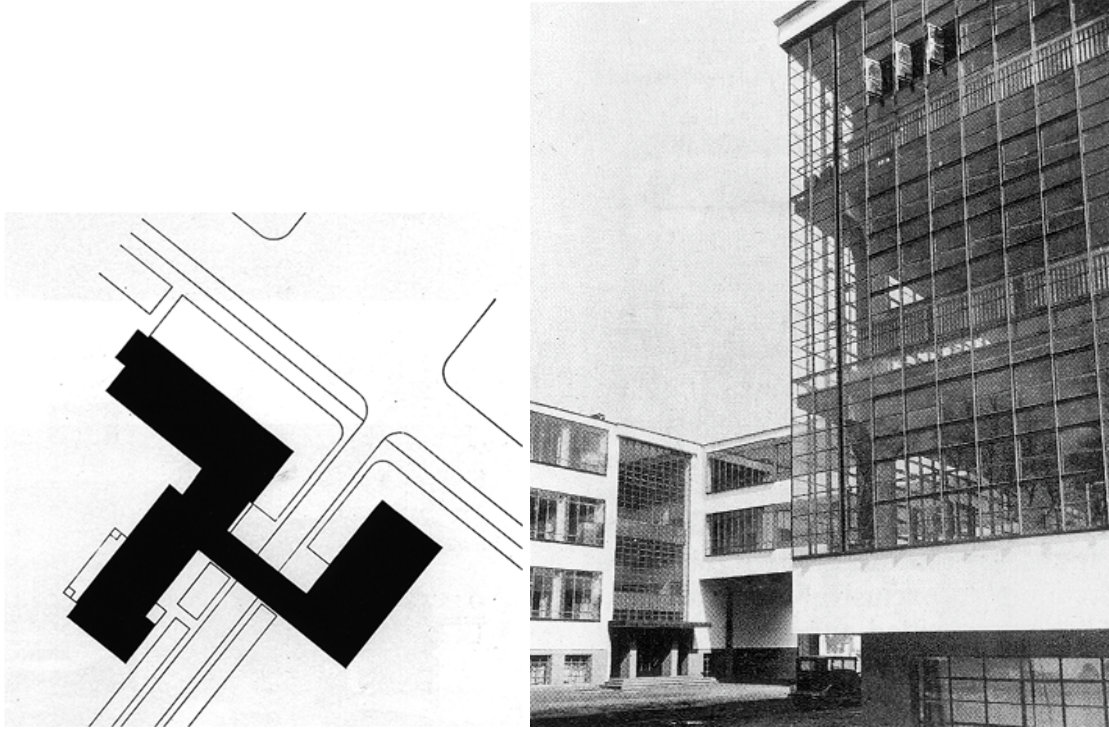


Figure 4-8 – Walter Gropius, Bauhaus, Dessau, 1932. Figure and ground and view (photographer: Lucia Moholy). From Colin Rowe and Robert Slutzky, “Transparency: Literal and Phenomenal” (1963).

The language of both of these descriptions suggests that the inanimate building is in motion, or at least in a state of extreme tension. What Rowe and Slutzky describe is a typical case of dynamic balance: a building in a pinwheel-like movement, just about to spin out. The movement they describe, at the same time, is barely retained, deferred by the canceling countermovement. The fire station is described as an animate anthropomorphic being. It defines, emerges, and is on the alert. The movement is frozen, yet may explode into action at any moment. In fact, the design of the Vitra Fire Station suggests motion of fluidity, depicted through the means of affine shear or forward lean.



Figure 4-9 – Zaha Hadid Architects, Vitra Fire Station, Weil am Rhein, 1993 (photographer: Christian Richter).

Figure 4-10 – Zaha Hadid Architects, Hoenheim-Nord Terminus and Car Park, Strasbourg, 2001 (photographer: Roland Halbe).

Like the forms that slant, action lines are also one of the major recurring motifs in Hadid's architecture. Repetitive columns, strips of opening and lighting, furniture, and surface patterns function as action lines in the design of the Hoenheim-Nord Terminus and Car Park in Strasbourg [Figure 4-10]. The feature reflects the design concept, which, according to Zaha Hadid architects, is to overlap the "fields and lines, which knit together to form a constantly shifting whole." The linear elements echo the "energetic movement of cars, trams, bicycles, and pedestrians," and the architecture is marked by the "play of lines."¹⁶⁸

¹⁶⁸ Zaha Hadid Architects, "Hoenheim-Nord Terminus and Car Park," 2001, <http://www.zaha-hadid.com/architecture/hoenheim-nord-terminus-and-car-park>.



Figure 4-11 – Peter Eisenman, Aronoff Center for Design and Art, Cincinnati, 1996.

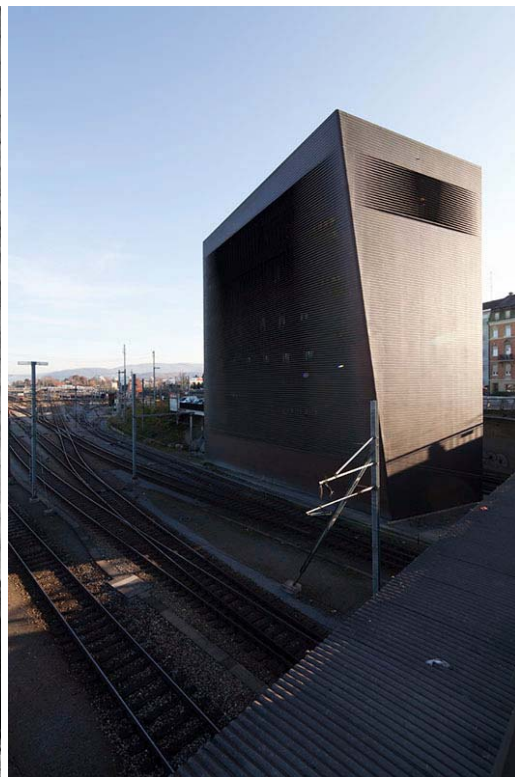


Figure 4-12 – Hendrik Petrus Berlage, Holland House, London, 1914.

Figure 4-13 – Jacques Herzog and Pierre de Meuron, Signal Box, Basel, 1994 (photograph by Nelson Garrido).

Peter Eisenman's works have continuously utilized the means of multiple stroboscopic images in his architectural design and representation [Figure 4-11]. Since the earliest experimental House projects, Eisenman's strategy has been to sample and solidify discrete phases from the processes of form-variation, and to display such phases simultaneously by overlap as a single building form. To quote Hyungmin Pai, Eisenman's design operates by "shifting the markings of an original linear composition, thus producing a trail of lines that intersect but almost never overlap." Pai continues: "the moment a line is drawn, he abandons it with another move that leaves the previous line in its track."¹⁶⁹ Accordingly, Eisenman's architecture ends up being a complex of differentiations depicting a chain of processes, as in the stroboscopic photographs by Edgerton.

The façade of Hendrik Petrus Berlage's Holland House in London, completed in 1914, exhibits the effect of blur [Figure 4-12]. Berlage's architecture attests to the late 19th century's debates of architectural tectonics, and embodies the architect's attempt to resolve the newly imposed issues of modern technology and cities. The effect of blur that emerges from the Holland House façade reflects such an attempt. The perceived blurriness is the intended result of the architect's specific treatment of the building surface combined with the urban setting. The blurry appearance emerges from the building façade of tightly aligned glazed columns when observed from the viewer's oblique viewpoint on the narrow

¹⁶⁹ Hyungmin Pai, "Epilogue," in *The Portfolio and the Diagram: Architecture, Discourse, and Modernity in America* (Cambridge: MIT Press, 2002). p.284. What entails the quote is Hyungmin Pai's critique of Peter Eisenman, which is that Eisenman's architecture eventually draws the viewer's attention toward the diagrammatic forms that the architect claims to have departed from. The definitive lines of Eisenman's diagrams, which could have remained attenuate if not for their solidification, end up to be a primary visual attraction. Eisenman's strategy thus remains to be a captive of what it tries to escape, not much more than a stylistic convention in form-making and composition – a slightly more complex version of it at the most.

street of London. David Leatherbarrow and Mohsen Mostafavi's describe the blurry and animate quality of the Holland House façade as follows:

The façade of Holland House could be said to resemble a canvas by an impressionist painter such as Monet, in that it is expansive, shallow in depth, and subtly varying in its chromatic radiance – in short, uniform but also unstable.¹⁷⁰

Let us also consider Jacque Herzog and Pierre de Meuron's Signal Box in Basel, completed in 1994 [Figure 4-13]. In its seemingly simple-profile, box-like mass, the building embodies refined details and projects the effect of a blurry profile. To quote Detlef Mertins, the surfaces of the building "lose their definition and capacity for containment." Mertins continues: "soft, textured, diaphanous, porous, even breathy, their partial transparencies combine seduction and the stiff flexibility of a venetian blind."¹⁷¹

Despite their inanimate nature, buildings have exemplified the properties of life. In other words, architectural design has always utilized the means of motion depiction, in no different way than other genres of visual representation. Meanwhile, I should also note that such means of motion depiction as I have introduced here seem largely irrelevant to the building forms portrayed by Ezra Stoller's photographs. It is rare that we find expressive components of dynamic balance and such in building forms of postwar Ludwig Mies van der Rohe or Louis Kahn. Rather, architects like Mies and Kahn, at least in their form-

¹⁷⁰ David Leatherbarrow and Mohsen Mostafavi, "The Appearance of Covering: Impressions," in *Surface Architecture* (Cambridge: MIT Press, 2002). p.102.

¹⁷¹ Detlef Mertins, "Open Contours and Other Autonomies," in *Monolithic Architecture*, ed. Rodolfo Machado and Rodolphe El-Khoury (New York: Prestel, 1995). p.47. Detlef Mertins's essay primarily dwells on the intellectual context of the building, its post-humanist quality that reestablishes architectural objectivity and self-estrangement.

making, are devoted to eliminating or minimizing such expressions of animation, and explore the possibilities of integration between structure, form, and space, which usually leads to stability and somberness.¹⁷²

Stoller generally refrains from employing dynamic composition or distorting building forms in his photographs. His photographic implementation is rarely a means to fabricate unsteadiness when no such quality exists in the actual subject. While buildings remain inanimate as they are, Stoller does apply motion depiction to non-architectural or ephemeral subjects that surround and are at the perimeters. This is an important point that I will discuss in detail and expand upon later in this chapter.

4.2.2 *Temporal Durations in a Still Photograph*

How does the visual experience of a still photograph differ from that of a film? It is a misconception that we see in a still photograph only stasis, whereas we see in a film only motion. I have already discussed James Cutting's findings and claim: with the use of certain depictive means, a still photograph can surely offer us the experience of seeing motion while itself remaining motionless. Likewise, a film may offer us the experience of seeing stasis. For example, consider the opening shot of Michael Haneke's 2005 film *Caché* [Figure 4-14]. The shot lasts about 2 minutes and 53 seconds without a cut, during which the fixated camera gazes at a banal Parisian street. In particular, for the first 54

¹⁷² Colin Rowe calls this specific tendency "neo-classicism." Rowe, "Neo-'Classicism' and Modern Architecture I"; Rowe, "Neo-'Classicism' and Modern Architecture II."

seconds of this shot – until a man with a backpack walks into the frame – we only see stasis, no different than what we expect from a still photograph.¹⁷³



Figure 4-14 – Stills from Michael Haneke, *Caché*, 2005.

¹⁷³ Although no visual motion occurs in the represented scene during this fifty-four seconds, the opening credits that overlay onto the picture and the white noise from the represented scene let the viewer know that she is indeed watching a film, and not seeing a still photograph.

In other words, the difference between a still photograph and a film cannot be that one displays no change in its picture whereas the other does. The true and profound difference between the two mediums, according to Kendall Walton, resides not in the temporal properties of the images themselves nor in those of representational content, but in the relation between the two – that is, “the relation between changes or lack of them in pictures, and changes or lack of them in picture worlds.”¹⁷⁴ To be more specific:

A picture is a *still* one if temporal properties of the image are representationally inert, if what happens or doesn’t happen to the image over time has no bearing on its representational content. Motion pictures are pictures whose temporal properties do contribute to their representational content.¹⁷⁵

Keeping in mind Walton’s proposition, let us rethink the case of the *Caché* opening. When limited to the 54 seconds, nothing seems to change from our initial seeing. The visual experience seems no different than that of seeing a still photograph of the Parisian street for 54 seconds. The lack of change, in this case, is as an innate property of the still, and has no bearing on what we perceive as representational content. The context beyond the 54 seconds, however, suggests that the clip is part of a continuum that only happens to be without change for 54 seconds. After those 54 seconds, people begin to enter and exit the frame. In fact, the events that follow reveal that the shot is part of a surveillance film. Inertness of the shot, as such, exemplifies a typical aspect of a surveillance film. At this

¹⁷⁴ Kendall L. Walton, “Experiencing Still Photographs: What Do We See and How Long Do We See It?,” in *Marvelous Images: On Values and the Arts* (Oxford: Oxford University Press, 2008). p.163.

¹⁷⁵ Kendall L. Walton, “Landscape and Still Life: Static Representations of Static Scenes,” in *Photography and Philosophy: Essays on the Pencil of Nature*, ed. Scott Walden (Chichester: Wiley-Blackwell, 2008). p.241.

stage, despite being completely inert, what we see for the 54 seconds is likely a film rather than a still photograph.

The critical aspect is that the 54-second duration, when we assume it to be part of the film, is in sync not only with the duration of our actual seeing, but also with the duration of what is represented. During the 54 seconds, the film characters are watching the surveillance film. A film often assumes such synchronicity, or at least imposes upon the viewer a correlation between the actual runtime and the represented duration. Even the seemingly special case of seeing a slow-motion film is to see the represented event extend in time, as it is seen through a longer-than-usual duration.

The case of seeing a still photograph, in this regard, suggests a puzzle. Imagine our seeing of a still photograph of the Parisian street for 54 seconds. How do we see, for the duration of those 54 seconds or for however long our seeing may continue, the near-duration-less moment represented in that still photograph? What is perplexing, in other words, is how we see a still photograph for such a long time, yet are able to see a duration-less or temporary moment. This is, in fact, Walton's seminal question in his thinking of the visual experience of seeing photographs. After reviewing some classic writings on photography by Walter Benjamin and Roland Barthes, who addressed this perplexing mystery early on using different terms, I will discuss in detail Walton's thesis on this question, which pertains closely to the concerns of this chapter.

The first in order is Benjamin, whose essays include remarks on photography and its temporal dimension. In "A Short History of Photography" (1931), Benjamin refers to the renowned concept of aura, a unique impression of things in their genuine space and

time.¹⁷⁶ In particular, Benjamin tells of how time – specifically during our seeing of a motionless thing – can slip into our impression of things.

What is aura? A strange web of time and space: the unique appearance of a distance, however close at hand. On a summer noon, resting, to follow the line of a mountain range on the horizon or a twig which throws its shadow on the observer, until the moment or hour begins to be a part of its appearance – that is to breathe the aura of those mountains, that twig.¹⁷⁷

Benjamin suggests that time becomes part of our impression of things as we acknowledge the duration of that time – by being conscious of our tracking and attention to details, or through the subtle changes only notable in time. While the mountain or the twig remains constant or motionless, Benjamin’s eyes are in motion, following the mountain range or the shadow cast on him by the twig. This is an often-overlooked aspect of our visual experience – that is, that even our seeing of motionless things takes time. The time of the motionless, in other words, may become apparent to us through our own cognitive actions or temporary phenomena caused by or surrounding what remains constant. According to Benjamin, the aural essence of time prevails in early portrait photography as it requires a lengthy exposure time during which the subject must remain motionless. Interestingly, Benjamin is also intrigued by the medium’s removal of the unique time from the subject, apparent in new snapshot photography. In “The Work of Art in the Age of

¹⁷⁶ Benjamin, “A Short History of Photography.”

¹⁷⁷ Ibid. p.209.

Mechanical Reproduction” (1936), Benjamin proposes his famous thesis that snapshot photography deprives the subject of its presence in its unique space and time.¹⁷⁸

With regard to the topic of time in photography, Barthes’s notions of “*studium*” and “*punctum*” are also noteworthy.¹⁷⁹ According to Barthes, *studium* is the property that allows the viewer to learn about what is apparent in a photograph as her gaze dwells on it. It allows the viewer’s lengthy observation and discovery of the context and the intention, which formulate the appearance of the photograph. In effect, *studium* appeals through the viewer’s extended appreciation. *Punctum*, on the other hand, is the property that unexpectedly and immediately captures the viewer’s gaze. It may emerge through a detail included in the photograph with no particular deliberation. *Punctum* may coexist with the intended elements of *studium*, yet disturb the viewer’s learning of what is apparent and intended. It is a provocative mark that sustains the viewer’s attention. Its occurrence is nearly duration-less, yet leaves a lasting impression. It instantly “pricks” the viewer’s extended appreciation of the elements of *studium*.

Although Benjamin and Barthes both note that a still photograph somehow embodies temporal durations and provokes our seeing of them, they fail to offer a resolute

¹⁷⁸ While Walter Benjamin’s observation of the aural time in early portrait photographs is addressed in his 1931 essay, “A Short History of Photography”; the thesis of aura-less photography is from “The Work of Art in the Age of Mechanical Reproduction,” first written in 1936.

¹⁷⁹ Roland Barthes’s key ideas concerning photography are introduced in “The Photographic Message” (1961) and “Rhetoric of the Image” (1964), both translated and compiled in Roland Barthes, *Image, Music, Text*, trans. Stephen Heath (New York: Hill and Wang, 1977). The notions of “*studium*” and “*punctum*,” in particular, come from his book fully devoted to the topic of photography, Roland Barthes, *Camera Lucida: Reflections on Photography*, trans. Richard Howard (New York: Hill and Wang, 1981 (originally 1980)). *Camera Lucida* is the author’s self-reflection on the topics of death, memory, and truth, triggered by his observations of photographs.

account of how it does so. In this regard, Walton's analytical account of the topic may be of help.¹⁸⁰ Walton seeks to comprehend the nature of time in photography through his inquiry into the time we spend seeing still photographs. At the basis of Walton's inquiry is his generic theory of representational arts. Walton believes that representational arts become evocative as they trigger our play of "make-believe." "Pictures," in particular, "are props in visual games of make-believe."¹⁸¹ To be more specific, the viewer's aesthetic experience of a visual representation emerges from her usage of it as a prop for imaginative seeing, a visual re-conception of its fictitious world. For Walton, among the various genres of representational arts, still photography offers a particularly puzzling experience that may be addressed by the following question: "how can we observe or even imagine observing a fleeting moment of reality for an indefinitely extended period of time?"¹⁸² In other words, what seems to intrigue Walton about our visual experience of a still photograph is that we are able to see or imagine seeing in it a momentary lapse of time arrested by the medium, despite our seeing of the photograph for a prolonged span of time.

¹⁸⁰ My account of the visual experience of seeing a still photograph is based on the following sources: Kendall Walton's most complete aesthetic theory, Walton, *Mimesis as Make-Believe: On the Foundations of the Representational Arts.*; and his account concerning the particular topic, Walton, "Landscape and Still Life: Static Representations of Static Scenes"; Walton, "Experiencing Still Photographs: What Do We See and How Long Do We See It?"

¹⁸¹ Kendall Walton offers an analytical account of the process of the viewer's imaginative seeing of a picture, as follows: i) the viewer actually sees the visual marks on the picture surface; ii) the viewer imagines seeing a depiction of the subject matter; and iii) the viewer imagines her seeing to be her actual seeing of the depicted subject matter. Walton, "Experiencing Still Photographs: What Do We See and How Long Do We See It?" pp.164-166.

¹⁸² Ibid. p.172.

I do not intend here to introduce and discuss Walton's answer to this puzzle in its entirety, which would require examining multiple cases and hypotheses. Instead, I would like to refer to three particular cases or hypotheses that relate significantly to my further discussions of Ezra Stoller's architectural photographs. In essence, the three hypotheses that I will introduce and review are: i) an account of how we see a still photograph of a motionless subject, which will be rejected; ii) an account of how we see a still photograph of a subject in motion, depicted as such with motion cues, which will be rejected; and iii) an alternative account, which will be accepted.

i) Apparently, seeing a still photograph of a motionless subject poses no puzzle. This is easily accounted for, as the actual duration of the viewer's seeing of the photograph, however long it may be, can be in sync with the time during which the viewer imagines seeing the motionless subject – likewise my previous account of the opening shot of *Caché*, during which the scene does not change as if it were a still. In short, the account is that the viewer imagines seeing the subject remaining motionless for however long she actually sees the photograph. Because buildings are mostly motionless, most cases of seeing an architectural photograph would be described in this manner if the hypothesis were to hold.

The first column in Figure 4-15 illustrates this point. In seeing the photograph of a still subject (the mountain), the viewer may actually see the photograph for a few minutes (that is, for a duration much longer than a moment); and those few minutes may fully coincide with what the viewer imagines to be the apparent and the actual time slices of the event (that is, the mountain existing motionless for the few minutes in question).

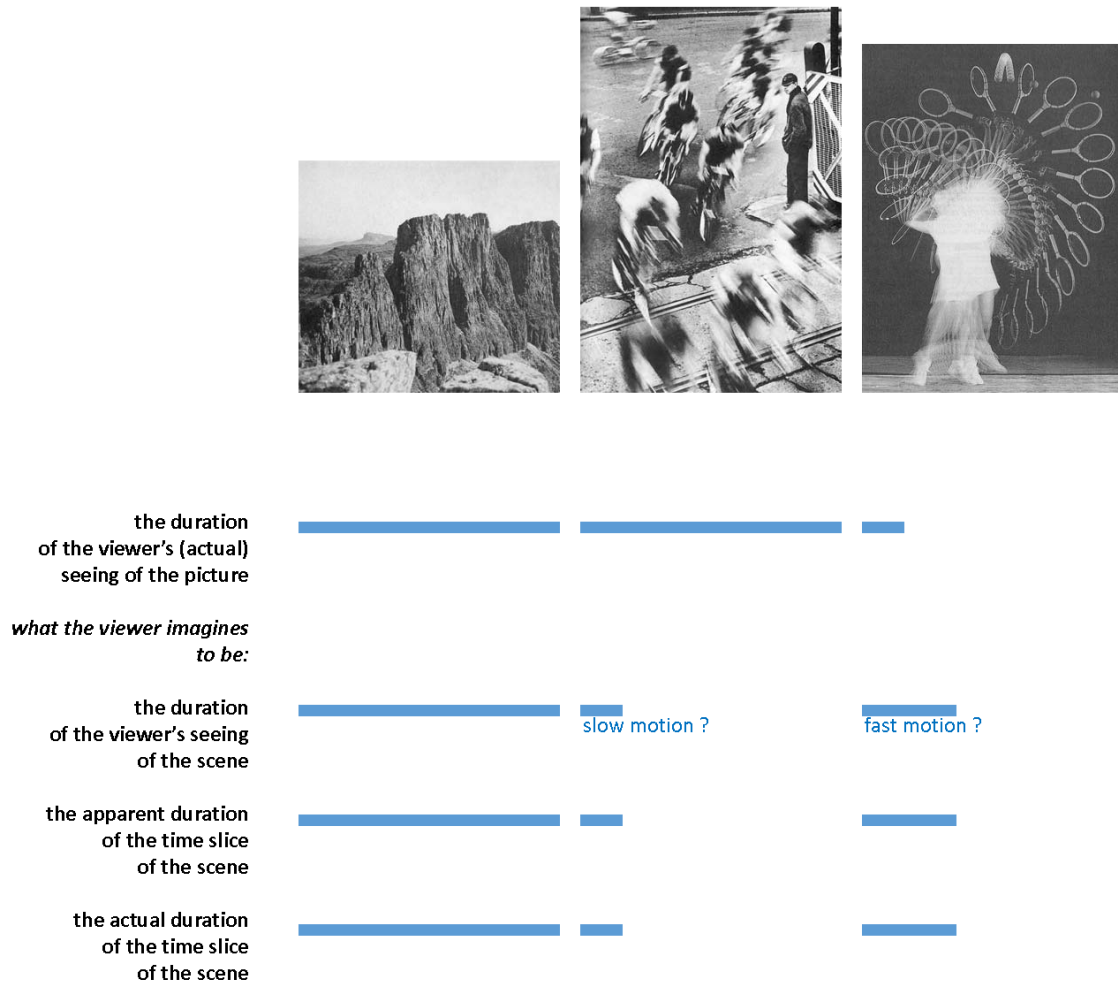


Figure 4-15 – The durations of seeing a still photograph, first and second hypotheses. The matrix is drawn based on the examples and the argument in Kendall Walton, “Experiencing Still Photographs: What Do We See and How Long Do We See It?” (2008).

ii) As I illustrate in the second and third columns, we must assume discrepancies between the durations in order to understand our extended seeing of still photographs that include motion cues. The photograph of the moving bicyclists, for example, undoubtedly poses the puzzle noted by Walton: how is it that the viewer imagines seeing the duration of the bicyclists in motion (let us say, for a duration of one eighth of a second) despite the

viewer's seeing of the photograph for however long she sees it (let us say, for a few minutes)? One hypothesis, proposed and rejected by Walton, is that the viewer's seeing must be something similar to seeing a slow-motion film. That is, the viewer may see the photograph for a few minutes, but imagine that the time slice of the event (both actual and apparent) is shorter – not unlike a slow-motion film that extends a shorter event longer. The tennis player photograph, in this same vein, may be an opposite case of the bicyclists photograph. It must be an extreme version of a fast-motion that must assume the viewer to imagine longer time slices of the event than the duration of her actual seeing.

Walton rejects this hypothesis because of the reasons that follow. firstly, seeing the bicyclists photograph does not require an extended duration of actual seeing that a slow-motion would require. Likewise, the viewer has no problem in seeing the depicted duration in seeing the tennis player photograph despite her actual seeing extended much longer than what she imagines to be the time slice of the event. In a nutshell, the viewer can ordinarily see and imagine *instantly* the depicted moment of the moving bicyclists or the tennis player. Secondly, the bicyclists photograph as a slow-motion depiction seems intuitively awkward. The bicyclists photograph, on the contrary, seems closer to being a fast-motion depiction; and the tennis player photograph a slow-motion.¹⁸³

iii) Walton thus argues that the puzzle is explicable only by the hypothesis that the longer duration of the viewer's seeing consists of multiple moments, and at each moment

¹⁸³ Kendall Walton suggests and rejects another hypothesis that I do not discuss here. To summarize, it is that what the viewer imagines to see is an "impression" of the momentary event depicted, which may last for however long she sees the photograph. This hypothesis is unsatisfactory, as we ordinarily do not continue to see a moment for as long. Ibid. pp.176-181.

the viewer imagines seeing the depicted event. It is important to note that such segmentation of an entire duration into multiple seeings does not mean that the viewer imagines repeated seeings of the same depicted event. Rather, what it means is that the viewer imagines seeing the depicted event *just once*, repeatedly.

The first hypothesis implies that seeing a still photograph of a motionless subject is no different than seeing a film of a motionless subject. However, even with no discernible change or motion occurring in a film, our visual experience of seeing a motionless subject through a still photograph and through a film are not the same once we become aware of which of the two we are seeing. Therefore, Walton suggests that the case of seeing a still photograph of a motionless subject is also more accountable by the third hypothesis. In other words, the alternative account is that the viewer, when seeing a still photograph of a motionless subject, imagines seeing the motionless subject for the duration of an instant moment only once, and repeatedly for however long she sees the photograph.

The third hypothesis offers a plausible account of how our visual experience of seeing an architectural photograph may proceed in many cases. In fact, it seems in line with what Stoller perhaps has in mind in saying the following in his 1998 interview (I have quoted this passage at the beginning of this chapter, and would like to quote it here again):

And time is – it's infinite – you know you have all of these vistas. You have *this* vista. You have *that* one. And you have this one here. There are all of these vistas and it takes your eye a while to get around to all of these things. And that's a definition of space. It's a time thing. You can see all of these things in two seconds. But that's enough. That's a whole other dimension.¹⁸⁴

¹⁸⁴ Naegele and Stoller, "An Interview with Ezra Stoller: Photographing Architecture." p.113.

I emphasize that the mode of seeing, which is of interest here, is not the kind needed for surveying the photographed building through the medium with the intent of obtaining factual information about the building. In other words, I am not interested in the mode of seeing an architectural photograph, wherein it functions as a notation, serving an instrumental purpose – although the architectural photographs I examine and discuss in this chapter are perfectly capable of serving as good visual documentation of their architectural subjects. In fact, each of the many segmented seeings would be too short for an extended survey of the photographed building, which is required for obtaining factual information. To quote Walton, “the duration of the imagined seeing, of any of the momentary imagined seeings, is too short for survey of the scene.”¹⁸⁵

In essence, the distinction I make here is between an extended visual survey of documentary details in a building through photography on the one hand, and a visual experience of seeing photographic properties, which the viewer can perceive even in momentary, multiple takes, on the other. The latter, which is of interest in this chapter, connects to the viewer’s construct of a fictitious world of which the photographed building is a part. In particular, by examining some of Stoller’s architectural photographs in this chapter, I will propose that we note instances of ephemeral things, such as shadows, reflections, or moving human figures. The photographer depicts them so that they suggest various temporal durations that surround the presence of the building. This does not mean that the building or architecture in Stoller’s photographs is reduced to a trivial subject. Instead, it means that the fictitious world, which consists of things in various durations,

¹⁸⁵ Walton, “Experiencing Still Photographs: What Do We See and How Long Do We See It?” p.182.

contributes to the exemplification of a critical nature of the building or architecture in question – that is, its timelessness. In addition, I emphasize that a visual experience of this kind is unavailable in the seeing of an actual building onsite; it is available only in the seeing of an architectural photograph.

4.3 Temporal Elements

I have noted that the means of motion depiction such as those suggested by James Cutting do not pertain to most of the buildings photographed by Ezra Stoller, as their forms typically commit to austerity and simplicity. It is rare to find expressions of animate forms in the postwar American architecture of Ludwig Mies van der Rohe or Louis Kahn. Moreover, Stoller tends to refrain from employing dynamic composition. The photographer rarely implements expressive means to fabricate unsteadiness when no such quality exists in the actual subject. In short, the stylistic inclination of mid-century America and Stoller's pronounced objectivity rarely admit motion depiction in building forms.

Even the most ascetic architectural subject, nonetheless, must exist in the world of ephemeral things and changing phenomena, susceptible to time. In fact, Stoller often prefers utilizing non-architectural elements to depict motion and various temporal durations. His architectural photographs become evocative when such elements accumulate and juxtapose various timeframes and paces onto the entirely inanimate architectural subject.

What are such elements that suggest motion or temporal durations in Stoller's architectural photographs? To identify them, I have surveyed all available photographs by Stoller: including those of Mies's Seagram Building (photographed in 1958 and 1991,

building completed in 1958), Kahn's Salk Institute for Biological Studies (photographed in 1977, building completed in 1965), and Kimbell Art Museum (photographed and building completed in 1972). From the survey, I have identified non-architectural or secondary subjects that frequently appear and provoke motion and temporal durations.¹⁸⁶ I have then categorized them, depending on the typical pace or the duration that each element suggests. The list, as a result, comprises i) human figures, cars, and water; ii) shadows and clouds; and iii) reflections and glares [Figure 4-16]. In the following, I would like to further relate these temporal elements to Stoller's specific techniques and photographic effects by referring to some relevant theories that inform of their visual functions, and to the photographer's comments. The elements of human figure, cast shadow, and reflection, although seemingly secondary subjects, are of interest as they contribute to the viewer's seeing of timelessness in the main architectural subject.

¹⁸⁶ Ezra Stoller photographed Seagram Building on two different occasions: the first take was in 1958, shortly after its completion; and the second take in 1991.



Figure 4-16 – The secondary subjects (human figures, cars, water, shadows, clouds, reflection and glare) in Ezra Stoller’s photographs.

4.3.1 Human Figures, Cars, and Water

To use people or not to use people? My criterion is that when you have a scale so unfamiliar that you have no idea what it is, you've got to use a familiar object in it.¹⁸⁷

As Stoller notes in an interview, a widely known convention is to add a human figure in an architectural drawing or a photograph for indication of scale. By measuring the

¹⁸⁷ Naegele and Stoller, “An Interview with Ezra Stoller: Photographing Architecture.” p.112.

familiar scale of a human figure with the scale of a building or space presented, we can approximate metric dimensions of them. The stylized human figures utilized in – or rather pasted on – most cases of architectural representation serve as such referents for providing scale or depth information.

A human figure in architectural representation may serve additional roles, which concern exemplification of richer aspects of a building or space. Consider Alex Anderson's essay, "On the Human Figure in Architectural Representation" (2002), which surveys such cases wherein human figures exemplify cultural characteristics.¹⁸⁸ Anderson refers to Marco Frascari, who calls for an "ontological" approach in the representation of human figures. Anderson offers examples of architecture representation wherein human figures convey the "immeasurable" architectural properties and manifest "how architecture can be shaped to accommodate human experiences and actions." A human figure in classical drawings, for example, typically projects an architectural character through analogical association – a sensible approach of the episteme, which values physiognomic resemblance between the body and the building. The 18th- and 19th-century linear perspectives sometimes include exaggerated and dramatized figures, so as to describe in a theatrical manner the probable events in space. Emmanuel Viollet-le-Duc's drawing of a "Venetian Palace" shows human figures that represent certain classes and characters, via detail depictions of their costumes and gestures, for whom the space was intended. Le Corbusier's

¹⁸⁸ Alex T. Anderson, "On the Human Figure in Architectural Representation," *Journal of Architectural Education* 44, no. 4 (May 2002): 238–46.

figures are famous for exemplifying ideal aspects of modern life, whereas Carlo Scarpa's figures are one of the complementary agents for his "metonymic" architectural formulation.

Stoller's approach, interestingly, is to avoid granting a human figure such a conspicuous character. In an interview, the photographer not only notes the conventional function of human figures that inform scale, but also speaks of a discipline to which he adheres. In response to the interviewer's comment about Le Corbusier's treatment of human figures in photographs – on how they are mostly seen from behind – Stoller says the following:

That was his way of establishing anonymity. Because, as I said, a photograph *with* people becomes a photograph *of* people. When I have to use people, I always do that. Because you want them for what they represent, but you don't want the picture *of* the people. In most cases, people just happened to be there. (...) I think a posed figure is an embarrassment and I try to avoid them as much as I can. Especially now that film is faster and the camera's smaller.¹⁸⁹

Stoller prefers for a human figure to remain anonymous and be incognizant of the camera, so as to not assume theatricality for herself.¹⁹⁰ This helps to sustain the viewer's

¹⁸⁹ Naegele and Stoller, "An Interview with Ezra Stoller: Photographing Architecture." p.112.

¹⁹⁰ Michael Fried's notion of "absorption" refers to the depictive motif of anonymous human subjects incognizant of the painter or the camera. According to the art critic, this motif becomes popular in French paintings during the 18th century, and regains its significance in contemporary art photography. The viewer seeing the absorptive subject is drawn to believe that the subject is completely detached from the viewer's world and, conversely, engaged with the fictitious world of the picture. Absorption circumscribes and isolates the subject's world from the viewer's real space. The antithesis of absorption is theatricality, the quality of declaration in response to the expectations of the viewer. Michael Fried, *Absorption and Theatricality: Painting and Beholder in the Age of Diderot* (Berkeley: University of California Press, 1980); Michael Fried, *Why Photography Matters as Art as Never Before* (New Haven: Yale University Press, 2008).

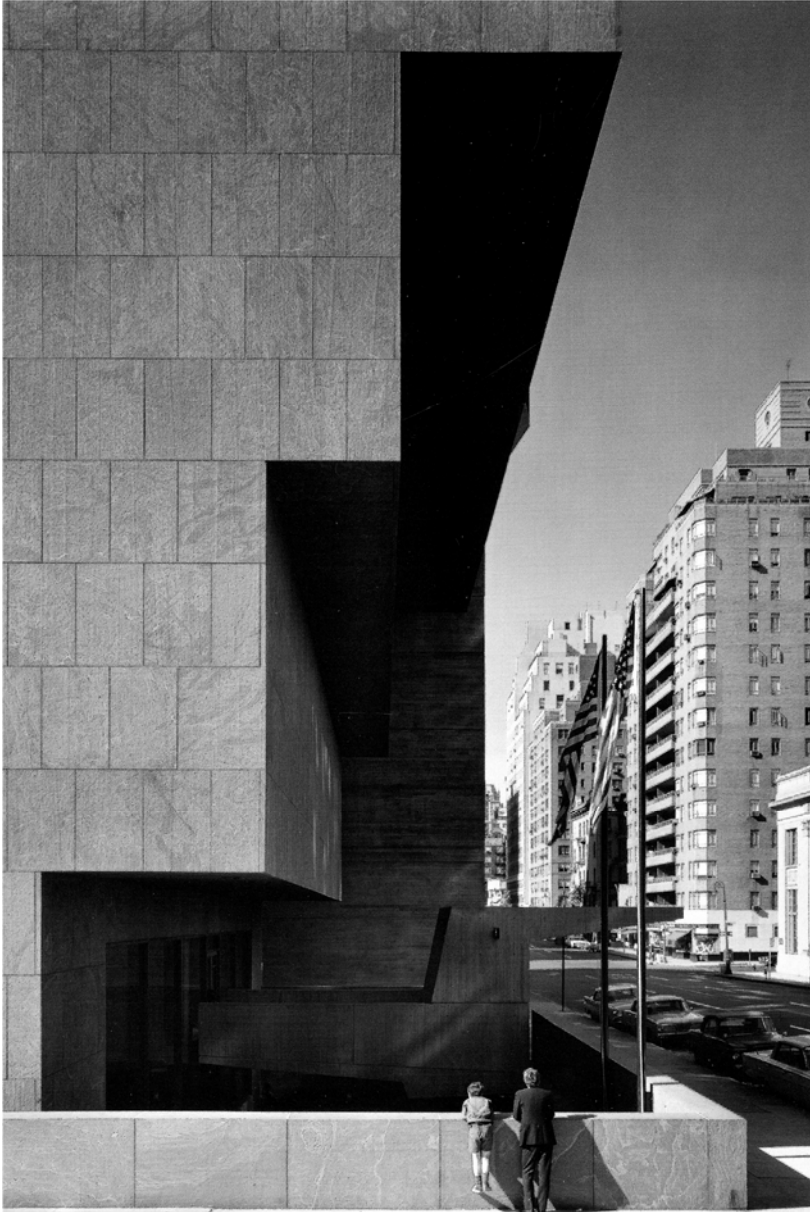


Figure 4-17 – Ezra Stoller, Whitney Museum of American Art, 1966 (architect: Marcel Breuer; building completed in 1966).

attention on the main subject matter, the building. For example, see Figure 4-17, Stoller's photograph of Marcel Breuer's Whitney Museum of American Art. Despite some hints of the human figures' identities – perhaps a father and a son – the camera maintains its



Figure 4-18 – Ezra Stoller, Seagram Building, New York, 1958 (architect: Ludwig Mies van der Rohe; building completed in 1958).

distance from the two by shooting from behind, and thus the viewer only sees their backs. A more striking example is Figure 4-18, Stoller's photograph of the plaza at the Seagram Building: anonymous pedestrians occupy the space. In both cases, the human figures effectively serve the conventional role of informing the architectural scale by their comparative size without attracting much attention toward themselves.

In particular, the pedestrians in Figure 4-18 tell the scale of space not only by their sizes, but also by their movement. The human figures function as both depth cues and motion cues, those that encompass the entire tableau from close to far and from left to right.

They inform depth by the cues of relative size and height in the visual field, and motion by blurry appearances. The range of the scattered fictitious movements and paces of the pedestrians is what exemplifies the expansive nature of the plaza. It is what completes our visual experience of the space. In Figure 4-17, Stoller juxtaposes the instantaneous moment informed by the boy's apparent leap off the ground and the articulate cast shadows of him and the father that askew against the perimeter wall onto the austerity of the dark granite-cladded inverted ziggurat. In addition, the row of cars parked on the street generate strong depth cues of relative size and height in the visual field, which enhance the sense of perspectival depth projecting outward from the side profile of the ziggurat. The deep shadows attached and cast on both the undersides of the ziggurat and the street further solidify this reading, as they tie together the converging edge lines of the building and the cars in a univocal dark-gray tone. Although the cars do not offer particular motion cues, we are aware of their mobility, their temporal presence.

Stoller's treatment of such temporal elements involves certain photographic techniques, the generic visual functions of most of which I already explained in Chapter 3. The use of a wide-angle lens, which brings with it extensive focal depth, can accommodate the spatial property of expansiveness in both width and depth with acceptable clarity. Such clarity is often in contrast with the temporal elements in Stoller's architectural photographs, as we saw in the Seagram Building photograph in Figure 4-18 between the building form and the pedestrians. The degree of blurriness, of course, depends on exposure time. For example, Figure 4-18 required relatively longer exposure time due to the gloomy weather, which in fact turned out to be a favorable condition for depictions of the pedestrians – and arguably for the photograph as a whole.



Figure 4-19 – Ezra Stoller, Kimbell Art Museum, Fort Worth, 1972 (architect: Louis Kahn; building completed in 1972).

Another notable source for motion depiction by blur that often occur in architectural photographs is water. The channel of water in the central plaza of the Salk Institute for Biological Studies and the pool of water at Kimbell Art Museum are apparent sources evocative of time and pace [Figure 4-19].

4.3.2 *Shadows and Clouds*

I know what the sun does at different times of the year. I studied descriptive geometry, shades and shadows and rendering at architecture school, and I know what the sun will do, what the shadows will be like. So I go around with a plan of the job that I've made, and I'll put arrows and times on those. Then, when I get back, I'll make a schedule with times and what shot gets done at that time. Then I just go and shoot – always keeping an antenna up for the unusual shot.¹⁹¹

Like Stoller implies in an interview, shadows in his photographs resemble those rendered by a convention in architectural drawings, which is to apply descriptive geometry and mechanically project the shadow from a form by imagining parallel rays of light. Cast shadows, in particular, add a sense of depth or enhance it when properly rendered in orthographic and perspectival drawings.

In Chapter 3, I discussed Julius Shulman's depictive techniques, which maintain balance of exposure and create ambient light and sprawling shades rather than distinctive cast shadows. Whereas cast shadows are usually absent in Shulman's architectural photographs, they often appear in Stoller's photographs. This is an important – yet often-overlooked – distinction, and is the result of their different approaches in treatment of exposure and lighting. Moreover, it also attests to their different cultures and contexts. To

¹⁹¹ Stoller, Interviews with ASMP Founders: Ezra Stoller.

understand the relevant implications, I should first introduce general knowledge of how shadows function in visual representation.

A shadow is a dark parcel that we see, occurring because of discontinuity in luminance or reflection of light. Our seeing of visual properties, such as shapes, colors, and textures of things, all depend on our seeing of shadows. In our seeing of a visual depiction, shadows thus have a major role in our perception and conception of the depicted form, space, motion, and sometimes the underlying intention. This is one of the topics of Michael Baxandall's *Shadows and Enlightenment* (1995), in which the author specifically deals with an aspect in Western painting or chiaroscuro in the mid-18th century, during which artists and scientists begin to take the empiricist approach in observation and depiction of shadows. Baxandall refers to this as "rococo empiricism," a deviation from the nativist approach to depict shadows based on rigorous geometric principles.¹⁹² What follows is a brief account of different physical types of shadows and their roles in our visual experience, largely based on the introductory chapter of Baxandall's book.

The three varieties of shadows whose distinction supposedly matters in pictorial representation are cast or projected shadows, self-shadows, and shading [Figure 4-20]. Firstly, a cast shadow occurs because of an intervening object that occludes a background surface from a light source. It is, in other words, the shadow of the intervening object that appears on the background surface. Secondly, a self-shadow occurs because of an object occluding some parts of itself from a light source. It is, in other words, the dark part of the object facing away from the light source. Finally, shading occurs because of subtle local

¹⁹² Michael Baxandall, *Shadows and Enlightenment* (New Haven: Yale University Press, 1995).

changes in surface orientation of an object in relation to the dominant angle of a light source. It appears, in other words, as gradual changes in tone on the object surface. It typically consists of multiple sub-regions without clear-cut borders, and is often contiguous and merges with self-shadows. An interesting aspect of cast shadows is that their occurrence requires a background surface separate from the occluding object, whereas self-shadows and shading are attached to the occluding object. Cast shadows are thus susceptible to changes in how the occluding object and the background surface relate to each other.

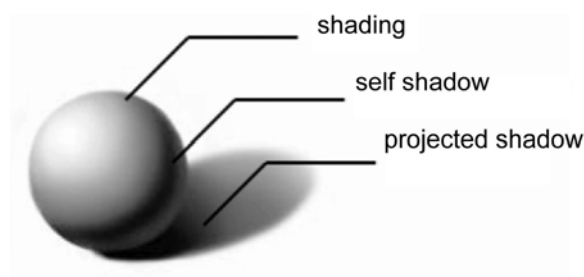


Figure 4-20 – Three types of shadows.

To understand the visual function of cast shadows, let us review a relevant study in cognitive science. Pascal Mamassian, David Knill, and Daniel Kersten’s “The Perception of Cast Shadows” (1998) includes a comprehensive account of what information cast shadows convey in varying conditions.¹⁹³ What information on form, spatial layout, or motion can the viewer gain about the objects involved in the making of a cast shadow, and

¹⁹³ Pascal Mamassian, David C. Knill, and Daniel Kersten, “The Perception of Cast Shadows,” *Trends in Cognitive Sciences* 2, no. 8 (1998).

how? I would like to underline and illustrate two significant points that the authors make, among others.

Firstly, cast shadows usually inform the viewer of information regarding the background surface more so than the occluding object.¹⁹⁴ This is a special function of cast shadows, as self-shadows and shading only involve and inform the viewer of the formal properties of the object that occludes the light source and on which the shadows are attached. See, for example, the cast shadows that appear in Stoller's photograph of the Salk Institute for Biological Studies [Figure 4-21]. The lighting and exposure for this photograph create a strong contrast between the lit and the shadowy areas. The shadows seem overly dark – as Stoller admits in his interview, “this picture of the Salk is printed much too dark.”¹⁹⁵ The lit areas, on the other hand, seem overly brilliant. For example, see the upper right portion of the photograph, where the lack of tonal differentiation between the exposed-concrete surfaces makes the viewer's reading of depth relation difficult. What actually aids the viewer's correct reading is the askew shape of the cast shadow, which registers the discontinuous or uneven levels of the surfaces.

¹⁹⁴ Pascal Mamassian and Others' findings concerning the visual function of cast shadows in telling the shape or the depth of the background surface, which I introduce and discuss here, are included in the sections, “Static Cue for Surface Shape” and “Static Cue for Spatial Layout,” in *Ibid.* pp.289-290.

¹⁹⁵ Naegele and Stoller, “An Interview with Ezra Stoller: Photographing Architecture.” p.113

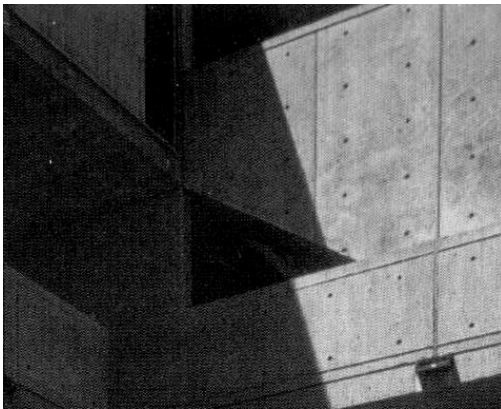


Figure 4-21 – Ezra Stoller, Salk Institute for Biological Studies, La Jolla, 1977 (architect: Louis Kahn; building completed in 1965); cropped view of cast shadow on exposed-concrete wall.

Furthermore, Baxandall finds that cast shadows in 18th-century paintings are likely to be perceived through the viewer's inattention. In the viewer's perception, they are grounds rather than figures.¹⁹⁶ However, the strong contrast, such as in this photograph, can bring cast shadows forward, and convert them into figures. As the conversions and potential reconversions occur – switching back and forth between seeing shadows as figures and as grounds – the formal properties of cast shadows may begin to exemplify the formal properties of the building: geometric clarity, precision in outline, or contrast between orthographic and diagonal edges. Robin Evans also makes a similar point.¹⁹⁷ As an objection to the thesis that connects descriptive geometry to the so-called rationalization of architecture, Evans brings forward a comparison between Giacomo Barozzi da Vignola's 16th-century depiction of a Tuscan Order versus Brochier the Elder's depiction of a Doric Order from 1823 [Figure 4-22]. Evans observes that whereas Vignola's painterly depiction of shadows “enhances” the round shape of the Order, Brochier's shadow depiction that follows descriptive geometry works to “dissolve” the structural form. In essence, while the latter's properties are exactly opposite to the properties of the column, the one thing they share is the sharpness of geometric delineation. Evans argues that the resulting effect is not one of instability. Rather, it “allows the observer to imagine the structure as quickened instead of deadened at its crucial points.” Although Evans does not use the term, what he describes here is precisely a case of counter-exemplification, as the depictive property refers back to the property of the depicted.

¹⁹⁶ Michael Baxandall, “Painting and Attention to Shadows,” in *Shadows and Enlightenment* (New Haven: Yale University Press, 1995).

¹⁹⁷ Robin Evans, “Architectural Projection,” *Via* 11 (1990): 134–39.



Figure 4-22 – Giacomo Barozzi da Vignola, Tuscan Order. From *Regola delli cinque ordini d'architettura* (1562); Brochier the Elder, Roman Doric Order, 1823.

The second point that I would like to make about cast shadows is that they are relevant to the viewer's perception and recovery of spatial arrangement, especially when they are in motion.¹⁹⁸ To be more specific, Mamassian and Others find that displacement or movement of a cast shadow is strongly indicative of displacement or movement of the occluding object. This reading, in the viewer's perception, overrides her potential assumption of displacement or movement of the light source, because the light source is considered stationary in a typical real-world situation. We may not be able to apply this principle directly to the case of seeing a cast shadow in an architectural photograph because a still photograph, of course, cannot present motion per se. Moreover, an architectural photograph is likely to be of a motionless building, which cannot mobilize its cast shadow. Nonetheless, as Cutting demonstrates in his study, our perception of motion may depend on our phenomenal construct. We expect cast shadows to eventually move, change their tones, or disappear. The claim that we expect such displacement of cast shadows is supported by the "predictive" model of perception proposed by Robin Le Poidevin: "the brain makes an adjustment to the information it has received about the position of a moving object, and makes a projection based on information concerning the object's velocity and direction." In projecting motion, the brain imposes an "interpretation on the data," and there is at least a "component of motion perception that is constructed, or projected, by the

¹⁹⁸ For a detail account of dynamic cues and perception of motion through cast shadows, see Mamassian, Knill, and Kersten, "The Perception of Cast Shadows." pp.290-293.

mind.” Le Poidevin furthermore suggests that there may be cases where the “mind projects motion where there is none.”¹⁹⁹

Because most buildings remain motionless in actuality, the cast shadow of a building in an architectural photograph must indicate displacement of the light source – which is, in most cases, the sun. I therefore argue that our usual reading from a cast shadow of a building in an architectural photograph and its expected displacement is indeed special, as it would be of the sun in motion or of the time at its gradual pace, slowly passing as in the real world. This reading cannot be overridden, as the other variable, the building, surely remains motionless.

4.3.3 *Reflection and glare*

I proposed in Chapter 3 that one of Shulman’s distinctive principles in photographic depiction is to maintain balance of lighting and exposure in all areas, particularly between adjacent interior and exterior spaces. The effect of this is the large window panes of the mid-century West Coast houses maintaining their transparency in photographs, thus exemplifying spatial continuity. Maintaining balance of exposure or enhancing formal definition often requires an additional light source, which Shulman at times cleverly conceals through available means as to avoid reflections and glares on the window panes that must be kept transparent [Figures 3-2 and 3-10]. Clear depiction of all spaces without

¹⁹⁹ Robin Le Poidevin, “Motion, Passage, and Projection,” in *The Images of Time: An Essay on Temporal Representation* (Oxford: Oxford University Press, 2007). p.94.

reflections and glares, and thus without indications of window panes between spaces, is one of the priorities of Shulman's practice.

In comparison, Stoller likes to utilize reflections. See, for example, his Seagram Building photograph in Figure 4-18. Although we are able to see the office interiors through the glass façade, we cannot say that it is transparent, as it simultaneously reflects the silhouette of the building across Park Avenue. Although opacity is added, Stoller's treatment does not resemble that of the earlier expressive avant-gardist photographs, intended for play upon ambiguity. Stoller's approach demonstrates objectivity and documentary quality, as well as depicts the materiality of the glass and the ephemeral it can embody. A reflection affects our visual experience like cast shadows. It is an ephemeral effect that will eventually change its color and shape. It constantly sparkles, appearing and disappearing with the varying light. It is suggestive of the ambience, the floating particles in the air. It is suggestive of time.

A striking example of a glare utilized for a depictive purpose is the photograph in Figure 4-23. The photograph brilliantly conveys some important features of the building: the setback from the street, the platform/plaza that neutralizes the slope of the site, the structural columns that uphold the five-bay tower and continue behind the curtain wall, the dark grid pattern of horizontals and verticals, the ground-level glass box and the canopy extending outward, the low-rise addition on the side, and so on. Stoller includes tightly the entire block within the pictorial frame and thus pushes the tower toward the left. This reasserts the setback and represents the space reserved for the plaza in a scale that looks affine when compared to the scale of the tower. Stoller also manages to keep all verticals

straight and parallel to the pictorial frame. In Stoller's photograph, the architectural and pictorial configurations conform.

However, this kind of enhancement only partially explains why Stoller's photograph looks so compelling, as it contains aspects that apparently have little to do with any notable enhancement in evidentiality, yet those that the photographer has striven to implement with extreme care. One such aspect is Stoller's treatment of light. The sunlight in Stoller's photograph, at first glance, seems far too direct and bright. It is precisely this particular feature, however, that makes the photograph so compelling. The strong sunlight, the imbalance of luminance between the interior and the exterior, and the slightly overexposed upper part of the picture turn the upper part of the building façade into an opaque mirror; yet its lower shaded part, outlined by the silhouette of the buildings across, reveals the inner columns that continue from the ground level upward to define the five-bay structure. The sharp cast shadows on the columns emphasize the presence of the canopy. The sunlight also puts a spot of glare on the building, and reflects off of it to create a glittering pattern on the street. The effect is as if the building has cast the shadow of its skeletal structure. Accordingly, Stoller, manages to not only define through tonal variations the forms of the platform/plaza and its steps (compare these with those of my snapshot), but also of all the peripheral elements – note the amazingly clear conveyance of the surrounding buildings, the pools, fountains, and foliage on both sides of the plaza, and the cars and human figures.



Figure 4-23 – Ezra Stoller, Seagram Building, New York, 1958 (architect: Ludwig Mies van der Rohe; building completed in 1958).

What I have described, interestingly, concern the peripheral subjects – that is, they concern things other than the building. Stoller depicts these seemingly trivial elements, firstly, with minimal interruption to the viewer's immediate perception of the main subject. Secondly, he depicts these secondary subjects in a manner that they measure against the austere form of the building, thus emphasizes their temporality. For example, despite the abrupt change of tone across the reflected skyline in Figure 4-23, the horizontal and vertical lines of the building's spandrels and mullions overlaid upon its plate-glass envelope remain clear and sharp. Also note the amorphous shapes of the pools, fountains, and foliage, or the human figures suggestive of motion. I propose, in fact, that understanding the role of such

secondary and temporal subjects is critical in understanding the most important visual function of Stoller's photographs, which I discuss in the following section.

4.4 Timelessness against Temporal Elements

I have suggested that Ezra Stoller's photographic depiction of peripheral elements – such as those of human figure, cast shadow, and reflection – may exemplify temporal properties by means of motion cues or by offering expectations of durations. What does the viewer then experience of architecture through her seeing of such temporal properties in architectural photographs? To provide a possible answer to this question, I would like to examine some architectural photographs by Stoller in detail, as well as offer some cases of comparison.

Firstly, let us again examine the Seagram Building photograph by Stoller in Figure 4-18. Before going further, I would like to reiterate the point I made in Chapter 1: Stoller's architectural photographs, more than anything, are superb documentations of the photographed buildings, supported by the photographer's deliberate crafting of objectivity. Figure 4-18 is no exception. The camera's view is head-on and direct. Note the three-step pedestal that uplifts the granite-paved plaza from the mundane affairs of the street, and the front row of six massive columns that set back and uphold the main tower and the canopy cantilevering out from the three central bays. See, through the ground-level window panes, the four circulation cores that occupy the lobby. See the vertical and horizontal alignments of the opaque bronze finish, which are overlaid on the semi-transparent glass that simultaneously reveals the inside and the silhouette of the building across Park Avenue.

Despite the weather offering too little light, Stoller manages to articulate the thin lines formed by the details of the famous I-beam mullions.

Whereas the overall profile and the edge lines of the building are presented with the utmost brevity and clarity, other components of the pictorial world seem relatively ambiguous. Apparent haziness creates aerial perspective for the surroundings, against which Stoller foregrounds and isolates the Seagram building. The blurry pedestrians suggest varying motions and momentary paces. The silhouette on the window panes of the tower façade is an ephemeron, ready to become dilute or disappear. If we were to accept Kendall Walton's hypothesis, each of these temporal moments or durations would constitute a seeing that may accumulate with the viewer's multiple repetitive seeings. The uncanny part of this fictitious world that comprises such temporal durations is the building claiming its duration-less presence, its prevailing permanence throughout the viewer's repetitive seeings.

Another such case is the Kimbell Art Museum photograph in Figure 4-24. To reiterate my point visually, I have highlighted the secondary subjects other than the building that also suggest momentary paces and temporalities that measure against the permanent structure.



Figure 4-24 – Ezra Stoller, Kimbell Art Museum, Fort Worth, 1972 (architect: Louis Kahn; building completed in 1972). Below are the secondary subjects suggestive of various temporal durations.

In essence, I propose that such temporary durations and the fictitious world of ephemeral things contribute significantly to exemplifying permanence in the viewer's seeing of architecture. Despite multiple renewals during the viewer's seeing, into which

the momentary fictitious durations of mobile things and disappearing events enter, the unchanging building presented with clarity and precision prevails as an unworldly presence. In this fictitious world, built through Stoller's techniques and deliberate control of variables, self-absorbed human subjects, shadows with unusually sharp profiles, and the vast amount of details that cannot be captured in a moment of actual seeing all appear unfamiliar, except the clear and precise form of the building. They direct our attention to the only subject, the architectural form, which seems to escape this fictitious world of temporal durations captured by photographic depiction. Architectural photographs, in this way, exemplify permanence in architectural forms, a property we cannot conceive in seeing buildings in the real world, wherein all things without exception exist in flux.

Keeping in mind what I have suggested as temporal elements often found in Stoller's photographs, let us examine and compare the two photographs in Figure 4-25: those of a similar view of the Salk Institute for Biological Studies. Photograph (A) is by Stoller, and photograph (B) is by Grant Mudford. Mudford is an Australian photographer and an occasional filmmaker whose oeuvre includes exceptional architectural photographs of works by Louis Kahn and Frank Gehry, among other renowned architects. I should note that I do not intend to offer an assessment of the two photographs in terms of overall quality or value. Instead, my comparison aims to emphasize that some subtle depictive moves, which many would consider trivial, may matter significantly to the specific concerns of our visual experience of seeing architectural photographs.



(A) Photograph by Ezra Stoller, 1927



(B) Photograph by Grant Mudford

Figure 4-25 – Comparison. Salk Institute for Biological Studies, La Jolla (architect: Louis Kahn; building completed in 1965).

Photograph (A) by Stoller largely comprises temporal elements. The central and dominant feature of the photograph is the sky, filled in with clouds. Lower the gaze and we see water falling into the basin, as well as foliage and its shadows cast on the exposed concrete scatter in the wind. More importantly, the view mostly consists of teak infills, the non-structural components of the building. In comparison, Mudford's camera takes an elevated and closer position to make photograph (B). With regard to temporal elements, self-shadows and cast shadows are notable and appear on nearly all exposed-concrete and teak surfaces of the aligning study towers. The travertine-marble benches also leave sharp cast shadows, which exemplify the properties of precision and geometric simplicity – not unlike what we see in many of Stoller's photographs.

Stoller's intention seems to be, to some extent, to foreground the temporal aspects of the scene. The low angle that he chooses does not reveal the plaza, which is the space that often excels in exemplification of timelessness. The angle also offers on both sides of the frame the view of repetitive study towers, which appear mostly as teak-infill surfaces. Cast shadows are reduced to the minimum possible on these surfaces, and thus do not intervene with our reading of structure versus infill. In comparison, the shadows attached and cast on the same surfaces in Mudford's photograph become bothersome at times in understanding what is infill, what is structure, what is void, and what is solid. The shadows are indexical of a cosmic event or of buildings forms, yet fall slightly short in engaging the viewer with the distinctive aspect of structure versus infill.



(A) Photograph by Ezra Stoller, 1927



(B) Photograph by Grant Mudford

Figure 4-26 – Comparison. Salk Institute for Biological Studies, La Jolla (architect: Louis Kahn; building completed in 1965).

The two photographs in Figure 4-26 are also of a similar view taken by the two photographers, this time from the other end of the plaza. Stoller, in this case, has certainly shifted his interest from the temporal aspects toward the subjects of permanence. The longitudinal plaza and the channel of water leading to the Pacific and the horizon are presented without interruption. Although it is a similar view, Muford's depiction in photograph (B) is such that the shadows cast on the plaza obscure the procession. The boundary between the sky and the study towers on the left side is also obscured, due to the self-shadows that encompass the entire row of buildings. Stoller's photograph (A), on the other hand, features occasional cast shadows limited to the exposed-concrete surfaces of a few study towers. See, in particular, the part of the photograph I cropped and isolated in Figure 4-27, wherein cast shadows on the whitewashed surface reiterate the alternate orthographic and diagonal profiles of the building with clarity and precision.



Figure 4-27 – Ezra Stoller, Salk Institute for Biological Studies, La Jolla (architect: Louis Kahn; building completed in 1965). Cast shadows on walls.



Figure 4-28 – Ezra Stoller, Salk Institute for Biological Studies, La Jolla, 1977 (architect: Louis Kahn; building completed in 1965).

Exemplification of permanence and other significant characteristics of Kahn's architecture prevail in Stoller's other photographs of the Salk Institute, particularly in those that assume viewpoints from the flanking side of the plaza [Figure 4-28]. Among such photographs, let us more closely examine the photograph in Figure 4-29. Here, Stoller's positioning of the camera is audacious, and clever as well. Although its frame seems populated with fragmentary forms and spaces – seemingly more complex than the simple perspectival views of the photographs in Figures 4-26 and 4-27 – Stoller's head-on shot in Figure 4-29 in fact tells us more about the building with relative clarity. The photograph offers a close-up view through which we may clearly identify the details of formwork residues and form-tie marks, and of teak paneling. We become aware of the gaps that distinguish the concrete and the teak, and we understand the architectonic way of adjoining the two.



Figure 4-29 – Ezra Stoller, Salk Institute for Biological Studies, La Jolla, 1977 (architect: Louis Kahn; building completed in 1965).

Importantly, such documentary details that we note and that encompass our view coexist with the temporal moments occurring here and there in the photographic space. For example, in one seeing we may keep in pace with the walking figure traversing the plaza. In a successive seeing, then, we may note the cast shadow gradually in motion in the upper left corner, whose sharp outlines and abysmal darkness are also suggestive of the building's strong presence. Finally, we may note in the next seeing the slightly differing colors among the teak panels, and be reminded of their eventual weathering over time. In fact, the key to such extension by added multiple seeings is in sustaining the viewer's interest despite their repetitive nature. Abundant details and varying temporal durations offer the viewer reasons to linger, and through this extensive seeing we become aware of the only lasting subject,

the duration-less physical presence of the building. Such a visual experience is further solidified by Stoller's direct head-on view, which puts forward the building as a great block with materiality.

The property of timelessness or permanence manifest in photographic depiction matters precisely because it refers to the property of architecture. Consider, for example, how Fritz Neumeyer describes as the prime quality of Mies's architecture: "somber primitivity." Neumeyer borrows the term from Karl Scheffler, an apologist of gothic architecture, who writes in 1917 that "somber primitivity" is one of the "strongest architectonic impressions from half-finished projects" that lies in "a raw structure without doors or windows." According to Neumeyer, what Scheffler underlines here paves the way for Mies's obsession with frame construction, and his appreciation for the "matter-of-fact monumentality of the raw-structure." In fact, we are well aware of Mies's thinking on the skeletal frame. I refer here to his famous quote from 1922:

Only skyscrapers under construction reveal the bold constructive thoughts, and then the impression of the high-reaching steel skeletons is overpowering. With the raising of the walls, this impression is completely destroyed; the constructive thought, the necessary basis for artistic form-giving, is annihilated and frequently smothered by a meaningless and trivial jumble of forms.

William Jordy is one of the pioneers who spots that Mies's obsession is in fact with the aesthetic appearance of such primitivity, rather than with anything functional. Jordy's term for the Miesian aesthetic of the "skeletal frame" is "laconic splendor," which combines the qualities of reductiveness in bare structure and of excessive phenomena that emerge after the buildings' completion. In his description of the Lake Shore Drive apartment buildings, Jordy points out the diverse phenomena that the viewer experiences

as she moves around them, initiated primarily by the architectural properties – their varying profiles of the façade. Jordy writes:

Change is constant and amid these simple things, which – and here is the paradox – are so elemental in themselves and in combination that they are intellectually perceived and unchangeable.²⁰⁰

What Jordy describes here is precisely what I think Stoller sees, captures, and conveys in his architectural photographs of Mies's buildings. Stoller conjoins stillness with an array of imagined motions and durations and, in turn, poses the visual experience of timelessness in architecture. More importantly, Stoller does this through still photographs, which demand no actual movement around buildings.

²⁰⁰ William H. Jordy, "The Laconic Splendor of the Metal Frame: Ludwig Mies van Der Rohe's 860 Lake Shore Apartments and His Seagram Building," in *American Buildings and Their Architects*, 5 (Garden City: Doubleday & Company, 1972), 221–78.

CHAPTER 5. CONCLUSION AND COMMENTARY

The following passage describes Ezra Stoller's photographs of the Seagram Building. It is from a book review by Michael Crosbie of the most recent and comprehensive monograph on the photographer's work, *Ezra Stoller, Photographer* (2012).²⁰¹

In one, we see the dark bronze tower commanding Park Avenue from its plaza pedestal at dusk. Glowing most brightly at ground level, its interior and exterior are revealed simultaneously. In another shot, taken in the early afternoon from directly across Park Avenue, Stoller highlights the tower's materials, depicting it as a restrained and austere yet elegant glass and bronze box. In a close-up of the northeast corner of the building, with a view of Gordon Bunshaft's then six-year-old Lever House just across the street, we read its bronze finish. A fourth shot frames a view from the Seagram lobby to McKim, Mead, and White's Racquet and Tennis Club, across Park Avenue, along with just a sliver of the Lever House. Thus we can understand where we are in the city and how one view connects to the other. It's as if Stoller presents us with a carefully composed series of dots, like stars in space revealing the constellation of Seagram's beauty and genius.²⁰²

Crosbie describes, with admirable perception, the four photographs of the Seagram Building. He describes how one photograph simultaneously presents the interior and the exterior of the building, and how another conveys its materiality. Some photographs are informative of the context, the surrounding buildings and the city. Crosbie, then, conveniently proposes the photographs to be relatable views, through which the viewer can comprehend the "Seagram's beauty and genius." In other words, Crosbie's description is

²⁰¹ Nina Rappaport and Ezra Stoller, eds., *Ezra Stoller, Photographer* (New Haven: Yale University Press, 2012).

²⁰² Michael J. Crosbie, "Book Reviews: Ezra Stoller, Photographer," *Constructs, Yale Architecture*, Spring 2013. p.18.

of the properties of the building, projected *through* the photographs – he does mention a particular visual quality, “restrained and austere yet elegant,” yet the quality is still attributed to the building, the “glass and bronze box.”

In this thesis, I have offered a different kind of description. My primary interest in describing architectural photographs has been on the elements other than verifiable information of the photographed building – to be more specific, the cues of depth or motion and the depictive qualities of the medium. The cuing elements or the depictive qualities that I have specified and identified for my case studies are the sources of spatio-temporal constructs that mediate the very essence of the photographed building. The distinction should thus be drawn between a description of the photographed building by seeing through the photograph and a description of depictive cues and their implications. The notion that we see through the photograph toward the photographed building, as I have argued, is destined to lead to the conclusion that architectural photographs are inferior to architecture. Interestingly, the cuing elements and the depictive qualities, despite their seemingly trivial role in adding any informative substance, are surely the matter of deliberate codification by architectural photographers such as Julius Shulman and Ezra Stoller. Why would a professional architectural photographer attend to things? This is indeed a puzzle, as the photographs in question are usually not valued by virtue of being opaque.

From the viewer’s end, the puzzle can be rephrased as follows: if an architectural photograph does not serve to describe the photographed building nor its aesthetic quality independently from any architectural substance, what purpose does it serve, and what do we see in it? What do we experience of architecture, exactly, when we see an architectural photograph?

The case studies of Chapters 3 and 4 were driven by such questions. The first case study, that of Julius Shulman's photographs, concerns the spatial quality of a domestic space, channeled through the photographer's codification of cues. The point of departure, in this case, is the notion that our seeing of space is dependent upon the cues that distinguish depth planes. Shulman's subtle changes from the first shoot of Maslon House to the second, in essence, are changes in availability and arrangement of such cues. The changes are meaningful, furthermore, as they lead to those in spatial quality. The first set of the Maslon House photographs presents the domestic space as an orderly organization of discrete clusters. The space is a continuity materialized by the ample middle-ground depth and the negative areas with minimal interruption of architectonic partitions. The second set presents the space as if it is available for intimate engagement. Here, spatial continuity is materialized by accumulative figural objects.

The case study of Stoller's photographs, on the other hand, concerns the quality of architecture that we understand as primitivity or monumentality, which owes its manifestation to the apparent durations of secondary ephemeral subjects. The point of departure, in this case, is the hypothesis that our seeing of a still photograph must consist of many segmented seeings, and that further segmentation and thus elongation of the seeing is promoted by the various cues attributed to the secondary subjects that suggest change or motion. The visual experience of seeing Stoller's photographs is thus an imagined complex of various moments and paces, and the varying ephemeral moments direct our attention to the only thing that remains unchanged: the building. The ephemeral elements such as human figures, shadows, and reflection recourse back to the motionless and duration-less building.

I would like to add that although I have focused on specific cases of photographers and their works, I do not intend to claim that the mediative techniques that make salient the qualities that matter are entirely subject to an individual's creative ability. Rather, as I have implied in previous chapters, the photographer's role is in channeling certain qualities of architecture through the photographic means available. Photographic transparency incites the danger of overlooking such a role of the photographer, whereas opacity tends to enshrine the photographer as the lone author. What I have intended to do in this thesis is a more specific description of the architectural photographer's authorship in advance of architectural knowledge, which exists as part of a larger collective realm that includes the architect, the photographer, the audience, and the cultural techniques.

The case studies support the following argument: the behaviors in the making of an architectural photograph, such as pictorial composition, cropping, and lighting with intent, are what articulate the visual quality of the medium; and the critical role of such a visual quality is to refer to the building with ostensive objectivity and also, more importantly, to exemplify the quality of architecture. In other words, the visual qualities of the medium to which the photographer painstakingly attends do matter, as they are what shape our seeing and conception of architectural content.

My argument that the visual properties of the medium exemplify the essential properties of architecture may benefit from some clarification. I should reiterate that exemplification is a case of reference that draws attention toward a certain property of the medium that also exists as a property of the referent. This is why the notion of exemplification is instrumental in resolving the puzzle of contrived objectivity in Shulman and Stoller's photographs. The case studies have demonstrated that the photographers'

contrivance is exemplificatory in nature, as their photographic construct is also a spatial or temporal construct that architecture invites the viewer to conceive.

The argument further suggests that exemplification, through which the photographs in question manifest architectural content, may be an important model for thinking about other mediative ways for communicating architecture. In this regard, I would like to recall the point made by Robin Evans: that “sharpness” inherent in the method of descriptive geometry is also of architecture [See the section “Shadows and Clouds” in Chapter 4]. While many have discussed descriptive geometry with regard to its instrumental role, Evans focuses on its depictive quality – that is, the nature of the medium – which can also be attributed to what we conceive of the architecture being depicted. In other words, the significance of descriptive geometry does not lie in its instrumentality but in its medium-specific quality that refers back to the quality of what it mediates. Like so, the significance of architectural photography does not lie in its instrumentality, whether it be the ability to transparently relay or obscure the photographed building. The significance lies in its medium-specificity – like the varying gray tones for black-and-white photography, abundance of details against the boundaries of the frame, or stillness – that can refer back to the essential qualities of architecture. See my close-up of Ezra Stoller’s photograph in Figure 5-1. The sharp contrast between the entirely black cast shadow that projects in fine lines the building profile and the diluted and blurry shadows of leaves matters because it resonates the form of timelessness against the world of ephemeral things. The question is how such medium-specific qualities take on the exemplificatory role and what architectural qualities the medium embodies. This is the broader agenda, within which I would place my case studies of architectural photographs.



Figure 5-1 – Ezra Stoller, Kimbell Art Museum, Fort Worth, 1972 (architect: Louis Kahn; building completed in 1972). Close-up.

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Julius Shulman Photography Archive is at the Getty Research Institute. The first shoot of Maslon House is labeled under “Job 3501” and the reshoot under “Job 3527,” and are available for survey at: http://hdl.handle.net/10020/2004r10_job3501 and http://hdl.handle.net/10020/2004r10_job3527.

Ezra Stoller Photography Archive is at Esto, <http://www.estostock.com>.