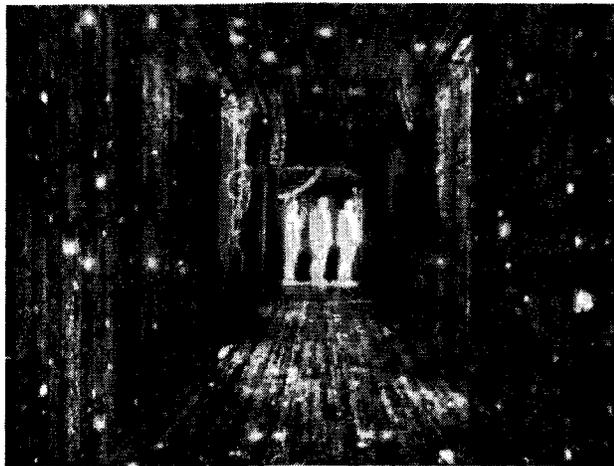


# ARCHITECTURES OF VIRTUALITY

Translations from Concept to Building  
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**ABSTRACT**



*"The media have substituted themselves for the older world. Even if we should wish to recover that older world, we can do it only by an intensive study of the ways in which the media have swallowed it."*

—Marshall McLuhan<sup>1</sup>

The use of the computer has not only affected the modes of production of architects, but also the experience of architecture. By expanding our understanding of site, program, and building, we can look to film and the Internet to understand the shifts in our experience from visual to physical to virtual. This paper presents the work conducted in a 4<sup>th</sup>-year digital-design studio. The paper focuses on a 3-step process of translation from concept to building, using film as site, diagramming cyberspace instead of bubble-diagrams, and building models. The final output is the construction of a 3-dimensional model in the computer environment, the *Inforum* - "a new kind of civic building where information is propagated from the commercial to the educational level"<sup>2</sup>.

**1. READING THE CITY THROUGH FILM**



*"The network is the urban site before us, an invitation to design and construct the City of Bits (capital of the twenty first century), just as, so long ago, a narrow peninsula beside the Meander became the place for Miletos. But this new settlement will turn classical categories inside out and will reconstruct the discourse in which architects have engaged from classical times until now. This will be a city unrooted to any definite spot on the surface of the earth, shaped by connectivity and bandwidth constraints rather than by accessibility and land values, largely asynchronous in its operation, and inhabited by disembodied and fragmented subjects who exist as collections of aliases and agents. ...How shall we shape it? Who shall be our Hippodamos?"*

—William J. Mitchell, *City of Bits*<sup>3</sup>

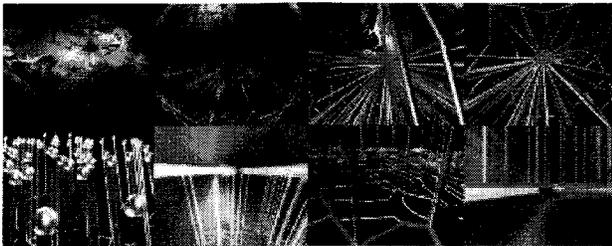
The first step of the design process includes a site visit. In the case of the ACADIA's Inforum competition in Berlin, the website provides models and descriptions of the site and the surrounding landmarks. How to respond to the site beyond form? Two films capturing a contemporary conception of Berlin are selected. The use of film substitutes the physical act of visiting the site. In *Wings of Desire* by Wim Wenders, Berlin is fragmented, divided by the wall. The wall as a boundary line, and the u-bahn as a connecting line allows for com-

parisons in the city's spatial conditions. In *Run Lola Run* by Tom Tykwer, Berlin is compressed and non-linear. One segment of time is experienced three times; minutes are therefore stretched into hours... The experience of the compression or manipulation of time is one common element to both films. In *Wings of Desire* the angels exist in a timeless grayscale environment; the present is the only time they know. When Lola screams time is slowed down and almost stopped. The use of two films establishes a dichotomy from which to compare and contrast or to link.

A sequence in each film is selected and photography is used to extract single frames. This kind of documentation allows us to see how the camera explores and constructs space through the use of camera angles, speed, color, material, etc. Students are asked to analyze these different techniques used to describe the city. The first translation is to convey their observations through an abstract physical model, and then to build a virtual one. Although the digital model is an abstraction, it is a diagram of space. As an animation, it conveys a conception of space and time. It is a virtual experience of material, light, and sound.

Film, like architecture, is a constructed environment. The city, read though the narrative of the film, is framed, clipped, and represented as model. The experience of time and space is communicated through tectonic relationships and presented in the form of an animation. Using this technique, the cinematic structure is inscribed in the vocabulary of architecture...

**2. TERRITORY VS. CYBERSPACE**



*"The essence of the diagrammatic technique is that it introduces into a work qualities that are unspoken, disconnected from an ideal or ideology, random, intuitive, subjective, not bound to a linear logic – qualities that can be physical, structural, spatial or technical... Diagrammatic practice delays the relentless intrusion of signs, thereby allowing architecture to articulate an alternative to a representational design technique. A representational technique implies that we converge on reality from a conceptual position and in that way fix the relationship between idea and form, between content and structure..."*

— Ben Van Berkel & Caroline Bos<sup>4</sup>

In the landscape of the information age, small isolated bits of information get connected very quickly to create an information flood. Any medium of communication filters and transforms the original message. The program statement for the Inforum asks for the conceptualization of a place of Information exchange. What is information? How can information be part of the infrastructure of the city? The second investigation in our expanded field of architecture tries to establish a relationship between information and the urban condition, and translates this relationship into the program distribution of the Inforum. Information encompasses a spectrum from the reception of bits of data to its integration into the formulation of knowledge. What the students ultimately produce is a series of cognitive maps. Models are used to diagram a) the categorization of information into a structure or a surface, and b) the communication of information, its perception, construction and distortion.

Whereas the first set of models are narratives to be experienced as animations, this second set represents a system containing set of relationships that can be developed into a spatial language. Within this system of language one can identify variable elements, formation rules prescribing how to connect things together, and transformation rules describing how to transform one element into another. In this sense, this spatial system is permutable by the application of rules on variable elements, and by the interpretation and experience of the resultant transformation. This synthetic interpretation of the concept of information into a 3-dimensional model becomes a kind of programmed cartography. Using this technique, the information-models can therefore be used as maps for the functional organization of the Inforum.

**3. THE INFORUM**



*"The best effects which architecture can produce in the contemporary world are those that are proliferating and moving, effects that are anticipatory, unexpected, climactic, cinematic, time-related, non-linear, surprising, mysterious, compelling, and engaging."*

—Ben Van Berkel & Caroline Bos<sup>5</sup>

The space of the Inforum merges the experience of the city with the notion of information as a system, a translation from concept to building. Inforum's site is a segment of a larger narrative: the city. Architecture is experienced through movement, and that experience has been scripted by the first set of animation. The functional organization of the Inforum materializes a physical space for something that is not physical: the sharing of information. The formal and programmatic structure of the Inforum building is generated from the organizational structure of the information-models. However this the spatial language generated by the second set of models is absorbed and transformed within by the experiential models of Berlin. The Inforum is open-ended, a place for public events rather than a new institutional typology. The city, as a dynamic system evolving in time, incorporates the Inforum as a spatial transformation, a significant change in the urban fabric.

**CONCLUSION**

*"I would like to make two claims in particular. The first is that architecture's instrumentality can be reconceived, not as a mark of modernity's demand for efficient implementation but as the site of architecture's contact with the complexity of the real. By immersing architecture in the world of things, it becomes possible to produce what Jean-François Lyotard has referred to as a 'volatile, unordered, unpoliceable communication that will always outwit the judicial domination of Language'. The second claim is for a practice engaged in time and process - an architecture devoted not to the production of autonomous objects, but rather to the production of directed fields in which program, event and activity can play themselves out..."*

—Stan Allen, *Material Practices: Architecture after Semiotics*<sup>6</sup>

Architects design 3-dimensional spaces for specific functions; these 3-dimensional environments respond to contextual conditions<sup>7</sup>. Context, in architecture, is a wide spectrum ranging from tangible conditions such as the morphology of the city, to the ephemeral digital practices of our culture<sup>8</sup>. This wide definition of context allows us to understand the architectural object as sited within this expanded field<sup>9</sup>.

Film enables us to sample a distant site and immerse into a direct and immediate experience. The city is looked at through film and the urban infrastructure is studied in the form of conceptual models. Conceptual models are also produced to explore the system of information exchange. These models are then explored as digital spaces, and can be experienced in time through the use of animation. Through this process of research into the complex relationship of site, program, and space, students develop a "digital intuition." Using virtual modeling techniques, they can seamlessly shift scales and translate an idea into architecture.

**NOTES**

<sup>1</sup>This quote is an excerpt from Susan Sontag's *On Photography* (New York: Anchor Books, 1990) p.201

<sup>2</sup>From the ACADIA 2001 Design Competition Program Statement: THE INFORUM

<sup>3</sup>This quote is an excerpt from William J. Mitchell, *City of Bits: Space, Place and the Infobahn* (Cambridge: MIT Press, 1995)

<sup>4</sup>This quote is an excerpt from Ben Van Berkel & Caroline Bos, *MOVE* (Amsterdam: UN Studio & Goose Press, 1999)

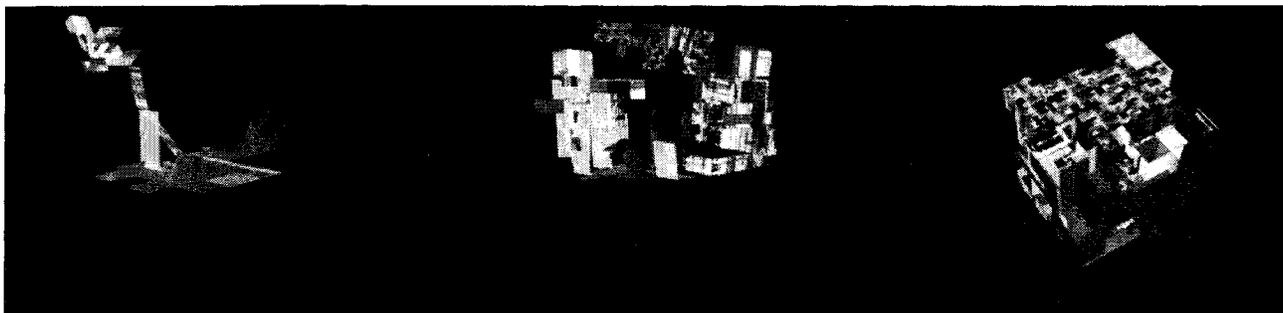
<sup>5</sup>This quote is an excerpt from Ben Van Berkel & Caroline Bos, *MOVE* (Amsterdam: UN Studio & Goose Press, 1999)

<sup>6</sup>Stan Allen, *Material Practices: Architecture After Semiotics*

<sup>7</sup>"Finally context may not be exclusively visual – cultural context situates human efforts, and for architecture this includes, but is not circumscribed by, physical and spatial constructs." Carol Burns, "On Site", *Drawing, Building, Text* (New York: Princeton Architectural Press, 1991) p.146

<sup>8</sup>"Digital living will include less and less dependence upon being in a specific place at a specific time, and the transmission of place itself will start to become possible. [...] Distance means less and less in the digital world. In fact, an Internet user is utterly oblivious to it. On the Internet, distance often seems to function in reverse. I frequently get faster replies from distant places than close ones because the time change allows people to answer while I sleep—so it feels closer." Nicholas Negroponte, *Being Digital* (New York: Vintage Books, 1996)

<sup>9</sup>The term "expanded field" was first used by Rosalind Krauss in "Sculpture in the Expanded Field" to describe how sculpture as an artistic practice and as an artistic medium had expanded into the "axiomatic structures" of landscape/non-landscape and architecture/non-architecture. It is used here to expand the field



of architecture into multimedia practices of film and cyberspace. Rosalind Krauss, "Sculpture in the Expanded Field", *The Anti-Aesthetic* (Bay Press, 1991) p.31

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**ILLUSTRATIONS**

- Fig. 1. Andy and Larry Wachowski's The Matrix (<http://whatisthematrix.com>)*
- Fig. 2. Map of Berlin with overlaid images from Wim Wenders' Wings of Desire and Tom Tykwer's Run Lola Run.*
- Fig. 3. Student project by Camila Querasian*
- Fig. 4. Student project by Dirk Henke*
- Fig. 5. Student Project by Evan Fox, Brandon Gainey, and Lindsey Piant*