

Serial Vision: Storyboards In The Design Studio

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As a preliminary design tool in film making, the storyboard is a set of choreographed images, usually drawn in pencil or ink, depicting the sequences of shots in a film. The film maker uses the storyboard to synchronize the film's visual rhythms with the narrative order of the script. The storyboard can introduce beginning architecture students to concepts of movement through space and time without complex computer technology and the critical and technical challenges it presents. To investigate the possible role of storyboards in architectural education, a group of architecture professors at a research university developed a design brief for a film school. A seminar examining the critical relationship between film and architecture was offered during the same academic period. Students in both courses explored the narrative potential of the storyboard to develop their design proposals. The storyboard proved an exciting stimulus for analysis and conceptual thought, and for developing architectural spaces in unexpected ways.

INTRODUCTION: THE STORYBOARD IN THE ARCHITECTURAL DESIGN STUDIO

The dominance of visual culture in progress since the advent of television, has been realized to an extent even its most committed critics failed to predict. Moving images surround us, yet architectural education has been slow to incorporate them into the pedagogical process. This paper investigates the relationship between film and architecture through two experimental courses, both of which utilized the storyboard technique as a means of articulating architectural concepts.

Film and architecture are regarded as fundamentally different media with separate ambitions and technologies but the rapid digitalization of both information and images is eroding the distinction between the tools of their creative processes. Documentary films on buildings and ideas have been produced since the early years of this century, but only recently, as computer technology has become an ubiquitous and inseparable part of our world, has it become practical to use moving images as part of the architectural design process. Images generated by different media can be combined and edited in ways unimaginable only a few years ago. The techniques of cinema and related art forms can provide an important means of understanding the built environment as a continuum rather than a static composition of isolated buildings.

Educators recognize the importance of the new technology as a pedagogical tool and computer courses are widely available in schools of architecture. Many of the computer-generated images produced in them are exercises in technical virtuosity rather than explorations which advance understanding of architectural concepts. Teachers of architecture accustomed to traditional forms of representation are often skeptical of what they see as a rejection of

spatial and tactile values for the superficial sideshow of virtual reality. Students achieve technical proficiency in computer aided design only gradually; representational devices such as those used in film making provide an easily accessible means of integrating spatial and narrative sequences.

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To investigate the possible role of storyboards in architectural education, a group of architecture professors at a research university developed a design brief for a film school. A seminar examining the critical relationship between film and architecture was offered during the same academic period. Assignments for the seminar consisted of readings and a series of graphic exercises. Students in both courses explored the narrative potential of the storyboard to develop their design proposals. None produced the purely spatial formulations characteristic of many similar computer-based exercises. The storyboard proved an exciting stimulus for analysis and conceptual thought, and for developing architectural spaces in unexpected ways.

STORYBOARDS: COMPARISONS AND DEFINITIONS

The storyboard determines the sequence of shots to be taken for a film. (Fig.1) The film maker uses the technique in conjunction with the script to structure the film's visual dynamic. Alfred Hitchcock used storyboards to develop scenes in imagined settings for which actual locations then had to be found or equivalent sets constructed. The storyboard can also be employed to illustrate architectural concepts, and sections and plans represented in storyboard form. In his drawings for the Bibliotheque Nationale, Rem Koolhaas developed plans that contained empirical information about the building and conveyed the sensation of an ascent through it. The converse however, is not equally valid, as storyboards cannot deliver the sort of precise data typically found in sets of construction documents.

Storyboards and Film

As an artifact that mediates between script and film, the storyboard acts as a guide for the director and cinematographer, but one that can be modified during filming. Inasmuch as the storyboard guides the making of the film it can take on a role similar to that of an architect's construction document. These can be modified through

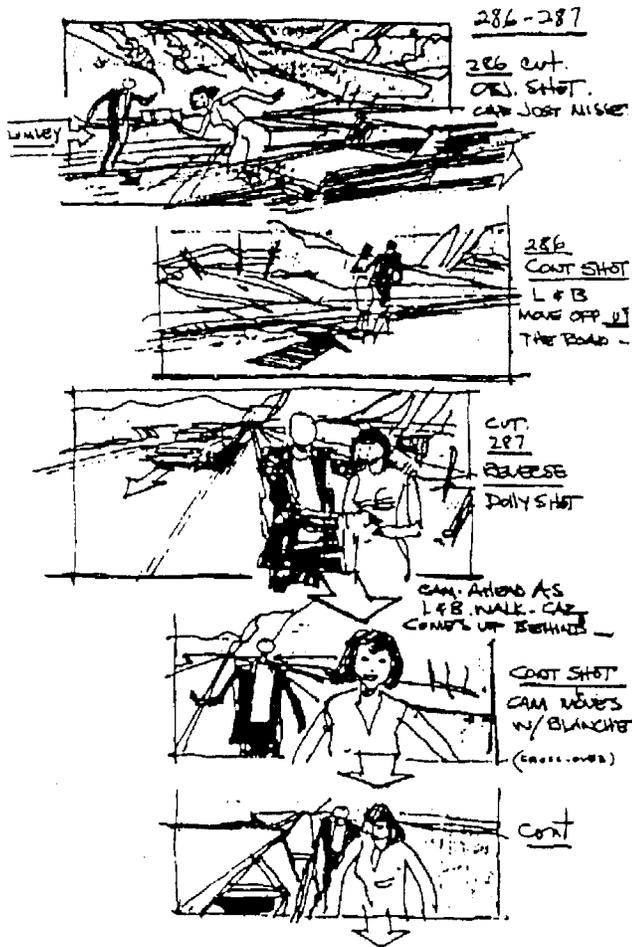


Fig. 1. Sequences from Family Plot from Spoto, Donald. *The Art of Alfred Hitchcock: Fifty Years of His Motion Pictures*. New York: Hopkinson and Blake. 1976.

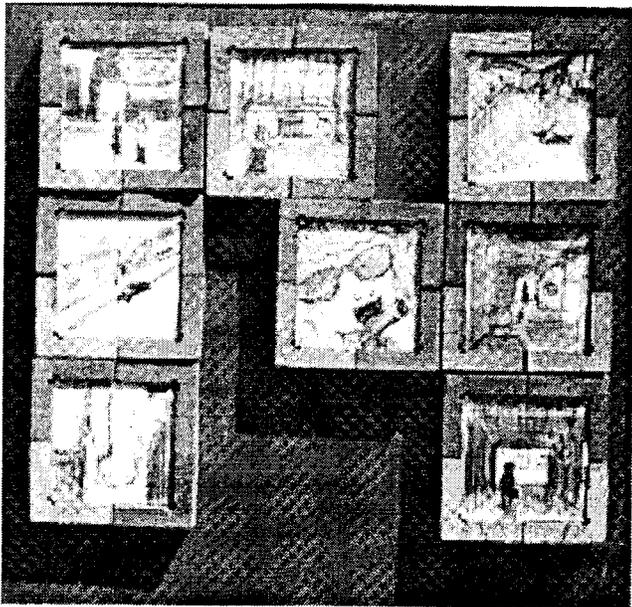


Fig. 2. David Rudolph, an undergraduate student at University of California at Berkeley, work executed while taking 100B (Davids Section), fall 1997, UCB.

change orders, but the legal and financial consequences of too many change orders make most architects reluctant to initiate them. The ideal is a building process that adheres to the construction documents as closely as possible.

Storyboards, like architectural drawings and film, aim to create the appearance of three-dimensional reality on a flat plane. In sustaining this illusion, the film maker is helped by the width and size of the screen, the flexibility of the lens and the capacity of photographic images projected at twenty-four frames per second to sustain the illusion of life. Storyboards, restricted by size and stasis, must rely on the imaginative appeal of each individual image. This apparent limitation can be an advantage, like radio's ability to evoke visual images or the power of silent movies to suggest sound.

Storyboards and Stills

The storyboard is composed of a sequence of framed images structured by a narrative expressed in visual rather than written form. Each cell is an invitation to pause but the sequential structure urges the eye forward. The conflicting impulses to move on and linger are resolved through a narrative. When storyboards are applied to architectural representation, the conflict is expressed through a sort of spatial narrative. Some transitional architectural spaces are defined by conflicting impulses. Theater lobbies generate both the desire to remain with the assembled crowd and to continue onward to the auditorium. Sometimes as in Le Corbusier's Villa Savoy this conflict is expressed in physical as well as symbolic form: the washbasin offers an invitation to stop in the foyer, while the nearby ramp emphasizes upward momentum.

Storyboards and Frames

Storyboards, like films, present a sequence of images. In film every new scene or frame supersedes the previous one. By contrast, each frame of the storyboard remains on display throughout the narrative. The reading is intended to be linear and sequential, but the structure of the storyboard does not preclude alternatives: vertical or diagonal readings, skipping or revisiting frames: the spectators are mobile, the imagery is fixed. To achieve a similar effect on film, it is necessary to interrupt and reverse it: the viewers remain still, the film itself is required to move. The storyboard process allows the viewer to participate in its final composition, to mentally reinterpret, reassess or realign the frames. Films have to be repeated to achieve similar effects. When choosing to rearrange the linear narrative or to recompose the intended sequence, the viewer defies the director's guidance to arrive at an unforeseen organization.

The relationship of one framed image to another can be a story in itself. In the early 1980s, David Hockney's experiments with the Polaroid camera explored the relationship between images rather than the subjects portrayed in individual photographs. Speaking about his work with Polaroids, Hockney marveled at the possibilities: "There are so many relationships created by juxtaposing each photo, and the permutations of these relationships seem so numerous, that you continue gazing at it, and seeing it in many different ways."

What lies outside the frame in a storyboard is the next frame. The frame establishes the boundaries between inside and outside: what is inside anticipates the outside. The frame itself can be the subject. During the development of the film-school project one undergraduate student drew his storyboard on plywood pieces surrounded by rough redwood frames. The frame which in conventional storyboards is sometimes not even drawn, had become an object in itself. The little building block model suggested a board game. The pieces were easily exchanged and the user rather than the maker would determine the narrative. (Fig. 2)

Storyboards and Perspective

Perspective is determined by point of view. Some objects seem to

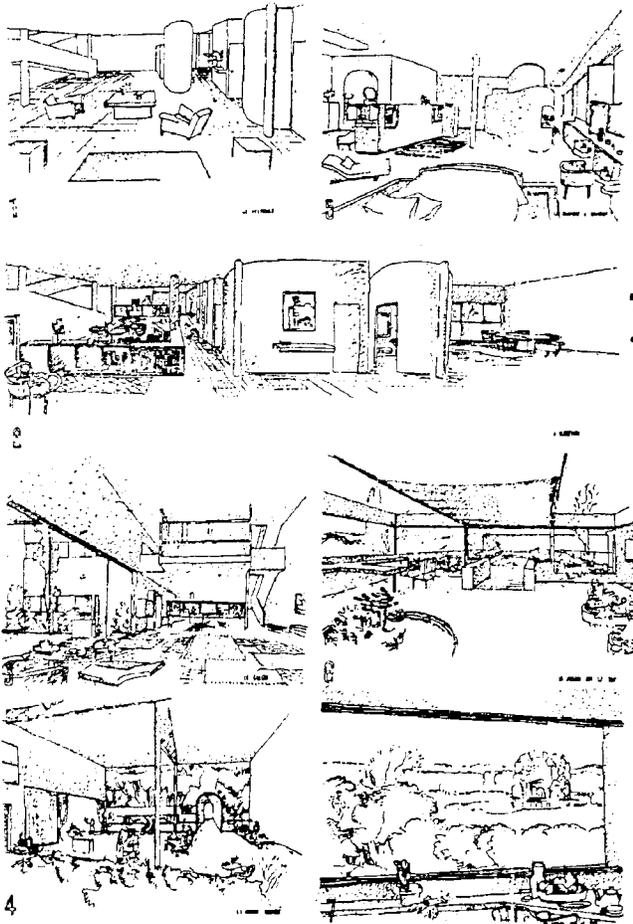
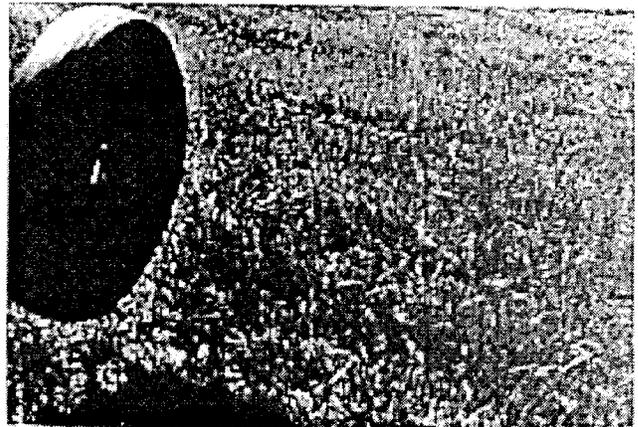
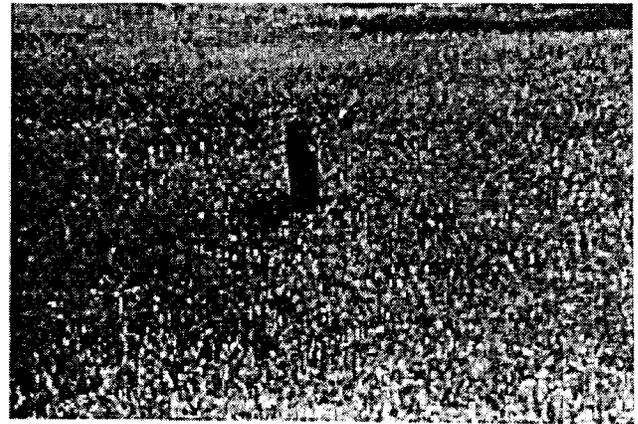


Fig. 3. "Villa Mayer" from Le Corbusier. *Oeuvre complete vol. 1: 1910-1929*. Zurich: Les Editions d'Architecture. 1964. p. 90.

dictate particular positions. A one eighth inch scale architectural model or a bed suggest an obliquely aerial view, a computer screen a or a sofa a frontal view. The position of the camera may open a conflict between the inherent logic of the object and the organizing logic of the director, thereby challenging spatial conventions. One student imagined the main character in the storyboard to be a cat. The resulting images were composed from low angles, reflecting the cat's point of view, and featured baseboards, carpets and sidewalks as physical points of reference. Her storyboard focused attention on a lower than spatial stratum rarely visited by the human imagination. Bertolucci employs a similar technique in *The Conformist*. A series of images of the Villa Mayer by Le Corbusier (Fig. 3) suggest a narrative sequence through the interior of that project. These images are compatible and describe a domestic scene.

Storyboards and Time

If unexpected viewing angles challenge visual conventions so do distortions of time. To represent time in a film requires compression. While some experimental cinematographers have worked with real time, the passing of minutes, days or years has to be suggested by showing key "telling" shots during the short hour and a half most films last. A day for example may pass in a couple of minutes by displacing the camera from a morning to an evening shot. Within such a conventional time structure some films like *A propos de Nice* by Jean Vigo intentionally depict scenes that are out of sequence in order to introduce editorial comments. While describing the placid scenes of that coastal Mediterranean city, Vigo introduces crocodiles as if to note the corrupting potential of a pleasurable existence.



A free-rolling truck tire struck and killed a pedestrian in Delano, according to the California Highway Patrol. As Francisco Ramirez, 30, drove north on California 99, a tire came off his truck, crossed the north and southbound lanes, and hit Don Edwin Yarbrough, 21, of Denton, Tex., the CHP said. Yarbrough was reported dead at the scene.

Fig. 4. "rolling tire 1972" from Van Bruggen, Coosje. *John Baldessari*. New York: Rizzoli, 1991. p. 214-215.

Films can also change the rhythm of events by accelerating or slowing the speed of projection. An extreme example of slowed down rhythm is *La Jetée*, a film by Chris Marker, where the pace of the action has practically been reduced to that of a side show. Often as in *"The English Patient"*, directed by Anthony Mengel, a film will reveal the end of the story before the narrative has been developed. The storyboard suggests the slow passage of time by changing images gradually. For example, one frame might show a shoe, next the shoe and part of a leg, then the whole leg, or by including dream or meditation scenes. Film can show a great number of frames in a short period while the storyboard includes drawings of key shots to represent similar scenes, leaving the imagination to connect them.

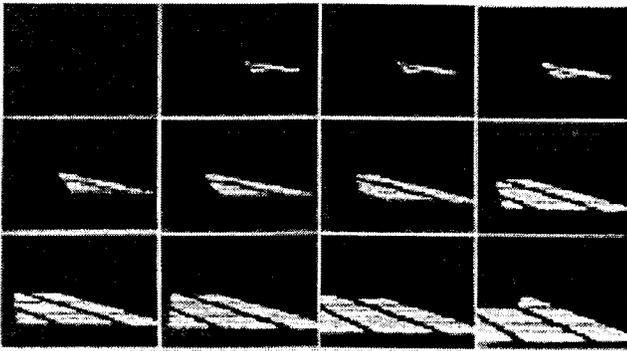
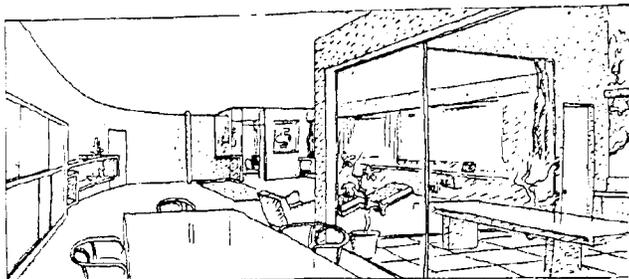
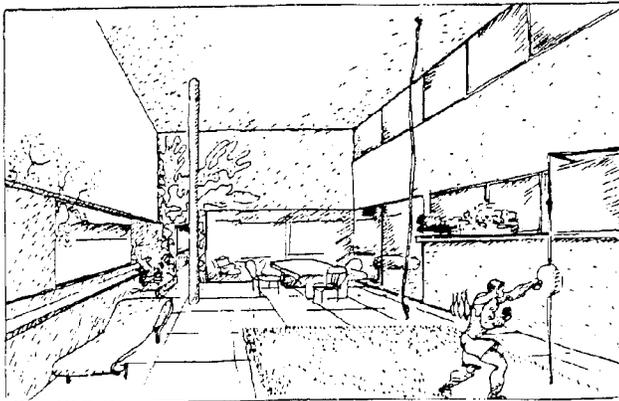


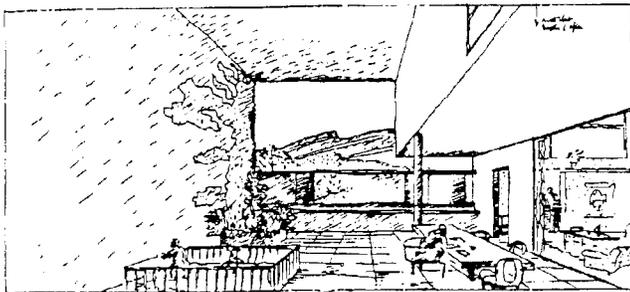
Fig. 5. "Shadows On the Floor of the Sperone Gallery" from Dibbets, Jan. *Jan Dibbets*. Minneapolis: Walker Arts Center. 1971. p.29.



Un living-room



Un jardin-suspendu



Un jardin-suspendu

Fig. 6. "Wanner Project for Geneva 1928/29" from Le Corbusier. *Oeuvre complete vol. 1. 1910-1929*. Zurich: Les Editions d' Architecture. 1964. p. 183.

Storyboards and Montage

For time and viewing angles to challenge the imagination, they must not only address but challenge film making conventions. Montage is characterized by the unusual: a collage of seemingly unrelated shots run in sequence for dramatic effect. By combining incongruities, separate shots are collected into a whole that acquires

psychological, atmospheric or intellectual meaning. Eisenstein describes the earliest film-makers as striving to be descriptive by placing single shots one after the other, like building blocks.' The movement within these building block shots and the cumulative length of the assembled pieces established the rhythm. A different sense of rhythm is achieved through montage: an image followed by others not obviously related to it creates through conflict dynamism, the sense of motion. The degree of incongruity determines intensity of the sensation and creates the resulting tension. Some architects have applied the storyboard format to describe their projects. The storyboard applied to architecture can create series composed scenes from seemingly incongruous "takes" or stills in order to challenge assumptions and develop the imagination.

Storyboards, Cartoons and Postcards

The distinction between cartoon and storyboard is a subtle one. Conceived separately but imagined together by the film maker, storyboard, script and sound track create a single artifact. Storyboards are therefore transitional vehicles. So, while storyboard and cartoon may look superficially alike, cartoons are self-contained and refer to nothing beyond themselves. This is why cartoons have narratives which are either part of the illustration or adjacent to it and no scripts. Storyboards are based on the premise that the viewer will invent a narrative to connect the images whether or not they are accompanied by a narrative explaining the relationships. When the storyboard is applied to architectural representation and no film is intended, it becomes a "silent" cartoon. A photograph, a stamp and a handwritten message, a postcard is a unique fragment of a place, time and memory. Storyboards also compress time and space, but into a sequence of episodes represented as a unified whole and projected forward into the future realization as a film.

Technique

Graphic media such as pencil or ink have traditionally been used to make storyboards. Because of the ease with which they can be reproduced, photographic and computer techniques held particular appeal for the architecture. Media and techniques are not neutral and should be chosen for their capacity to convey the images suggested by the script.

PHOTOGRAPHIC STORYBOARDS

Susan Sontag believes that photographs and their subjects are not only alike but also extensions of each other. For photographers, photographs are also a potent means of gaining control over their subjects.² Using photographs students exercised their spatial imaginations by modifying photographs of existing spaces or simply placing them next to each other, emphasizing the subjects while creating actual spatial sequences. Because images often can possess the authority of real things, the students' proposals were remarkably convincing.

Commenting on the "truthfulness" of photographs, John Baldessari staged a photographic sequence based on an accident reported in the newspaper in which a rolling truck tire struck and killed a pedestrian. Combining the newspaper clipping with five black and white snapshots of a rolling tire, the resulting composition "rolling tire 1972" (Fig. 4) is strongly suggestive of the accident. Baldessari clearly plays with the documentary quality of the photographic image, but he simultaneously devalues this quality by making the staging obvious. The images show a tire rolling down a lawn, not crossing the freeway before hitting the man. Baldessari plays with the ambiguity of truth and fiction, image and word, the photograph as both subject and object. The last photograph shows the tire hurtling towards the view plane, thus engaging the viewers as protagonists in the story. In this work Baldessari comments not just on the artful quality of photographs, but on the way incidents can become meaningful for those who have not personally experienced them.

This ambiguity between the real and the illusory, between proposed and existing space as conveyed by a photographic storyboard, is also real: The representation of architectural space is equivalent to a series of narratives which describe the room. Those narratives may include images of imagined spaces or memories of spaces experienced in the past. Space is perceived differently if looked at straight on, or through a window, backwards through a doorway or upwards to the ceiling. Perceptions are also affected by life experiences. All of these taken together constitute the reading of a single space.

For David Hockney, vision is continuous flux and he believes that his Polaroid experiments approximate real life. Photographic compositions or sequences offer opportunities to dissolve the fragmentary quality of each photograph by combining them into structures that appeal to the imagination by simulating real experience. In a sequence, the emphasis shifts to the arrangement of the images rather than individual images.

In Dibbets's "Shadows On the Floor of the Sperone Gallery" (1971) (Fig. 5), the shapes of sun shadows were marked on the walls of an exhibition space at regular intervals. The resulting graphics captured otherwise imperceptible movements, transforming them into time and location. Because the storyboard is not an instantaneous response, there is no waiting for a decisive moment. The necessity that somebody be there, alert, and press the button at the precise moment is replaced by acts of choice to represent precise moments in time.

Graphic Storyboards

Sequential graphics, like sequential photography, divert attention from the isolated image to the unified whole. But where photographs are mechanical reproductions, pencil or brush strokes are marks made by the artist's hand. While photographs suggest reproductions of the real, drawings possess authenticity. A sketch can provide insight into the intentions of the artist because sketches are closely associated with the artist's imagination. 'Slower sketching techniques seem to lack the urgency of inspiration, the absence of an original mind. Some architects like to have preliminary sketches for a project published next to the finished work, believing that the sketch will lend an aura of authenticity to the work. But sketches, like photographs can be faked to capture and impart an aura of purity otherwise absent in the work. One student used broad ink brush strokes to depict an entrance sequence for his school project. The composition was striking and sufficiently abstract that the marks became its primary focus and the narrative assumed a subordinate role. The act of making became part of the story.

People and Storyboards

Different forms of representation emphasize some aspects of architecture better than others. Alberto Perez-Gomez believes axonometric drawings are more appropriate vehicles for the development of ideas than perspectives, which present more limited views of spaces. In the design studio, students developed storyboards to explore sequences of space and time and ideas about change and movement. The narrative structure of the storyboard enabled them to visualize their imagined spaces inhabited by people.

In architectural drawings, the evocative power of the human figure has often played an important role conveying ideas. For example Le Corbusier's figures in the perspectives for the *jardin suspendu* of the Wanner project in Geneva (Fig. 6) are an adaptation of the *Immeuble Villas* proposal. A man works out with a punching bag as a woman looks down from the upper floor having just dusted the carpet. There is plenty of space, air and greenery and it is clear that this apartment is suitable for modern healthy living. Another perspective for the same space shows a child in a playpen as a woman seated nearby turns her attention to something else, perhaps suggesting the "liberating" effects of the new lifestyle. Farther away, the back of a man engaged in some activity is visible. People in Le Corbusier's drawings are important because illustrate the effect of

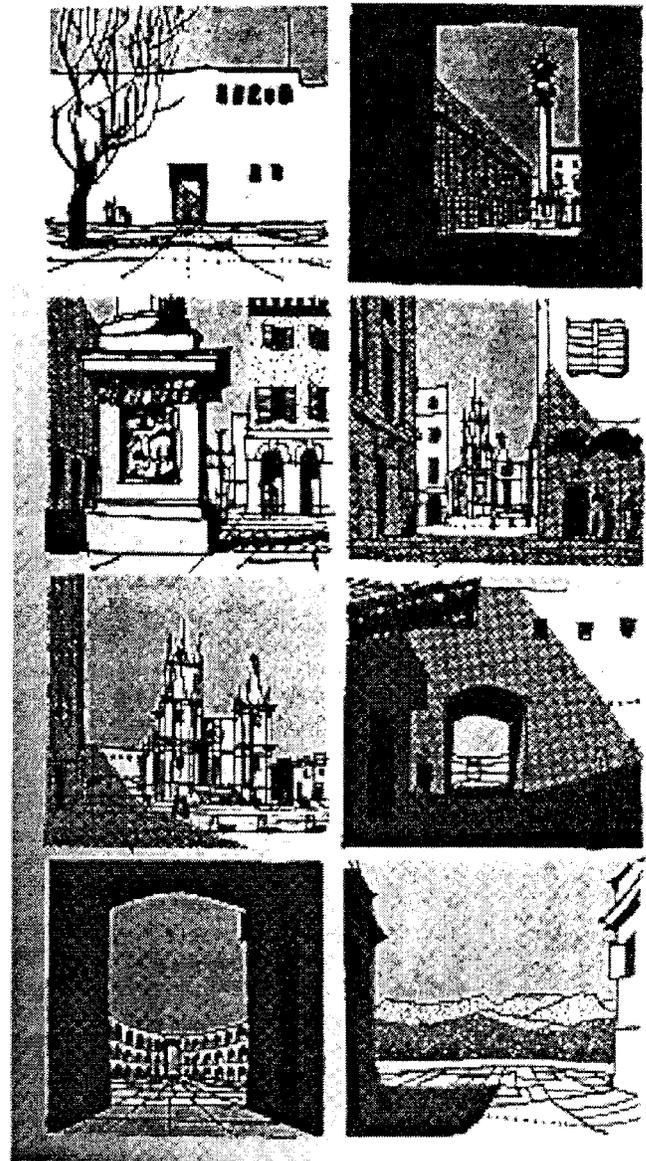


Fig. 7. "Serial Vision" from Cullen, Gordon. *The Concise Townscape*. London: Architectural Press, p.18.

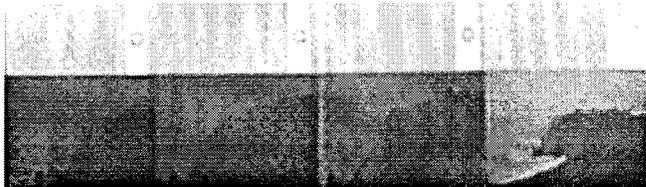


Fig. 8. "Fog Reaching Point Bonita," a photograph by Kyle Gudsell while a student in the Davids 201Studio, Spring 1998 at UCB.

architecture on everyday life.

The shift away from illustrating the human figure in architectural space is a shift away from architectural form as a setting for life in favor of architecture as a form of personal expression. The body is fashionable as a marketing tool for selling magazines, books or architecture itself, but not the ergonomic qualities of architecture or spaces as settings for the drama of human life are mostly overlooked. Plumbing systems with their obvious analogies to human sexual and

excretory functions are increasingly the focus of discussion, yet architect's formal creations mostly exclude representations of the human figure. The narrative implicit in the storyboard encouraged students to think about people's movements in space in ways which suggested inhabitation as opposed to merely using human figures to decorate a space.

Light, Weather and Storyboards

The changes a building goes through when subjected to the effects of light or weathering over time are too subtle to be recorded in a single photograph. The sequential format of storyboards readily lends itself to documentation of such effects. Robert Smithson's documented the effects of natural light on his Spiral Jetty's exposure on a sunny day. Arranging the photographs in sequence emphasized the extended period over which the changes occurred, but each one of the frames also revealed the earthwork sculpture as a different entity with each modulation of light, by a sequence of arrested moments. The students used photographic techniques were used to document the effects of weather on the landscape or the impact of waves on the shore.

The effects of weathering on the surface of buildings is an even slower process. Focusing on this subject, Robert Smithson recorded the cycle of decay and renovation at the Hotel Palenque in Mexico, a building suspended in state of permanent metamorphosis. Smithson also described the process of construction as transformative: foundations which vanish as the building emerges, form work discarded as the wall emerges. steel which disappears as concrete gets poured and soon.

The City and the Storyboard

The revival of figure/ground analysis in the middle years of this century, with its emphasis on proportions and the relationship of voids to surrounding urban fabric, was partly an effort to rationalize the distinctions between public and private space in the city. Figure ground plans and related tools of graphic analysis raise important intellectual issues but exclude factors related to human experience. Robert Venturi understood that a figure/ground plan of Las Vegas would convey little meaningful information and produced strips of photographs instead.

Understanding cities, like designing them, requires many kinds of information. Atget's photographs made poetry out of the streets of Paris at the turn of the century. In the 1950s, Gordon Cullen introduced references to time, motion, weather and the rhythms of everyday life to add vitality to his townscape sketches, but succeeded only in making the commonplace drab. (Fig. 7) As a tool to record movement through urban space, the storyboard can express the city in parallel and complimentary ways to figure ground drawings.

CONCLUSION

Narrative spatial sequences — a series of perspectives describing a spatial continuity — are the most obvious and useful application of storyboards in the architecture studio. The succession of images implies a protagonist and simulates human experience whether or not people are actually included in the images. Borrowing from film, students used close-ups, aerial, straight on, long distance and composite shots, challenging their preconceptions about the representation of architecture beyond eye-level perspectives. Storyboards were also used to record shifts in perception of space due to changing lighting or weather conditions, such as fog passing over the Golden Gate Bridge and slowly enveloping the landscape. (Fig. 8)

Some students used storyboards to analyze a project site, with the fictional camera focused on close-ups as well as distant shots, moving from interiors to urban spaces, from detailed close-ups to panoramas. Site analysis, usually a fact gathering exercise of blandly

descriptive photographs and sketches, became a vital, exciting exploration, the first phase of creation. Often the storyboard was used as a conceptual tool. One student recorded the motion" of a sheet of paper falling from the sky. The curling paper inspired the idea of a "floating roof". Another student set up a series of boxes within boxes, a sort of three-dimensional storyboard. The boxes were made to represent different stages of revelation, what the student called a peeling effect, analogous to the minimal intervention she intended for the site, a structural frame holding a retractable canvas covering.

In some cases, storyboards became a source of inspiration for computer-animated presentations. Students broadened their understanding of space, learned about film, studied rhythm, editing, montage and movement, and developed new ways of looking at the built environment. But did their use in the studio of result in a different kind of architecture? Some students were able to develop more exquisite, accomplished projects, others were largely unresponsive; but for most students, the use of storyboards introduced new ways of seeing and understanding that contributed to their development as designers.

NOTES

- ¹ Sergei Eisenstein, *Film Form: Essays in Film Theory* (New York: Harcourt, Brace and Company. 1948), p. 49.
- ² Susan Sontag, *On Photography* (New York: Farrar, Strauss and Giroux), p. 55.
- ³ "Reflections: Interrelations Between Concept, Representation and Built Architecture" by Bruno Reichlin in *Daidalos 5*, (September 1981): 103.

BIBLIOGRAPHY

Readings related to the design process and drawing:
 Dibbets, Jan. *Jan Dibbets*. Minneapolis: Walker Arts Center. 1987.
 Evans, Robin "The Developed Surface: An Enquiry Into The Brief Life Of An Eighteenth Century Drawing Technique" in *9H*, no. 8, (1989): 120-147.
 Hockney, David. *David Hockney Photographs*. London, New York: Petersburg Press, 1982, p. 26.
 Kahn, Andrea, "Disclosure Approaching Architecture" in *Harvard Architecture Review*. Vol. 8 (1992): 2-21.
 Oechslin, Werner, "The Well Tempered Sketch" *Daidalos 6* (Sept. 1982): 99-111.
 Perez-Gomez, Alberto, "Architecture as Drawing" in *Journal of Architectural Education*. Vol. 36, no. 2, (Winter 1982): 2-7.
 Reichlin, Bruno, "Reflections, Interrelations Between Concept, Representation and Built Architecture" in *Daidalos 5*, (Sept 1981): 60-73.

Readings related to movement, architecture and mechanical reproduction:

Benjamin, Walter, "The Work of Art in the Age of Mechanical Reproduction" in *Illuminations*. New York: Harcourt Brace & Co., pp. 217-251.
 Berger, John. *Ways of Seeing*. New York: Viking Press. 1972.
 Colonna, Beatriz, "Window" in *Privacy and Publicity*. Cambridge, MA: MIT Press. 1996, pp. 283-335.
 Cullen, Gordon. *The Concise Townscape*. London: The Architectural Press. 1961.
 Schwartz, Hillel, "Torque: The New Kinaesthetic of the Twentieth Century" in *Zone*. Cambridge, MA 1985-1988, pp. 71-126.
 Sontag, Susan, "The Image World" in *On Photography*. New York: Farrar, Strauss and Giroux. 1973, pp. 153-180.
 Van Bruggen, Coosje, "But This Is Not the Moral of the Story" in *John Baldessari*. New York: Rizzoli. 1990, pp. 69-130.

Film related readings:

- Albrecht, Donald, "Architecture and Film: Utopia Descending" in *Modulus 18: The University of Virginia Architectural Review*, pp. 121-133.
- American Federation of Arts. *A History Of The American Avant-Garde Cinema*. New York: American Federation of Arts, 1976, pp. 69-83.
- Bois, Yves-Alain, "Sergei M. Eisenstein" in *Assemblage 10*. December 1989, pp. 111-131.
- Brougher, Kerry, "Cinema Degree Zero: Testing the Limits" in *Arts and Film Since 1945*. Los Angeles Museum of Contemporary Art. 1996, pp. 75-99.
- Deleuze, Gilles. "Frame and Shot. Framing and Cutting" in *Cinema, the Moving Image*. Minneapolis: University of Minnesota Press. 1986. pp. 12-28.
- Eisenstein, Sergei, "The Cinematographic Principle and the Ideogram" in *Film Form*. New York: Harcourt, Brace and Company, 1948, pp. 28-44.
- Rosen, Robert, "Notes on Painting and Film" in *Arts and Film Since 1945: Hall of Mirrors*. Los Angeles: Museum of Contemporary Art, 1996, pp 245-261.
- Vidler, Anthony, "The Explosion of Space: Architecture and the Filmic Imaginary." in *Film Architecture*. Munich/New York: Prestel, 1996. pp. 13-25.
- Weihsmann, Helmut, "The City in Twilight: Charting the Genre of the City Film, 1900-1930" in Penz, Francois and Maureen Thomas (eds.) *Cinema and Architecture*. London: British Film Institute. 1997, pp. 8-27.