

BERLIN-CRANE CITY

THE URBAN SPACE OF A NEW WORLD ORDER

GERARD SMULEVICH

Woodbury University

50

This paper explores an analogy between physical context, technology and design methodology. Design studios from three different schools in Southern California engaged in design problems located in Berlin, employing digital media with different ideological and instrumental intentions. The first, a pan-geographic urban design studio, involved 25 students collaborating between Los Angeles and Europe employing a combination of low-end digital and analog media over the Internet in a day-to-day asynchronous design collaboration. The second was an electronic modeling-based design studio proposing an architectural intervention near the Brandenburg Gate, studying the relationship between experience, memory and urban space. The third studio proposed a German Consulate for Los Angeles employing a hybrid analog/digital design process. All three studios explored notions of representation, simulation and design process in relation to the post-industrial world and its emerging urban paradigms. One such paradigm is found in Berlin, where atoms and bits, the analog and the digital, collide to form the telecommunications tsunami of an emerging New World Order.

Background: Berlin-Crane City

Berlin possesses a synthesized overlay of two times and two visions of urbanity, dissolved into a continuum but forever to be known by the knowledge and imprint of its almost surreal recent past.

We approached Berlin's urban history as a metaphor to our design process, understanding and studying its transformations in particular along the trace of the former Berlin Wall. There we find the *Edge*, which we identified with the waning stages of the Industrial Revolution (when the World Order was identified by the socialist/capitalist dichotomy); and we find the *Trans* (Marcos Novak, *Transarchitectures*). The process of the *Trans* identifies itself spatially by attempting to blur the *Edge* with dynamic and sometimes transparent overlays, creating an alternative condition of imagined geographies juxtaposed with concrete reality. This state is imminently the domain of a New (post-fordian) World Order, and we looked at it as an analogy for the use of digital media in the design process.

Spatially, this "blurring" of between the Industrial *Edge* and post-industrial *Trans* has its own scale, depth

and programmatic qualities. The undefined nature of this edge, seen through numerous design proposals such as the Potsdamer Platz reconstruction, reflects transient and complex spatial qualities. The space of a New World Order here is defined as much on the ground plane as it is by the space between the twenty meter high skyline of Schinkel's Berlin and the array of steel trussed cranes littering the sky over the Mitte. Berlin-Crane City.

As a pedagogical premise, we understood that the post-industrial condition is not about replacement of industrial with electronic, of goods with information, or even of the nation-state with anarchy, but rather about a constantly shifting dynamic blur formed by multiple overlays of complex societal transformations, fueled by multi-vectored immigration, loss of political boundaries and wider separation between the economically empowered and the social-economically disenfranchised, all overlaid and amplified by layer upon layer of technological augmentation.

All three design studios recognized the relevance of information technology in both the historic and contemporary blurring of the *Edge*, and hence its relevance to our design process. We wanted to become participants of historical transformation by understanding its impact on the way we design buildings. In exploring the history of the blurred area between the layers of the Berlin Wall, we found the physical reality of the industrial east merging with the conditioned physical reality of the post-industrial west and saw this as analogous to blurring *atoms* with *bits*. In considering the urbanistic nature of this *trans* space, we recognized the role that telecommunications and electronic media played in its evolution and decided to allow that same technology to permeate and augment our design process without necessarily replacing the immediacy of traditional non-digital media. In our studios' proposals, the notion of *trans* applied as a design methodology and was read in terms of being *hybrid* by nature.

In an attempt to engage in city-forming within the space of the *trans*, we proposed revisiting the design process itself, redefining it in terms of design media, programmatic agenda and collaborative design dynamics. We decided to adopt tools and media that were readily available to us and with them build an agenda and a design environment *possibly* related to our being architects of yet another *fin de siecle*.

Foreground: Three Studios ... The Pan, The Bytes and The Trans

Studio I. Project Berlin: Getting the best of both worlds. A Pan-geographic Urban Design Studio/Southern California Institute of Architecture

The opportunity to develop a design studio for the *Trans* area along the Chiffahrtskanal just north of the Lehrter Stadtbhf. involved both a programmatic and procedural challenge. The program consisted of proposing a mixed-use urban design project along both sides of the canal over an area almost one kilometer long. The Wall ran along the east bank of the canal, so the project addressed the *Edge* condition as a premise, and dealt not only with the east/west reconnection of the urban fabric, but also the future presence of the new German Federal Government forum to be located just south of our site. These were in fact two studios, one with eight students based at SCI-Arc/Los Angeles and the other with seventeen students located at SCI-Arc's villa in Vico-Morcote (Switzerland). The Europe-based studio had visited the site and had images as well as personal impressions of Berlin, while the LA based studio had access to research resources that were unavailable in the remote villa 500 feet above Lake Lugano.

The proposal for this studio was to explore collaborative design as a pan-geographic "nomadic" condition, experimenting with low-end communications technologies as a means of blurring physical distance to some degree. We tested a design process that hinted an analogy to the irrelevance of centralized organization and geographic determinism on which much of the east/west separation had relied. Our attempt at *globalization* brought elements of a post-industrial design process into our studio, in the form of a semi-physical / non-physical "extended" studio spanning nine time zones.

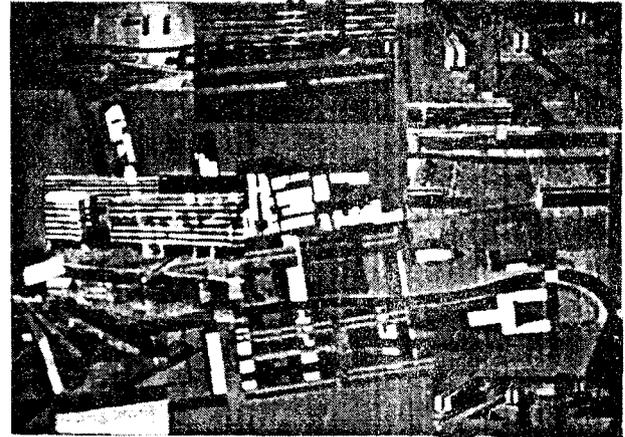
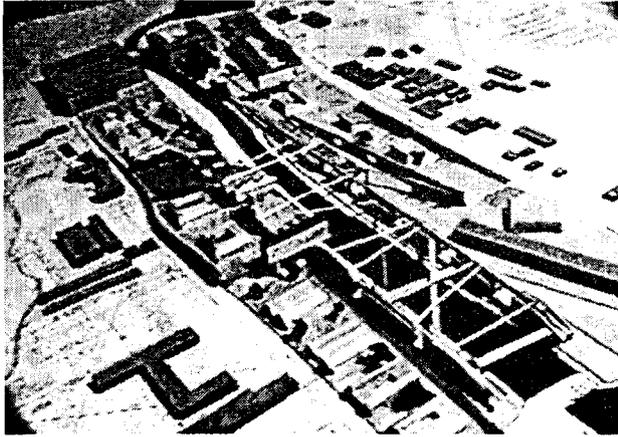
Through daily meetings on the Internet (Internet Relay Chat) and through E-mail, students on both continents were able to discuss impressions and ask questions about the design problem, with faculty advising them at either end. The use of inexpensive digital cameras allowed us to send images of work in progress, including images of sketches and models. This way, the Project Berlin studios obtained a periodic update of what each side was developing. It was clear that each studio defined a different profile and individuality despite the ongoing communications and information sharing. The Los Angeles-based students were hungry for first-hand impressions about the nature of the place, the "feeling" of certain buildings on the site, especially after the Vico students mailed a video tape of the site to LA, generating numerous questions that required personal descriptions from the Vico students themselves.

We attempted a limited joint design exercise between LA and Vico, in this case to design a bridge across the Chiffahrtskanal. The Los Angeles studio had a full array of resources, such as computers, software, drawing supply stores, model shop and seamless Internet access and a real library. The Vico studio had a notebook computer and two old PC's, a small model shop, an hour-long mountain road drive to Lugano to purchase drawing supplies and a no research resources whatsoever. The collaborative allowed each studio to complement the

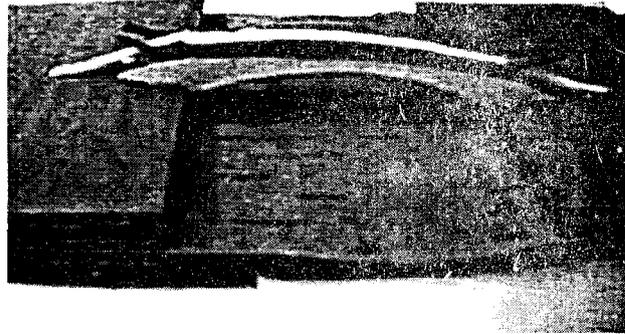
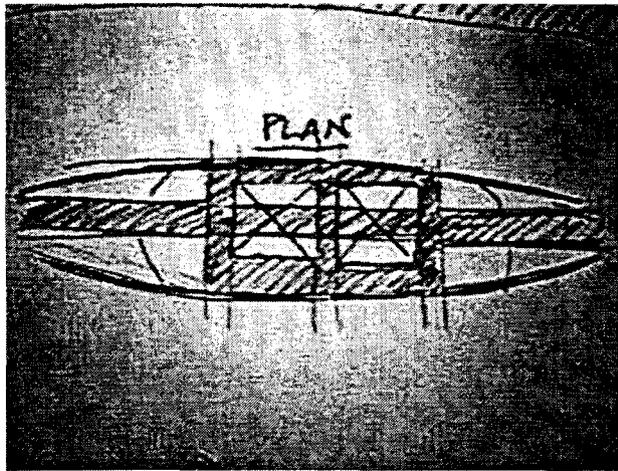
other. The LA studio based most of their contribution via computer modeling (simply because they had it) and the Vico crew employed traditional analog models and sketches (because that was all they had to work with). Vico students would build a rough model in chipboard and take pictures of it with a black and white Quickam digital camera (\$89), and E-mail or "DCC-send" those images to LA (Direct Client-to-Client, a faster IRC protocol for file transfer between any two computers on the Internet). In LA, the students would respond with a computer model using Autocad and 3D Studio, and then digitally send the resulting images back to Vico. This became a three week iterative process of interpreting ideas from images generated through diverse (available) media and defined a pan-geographic resource-sharing protocol enabled by using Internet tools (all downloaded for free from different web sites). In Vico's 17th-century villa, we jerry-rigged spliced telephone cables to reach the administrative office with the only functioning telephone jack as well as negotiating over a 10-day period the setup of a dial-up account over the phone with unseemly Ticino Net "service" managers. Up in the hills overlooking Lake Lugano, young architects crawled onto the Infobahn on hands and knees, establishing a volatile link to the world and so to their comrades in Los Angeles. Our removable hard drives containing essential Internet software suffered meltdown from fickle power surges, but luckily the anarchy of the Net provided us with all the programs we needed. Freeware and shareware communications and graphic programs were downloaded from various ftp sites. A studio web page was created by two LA students for posting questions between both studios and thus the collaborative commenced.

Although sharing resources pan-geographically, each group had a distinguishable take on the project, heavily influenced by where they were located geographically. The experience of being in Europe and having have come in contact with the culture and physical reality of the project site biased the Vico students experientially and emotionally. The ability to research history about the site by the LA studio made that group highly political and critical at a theoretical level, and the experience relayed to them from Vico caused not few disappointments when theory did not support fact; but this was the all part of our learning experience. One can develop a digitally enabled pan-geographical design collaboration without losing the uniqueness of physical location, while making use of each other's unique resources.

We discovered the possibilities of globalization as a reinforcement of cultural experience and not as neutralizing or homogenizing. In the end it became a very individual exercise, with a great deal of shared knowledge that became empowering rather than leveling. Whether their design ideology was acquired through scholarly research (LA) or through direct empirical experience (Vico) and even after both shared their particular interpretations of the design problem, both studios still retained distinct characteristics, visibly enriched by the exchange of points of view. Both groups remained clearly distinct studios yet formed a third *shared* studio that existed as long as the will or need to communicate was present. Globalization in this case reinforced the



Figs. 1 and 2. Urban design proposals by Richard Lin and Scott Kuhlman from Project Berlin: A Pan-geographic urban design studio – Southern California Institute of Architecture.



Figs. 3 and 4. Pan-geographic design collaborative: Sample image shared over the internet from Project Berlin: A Pan-geographic urban design studio – Southern California Institute of Architecture.

importance of geographic opportunity, and by no means neutralized it.

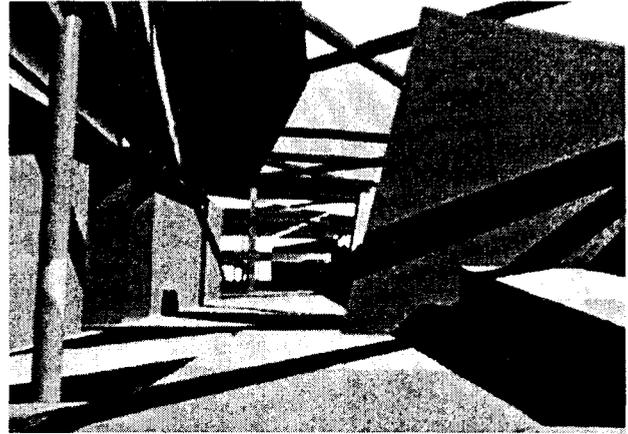
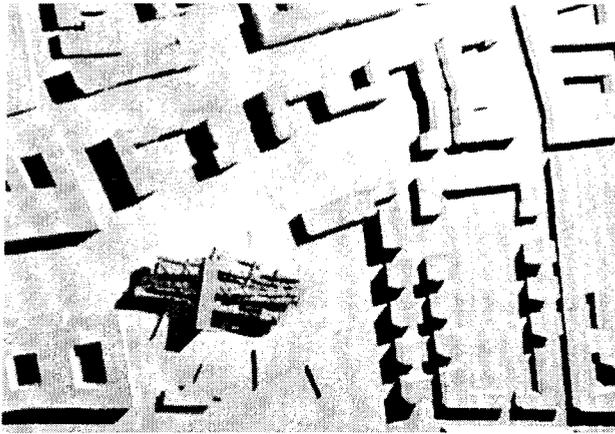
Studio II. F.R.E.I: Electronic Inhabitation. A Digital Topics Studio at the University of Southern California

The proposal was to design a Forum for the Reunification and European Immigration on a site within one hundred meters of the Brandenburg Gate, on a lot located within the former no-mans land of the Berlin wall. As a curriculum-mandated digital “topics” studio, all students were to use (and learn) computer modeling as their primary design environment. Our departure point was to attempt an understanding of the political and technological conditions surrounding both the existence and demise of the Berlin Wall via the design medium being employed. A post-industrial design environment (or tool) applied towards a post-industrial urban condition. In architectural terms, this meant identifying design issues and points of view that were not obvious in a traditional (analog) design process; the most relevant of these being that of electronic inhabitation and its informing the simultaneity of conceptual /experiential instances (see Gerard Smulevich; *The Electronic Bauhaus*: [http://](http://www.gbm.net/archiforum/papers.html)

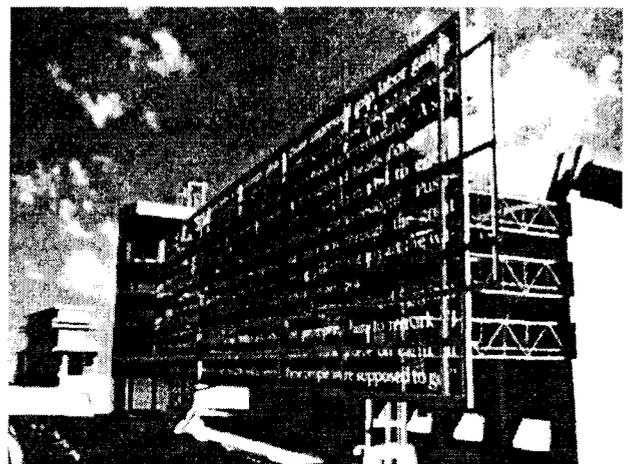
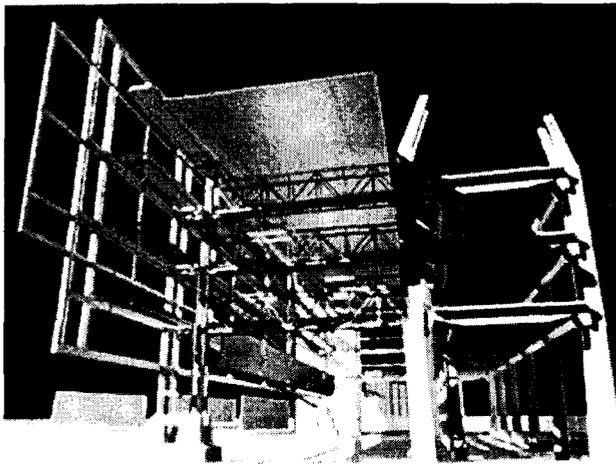
www.gbm.net/archiforum/papers.html).

The relationship between building and ground plane, for example was studied as a condition of phenomenological consequence. Many students were able to connect with the emotion of “standing” in the *transzone* (no-man’s land) through electronic inhabitation (simulation), and because of this they adopted definite theoretical stands about building implantation and ground plane use. Some decided for the negative-space exercise of exploring underground space, others lifted their designs off the ground feeling that the space of the *trans* had an almost sacred quality and had to remain open in a reactionary response to the memory of The Wall. In both cases, these decisions were made while “standing” *on-site* in electronic space. They had to *be there* to understand the emotional bearing of the site’s history.

The use of digital media (in this case computer model simulation) allowed students to explore the site simultaneously from both a conceptual and experiential point of view. This made for a direct connection with history as *place*, making both analogous (experiential) and metaphorical (immaterial) references to the Berlin Wall and its urban consequences. Structural systems



Figs. 5 and 6. View of interior space by Matt Baran from *F.R.E.I.: A digital topics studio* at the University of Southern California.



Figs. 6 and 7. East/West structural metaphor and west-facing information facade by Mike Hsu from *F.R.E.I.: A digital topics studio* at the University of Southern California.

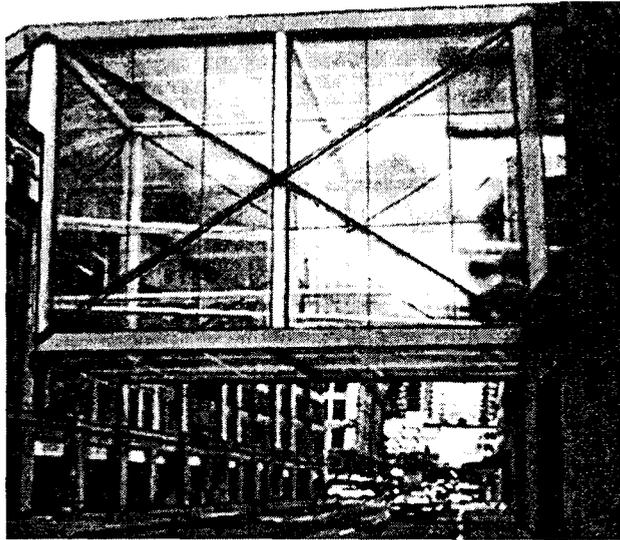
were explored as a means of exposing technological and cultural contrasts as design parameters. Duality, a notion emerging from the east/west condition, was studied as experience. Reinforced concrete juxtaposed with light steel frame structures; notions of heavy/light and tectonic/ethereal approached as metaphors and tested against historical reference; all images and more images from the history of the division. In our case, the images became a powerful inspiration, as images are information and information is currency of the New World Order.

Transparency, translucency and opacity were studied in depth in all the projects. We concluded that being able to "see" through things was an opportunity only possible through full-scale experience, which is what electronic simulation essentially is. This way, Post-Industrial notions of layering and spatial collage were translated into the physical layering of translucent planes in space.

Scale, through electronic inhabitation became more than just a study of relative proportions as seen in traditional means of representation; it became a true means of understanding space relative to the human body. Notions such as Steven Holl's *nested experience* (multiple simultaneous scales) invited students to

understand the scale of a detail and the scale of the city as a simultaneous notion conditioned by optics. Optical simulation transcends traditional media and enables the reading of multiple scales in space.

The architectural expression and language that was explored became intimately related to the design process being developed in studio. This process constantly referred to notions and conditions of a post-industrial nature, always understanding these as inherent to the nature of the *trans* space of the former Berlin Wall. Students explored notions of *surface depth*, for example, based on the principle of hyper-linked non-linear layers, an information technology-specific concept (a notion borrowed from *hypertext*, of World Wide Web fame) and applied to the building envelope. This kind of study resulted in diverse types of building envelopes tied intimately to a notion of non-hierarchical program space, where the building becomes organized by multiple levels of form-to-concept linkages and not just by form-to-program definition. This kind of study could not be developed or communicated with traditional drawings, needing to be shown as experiential sequences in space. In studying the conditions of image and language for the



Figs. 9 and 10: Left: David Ferrin and Milton Dalida. Right: Richard Bonner and Joseph Chang from Atoms 'n' Bits Studio – Woodbury University, Burbank, CA.

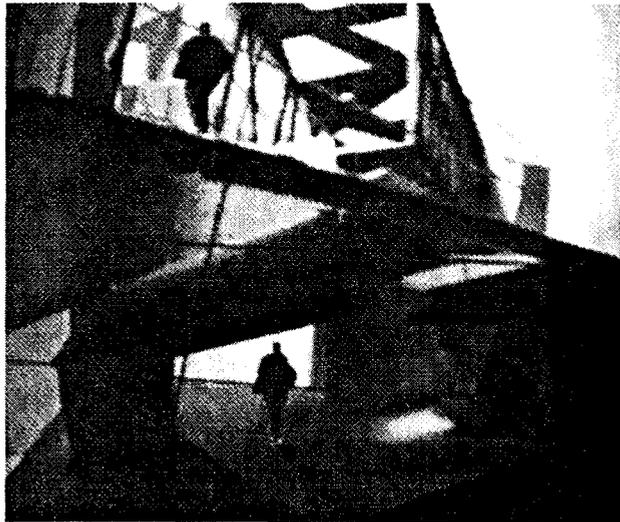


Fig. 9 and 10: Early analog/digital studies. David Ferrin and Milton Dalida from Atoms 'n' Bits Studio – Woodbury University, Burbank, CA.

F.R.E.I., we discussed the value of metaphor and non-metaphorical expression, vis-à-vis building as a messenger and building as a timeless repository of truths. This led to another digital-based concept referred to as *thingness*, a notion best described as the property of having all materiality compressed on the surface. In exploring this notion, which draws from a (very post-industrial) digital visualization technique called *texture mapping*, several projects experimented with materials without message or any kind of aesthetic premise; only a determination to *inform* about other properties, mostly spatial, embedded in the project. This way, the skin of the building expresses *information* such as “structure” and “program” without attempting to synthesize them. This too is an imminently post-industrial and indeed post-structuralist concept, where the whole is *not* greater than the parts and where different aspects of a design shed the need to communicate metaphor and can simply become references to yet other

aspects within the same project. Self-referential space (Lebbeus Woods) appears as a trademark of the New World Order.

Some of the results seen in this particular studio were a consequence of a focused understanding of the relationship between design media and urban physical/historical context. The projects developed carried a highly tactile, spatially rich architecture that owed much of its qualities to focusing the use of digital media to project and site specific conditions, seeking a correlation between architectural design methods, design media and a holistic understanding of the historical and technological legacy of the former Berlin Wall.

Studio III: Consulate General of Germany in Los Angeles: Atoms 'n' Bits Studio at Woodbury University

This fourth year design studio participated in the 1997 ACSA/Dupont Co. laminated glass competition.

The studio sought to define an edge between traditional and digital design media, *then blur it*, forcing a crossover between the two. We pursued this hybrid process of overlaying analog and digital media as a way of testing a “cyborg” design methodology, seeking the best of both realms (industrial/post-industrial), and possibly testing a design process belonging to a *neu zeit* (a new time.... *our time*).

Students developed this hybrid process based on two notions: 1) that form generation was *conceptual*, *external* and at least in its initiation, modulating space, but; 2) space can only be studied as such when *experienced*. These notions led us to develop the idea of using rough analog models to create an initial concept and experience the resulting space through digital image-capture employing once again an inexpensive digital camera. Pedagogically this implied merging conceptual and experiential instances into a seamless process, using the conversion of atoms (cardboard model) into bits (bitmap image).

The idea behind this was to emphasize the overlay of analog (metaphor of industrial) with digital (metaphor of post-industrial) design media. The recurring notion of *trans* applies here as a metaphor for using *all* tools available in defining alternative design methodologies and exploring an architecture born from this overlay: Generating space as a *concept* (quick analog model), capturing images of its internal *space* with a digital camera, and then “sketching” on these images by employing digital collage techniques in Photoshop, actually constructing design-rich images from bare-bones model pictures. Students explored glass reflection, transparency/translucency and perceptual qualities by *drawing* inside these bitmap images of their models. It became clear that bits were bits (Negroponte) and that whatever was digitally photo-captured and what was collaged or drawn into that captured image became *one* digital database. The cardboard model was now turned into pixels, so adding and subtracting pixels became post-material extension to analog model making. We discussed the fine line in this case between *simulation* and *representation* and the value that both these visualization notions have in a hybrid analog/digital design process.

The following step was for the designers to reinvent their models working *backwards* from the digitally altered images of their original study models, much the same way the Vico students had built their chipboard models off of E-mailed images of CAD models sent to them from Los Angeles. The result was a very elaborate, experientially rich architecture conceived and developed completely through this analog/digital marriage. Truly, the digital camera captured the *conceptual essence* of the students formal ideas contained in the initial study models and then they developed them in great detail as a purely experiential instance; then, by proceeding with the reformulation of the concept model they concluded the first iteration of an alternative design process. Incorporating scanned site photographs into the digital collage only added even more depth to the design process

as students pursued the integration of digitally augmented reality with abstract conceptualization.

As in the case with the Project Berlin Studio, the Atoms ‘n’ Bits studio employed basic, low-cost equipment and software, staying true to the notion that we were attempting to work with a technology that is a part of our time and our evolving professional practice. We experienced a design process that was economically and instrumentally feasible and thus of consequence to the discipline of architecture, more so than playing with unrealistic science fiction-grade gadgets that are property of gourmet endowment-funded, Onyx-powered computing labs.

Conclusion

We believe that the architectural design process will evolve by grasping and pushing existing technology to the limit and not by playing second place to self-important experimental technologies that are not yet a part of change as we know it. Instead, we are seeking an *experimental architecture* as a design process and as a true reflection of what our current New World Order is made of. We are seeking, as Lebbeus Woods wrote, to “participate in change by being part of its initiation,” and this will only happen if we attempt to understand what change means to us as architects.

The design of the urban space of our New World Order can only evolve if we keep the spark of invention and discovery alive, looking around us and questioning rules that are incapable of answering questions that belong to the immediate future. By understanding the immediate past, our present fuses into future on the improbable shifting ground of our *transitional* urban condition.

These three studios experimented with digital media in varying degrees of sophistication and intent, but what becomes clear is that in Berlin-Crane City, in fact in all our cities, we are going to be increasingly affected by the collision between *space* and *place* brought on by the post-industrial blurring of traditional edges. On the edge where the *built* intersects the *imagined*, we will find architecture as edge of thought, and we will mostly likely discover that more ... is simply just *more*.

REFERENCES

- Balfour, Alan. *Berlin, The Politics of Order* (Rizzoli, 1990).
- Holl, Steven. Notes from his keynote address at the 1996 ACSA National Conference, Boston.
- Negroponte, Nicholas. *Being Digital* (Vintage, 1995).
- Novak, Marcos. *Transarchitectures*. <http://www.aud.ucla.edu/~marcos/>
- Smulevich, Gerard. *Architecture Forum*. <http://www.gbm.net/archforum/frei1.html>, <http://www.gbm.net/archforum/berlin/>
- Woods, Lebbeus. *Anarchitecture: Architecture as a Political Act*. Architectural Monographs No. 22: (Academy Editions/St. Martins Press, 1992).