Between Digital & Analog Civilizations: The Spatial Manipulation Media Workshop

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ABSTRACT

This submission presents an intensive design workshop that looks, probes, and builds at the interface between analog and digital media by means of a non-traditional, hands-on, and systematic pedagogy. The workshop is the result of a two-year long academic collaboration between two faculty from two different schools of architecture and has been taught at four institutions in the US, Canada, and Argentina.

The objective of the workshop is to develop not only a theoretical and procedural foundation for the utilization of media in architectural practice, but also the essential attitudes, awareness and skills for succeeding in today's media driven civilization and professions.

The workshop uses a pedagogy based on play and interpretation in which students are placed in the space between analog and digital media and asked to engage in progressive shifts between them. The poetics of representation (and not its technicalities) is the driving force for generating architectural understanding. The act of playing (execution) precedes results (conception) or, interpretation follows form and form follows action. This allows for the development of an experimental, yet critical attitude towards the value, rationale and logistics of media in architectural design.

THE PLACE OF THE PROGRAM IN THE CURRICULUM

The *Spatial Manipulation Media Workshop* was co-developed by two faculty from two different schools of architecture and co-taught at one of their institutions. Parts of the workshop were also offered independently at three other institutions in the US, Canada, and Argentina, where it obtained similar results, thus suggesting the application of its premises, pedagogy and procedures across curricula and cultures.

This submission presents the workshop for winter quarters 1996 and 1997. The workshop served as an intense introduction to the graduate design studio *ARCH 602/702: Architecture: Between Digital & Analog Civilization.* This class is one of four thematic design studio choices that first and second year graduate students can select from every winter quarter. These "topic" studios provide advanced students with the opportunity to focus in a particular area of architectural inquiry during a full term.

The Analog-Digital Topic Studio is the school's official testing ground for logistical, pedagogical, technical and theoretical experimentations aimed at guiding the full integration of computers into all design studios by the 1999-2000 Academic Year. These studios directly served twenty-seven students. Their impact is presently felt throughout the school, and will positively affect the curriculum in the years to come.

EDUCATIONAL OBJECTIVES

The Analog-Digital Topic Studio (ARCH 602/702) is an open laboratory that explores, reflects and acts on *the implications of the technological revolution that is deeply transforming our civilization and architecture.* This transformation may be summarized as a radical shift from a material to a media based culture. In architectural practice, this change is manifested in the shift from analog to digital modes of making and thinking. The studio utilizes the interface of analog and digital media as a vehicle to address, study, and advance contemporary cultural and architectural discourses. The *poetics of representation* (and not its technicalities) is the driving force behind the studio work.

The workshop objectives are framed within the three typical curricular responses to the technological mutation under way. On one extreme is the revolutionary approach, fully committed to the new digital world and trying to leave behind any remainder of the analog ways of doing architecture. On the other extreme is the increasingly weak conservative response that sees no reason to abandon the proven, centuries-old analog methods. Between these two poles is an

intermediate third position that incorporates computers in ways that mirror analog work, except that they are used after and not during the design process to deliver faster or more superficially seductive results (e.g., drafting, graphics, walk-throughs). This third approach is a response taken by default and not by an informed understanding of the digital.

None of these responses is appropriate considering the nature of today's media and its available analog methods. At the same time, given the transitory period in which we live, it is also apparent that we need an intermediate position. However, this middle response must be informed by the nature of contemporary architectural making, that is, the messy production space where the digital and the analog meet. For it is in this space of betweenness, where the dialectic processes unfold, that new techniques, knowledge, and ideas first arise.

Based on this rationale, the objectives of the workshop are to: (1) explore how architectural concepts and design are informed by iterative media processes; (2) introduce fundamental intellectual and making processes associated with the mastering of media, and (3) give students an immediate start into a nontraditional, hands-on, systematic and integrated use of analog and digital media during the design process.

This means that the workshop is not about solving design problems but instead developing fundamental ways to realize media opportunities for architectural production and thought. Hence, the workshop purposely avoids the use of CAD software and promotes instead image and video manipulation software. This achieves two things. First, it breaks down students' technical preconceptions concerning computers and puts them in a different state of mind that is more conducive to new theoretical and productive opportunities. Second, it shifts the attention to alternative digital-analog conversations that de-emphasize the capacity of digital media to deliver objective depictions of buildings and focus on media as a plastic environment to design and reflect about architecture.

Finally, as personal and professional survival in the new civilization increasingly demands knowledge and skills on media technologies and applications, the workshop is also geared toward developing basic media awareness, attitudes and skills beyond architecture. In this sense, the workshop offers a glimpse at the opportunities underlying media based alternative practices of architecture.

TEACHING STRATEGIES

The workshop is a two-week long experience. It consists of two interrelated parts addressing the relationship between architecture, design and media. Both parts have the same structure and idea although they cover different areas:

Workshop A: Image Space, is a three-day intensive charette focusing on spatial and compositional issues oriented toward action and procedures. The final outcome is spatial imagery depicting hybrid conditions arising from media conversations. An electronic manipulation of captured video images from an interpretive model is conducted to produce spatial enhancements and radical transformations of architectural space. Design is the construction, manipulation, and evaluation of image space from within, through the computer.

Workshop B: Video Space, is a ten-day exercise focusing on temporal and tectonic issues oriented toward a conceptual narrative. The final outcome is a 3-5 minute film that depicts hybrid experiential conditions. Captured videos from a physical installation are manipulated and assembled by means of digital processes in parallel with the development of a story (and theoretical) line. Design is the digital montage and editing of the videos in relation to that narrative.

The workshop utilizes a pedagogy based on *play and interpretation*. *Play* is the most fundamental way in which humans learn, especially when they have to confront totally unknown environments and situations. Play instills and integrates many kinds of skills and teaches how to move from an initial discovery-driven approach to more sophisticated interactions based on hypothesis testing and theory development. *Interpretation* is relevant from both professional and public perspectives. Architectural design is a value-added process that requires intentional filtering, a biased act of interpretation. In our era of information and media overload, interpretation is a survival skill that all citizens must possess to assess the value of the worlds of simulacra which bombard us. In our contemporary civilization interpretion is an essential design act.

This pedagogy is embodied in the workshop methodology by: (1) establishing a simple, yet strict framework within which playing may occur, and (2) defining interpretive iterations through progressive media shifts. The methodology fosters: (1) a progressive realization of the *relationship* between different media and thus an understanding of their differences and strengths; (2) an experimental and exploratory attitude towards learning new technologies, and (3) continuous translations and reformulations of what is being developed, thus deepening and advancing the design process.

The workshop methodology adopts *a progressive use of technology that recapitulates the historical development of media:* first photography, second video, and last the computer. This evolutionary approach is intended to clarify the gradual effect that each medium has in the understanding and design of space. This method potentially reveals the shift from material to media culture. It also helps to define a clear process that moves from the analog to the digital and from concreteness and reality to abstraction and simulation. This process unfolds in four successive stages that are summarized below.

Stage One: Context. A building in construction (Workshop A) and written texts (Workshop B) are chosen as spaces for initial interpretation via photographic and discursive essays, respectively. See Plate 1.

Stage Two: Interpretive Modeling. A layered analog model (Workshop B) and a media/physical installation (Workshop B) are constructed, translating the physical and conceptual spaces discovered in Stage One. See Plate 2.

Stage Three: Video Captured Performance. The model and the installation are videotaped seeking images and footage that offer rich spatial and narrative potential. The video tape is analyzed and several stills and video footage are selected and digitally captured based on their strengths as spatial-compositional images (Workshop A) or temporal-tectonic narratives (Workshop B). See Plate 3.

Stage Four: Digital Transformations. The captured frames and video footage are manipulated, assembled and edited by means of digital processes. The goal is to create digital montages which evoke provocative spatial imagery (Workshop A) and conceptual narratives (Workshop B). See Plates 4-9.

This methodology is supported by a formal introductory lecture and a few demonstrations showing previous examples along with necessary media strategies, tactics and techniques.

The studio is organized in teams of 2 or 3 students that are assigned to a work station and encouraged to share information and techniques while they work on the assignment. A communal spirit of enthusiasm develops. Team work guarantees a diversity of interpretations and provides enough critical mass to work in various media simultaneously.

This arrangement also makes possible the collaboration between students with varying degrees of analog and digital media experience. Software training is by trial and error experimentation. The students' learning curve is astonishingly fast, assuring the accomplishment of the workshop objectives. This is a direct result of peer support and skill sharing, software ease of use, and the interest raised by a content-dependent pedagogy. Students train as they work on their design assignments.

EVALUATION METHODS

The students' work was formally evaluated in open juries with guests from the arts, computer science, the computer game industry, and architecture. The evaluation criteria was as follows:

(1) Breadth, depth, and creativity of the architectural/media exploration process.

(2) Interaction between media, thought, and design process and product(s).

(3) Ability to establish links between digital and analog orders.

(4) Strength of idea and argumentation.

(5) Degree of critical attitude toward a design problem.

(6) Skillful, consistent, and imaginative application of representation and software utilization.

(7) Clarity of oral and visual presentation during jury presentation.

Following is a list of the observed, positive outcomes of the workshop:

(1) Higher productivity; The impressive level of workshop production in only three days (Workshop A) and ten days (Workshop B) is a good indicator of how media technology speeds up the designer's ability to create, find, develop and present design ideas and products.

(2) Increased levels of creativity with an exploratory attitude. The wide range of results and the realization that most of these designs would never be attempted by traditional means demonstrate the power of contemporary media to expand the intellectual horizons of design production.

(3) Expansion of the theoretical breath and critical awareness of contemporary challenges facing the profession.

(4) Meaningful growth of the students' media/representation toolbox regardless of previous background.

(5) Improvement in the collaborative attitude among students regarding technical and critical support.

(6) Change in the designer's perception of the computer as a potentially design-friendly tool/environment. The students' enthusiasm and commitment is sustained throughout the academic term.

The nine plates that follow document the production and illustrate how the students applied the instruction. The workshop was successful at giving students a solid introduction to curricula which addresses the relationship between architecture, design and media. In all cases, the students went on to apply the experimental attitude and skills to the subsequent stages of the Analog-Digital Topic Studio. This impact can be appreciated in a tenth plate showing examples of final design proposals for a complex building program on campus.

stage one: context

Workshop A:
Building under construction, the ultimate analog expression of both the architectural process and space, is the initial context of study. Photographs are used to capture and investigate the spatial nature of the construction site through the intentional lens of the camera. At this stage, design is the act of looking, isolating, emphasizing, framing, and freezing the real spatial context.

Workshop B:
Reading assignments defining a "textual" space of understanding are 'visited' and examined. Individual and group analysis and discussion create a conceptual space for media experimentation. At this stage, design is the construction of a theoretical site with flexible yet clear arguments.

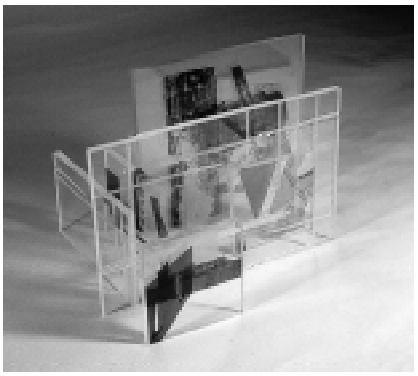
a.

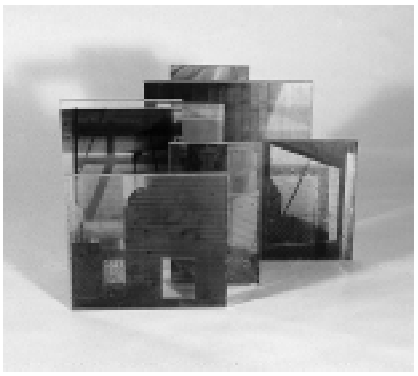
b.

stage two: interpretive modeling

Workshop A:
Photographs are distilled and applied to clear acrylic planes that are then freely assembled into configurations that acknowledge spatial concepts extracted from the photographs (e.g., layers, apertures, tectonics, etc.). Space is a physical simulation that only has a conceptual reference to the original. At this stage, design is the compositional arrangement of spatially ambiguous elements .

Workshop B:
A physical installation combining diverse media (e.g., television, slides, lights, material screens, water, gas) is constructed. The objective is to produce events that suggest the qualities of media environments (i.e., fluidity, lightness, ambiguity, transparency) and material culture (i.e., stability, weight, clarity, opaqueness). At this stage, design is the selection and juxtaposition of materials, processes, technologies, and tectonic states.





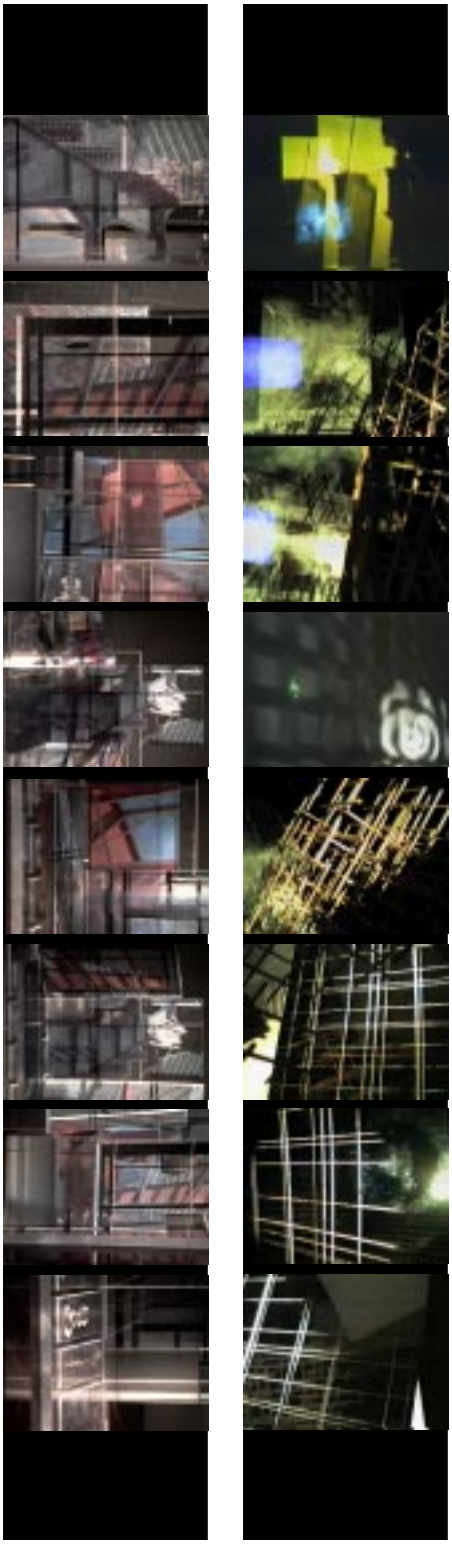
a.

b.

stage three: video captured performance

Workshop A:
The interpretive potential of the video image as architectural space is examined by video taping the analog model. Space becomes a video simulation whose reality depends more on its internal visual logic than in maintaining a resemblance to the original model. At this stage, design is the choreography of the video performance.

Workshop B:
The installation is set in motion and video-taped. The goal is to create sequential narratives that favor abstract and context-free images that may be associated with tectonic conditions of media betweenness (i.e., the hybrid). At this stage, design is the temporal and experiential manipulation of the video performance.



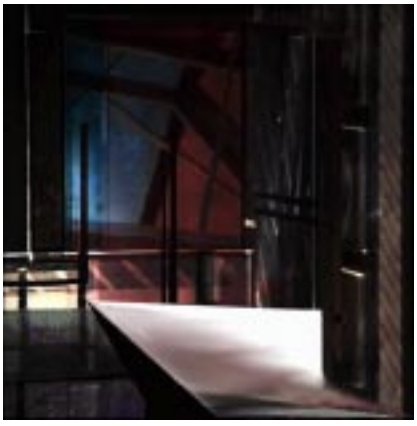
a. **b.**

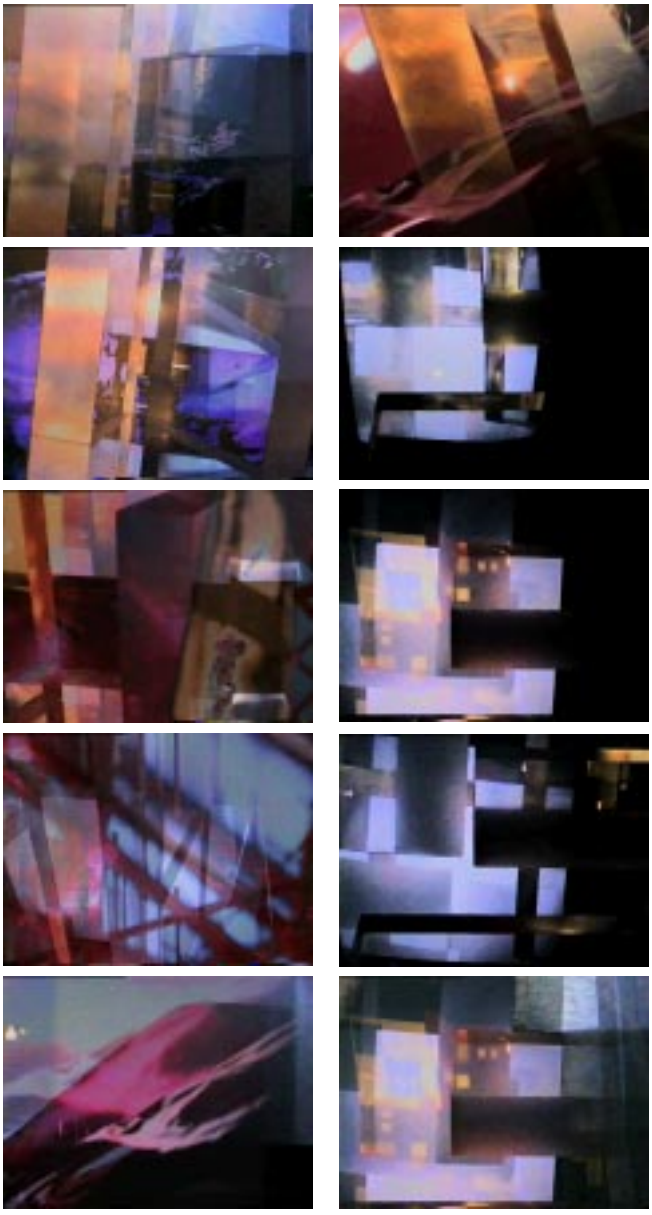
stage four: digital transformations

Spatial Enhancement (Workshop A):
Digital media is used to edit and enhance the captured images so they improve the inherent spatial qualities that they already convey. Subtle changes in lighting and color relationships, and the blurring and sharpening of elements are accomplished with filters and other image manipulation software tools. The enhancement corrects an already mediated architectural reality by re-emphasis. Simulation reforms space. It improves reality by making it more perfect than it really is. At this stage, design is making a simulation that is hyper real.

stage four: digital transformations

Radical Transformation (Workshop A):
Digital media pushes the spatial qualities of the original captured image beyond its intrinsic aesthetic and conceptual possibilities. Proportional distortions, as well as the selective isolation, addition, subtraction, and repetition of video material, transforms the original video captured frame into a newly realized spatial reality. Perspectival scenes become quasi sectional or planometric. The end product holds peripheral resemblance to the original video-image. Simulation creates its own space. At this stage, design is making an alternative, virtual reality.

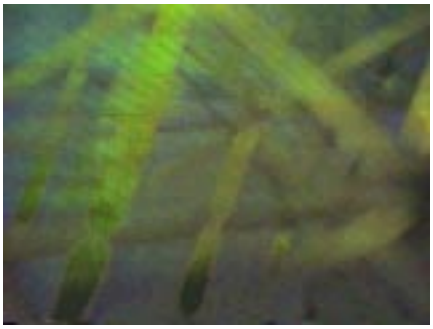


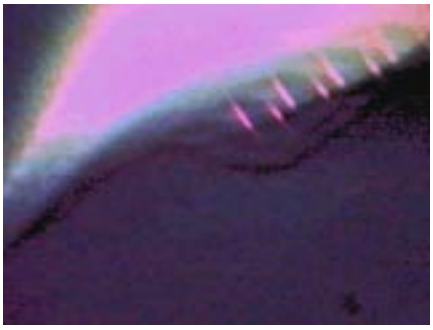


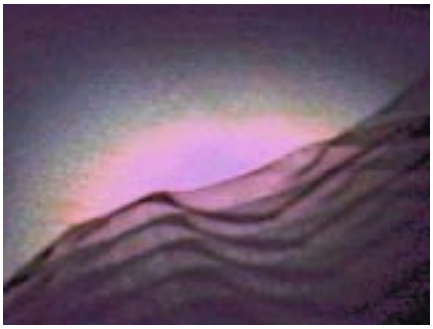
Assimilation (Workshop B):
Exploration of the boundaries between the "realization of the virtual" and the "virtualization of the real" through architectonics of light and transparencies.

stage four: digital transformations

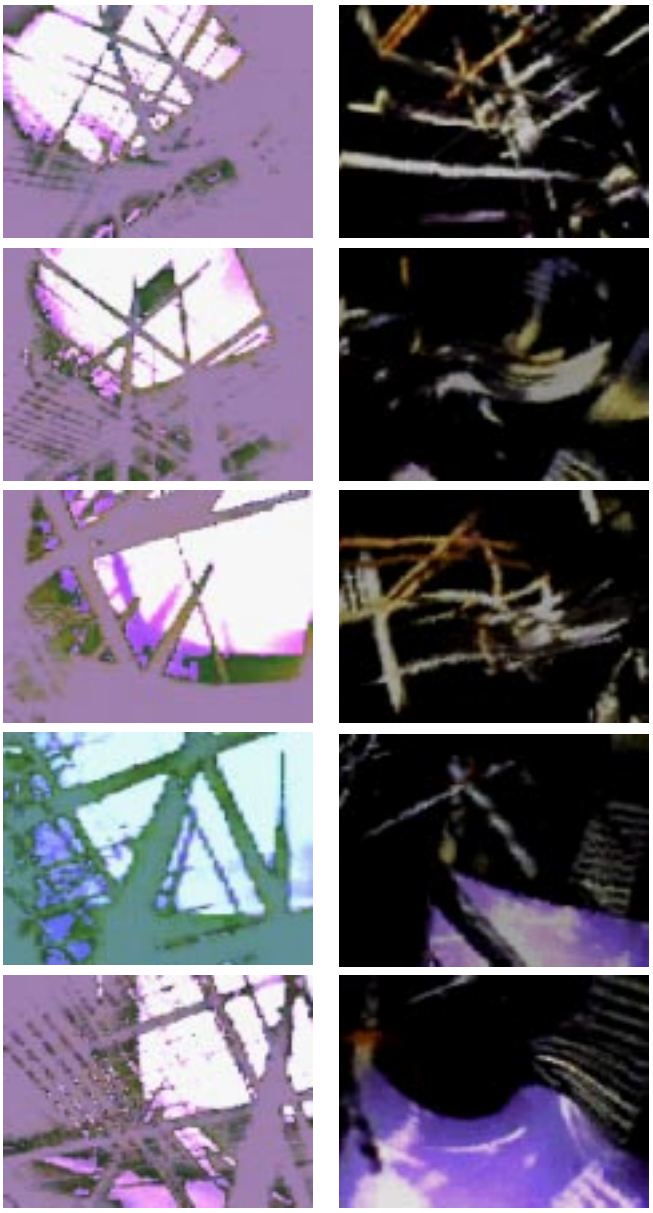
Aura (Workshop B):
A contrasting tectonic narrative between the un-representable qualities of the analog and the plastic, yet sensorially poor representational qualities of the digital, is set in the context of Walter Benjamin's concept of Aura.

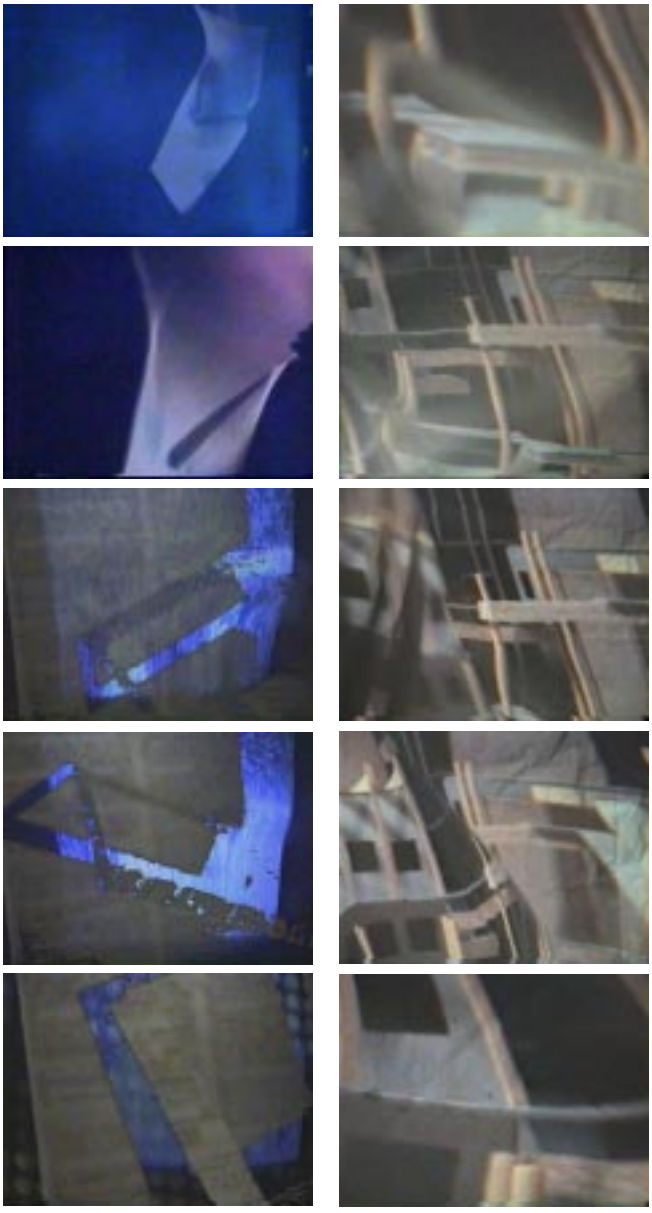






Folding (Workshop B):
Examination of the interface between media and materiality as mutually affecting phenomena that folds onto one another in a situation that is clear yet defies understanding.

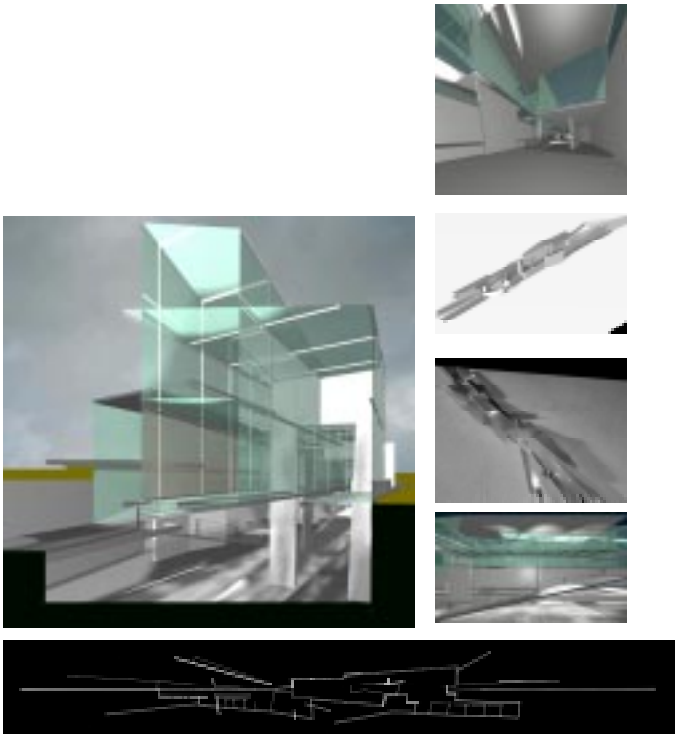




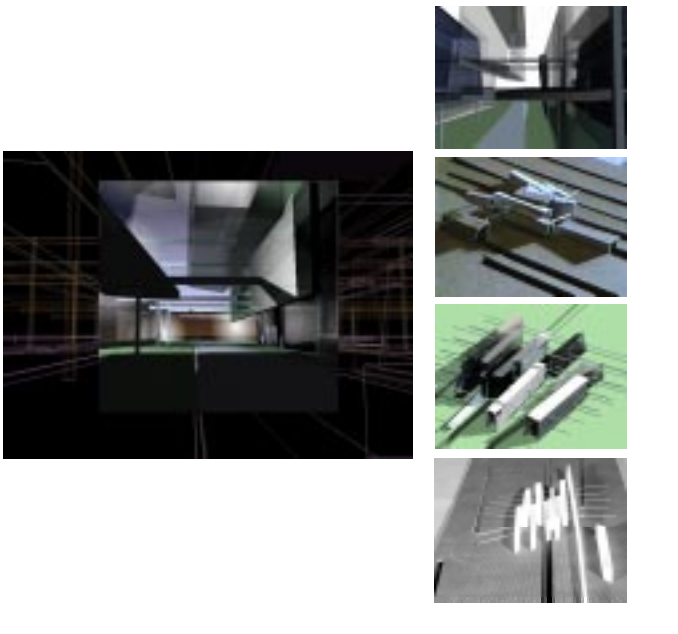
Projections (Workshop B):
Shadows, reflections, and tattoos, perhaps the oldest specimens of visualized virtuality in the real, are studied as sources of conceptual and experiential insight into the nature of media and architecture.

later studio work

An International Center on Campus:
This was the final design project in the 1997 Studio. The building had to serve and represent the international community (1) on campus (physically present), and (2) off campus (virtually present). This architectural program was built on the analog-digital theme of the workshops. Whereas one part of the building demanded the presence of the body and celebrating its real and material presence, the other part of the building depended on the absence of the body, in representing its presence by means of information (non-material) technology. One part of the program seemed to request design responses associated with materiality, embodiment, sensuality, space and form, or the analog. In contrast, the other part of the program suggested the need to deal with an architecture of information, disembodiment, detachment, interface, surface, or the digital. The design challenge was to investigate this betweenness, focusing on theoretical as well as procedural, design, and media issues. Design process and final results had to acknowledge this dialectic interplay. The impact of the workshop was evident at both the conceptual and practical levels.



team 5.



team 4.