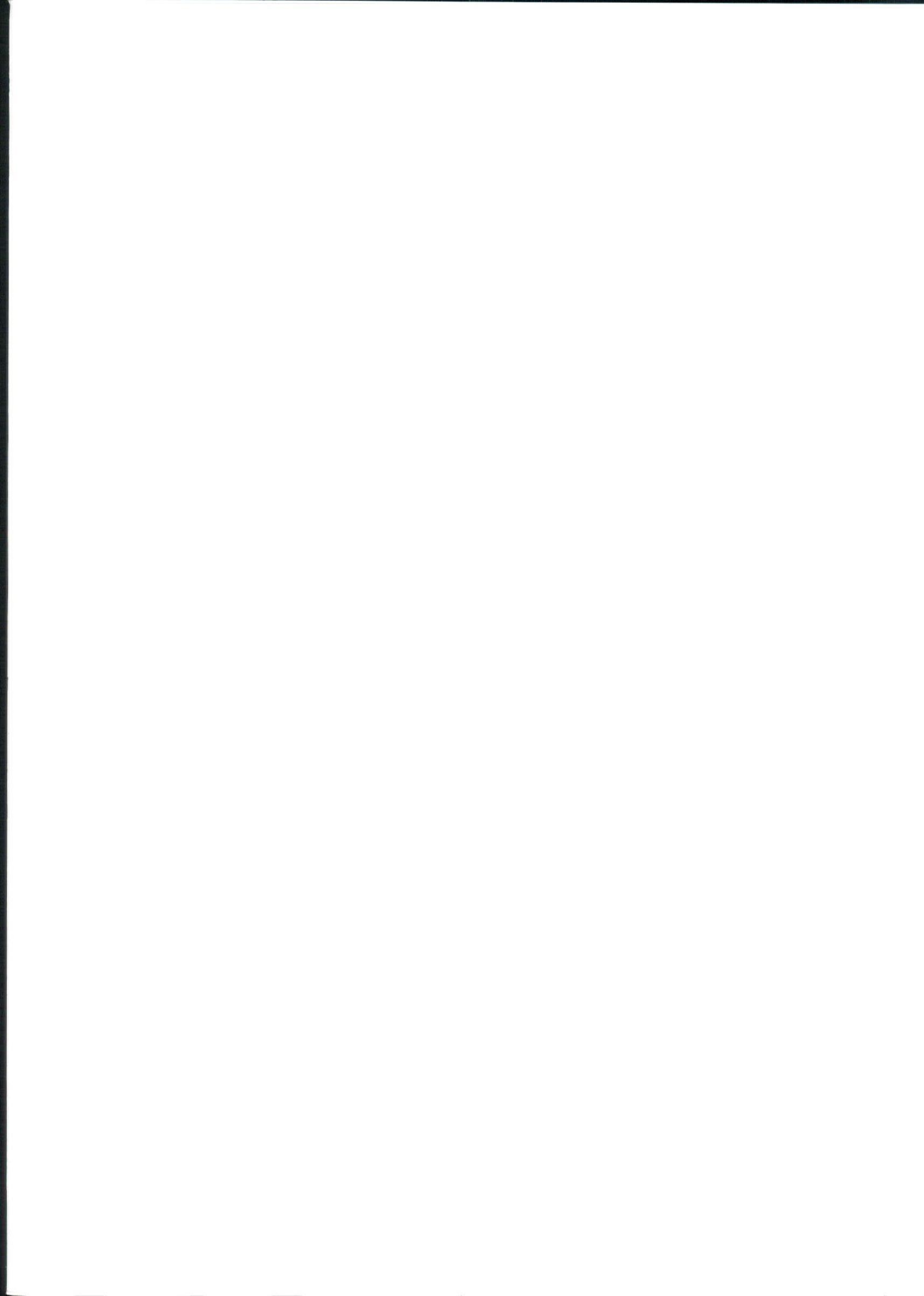


PERSPECTA 38

ARCHITECTURE AFTER ALL

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**PERSPECTA 38:
ARCHITECTURE AFTER ALL**

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ARCHITECTURE AFTER ALL

THE YALE ARCHITECTURAL JOURNAL

EDITED BY
MARCUS CARTER
CHRISTOPHER MARCINKOSKI
FORTH BAGLEY
CEREN BINGOL

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CONTRIBUTORS

Hernan Diaz Alonso

Hernan Diaz Alonso is the principal and founder of Xefirotarch, an award winning Architecture, Product and Digital Motion design firm based in Los Angeles. He currently teaches full time as a studio design and visual studies professor at SCI-Arc in Los Angeles where he is also the Thesis coordinator. Diaz Alonso is also a design studio professor at the GSAPP - Columbia University, New York.

He received his architecture degrees from the National University of Rosario, Argentina, and from Columbia University's AAD Program, from which he graduated with honors and received several design awards. In 1996, he worked as a designer in the office of Enric Miralles in Barcelona and in 2000-2001 he was senior designer at Eisenman Architects in New York.

Diaz Alonso's work has been the recipient of numerous prizes; among them the 2005 PS1 MOMA Young Architects Prize. His work has been exhibited and published widely around the world and he has lectured at many of the world's leading schools of architecture.

Roger Connah

Roger Connah is a freelance writer, film-maker, graphic designer and teacher. Born in Chester, England, Connah holds a BA (1st Cl.Hons.) in Architecture from Bristol University and a Dip.Ed (Engl. Lit.) from Jesus College in Cambridge. He has lectured and taught in several countries including Finland, India, Sweden, Canada, Pakistan, Austria and the United States; visiting professor at Jamia Millia Islamia University, Delhi in Mass Communications and Film Studies, at Helsinki Art Academy, Finland and The Royal School, Stockholm. Since 2001, Visiting Professor at the University of Texas at Arlington, School of Architecture, directing the Pulp Architecture Graduate Studio (with J.P. Maruszczak). His many writings include *Writing Architecture*, *Welcome To The Hotel Architecture*, *How Architecture Got Its Hump*, *Tango Mantyniemi*, *Grace and Architecture*, *Aaltomania*, *Zahoor ul Akhlaq*, *Finland (Histories of Modernism)*. He was one of ten invited critics for the book *10 X 10*. Recent projects: *Chromotopia 2002*, *Interface*, *Animall and Brautigan (2003)*. His films include *Take Five*, *27 Minute Lies*, *Drive*, and *Aaltomania*. Pulp Architecture DVD productions include *Here comes the Night*, *Call out Arlington*, *Knowtopia*; *Pulp Detroit* and *Involuntary Architecture (2005 - DVD video with J.P. Maruszczak)*.

Forthcoming: *Architecture or Life: an anti-memoire*; and *Inshallah, Definitely*. He is currently working on his new book *Deschooling Architecture*.

Winka Dubbeldam

Winka Dubbeldam is the principal of Archi-Tectonics NYC founded in 1994. Prior to founding Archi-Tectonics, she worked for Tschumi Architects, Stephen Holl Architects and Eisenman Architects. Dubbeldam is a graduate of the Faculty of Architecture, Rotterdam and Columbia University in New York. In 2001 she received an Emerging Voice award from the Architectural League of New York. She has been published in many journals and in a monograph titled *Winka Dubbeldam, Architect (1996)*. A new monograph with Princeton Press, NY will be out winter 2005. The work of Archi-Tectonics has been exhibited at MoMA ("The Unprivate House" and the "Young Architects Exhibit"), the KunstHal Rotterdam, the Archi-Lab conferences in Orléans, the Frederieke Taylor Gallery in New York ("From Hardware to Softform"), The National Building Museum, Washington and the Venice Biennale of Architecture (2002 and 2004). Archi-Tectonics has currently five new building projects under development, in New York, Philadelphia and Anguilla.

Dubbeldam is currently the Associate Professor of Practice at University of Pennsylvania where she teaches advanced architectural design studios and is Director of the Post-Professional Program. She has taught as an Adjunct Assistant Professor of Architecture at Harvard and Columbia Universities.

Sam Jacob

Sam Jacob is a director of the London based architecture practice FAT. FAT has a reputation for innovative and progressive projects which seek to expand architectural culture. Projects include offices for advertising agency KesselsKramer in Amsterdam, NL, social housing in Manchester, UK, a park and community center in Hoogvliet, NL and an art school in Bostel, NL. FAT's projects have been published and exhibited widely. Sam is architecture editor of *Contemporary* and editor at large for *Archis*. He also writes for *Icon* and *Modern Painters* as well as contributing to various academic journals and books. He has taught at postgraduate level at a variety of universities. As part of FAT, he has lectured across the UK, Europe and the US. He lives in the suburbs, shops at Sainsbury's, orders Dominos Pepperoni Pizzas, and collects souvenir

buildings. Further information available at www.fat.co.uk and www.strangeharvest.com.

Dawn Finley

Dawn Finley is a principal of Interloop A/D in Houston, Texas. She received a Bachelor of Science in Architecture from the University of Michigan in 1993, and a Master of Architecture from Rice University in 1999. Her recent research and design work includes KlipHouse, a service based housing platform developed for mass production, Plug-On, the first in a series of residential product prototypes, and Tending(Blue), a new building collaboration with artist James Turrell, commissioned by the Nasher Foundation in Dallas, Texas. In 2000, Finley worked with Droog Design and her work was exhibited at the Kunsthal, Rotterdam and the Milan Furniture Fair. Dawn Finley is an Assistant Professor at Rice School of Architecture in Houston, Texas. She is currently working on a forthcoming book, *Notes on System Form*, due to be published in 2007.

Mark Goulthorpe

In 1991 Mark Goulthorpe established the dECOi atelier to undertake a series of architectural competitions, largely theoretically biased. Based in Paris and London, dECOi has received awards from the Royal Academy in London, the French Ministry of Culture and the Architectural League of New York, and has represented France at the Venice Biennale and the United Nations. They were selected by the Architects Design journal in its international survey of thirty "Emerging Voices" at the RIBA in London, and were awarded second place in the BD "Young Architect of the Year" Competition, 1999. dECOi was invited to exhibit in the International Pavilion at the Venice Biennale 2000, and to exhibit 10 years of work at FRAC in Orléans, 2002. Most recently they were awarded the prestigious international FEIDAD Digital Design Award 2001, and again in 2005, and participated in the "Architecture of the Non-Standard" manifesto at the Centre Pompidou in Paris 2003.

Educated at the University of Liverpool, Mark Goulthorpe currently holds an Associate Professorship at MIT. He has also taught at the Architectural Association in London and the École Speciale in Paris. Books of dECOi's Architecture are forthcoming from Hux Publications/FRAC (Centre Pompidou), from DD in Korea (monograph), and Haeccity, Australia (selected writings). Mark Goulthorpe is editing a book *Non Standard Praxis* that follows the conference at MIT of the same name in 2004.

Christopher Hight

Christopher Hight is an architect currently working on a forthcoming theoretical history of postwar architecture in relationship to post-humanism, cybernetics and architectural orders of the body. This will be published by Routledge next year. He has published articles in several books, including *Latent Utopias*, *Landscape Urbanism*, and *Corporate Fields*, as well as numerous journals, from *Leonardo*, *A+U*, the *Journal of Architecture* and *M+ars*. He is co-editing with Chris Perry an issue of the journal *AD* on "Collective Design."

After his professional degrees in architecture, Hight completed a MA in Architectural Histories and Theories from the Architectural Association in London and completed a Ph.D. at the London Consortium. Among his awards are the AIA School Medal and a Fulbright Scholarship. Hight is currently an Assistant Professor at Rice University, leading design research into the emerging nexus of landscape, ecology, emerging media and material processes.

Hight is produced via overlapping discourse networks; sourced via Amazon.com, the British Library, Wikipedia and Google; developed via OpenOffice.org, Firefox/Thunderbird, and SnipSnap wiki; running OS X and Windows XP; connected via Sprint PCS and 802.11 a/b/g; triggered by Kubrick and Kristeva, Foucault and Steve Reich, Francis Bacon and Kleist, Kafka and Kruder & Dorfmeister. Hight is available at chight@rice.edu and will soon be browsable at mesolith.net.

Gregg Pasquarelli

Gregg Pasquarelli received a Bachelor of Science from the College of Commerce and Finance at Villanova University (1987) and a Master of Architecture from Columbia University (1994) where he graduated with Honors for Excellence in Design. He co-founded SHoP Architects in 1996 and has lectured, exhibited, and been published internationally. SHoP was named a 2002 finalist for the Cooper Hewitt/Smithsonian Institute's National Design Awards, and was awarded the 2001 Academy Award in Architecture from the American Academy of Arts and Letters, the 2001 Emerging Voices Award from the Architectural League of New York and the 2003 Rave Award in Architecture from *Wired Magazine*.

Mr. Pasquarelli was appointed as the Louis I. Kahn Visiting Assistant Professor at Yale University in 2003 and the Shure Professor of Architecture at the University of Virginia in 2002.

He was a member of the studio faculty of Columbia University's GSAPP from 1996 through 2002. He serves on the Board of Directors for the Architectural League of New York, The International Design Conference of Aspen, and is a Young Leader's Fellow of the National Committee on United States - China Relations. Mr. Pasquarelli is a licensed Architect in the States of New York, Rhode Island, and Louisiana.

Chris Perry

Chris Perry is a founding partner of the architectural research and design collaborative servo. Established in 1999 with offices in Los Angeles, New York, Stockholm, and Zurich, servo maintains a general focus on exploring the continually evolving relationship between architecture and new forms of information and fabrication technology. Recent projects include a design for the exhibition *The Genealogy of Speed* commissioned by Nike. Projects currently in development include a design for the forthcoming exhibition *Dark Places: Mapping Enigma* at the Santa Monica Museum of Art in Los Angeles.

Chris Perry has published a number of articles in various architectural journals and exhibition catalogs and is co-editor of a forthcoming issue of *AD* entitled "Collective Design" to be published by Wiley-Academy in 2006.

He holds a Master of Architecture from Columbia University's GSAPP and a Bachelor of Arts in Philosophy from Colgate University. Prior to founding servo he worked as a project designer for Stan Allen. He has taught design studios and seminars at the graduate schools of Columbia University, the University of Pennsylvania, Cornell University, and Pratt Institute.

Emmanuel Petit

Emmanuel Petit is a diploma architect from the Swiss Federal Institute of Technology [ETH] in Zurich and holds a Ph.D. in History & Theory of Architecture at Princeton University. He recently finished his dissertation, titled "Irony in Metaphysics's Gravity: Iconoclasms and Imagination in Architecture, 1960s-1980s," in which he analyzes the "rhetoric of distancing" underlying the theories and designs of architectural postmodernism. His research encompasses different models of architectural irony - as an aesthetic device, as a reflexive instrument of close reading and of auto-critique, as a dialectic of history, as the pursuit of an architectural Absolute, and as an epistemological aporia. The analysis focuses on the works of Robert Venturi, Stanley Tigerman, John Hejduk, Arata

Isozaki, James Stirling, Peter Eisenman, and Rem Koolhaas.

From 1998-2004, Petit co-taught several advanced studios with Eisenman at both Princeton and Yale Universities. Petit is currently an assistant professor at Yale. His essays have appeared in *Log*, *Thesis*, *Trans*, *Thresholds*, and a number of exhibition catalogues.

Ashley Schafer

Ashley Schafer is co-founder and co-editor of the journal, *PRAXIS*. Under her direction, the journal has received critical acclaim as well as numerous awards and honors, including an ID award, and was twice awarded the largest grant in design from the National Endowment for the Arts.

A writer, designer, and practicing architect, Schafer has lectured internationally, written for several prominent publications, and maintained an architecture studio that has received national design awards and has been featured in international publications.

Schafer currently is associate professor and section head of Architecture at the Ohio State University Knowlton School of Architecture. She previously held an appointment as associate professor at Harvard University Graduate School of Design and at Tulane University in New Orleans, Louisiana. Schafer holds a BS Arch from the University of Virginia and her M Arch from Columbia University GSAPP.

David Serero

David Serero (born Grenoble, France) received a Master of Architecture from Columbia University in 1998 and an Architecture Degree from Ecole d'Architecture Paris-Villemain in 2000. He founded Iterae Architecture in 2004, a collaborative architectural design and research office based in New York and Paris, formerly known as Degré Zéro NY. Iterae won the Hellenikon Metropolitan Park Competition to turn the 530 hectares International Airport of Athens into a public park and the "Art Arena", an art film museum for the Roland Collection in London. In 2004 David Serero received the Villa Medici Award from the French Academy in Rome. His work has been extensively published and exhibited around the world including at MoMA, the Architectural League of New York, the Venice Biennale, and the Mori Museum in Tokyo. Serero has taught architecture studios at Columbia University and at Pratt Institute in New York. www.iterae.com

Michael Speaks

Michael Speaks completed a Ph.D. at Duke University in 1993. He is the founding

editor of *Polygraph*, and has been the Senior Editor at *ANY* magazine in New York, where he was also the Series Editor for *Writing Architecture*, published by the MIT Press. A contributing editor for *Architectural Record*, Speaks also serves on the editorial advisory board of *A+U* and on the advisory board for the Storefront for Art and Architecture in New York.

Former Director of the Graduate Program and currently Director of the Metropolitan Research and Design Post Graduate Degree at the Southern California Institute of Architecture in Los Angeles, Speaks has also taught at the Yale School of Art, the GSD at Harvard University, the GSAPP at Columbia University, and at The Berlage Institute in Rotterdam, the Netherlands.

Noriyuki Tajima

Born in Tokyo, Japan, Noriyuki Tajima holds a BA degree from Kogakuin University in Japan and a diploma from the Architectural Association in London. He is one of the founders of tele-design – a practice consisting of various professional designers – based in Tokyo. The firm's portfolio ranges from furniture design to working at the urban scale. The practice has been awarded the Good Design Award, the Minister of Finance and Industry Award in 2003, the JCD and Display Design Award in 2004 and the JCD Excellence Award, as well as the JCD Encouragement Award in 2005.

Tajima has been published in many prominent publications including *Modern Living*, *Wallpaper*, *Axis* and *GO JAPAN*. He has also authored several books including *Architecture & Urbanism Fieldwork Method* (2002) and *Tokyo: Labyrinth City* (1996). He presented the lecture "Tokyo Catalyst" at the Architectural Association in London in 2005 and at Keio University and Berlin Institute of Technology in 2004. Tajima also presented "Tokyo Micro Urbanism" at Harvard University in 2003. He currently teaches architecture and urban design at Kanto-gakuin University and is working on the Tokyo Canal Project and the Central East Tokyo Project.

Stanley Tigerman

Stanley Tigerman received both his architectural degrees from Yale University in 1960 & 1961. He has designed numerous buildings and installations throughout the United States, Bangladesh, Canada, Great Britain, Italy, Japan, Portugal, Spain, West Germany, Yugoslavia, and Puerto Rico, and given over 930 lectures throughout the world. He has been a visiting chaired professor at numerous

universities, including Yale and Harvard, and he was the resident architect at the American Academy in Rome in 1980. He has served on advisory committees of the Yale and Princeton Schools of Architecture, the Chicago Art Institute's Department of Architecture and was Director of the School of Architecture at the University of Illinois at Chicago for eight years. In association with Eva Maddox, he is Co-Founder and Director of ARCHEWORKS, a socially oriented design laboratory and school established in 1994.

Mark Wamble

Mark Wamble is a principal of Interloop A/D in Houston, Texas. He received a Bachelor of Environmental Design from Texas A&M University in 1983 and a Master of Architecture from the Graduate School of Design at Harvard University in 1988. Wamble worked as a Project Designer with Eisenman Architects in New York (1983-1991). He was design principal at Bricker + Cannady Architects (1997-2001) in Houston, where he won a PA Award in 1999 for the renovation of Jones Plaza in downtown Houston. His recent research and design work includes KlipHouse, a service based housing platform developed for mass production, Plug-On, the first in a series of residential product prototypes, and Tending(Blue), a new building collaboration with artist James Turrell, commissioned by the Nasher Foundation in Dallas, Texas. Mark Wamble is the Visiting Cullinan Professor at Rice School of Architecture in Houston, Texas, and is a visiting instructor at the University of Michigan, Harvard University, and Columbia University.

Tom Wiscombe

Born in La Jolla, California, Tom Wiscombe is an architect based in Los Angeles. In 1999, he founded EMERGENT, a network of designers and technicians dedicated to researching issues of technology and materiality through built form.

EMERGENT exhibited work at the SF MoMA show 'Glamour: Fabricating Affluence' in 2004, and at ArchiLAB in 2001 and 2003. Their work is now part of the permanent collections of MoMA New York, SF MoMA, and the FRAC Center in Orleans. EMERGENT won the P.S.1/ MoMA Urban Beach competition in 2003; the realization of that project won the New York Engineering Excellence Platinum Award for 2004. EMERGENT also won the Architectural League's Young Architects Award for 2004.

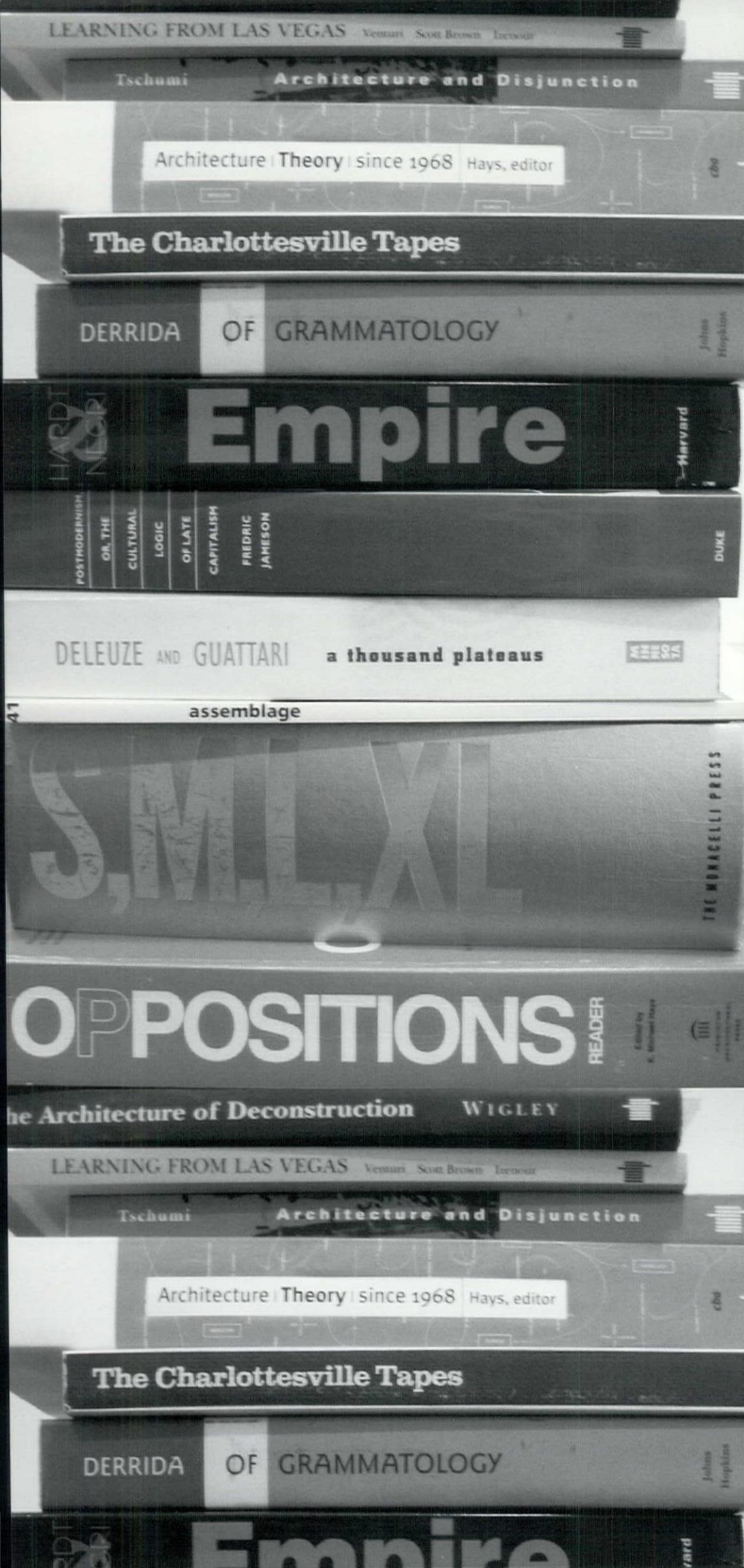
The work of EMERGENT has been extensively pub-

lished, notably in *SURFACE**, *VOGUE*, *Architectural Record*, *Architectural Digest*, *PRAXIS*, *Metropolis*, *A+U*, and *The New York Times*.

Wiscombe also collaborates with Coop Himmel(b)lau, where he has been Chief Designer and Project Partner for over 10 years. Educated at UCLA (M. Arch.) and UC Berkeley, he has taught design and technology at SCI-Arc, UCLA, and the University of Applied Arts in Vienna. He was awarded the Esherick Chair at UC Berkeley for the fall, 2005.

Lebbeus Woods

Lebbeus Woods (1940) was educated at the University of Illinois (Architecture) and Purdue University (Engineering), worked for Eero Saarinen Associates (1964-68), then in private practice. Since 1976 he has focused on theory and experimentation. Notable projects include Centricity (1987), Solohouse (1988), Berlin Free-Zone (1990), War and Architecture/Sarajevo projects (1993-94), Havana projects (1995), Terrain projects (1998-99), The Fall installation (2002). Monographs on his work include *Anarchitecture: Architecture is a Political Act* (1992, Academy/St. Martins Press), *Radical Reconstruction and The Storm and The Fall* (1997 and 2004, Princeton Architectural Press), and *System Wien* (2005, MAK/ Hatje Cantz). His works are in numerous private and public collections, including the Museum of Modern Art (New York), the Fondation Cartier pur l'art contemporain (Paris), and the Getty Research Institute for the Arts and Humanities (Los Angeles). He is co-founder of the Research Institute for Experimental Architecture (RIEA), and editor of its book series published by Springer Verlag Wien/New York. He has been a visiting professor at many schools of architecture, including The Bartlett (London), SCI-Arc (Los Angeles), Columbia University and Harvard University. He is currently Professor of Architecture at The Cooper Union in New York City.



AFTER-NARRATIVE

**MARCUS CARTER, CHRISTOPHER MARCINKOSKI,
FORTH BAGLEY AND CEREN BINGOL**

Perspecta 38: Architecture After All explores the ever-widening array of political, social, technological, and economic influences in architecture today. Many leading designers and thinkers have turned away from the ideological hegemony of critical theory towards a rediscovered focus on praxis as a means of conceptual positioning. This shift lessens the focus on meaning in architecture, and instead prioritizes processes and techniques enabled by late-capitalism and the appropriation of emerging technologies.

Perspecta 38: Architecture After All aligns authors with various issues of contemporary practice – globalization, urbanism, ideology, image and technology, as well as form, pedagogy, theory and meaning. The essays should be read as cross-sections through the larger topic at hand, and as a way of probing the various avenues of architectural exploration resulting from a landscape seemingly devoid of a single dominant ideology.

Three overlapping themes emerge from the essays: *network practices – or the possibility of interdisciplinary work; the changing role or relevance of theory in contemporary practice; and the role of technology – or more specifically technique and production enabled by technology.*

In the first essay, Roger Connah questions whether we are witnessing the end of ideological hegemony in architecture or merely a shift towards a more flexible approach to the use of ideology in contemporary practice. In setting the tone for the broader topic of the journal, Connah searches for productive energy in a condition seemingly liberated from an exhausted hegemonic condition. He maintains optimism in this 'post-ideological urgency' whereby architectural 'guerilla strategies' are developed to engage this new-found liberation. Similarly, Emmanuel Petit frames a debate between two different bases of architectural conceptualization derived from references to the living body: one differential, the other integrative. The former depicts a traditional perception of the body which places focus on the search for meaning through metaphor. Drawing from an inclusive and integrative practice, the latter exploits technology and multi-disciplinarity to generate complex and unanticipated forms. Through different modes, both of these authors frame central issues regarding the current shift in how one approaches the practice of architecture.

A roundtable discussion held in the spring of 2004 at the Architectural League of New York utilizes the discussion of technology to touch on the broader issues of this journal. During this event, Michael Speaks, Mark Goulthorpe, Gregg Pasquarelli, Winka Dubbeldam, Hernan Diaz Alonso, and David Serero engage many key conceptual issues surrounding architecture's relationship to emerging technologies. The participants address how architects implement computer modeling, scripting, prototyping, fabricating and computational systems to explore the aesthetic, economic and organizational aspects of design. This discussion not only addresses post-theoretical impetuses for design, but also brings into question notions of authorship; it is suggested that some degree of control is yielded to the computer through these techniques. The full transcript from this event runs throughout the journal at the top of each page, offering a parallel discussion to the essays.



Screen vs. Script: Thursday, April 8, 2004 / SCREEN VS. SCRIPT / *Perspecta: The Yale Architectural Journal and the Architectural League of New York* / For *Perspecta 38* | Architecture After All / Speakers: Michael Speaks / Hernan Diaz Alonso / Winka Dubbeldam / Mark Goulthorpe / Gregg Pasquarelli / David Serero / **Moderator:** Good evening. Welcome to tonight's program, which is organized by the editors of *Perspecta 38* and Rosalie Genevro, the Executive Director of the Architectural League, and I'm very pleased to acknowledge the generous contribution of Elise Jaffe and Jeffrey

EDITORS' PREFACE

In a reading of Hardt & Negri's notions of 'biopower' and 'biopolitics', Christopher Hight and Chris Perry look at what they term 'bionetwork architecture.' They explore how the forces of globalization can empower smaller research and design-oriented firms, thus enabling them to operate remotely, compete with larger entities, and reconsider how information is acquired, exchanged and folded into the design process. In a related article, Tom Wiscombe uses work from his firm Emergent, and collaborations with Coop Himmelb(l)au to illustrate how new organizations of practice can both inform the design process as well as enhance the performance of its constituent systems. Wiscombe calls for an approach to architecture that embraces the facile techniques, expertise, and material processes of diverse industries rather than relying upon entrenched theoretical positions. In a tangential discussion, Noriyuki Tajima explores the role of networked technologies in generating new strata of urban space and experience in global cities like Tokyo. Each of these authors advocates a form of praxis that exploits knowledge and facility appropriated from various disciplines investigating similar modes of practice.

Michael Speaks attempts to finally banish philosophy and critical theory from any discussion of contemporary practice. He argues that the grand theories of ideologies past no longer hold and that architects must now focus on innovation and the culling of what Speaks terms *Design Intelligence*. On the other hand, Ashley Shafer contends that you cannot be so rash as to throw the baby out with the bath water. She makes a case for a revamped utility for theory that integrates it with design, demanding reciprocity between thinking, making, writing, and building. In much the same vein, Winka Dubbeldam's and Dawn Finley / Mark Wamble's essays envision merging practice and design research supported not only by the academy, but also by the profession – a model descendent from the systems of innovation and development utilized in science and medicine.

Orbiting these various essays, Sam Jacob pushes the ideological spectrum to the extreme opposite pole of critical theory in his concept of 'Pop Vernacular'. Jacob promotes an architecture that unabashedly engages pluralism, commercialism, populist taste, and even formless kitsch. Alternatively, Lebbeus

Woods challenges the profession to substantiate the promiscuous forms that are so readily produced in a time when anything can be built. He notes that a certain formal discipline – previously necessitated by material techniques – is no longer present. This relieves the contemporary designer from the burden historically linked with the generation of form. In his recent work, Woods explores various ways to experience space without dependence on these empty forms.

In the final essay, Stanley Tigerman calls for an abandonment of the disciplinary hegemonies that he believes have limited architecture throughout its recent history. Tigerman criticizes the tendencies of former generations to codify and impose their ideas upon others, attributing such an approach to a pervasive insecurity. He points out the circular nature of the profession, in which those who wish to challenge authority band together in numbers, thereby promoting their own ideology as a way to "agitate against" that which is in power. Tigerman optimistically observes that much of the younger generation simply does not appear to be as overtly invested in codifying new hegemonies. He points to this as a "much needed watershed in the process of becoming."

It becomes readily evident that these essays provoke a number of important questions: Can or should architecture be expected to provide meaning or significance within a culture that has become so amenable to multiple and sometimes contrary influences? What, for example, is the role of form and form making in today's architecture schools and practices? There are questions of technology: Has it become a means to an end or the justification of design in-and-of-itself? And of practice: What are the limitations (social and otherwise) of a profession obsessed with the process, and not necessarily with the effects of its end result?

Perspecta 38: Architecture After All exposes an era of architectural production seemingly focused solely on the processes of architecture (its *how*) at the expense of considering its effect or reason for being (its *why*).

Though the practices discussed here easily appropriate a variety of multidisciplinary influences, what we find missing from this discussion is any projection of meaning. Emerging from the lineage

SvS, Moderator: Brown to the support of the League's annual series, *Architecture as Catalyst*, which allows us to be here in this auditorium tonight. / *Perspecta*, edited by students at The Yale School of Architecture, is the oldest, and I think few would argue that it's the most influential architecture school journal in the country. The influence comes not only from longevity, and the regularity with which the journal comes out, but also from the provocative and engaging topics that successive groups of student editors have chosen. I'm sure there's no *Perspecta* editor who's able



AFTER-NARRATIVE

of Postmodernism, we cannot avoid the question of narrative: particularly, what is its validity or relevance to architecture today? In much of the work published today, we perceive an ostensible skepticism of and deliberate swerve away from narrative. In turn many choose to focus on the methods and techniques involved in production. But, is narrative really avoided? Obviously architects still write and lecture about their work (perhaps more now than in any other time), and very few would offer a project without explanation. Perhaps this work lacks some form of internal resistance.

Many of the projects published in the numerous outlets available today exhibit sophisticated, modish forms, but lack a compelling narrative. Now, technology and/or methodology provide productive resistance. Inevitably, these techniques will become nearly ubiquitous as more and more designers become facile with computer modeling, scripting, and fabrication techniques. What then will provide the conceptual resistance? Will the practice of architecture be reduced to merely solving the immediate pragmatic demands of site, budget, and client? You can almost hear the unspoken, "So what? What else?"

As we consider the questions surrounding the role of narrative, it is necessary to consider ever-present media saturation. Where does architecture stand in a culture that seems to favor surface over depth, image over experience, and the sound byte over explanation? Can architecture maintain relevance in a society demanding and being molded by the flux of abbreviated information on CNN and BBC instead of traditional, in-depth media? Perhaps in the face of a culture that prioritizes fashion and surface, we are revealing a nostalgia for something more substantial: something which may not be easily sustainable or even desirable in the globalized, market driven information age in which we now reside. It is fitting to note that Greg Lynn was recently overheard provoking Peter Eisenman: "Peter, you know that students don't read anymore."¹

There is a fair amount of irony in the abundance of texts and publications devoted to the question of the 'end of theory' (not excluding this very journal.) Such an intense frenzy to publish easily provokes a rather fundamental question: "has theory really lost its weight?" Today's ease of media dissemination allows

young architects to market themselves at increasingly early moment in their careers. It has also proliferated an immense number of books, magazines, online journals, and blogs, each of which offers itself as the techné du jour. Beyond abstract discussions of whether we are post-critical or not, little of this space has been dedicated to discourse about actual work. It is almost as if the published record or process has obtained more importance than the built artifact. In this context, the realization of projects regains our interest.

This issue of *Perspecta* seeks to explore the practice of architecture after the loss of consensus: the designers, theoreticians, and scholars that have contributed to this journal were asked to consider architecture's divergent ideological landscape. They were initially confronted with two fundamental questions: Is the lack of an overriding ethos liberating or limiting to the profession? And, is it conceivable or even desirable to return to a method of design derived from a single, dominant mode of operation? Perhaps the possibility of extreme difference has actually produced a new unspoken consensus that quickly becomes apparent in much of the work. However, unlike the more rambunctious crowd of another generation – those who formed oppositions, allied themselves into color-coded camps, and secretly documented their debates (only to be packaged and published later) – this new group finds a tranquil solidarity through overlapping interests in technique, methodology, technology, and perhaps an Oedipal resistance to Critical Theory.

At least for now.

¹ This comment was made during reviews at Yale in the fall of 2003.



AN UNLIKELY DEGREE ZERO?

ROGER CONNAH

But the game is not yet over. We can count on fierce resistance from the moral creatures that we are, a resistance that springs out of the depths of the species, its vital exigency, its refusal of any final solution. This refusal is not a matter of human rights; it is a matter of life and death.

—Jean Baudrillard, *The Vital Illusion*, 2000

PART 1: ATERALL GOSSIP

The art of swerved poetry

Post-Culture

Stir well from source. Add various sorts of battered, paperback editions of *Modern Thinkers*. Call it 'The Crepuscule of the Idols'. Continue to stir. Add further quantities of a new laxative, previously tested on the unemployed, even those geriatric Dionysians. Shake furiously before turning upside down and pouring. Use sparingly. (Keep away from the hands of children!)

Post-Critical

Depending on how useful this intellectual wants to be, could spend time identifying the latest thinkers and critical masters as being responsible for future 'trends'. But would not necessarily need to absorb these as the pace of cultural change would blur the effort taken to attempt any 'understanding'.

Post-Authoritative

Would have to invite momentary authority external to the self; if only to imagine a 'self' outside and even beyond that self. In other words: 'the other'.

Post-Informational

Would imply a return (*have we ever left?*) to the necessary tyranny of meaning; an essential selection process in all diverse (perverse) stimuli to prevent drowning in any further excess, (*some hope!*) The computer at home may help!

Post-Fallible

Abdication, admissions of defeat, ironic or otherwise will be unnecessary, Being 'wrong' will be the shame; it unfortunately always has been (whichever authority is cited for this 'express' purpose).

Post-Nietzschean

A post-Kantian practicing a philosophy of language at its most critical and post-critical stage but denying it all by scepticism. Continually! So hard, so hard!

Post-Subversive

Taking subversion on and on will naturally re-return to itself, collide with Nietzsche, entertain Kierkegaard, subvert back to the previous mountains from which to fall off again; not a particularly pleasant activity. Latecomer!

Post-Modernist

Will interrogate its own synonymy and even similarity to Modernism and may later see it all as an inadequate 'good laugh', 'bon mot' or useful jape. That would be such a waste!

Post-Fragmental

Partial words become a whole; scholars will trace this endlessly back and beyond whilst novelists have been doing it deeper for years: continual contravention, continual obedience!

Post-Ideological

Art nor indeed culture has any arrogance outside its own momentary (im)possibility. A pity? Following that, all looser and looser applications will make sure that each era has a dominant hold over itself. Or then ignores it for a decade or so. That would be such a shame!

Post-Kantian

Tongue definitely in cheek. No need to rescue philosophy from abysmal snares of skeptical doubt. No need to rescue the rhetoric by insisting that the mind could 'know' reality. Neither is it necessary to have the interest to show the inevitable structuring. Instead, throw the dice again. Pass GO. But GO straight to Jail. This is no holiday for language.

Post-Newtonian

Naturally this will begin and end (*neat sequence?*) with the paradox of taking a role in the shift from A (Aristotelian) Thinking towards Non-A Thinking and believing it to be precise when known as Non-Newtonian thinking.

Post-Cartesian

But will this introduce not only the doubt but even the 'why' of the discourse. Some will yawn. The aim will be to know the questions in advance, recognize the 'repertoire' in order to drag one's parole into certain, (un)known directions (*if at all possible!*)

Post-Mediocrity

No longer will it be scandalous to indulge in the phenomenology of mediocrity and banality. Some cultures will naturally do it with more elegance, (once more with feeling!) a celebration then a brief denial of intellectual terrorism.

Opposite: The Mori Arts Museum cafe at Roppongi Hills, Tokyo by Klein Dytham architecture. Photograph by Kozo Takayama.

SvS, Moderator: to escape awareness of the daunting history of the journal and of coups such as the 1964 publication of Colin Rowe and Robert Slutsky's "Transparency: Literal and Phenomenal", and the publication in 1965 of an extract of Robert Venturi's *Complexity and Contradiction in Architecture* before that book was published by The Museum of Modern Art. / That tradition of identifying the significant and the topical has been well upheld, though, by recent issues on such themes as architectural autonomy, settlement patterns and temporary architecture. / The editors of *Perspecta | Architecture After All*, (no colon, no punctuation in between), Forth Bagley, Ceren Bingol, Marcus

ROGER CONNAH

PART 2: SILLY PEOPLE RELY ON IDEOLOGY!

Afterall the gossip are we sure we want to take this on: opening ourselves once more to the eminence of a period we appear so easily duped by? We warn ourselves by way of greater minds that we, too, the powerless, have a choice. Does this not suggest an obvious, redundant condition for those of us suspended, those of us loving diverse viewpoints, and those of us enamoured with the privilege of cheating decisiveness and certainty by opting for partial systems, and partial architectures. When faced with such conditions we are advised to explore the loss in the idea of 'ideology' itself.

Used loosely to signify a collection of ideas, 'ideology' more often indicates, to those who possess not the 'ideology-shared', a state of fanaticism. So what would it possibly mean to be suspended in an 'after-ideology'? Notes by Daniel Bell allow us to explore the way 'ideology' has shifted in meaning.

Originally coined by the French philosopher Destutt de Tracy in *Elements d'Ideologie* (1801-1805) 'ideology' denoted the science of ideas, a study which was to reveal to man the source of their bias and prejudice.¹

The word has of course gone on to characterize ideas, ideals, beliefs, passions, values and, from Marx's *The German Ideology* (1927) onwards, it has been used generally to signify a collection of ideas with religious, cultural, political, philosophical, and/or moral justification. The rest is, as they say, history. In Modern architecture we tend to think this cliché adequate. But is it?

When did making history become faking history?

How does a set of ideas become an ideology, become justification for the proposed agenda? If earlier ideologies masked specific interests, surely today we are more aware of the agendas implied by such justifications. Though there are many diverse studies of ideology and of the various ends of modernity, it is worth a few thoughts anew.

In Modern Architecture, ideology took up the role of a 'social formula'. It became a belief system and dominated the 20th century; architects mobilized to carry out that system. But the promise faded, the set of ideas blurred into a damaged ideology altered by chance, heroism and circumstance. The public was always some way behind. It is still so behind, and bewildered often by the plurality of professionals who are so readily acknowledged. Discourses were alienated and alienating. Does this not invite the obvious question: is the decline in apocalyptic beliefs merely the way generations catch up with their own enthusiasm, bias and hubris?

When this happens a resistance to theory often produces sliding manifestos. These become highly pitched, warring speculations on a worrying future. Books, journals, installations appear called *After-Theory*, *After-Ideology*, *After-all*. Is it only now that we seek a new commitment, a new activism and begin to see architecture playing out its indifference and inadequacies? If we go along with the notion of ideologies as 'styles of thought' open to their own alteration, then the resultant ideological combat and indifference would place us once more in a post-ideological condition.

Already in response to various developing 'total ideologies,' (*weltanschauungen* – complete commit-

¹ For this and more see *The New Fontana Dictionary of Modern Thought*, (3rd edition) 1999, (ideology - Daniel Bell), 414.

Post-Political

Mercer, Resnais Bogarde? (*Who?*) Post-providential then? The third wave, the holistic shift, the turning point, the diagnostic look; the slow lizard-crawling elegance of chance coherence, and more, much more than momentary irresponsibility.

Post-Phenomenological

After Husserl (*who else?*) but *Waiting for Flaubert*.

Post-Providential

A nonsense and non-sense: a state which though never losing sight of the exaggerated objectives of political change operates in the excruciating slowness of change itself.

Post-Modernism (revised)

A way of thinking (*hardly!*) a sensibility that cannot suddenly be expected to avoid the decay of Modernism as explored through its limits (*and Habermas...*) Neither can it suddenly be expected to resist the eventual dispersal and decay of any other movement in and of ideas. (*Mischief is here to stay!*)

Post-Scriptural

Writing is about writing a disease to explore its own contamination. Waiting for its subject, it is there to defeat itself and its sovereignty. Its own confessional authority will pull it down. Result: supreme self-defeat.

SvS, Moderator: Carter and Christopher Marcinkoski, have identified a very significant feature of contemporary architectural culture and practice as their theme, essentially the end of hegemony in architecture. The end of any one ideological, theoretical or practice oriented position as the governing idea of the discipline. Whether it is the end just for now or for a long time we do not yet know, but the very compelling structure of their issue takes a look at how heterogeneity of outlook and methodology are playing themselves out after meaning, after theory, after practice, after pedagogy, after urbanism, globalization, image, identity and irony. / Tonight the topic is After-

AFTER IDEOLOGY: AN UNLIKELY DEGREE ZERO?

ments to a way of life) thinkers like Raymond Aron and Daniel Bell already analyzed this in the 1950s as part of a wider notion of the 'end of ideology'. Yet issues remained unstable. For Clifford Geertz, *ideology* represents a kind of symbol system among other cultural systems. For Jean Baudrillard, the loss of any belief system deprives us of essential resistance; we are adrift unable to exist in the provisional world.

There are other giants, and other shoulders. The disappearance of avant-gardes must produce more than a resistance to the comfort of strategies producing architectures too easily within reach today. But as lost criticism is re-shifted within contemporary architecture, we must consider whether, with the loss of utopias and ideologies, 'we lack objects of belief.'

Answers to staged questions are not an option; more risk, chance and indecision invite an architecture of informed, ignored, neglected and re-defined narratives. Multiplicity and inter-disciplinarity offer a framework without necessarily coming to a rest on any renewed, or coerced critical thesis. Perhaps this is as it should be after such a 'modern' century of hope, progress and promise.

If we wish to fall back and resist the ideologies we have misunderstood, how do we translate this energy into a chosen profession which becomes our 'malaise'? Ability to assess the self-interest in specific groups and in a set of ideas implies that the architect's critical self will become more important than the agendas disguised. But if it is vital to have things in which not to believe, it is just as vital to explore dis-interested practices. We might be inhabiting an era of de-radicalism without realizing it.

In 1976 the English professor Raymond Williams wrote a useful little compendium called *Keywords*. In a time of dense after-thinking, not after-thought, Marxists everywhere were analyzing 'failure'. Ideology became a series of speculative systems; something we have little difficulty agreeing with today. But at that time, in a decade when 'critique' pluralized the Modern Movement, Williams finished the entry on 'ideology' with a hint of the post-ideological. Politically, culturally, and ethically it seemed impossible to support ideas which proved speculative, abstract and false.

"Meanwhile," Williams wrote, "in popular argument, ideology is still mainly used in the sense given by Napoleon. Sensible people rely on experience, or have a *philosophy*; silly people rely on *ideology*. In this sense ideology, now as in Napoleon, is mainly a term of abuse."²

Abuse travels, of course. And if we are not careful, any after-thoughts will also suffer the abuse of the lonely and unconnected. We warn ourselves by way of greater minds, that we -the powerless-, too, have a choice. Perhaps then we should have noted those giants that have gone before. As Kolakowski defended in his essay "Why an Ideology is always Right", we should leave aside the various proposals about how 'ideology' should be employed and accept this statement: "Briefly, what common usage tends to imply most frequently is that the social function of ideologies is to furnish an existing power system (or aspirations to power) a legitimacy based on the possession of absolute and all-encompassing truth."³

So if silly people rely on ideology, are architects ahead of the game?

² Raymond Williams, *Keywords*, (Fontana, 1976), (ideology), 126-130.

³ Leszek Kolakowski, *Moderernity on Endless Trial*, (Chicago, 1990), 232.

Post-Beckettian

More and more concerned with the reactions of the audience which will in one era make the third-rate work first-rate and in another era first-rate work third-rate. There should be no sighs at that. Coughing perhaps! Then one can participate in a desperate attempt to choreograph all sound, all theatre, all personal croakings once and for all.

Post-Flaubertian

Living in a 'liminal' space, stepping over from one zone to another! Able to change, go backwards and forwards and in between make a hobby of encyclopaedic rehearsals, with a strong interest in gossip of the higher (non-sensical) sort. Believes this is achieved by inventing such post-Flaubertian space.

Post-Aporian

The super-searcher for the cogent, accessible, talented, credible, intelligent, rigorous (*stop now!*) alternative to linguistic skepticism; pauses just before this remarkable discovery. Why? To doubt it of course!

Post-Derridian

A willed, wit-full intellect of sovereignty, vomiting choices to reinstate a passionate, often blind (*according to the era*) but nevertheless longed-for reason and closure. Sad, but a more-than-momentary hater of carnivals. Open hospitality, awarded generosity.

Post-Undecidability

The useful, talented indifference that refuses to be remotely interested in the simple quest for variations or that quest for cognitive assurance from any first principles.

SvS, Moderator: Technology. Michael Speaks will moderate a roundtable that's being recorded and will be transcribed for publication in *Architecture After All*. Underlying tonight's discussion is the idea of a new attitude towards criticality, technology and practice, that sees the locus of opportunity and innovation in the world itself. In describing this attitude, Michael Speaks has written that "a new relationship between thinking and doing has emerged in the work of many practices, which are more concerned with the plausible truths generated through prototyping than with the received truths of philosophy or hearing. Not content to accept design problems at face value,

ROGER CONNAH

PART 3: A JEALOUSY OF ARCHITECTS

Pre-Texts and alibis for a partial architecture

If there is a truth in architecture, it appears doubly allergic to the aphorism: essentially it is produced as such, outside of discourse. It concerns an articulated organization, but a silent articulation.

—Jacques Derrida, *Fifty-Two Aphorisms for a Foreword*

1. Allergies

After-ideology? Let us dispense with truth. The response to this is blurred and a creative lying is deflected. Faced with this condition, like many today, I wish not to make sense in any acceptable 'sense' of the word or world. Glib, foolhardy, cynical may not be answered by a clever discourse that takes on the same terms as the agenda which it sets out to dislodge. The operative cabal of the known and famed architects of the world filters out when cynical reason allows them. In the centers of the periphery, we get more or less miniature versions of these cabal leaders, more or less miniatures of a world already known to us.

I would term this a sort of architectural Imamology.

In a way this notion of the 'end of ideology', paradoxically contaminated the last century with that devastating conspiracy of hope. The resulting over-reach is only now arriving. How have the architects, saints and sinners, been complicit in this conspiracy? Is this

why we see doomed projects in the latest utopias? Or is this why we identify the altered spectacles rising out of the phoenix-years offering us a stacked-up version of routine but hard-won ideas?

The vision has fallen out of the visionary; and to be replaced by what?

Theory, when linked up to a fashionable mechanics of persona, often scaffolds further but necessary unmeaning in architecture. Instead of the rigor and contest essential to open up architectural production to questions about architecture itself and questions that fringe the scholars, skirt the canon and swerve from the normative, the cabal orchestrates discourse with all the necessary 'contemporary' support.

Must there not be a warning about the words that are too brutal, too glib?

If it is hardball time in contemporary architecture are we to stand aside and let others who are more talented, more powerful, more energetic, more opportunistic take over the game? Architecture has always been about going too far and knowing that you have gone too far. To some this is the threshold that we fall back from, constantly and effortlessly. To others this is the edge that now allows us too little time to pull back. Yet any call for tolerance today does not mean we must accept those who speak for us, and those who prefer visions to arise without contest.

2. The Archeology of Frivolity

"You who have learned nothing while reading this chapter, you are clearly convinced that everything I said is the same thing as what you know."⁴ So writes Jacques Derrida in *The Archeology of the Frivolous*.

⁴ Jacques Derrida, *The Archeology of Frivolity*, (Lincoln: University of Nebraska Press, 1987) 120-121.

Post-Aporian (The right version!)

The repeated authority limps back from all contamination shouting stop, stop, can't take any more. Cognition in hand, being in head and urgency in Body. Ethics castrated from Aesthetics. S & M. So it moves!

Post-Provincialism

Or fortunate slithers of the world that avoid Deconstruction. Ending up in Fin-Lande or Ground Zero with nowhere, absolutely nowhere to go. The Never-Ending story. The Whisperer's Gallery and Yawning Heights. Hell's Angels on 750 Hondas from here to Leningrad. And back. In a day!

Post-Kierkegaardian

The trembling depriver of any redemptive or exculpating weight and authority. Will try to go even further in transforming guilt by displays of narrative skill, making redundant anything written not as it originates but way, way back long before its emergence was even intimated.

Post-Deconstruction (Scenario 1)

Needing the authority and nominations of a movement that questions authority ensures that anyone needing this authority will anyway pass on to the next movement. This, all quite painlessly with the one useful difference: The Library is much smaller. Deconstructed authors were burnt (along with their books!)

SvS, Moderator: these offices instead seek to redefine design problems in an effort to discover innovations that could not have been predicted in the problem as originally given." / Participants in tonight's roundtable are Hernan Diaz Alonso, Winka Dubbeldam, Mark Goulthorpe, Gregg Pasquarelli, and David Serero, all of whom will be introduced in just a minute by Michael Speaks. / Michael Speaks, who received his doctorate in critical theory at Duke University, is a contributing editor for *Architectural Record* and also on the advisory boards of *Archis* in the Netherlands and *A+U* in Japan, and on the advisory board of *Storefront for Art and Architecture* in New York. He was

AFTER IDEOLOGY: AN UNLIKELY DEGREE ZERO?

Much talk today is of plural positions; multiplicity and inter-disciplinarity suggest we have already arrived in an irreversible zone. This isn't always the case. But an acceptance of difference and multiple power structures has, for the moment, replaced the illusion we once had of a twentieth century controlled mainly by a dominant if not always a singular mode of operation. This has allowed us to consider a critical hiatus; we have come to recognize the 'end of ideology'.

But we are not the first to arrive here and we will not be the last.

Today there is a growing nostalgia for a critical condition known as 'after theory' which attempts to eliminate the influence of not-too-distant French brilliance. We wish the hegemony of issues that encouraged such singularity could be removed once and for all. And yet the consequences for us depend on our own critical self. We choose ignorance if the future does not fall for us smoothly. We theorize our own frivolity into acceptable scenarios. Yet we are thrilled by the disappearance of one sense as it is replaced by another. This allows us respite.

Surely?

But what is this longing to articulate the constructed dream, kept so securely within professional limit? The failure of poetry can only add to our demise as on the page, on the building site, we see *The Fountainhead* re-emerge. Visioning architecture need not of course be a cognitive delusion, nor then is the operative myth that functions as talent. Inviting de-mythologization is our contemporary action; a delusion in which we lose ourselves by privileging resistance and theorizing 'privilege'.

Surely when faced with archaeology of our own frivolity we might go for Witold Gombrowicz's 'jaunty indifference' from his novel *Ferdydurke* rather than any attempt to see entirely once again our own conspiracies? *Afterall* is itself a time warp:

I was afraid he might mention the letter, but fortunately the modern code forbade them to talk a great deal, or to be surprised at each other; they had to pretend that everything was straightforward and self-evident. Casualness, crudity, brevity and audacity – see how they struck sparks of poetry from themselves instead of groans, sighs, and serenades of the lovers of former times. He knew that the only way of getting the girl was by jaunty indifference and that there was no trace of getting her without it. All the same, he added a trace of sensual and modern sentimentalism by saying in a muffled voice and with his face against the virgin vine which was trained up the wall: "You want it too!"⁵

⁵ Witold Gombrowicz, *Ferdydurke*, (New Haven: Yale University Press, 2000).

3. Architecture, the Gay Science

Nietzsche was addressing the Realists:

"You sober people who feel well armed against passion and fantasies and would like to turn your emptiness into a matter of pride and an ornament: you call yourselves realists and hint that the world really is the way it appears to you. As if reality stood unveiled before you only and you yourselves were perhaps the best part of it."⁶

⁶ Nietzsche, *The Gay Science*, (New York: Vintage Press, 1974) 121.

If, as we attempt to announce, there is much critical fraudulence around in architecture today are we sure where it lies? Not quite understanding the 're-ontologization' of architecture, architects enjoy the phrase as much as the critics. The result is another retreat from the word which in turn becomes a retreat from architecture itself. If one has witnessed what passes for the generalised world of the realists in the last

Post-Deconstruction (*After the flames*)

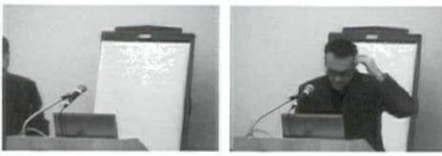
In the ashes, comic remorse! You are full of it!
As Jacques-the-useful-fait-accomplished and Gang pushed Wittgenstein, Kierkegaard, Plato, Hegel and Freud in a Bataille of battles(?) over the precipice until they were no longer worth their own singular salts. They trapped you in your own word. You destroyed all trace of them. Now it's too late to begin The Library anew. What? You're actually sorry. Oh dear, you don't know how lucky you are.

Post-Post-Saussurian

Aim for the willing, welcome denial of the arbitrary nature of the sign in a (*desperate?*) bid to re-establish the referential function of language. The carnival's over! Put another way: that wounded recovery of the word denied in post-Saussurian discourse. It will not be easy. It will not be any picnic. Heads will roll. As when all carnivals are dismantled.

Post-Intellectual

The weary though not unattractive individual contaminated with a new type of cultural journalism swerves from all the indifference presented and refuses (*absolutely refuses*) to prepare terser entries for the Encyclopedia asked by The Chief Editor. A Fair Player of sorts, a carnival seeker, a precipice finder, a self-lacerator, a kenotic actor, a full performer in the final labyrinth of all.



SvS, Moderator: a senior editor at ANY magazine in New York and the series editor for *Writing Architecture*, published by The MIT Press. He's the head of the Metropolitan Research and Design Postgraduate Degree at SCI-Arc in LA, and currently he's a visiting professor at the University of Michigan. Please join me in welcoming Michael Speaks. / **Michael Speaks:** Thank you. I hope we can have fun with this discussion tonight, because many of the people who will participate on the panel

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20 years it is impossible not to be caught up in this retreat.

Do obvious implications follow?

An operative knowledge of architecture has remained impassionate, stubborn and unaltered since the 1990s whilst the theoretical boundaries of architecture have been extended. Theory knocked on its own window with a sponge; ideology and dogma was re-sited by misreading architectural movements from elsewhere. Architecture loaned the inter-disciplinary nerve but kept it within, never rebounding, only ever seeing itself re-scripted in the image of its own conspiracy.

There are of course other realists:

"We have hesitated for a long time to acknowledge the powerful phenomenon known as Modern Architecture. Such caution is requisite in anyone who stands in the position of mentor to the public taste. Too often, isolated manifestations of anomaly can be mistaken for a broad popular movement, and one should be careful not to ascribe to them a significance they do not deserve. But Modern Architecture has stood the test of time, has answered a demand of the masses, and we are glad to salute it."⁷

⁷ Ayn Rand, *The Fountainhead* (Seattle: Signet, 1996) 474.

4. Frank Heron, Architect

"He was one of the best architects this country has ever produced. He began to answer the demands of the masses. He was absolutely brilliant in every way. And he was a good man too, a man with wealthy humor. He joined the Special Forces and after that his ideas and methods became...well, unsound."

If you knew who I was, how famous I am, you won't believe what I am about to tell you, so you'll understand why I prefer to remain anonymous. Buildings from the last century are beginning to disappear. Don't be fooled by this. Modern architecture has always been a sham, run by the few for the many who still do not understand. It was only when I started to get a chance to build my architecture that self-destruction offered itself. Feted for an architecture that disgusted me, I wanted to create nothing, communicate nothing, and assert nothing. The more famous I became the more I felt like an endangered species.

Up until that moment in my self-effacing and diminishing career, it had only shown itself during my lecturing. Only when the second or third medal I received had been awarded to me, and I was stepping up to what had become a dreaded place, the podium, that I realized I was getting further and further away

from my ambition. Idiotically it must appear now to anyone who has read my obituary that, according to that loose but very useful French phrase: "*j'ai toujours le vertige*".

From this point onwards I decided to rectify the immense dishonesty of modern architecture by organizing a network. With great deliberation and the utmost cunning, we have decided to remove any record of our work as architects. This not only includes the destruction of all drawings and records but a far more chilling plan of removing the actual buildings themselves, which are still standing. We now work as an architectural combat team. Our concerns are demolition, erasure, illegal settlements and squatter infrastructures.

Besides carrying out conventional architectural work, urban and environmental planning, we perform architecture as the Directors and Chiefs of Operations of the International Special Architectural Service: *les architectes sans frontieres*. Our most recent mission, Matrix 2050, a post-ideological meditation factory, will be completed in the next year or two.

Like Max Frisch's 'fire raisers' we now sit in on the world of our own architecture, with our own drums of petrol, laying elaborate plans for setting them all alight. Voids will appear overnight in cities, deconstruction, in the literal sense of the word, will occur at the dead of night. In the morning there will be nothing left.

5. The Last Supper

- Import to a base-camp in Kenya, Tanzania or to other relatively accessible countries: equipment, staff, etc. Load one or two transport helicopters (Mi-8, Chinook...) with 3x4 man team of protection (one medical team), 4 waitresses, 2 cooks, violin quartet, film crew of 4, liaison officer, 2 to 4 pilots
- Chopper-lift into LZ in South Sudan, Eritrea, or other countries with starving problem. (*LZ is a refugee camp, above which the choppers float. On the ground are the liaison-office, radio, lights, etc.*) Perform a low altitude night flight with search-light. Get licensed (or not) with a humanitarian license, for example a Red Cross license.
- Protection teams rappel down construction material such as metal-fence, barbed-wire, and searchlights. Protection teams isolate an area of

SvS, Michael Speaks: all know each other. I even see people in the audience I know. It's really nice to be back in New York City. I corresponded with the editors of *Perspecta* for about six or eight months in anticipation of this, and we were setting up different kinds of formats, and we went through a series of topics. And after, I think after everything is really the only thing I can probably feel competent to talk about, which means that there's just, there's nothing left, and so I can at least talk about nothing. Or at least I can facilitate a discussion about nothing. So that's



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the refugee camp and paint the lines of a tennis court.

- d. Land the choppers on the field. Build up the table. Play music. Start cooking. Make sure the refugees surround the area.
- e. Take off the choppers. Select 13 refugees to have fancy diner: French cuisine – A Last Supper. Have the medical team on hand in case the starving people may suffer complications. (*Set up from Da Vinci's last supper.*)
- f. When the dinner is done, ground the choppers, put away the fence and barbed wire and evacuate the site. Leave the tennis court and the left-over food.
- g. Broadcast in international media the documented event as the macabre document entitled "A Last Supper". (Budget around 150,000 USD.)⁸

6. The Critical Self

The end of any hegemonic era requires of those who live after to temporarily carry on in an unresolved condition. Within this condition, do we intend to put off a resolution for fear of such dominance overtaking our lives again, or do we consider this a condition of choice, where we live in a space in between, deferring and enjoying to defer, procrastinating in order to avoid any single dominant mode of operation taking over once again?

If, as acknowledged in many disciplines, critique itself is in trouble and difference is all but accepted as a modus operandi, then how are we to operate in a critical manner, edit out our infelicities and invite authenticity for strategies which involve collective positions that we avoid?

A condition devoid of a dominant ideology does not necessarily indicate a condition void of ideology itself. It may be that ideologies scatter and become part of a warring condition on a smaller but more vicious scale; both personal and political, as in the New York Trade Towers events.

The critical self becomes once more the Divided Self.

7. From Reticence to Resistance

In 'An Anatomy of Reticence' from the collection *Living in Truth*, Vaclav Havel writes about ideology. Attempting to explain why there was so much skepti-

cism in Czechoslovakia in the latter half of the 20th Century, Havel's writing is a timely reminder about the role ideology played in the 20th Century. The curious addiction to ideology is often expressed by those who lived inside a system which is ideological through and through.

"Still," Havel writes, "I wish it could be understood why for us, against the background of our experiences, under conditions which ideology has utterly terrorized the truth, this all seems petty, erroneous, and far removed from what is actually at stake."⁹

It is perhaps an exaggeration to claim the ideology eventually attached to architectural 'modernism' 'utterly terrorized the truth', but there is no question about the expectations, the social and cultural promise this ideology offered society through architecture. Perhaps the very radical scheme of things required of it such programmatic rigor, such fervor. Is this why we have arrived at the point where we can even consider a condition that is strangely 'afterall'? And surely we cannot be the first to register discontent with the very dogma, rigor and discipline that brings us to this point?

We may disagree with all the talk about failing ideologies, we may be oblivious to the discourse that puts even this into question, but in decline this matters little, for the decision has been made without us, leaving us but a fellow traveler.

8. Fellow Travelling with Modernism

Modernism, as it picked up its momentum in the 1920's and in the particular way it was expressed through architecture, was to be the shaper of modern life. It was to reap the benefits of an industrialization that had, for some countries, already begun in the 19th century. And it was, to many who agreed with ideologues like J.M. Richards, to be a movement that would transcend ideology and transcend any 'isms'.

This was attractive.

After all, it was to indicate an end of sorts; the achievement of which would imply a profession aligned with the only acceptable and prevailing trend. If architecture was to have such power, it would and did briefly make heroes of architects. In fact, the heroism implied in its achievements is a heroism continued and repeated today. And through the huge proportion of invisible architecture produced by invis-

⁸ Casagrande & Rintala, Helsinki, Project 2003.

⁹ Vaclav Havel, *Living in Truth*, (London: Faber + Faber, 1990) 178.

SvS, *Michael Speaks*: good. / The other thing to say about technology is that I know almost nothing about technology. I have the same relationship to technology as I do to a job that I took this last year. I was contacted by a couple of cement consortiums in Europe, and I was asked to be a curator for an international student competition for the innovative uses of concrete. And before I took the job, I phoned a friend of mine to ask them what the difference between cement and concrete was. And once they told me the difference between that, I immediately called back and accepted the job. So I have the, I feel the same kind of competence and incompetence, I think, to hopefully

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ible modern architects it would also take advantage of the progress, speed and 'stylishness' offered by technology. It would repeat the cloning procedure from the Renaissance, though we would not refer to it in such terms. It would propose narratives re-shaped for immortality, though immortality would itself be thrown open at the end of the 20th century. This invisible architecture would lose much of its supposed special virtues as it started to fill up almost all towns and cities in the 20th century.

But of course it never really got its chance.

After all, the tyranny of the favored ideology led to an almost instant decline, in part due to being the style the public came to refer to as 'modern architecture'. The consequences were there, and remain, for all to see.

9. Unforgivable Eyesores and Generalisations

Is it now impossible to be generous about any of this? Consider the confusion between ideology and the public understanding of architecture when 'modern architecture' appeared in the chaos of a city like Venice. There are, according to John Julius Norwich, 'a few unforgivable eyesores: the post-war extension to the Danieli, for example, or the elevation of the Bauer-Grunwald on S. Moise, or the Teatro Goldoni, or that dreadful new bank on Camp Manin.'¹⁰

Faith of course puts a noose around ideology and will go on doing so whether our critique succeeds in falling short of its own decline or not. But what irony then do we note in a crime novel entitled *The Death of Faith*, as we hear the thoughts of the detective hero, Guido Brunetti:

"As Brunetti walked up the Riva degli Schiavoni, Sansovino's library came into sight in the distance, and as it always did, its architectural unruliness gladdened his heart. The great builders of the Serene Republic had had only manpower at their disposition: rafts, ropes, and pulleys, yet they managed to create a miracle like that. He thought of some of the horrid buildings with which modern Venetians had defaced their city: the Bauer Grunwald Hotel, The Banca Cattolica, the train station, and he mourned, not for the first time, the cost of human greed."¹¹

10. The Latest Noose

Faith also puts a noose around the critique of that which condemns ideology. By being able to replicate itself as a sign of 'modern architecture' in so many

parts of the world, to many it became a movement of extreme eminence and even arrogance. The modern agenda assumed in the architects' enthusiastic program suggested it would not only produce social benefits, but it could define – in a strangely permanent way – what it would be like to live modern lives, in modern buildings, in modern cities and drive modern cars. The script was the modern novel, but the result was never quite the one Aldous Huxley predicted. This was the 'end of history' before the end of history as posited in Post-Modern thinking. It was *after all* before journals and discourse could take on their own critique of this 'decline'. And as the 20th century drew to a close, it was obvious that many in the 21st century would never know the thrill and excitement of the revolutionary ideas and thinking that appeared in Europe during the last decade of the 19th and the first decade of the 20th century. Nostalgia didn't need inviting in; it lived alongside Modernism's promise. Do we not now live in the orphanage of ideas which were never in our reach?

11. The Orphan Philosopher and Architects

By wishing to address a condition that is considered post-ideological, surely we cannot do so without the specter of Nietzsche or the orphan philosophy of George Bataille. The feeling of assault on just about everything has not yet seen in us the true birth of the hybrid species, yet signs are that the artist and architect begin to merge. That at least is a start and cannot fail to echo the trajectory Nietzsche outlines for this hybrid species: removed from crime through weakness of will and fear of society, though not yet ready for the insane asylum, this hybrid species, the artist and architect of resistance, is now extending his or her antennae in both directions. Towards and yet at the same time away from a society that has caught up with us, that has invited our weakness to become our ideology. Is this a condition that will allow us to fall short of an architecture already scripted?

The orphan in Bataille was correct: we have no choice but to go further. For to articulate such a critique is – *after all* – already a decline. The fact of speaking of the post-ideological condition whatever definitions we bring to it belongs to the decline in the very condition we find ourselves in. It is if course of little use to announce that we lose the possibility

¹⁰ John Julius Norwich, *A Traveller's Companion to Venice*, (London: Robinson, 1990) 25.

¹¹ Donna Leon, *The Death of Faith*, (London: Pan, 1998) 225.

SvS, Michael Speaks: facilitate this discussion. / As I said, many of these people know each other. I think they're all really exciting, provocative and talkative people. I suspect all I will really have to do is to moderate. That is, just to make them stop talking when they are talking too much. I also tricked them a bit, and Mark Goulthorpe was the most upset by this. One of the difficulties, I think, of doing the discussion like this and also of having conferences and also of exhibitions now, especially with a lot of this kind of work, is that if you let five architects talk about their own work for any period of time, if you say, "you should talk for ten minutes," they each end

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of speaking when we do just that, by not opening our mouths. If decline is inevitable, if we have an inaccessible confusion, if we can approach only by not approaching, then is not our immediate option to close all schools of architecture, to end the tyranny of weakness within architecture's ideology?

You begin to see what this implies: the insane asylum or disregarding these signs of weakness, fresh escape attempts and fresh resistance to just about everything that is happening in architecture today.

12. Orphan Thinking

The twentieth century could not become anything more than a dream. It was non-action and blindness and left us out from the very beginning whilst continually asking us to perform in it. A career was talked of until it was necessary to think of one.

But by then it was too late.

The great voices got greater, the great thinkers thought greater thoughts. Countries exchanged themselves with each other. They wanted roles, by-lines and advertising copy. The untutored symbolism and wayward thinking of The B Team was so seductive it left us passengers to our own birth. What right did we have to know of incarceration, of injustice?

We just hadn't lived, we were told.

We just haven't lived. Even in India!

We have no war experience, they remind us.

We have no real guilt.

Bystanderhood has become our art.

We are continuously un-astonished.

We are told this time and time again. Yet we came through. How? By reading the Bible cover to cover in four years, from the age of 12-16?

The architects pause here knowing that they want to continue, feeling that The B Team would never abandon them. They go off and cut glass. They clean out a cup, make coffee and let the water run in the stainless steel bowl. But it has to be brief. After some minutes they all return convinced that they are the right persons for this job. They convince themselves, this is so. They convince themselves what they have lived through is both important and unimportant.

If this is the end of ideology, it is the beginning of another life.

It has to be like this.

13. What is architecture?

What does it mean?

How does it mean what it means?

Has architecture stopped meaning for us?

The question is not when did this apparent singularity occur, when did any dominant mode pass over to the multiplicity we see each day, when did any of the system of values associated with an ideology stop? The question is not when architecture stopped meaning for us, but has it ever meant?

Was Architecture that higher art, supported by metaphysical elegance or arrogance, awareness or naivety, a social formula applied to carry out its own promise to itself? Or was Architecture that lower art, nearer the ground, less of the heavenly about it, dignified by the passion of building and construction, veering away but always lifted by heroism, architects and their metaphysical aching to be asked to perform more.

A little hop, skip and jump through the semantic and philosophical scaffolds in architecture in the last century inevitably invites us into the world of 'redundancy'. Perhaps we have reached the 'afterall' condition because we have gone through a period when these questions carried more alarm than is really possible for architecture to sustain. But let's not be over pessimistic about this redundant condition in architectural thinking. Work in progress always takes us a step nearer the *de-radicalism* around today.

Theory here is discursive, frivolous and a narrative pleasure. We are thrust beyond an architecture we have come to expect from the urgent melodrama and deep unease of recent architectural theory into a restless area where architecture can never quite be as narrowly defined as we might like.

Asked whether he is optimistic or pessimistic on a BBC Radio Show called *Desert Island Discs* the architect Daniel Libeskind replied "optimistic of course. Architecture can never ever be pessimistic. The process itself is one of construction not deconstruction."

And in the wonderful reversal of words and fortunes, careers, buildings, signatures are made and then collapse.

14. Post- Dis, Ex, De-

Is it possible to have nothing in mind and still go ahead?

Svs, Michael Speaks: up talking for 20 or 30 or 40 minutes. And had each of them been allowed to speak about their work, I wouldn't be able to say what I'm saying right now. There'd be no time to do anything. This may be okay as well. / But I tricked them all and asked them to make five-minute QuickTime movies that I would talk about. But of course I can't talk about their QuickTime movies because they didn't do what they said they would, which is to send them to me before the event. So what we have are five QuickTime movies, or in some cases five PowerPoint presentations. I'm already very nervous about this, because Mark Goulthorpe goes first, and I looked up when Mark put his slides

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I remember lecturing in 1995.

I showed no images of spectacular buildings, brought with me none of the usual flourish of the world architectural scene. Many of the images presented during those lectures were blemished if not artificially darkened. There was a rough, kind of deliberately pulpish edge to the images.

To gain more than the usual information, it was necessary for the audience to work harder. It was also necessary to look at the periphery rather than the center. Usual scanning did not work.

Now 8 years on, has it changed? We could have examples of a shining architecture. There is, in the wild technical polish and individuality of many contemporary buildings, something strangely time-warped. In spite of the huge advances in technology and the sophistication in construction, there is something distant about the closeness and intimacy of material.

The spectacular buildings possess taste, aesthetic balance and blaze. But there is an alienating discomfort invited by the very achievement and spectacle of these individual buildings. Their warring ideologies give a little, whilst fame gives far too much. Not a hair is out of place, not a person to be seen, not a single image is displaced or misplaced. Celebrity is celebrated. And photography replicates this. The result is chilling!

So much so, we lose ourselves.

We see these buildings but are no longer really interested to go there, in reality, or on the page. They ignore what much architecture in its spectacular individuality has gone on ignoring. And what is that? Is it the street? Is it the pulpy mess, the upset and unpredictability that we find on the street? Is it surprise, the art of un-planning and dis-order?

Post, Dis, Ex, De, Super!

Or has the moment arrived when our only duty is to resist all architecture already scripted?

15. Frank Heron, the rumours

Don't believe the rumors.

Frank Heron's architecture is glancingly approached, seemingly whimsical, sometimes collapsing on new meaning instead of old. It is a serious frivolity that enjoys not quite knowing everything of the journey it takes us on. It allows the user to imagine an

investigation the architect might not have anticipated. We need this to increasingly upset the way we accept architecture's hallucinatory scope.

Frank Heron's architecture is an architecture spoken about and theorized often in unmitigated haste that has yearned so long for an urgency of message. It is an architecture of insistent but inescapable travesties, inviting us to consider anew how meaning is tacked onto architecture. Is it to distract us, to distress us or then to ask us to move on?

Not afraid to disrupt a safer architectural writing Frank Heron organises his investigation by the seductive power of incongruity as it opens to its own conceits. This proposes a validity that, in writing as in architecture, is capable of both doing and undoing, leaving us to decide just how much of architecture we can turn safely over to the imagination.

Heron does not always answer back with such ease. Architecture fulfils the permanent ephemeral promise. It follows fiction and the fallen form of language. It is no longer an improbable personal architecture from a cyberspace menu; it is an architecture meeting the uncertain promise of its own redundancy.

16. Afterall

Where are those architects now reddened by loading their work with intolerable language and rhetoric? What will happen to architecture and our environments if we can't get to the evidence of the buildings themselves? *After all*, it will always be possible to make the architectural envelope from any form and follow the potential 'deformation' or invisibility of new materials, however unstable or non-rigid.

Or are we already in some sort of cynical, dulling endgame?

An endgame both critical and political which globalization and instant information technology seems to offer? If some architects naturally innovate from new technological developments, others imitate. More or less competent even brilliant versions of an architecture seen and already published elsewhere in the world can result, with the exception of those who, in current argot, 'go for it'. As fast as structural glass appears and is marketed, so too do rain-coated, impermeable glass buildings appear in all cities of the world. The profession samples and assimilates

SvS, Michael Speaks: up, and there were 143 slides. So that's about 10 slides a second, Mark. / So, anyway, what we are going to do is I'm going to introduce - the speakers have already been introduced, or the discussants have already been introduced. I'm going to reintroduce them in the order that they'll present. Each of them is going to present five minutes. And, I'll just chop them off when their five minutes is done. Once we've shown the stuff, you'll have some flavor of their work if you don't know their work already. And then we can have a discussion. / I mean, one of the



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these trends as it always has done, yet we still seek something else, something in between.

Yet what does it mean to say to a young architect today: "Go for it?"

Is image everything and nothing? Is image more powerful in architecture when it is backed up against the wall and has to come out seductive and embryonic? Are we sliding down the surface of things without realizing? Only to be asked later what 'on earth' we were thinking about? With all the acknowledged echo in the world, can we still speak of the aesthetics of the shadow, when we think we have all learnt to live in that shadow?

17. An uncommitted reader of one's own life?

We all go along with little hobby-horses.

The rumor mentioned earlier was deadly serious. Let's not mistake its urgency. Most people living in the second half of the 20th century confused their own lives as interpretations of all the thinkers of that century. I too happen to have done it for a small period of my life with an obsession matched I am told, by a football fan or an opera fan.

For me I happened to link all thinking with people whose name began with B. The sporting allusion would be obvious. The B-Team. I tend to do less of this now. But for a period, a considerable period, perhaps years, it became one of those structured ignorances that controlled the thinking life. However much time spent exploring the role of images and pictures in the various arts in the Second and Third World, working as a university teacher, an architect, an art director, a graphic designer or an exhibition designer, I found myself always pulled back to a line in language.

For instance when I imagined the orphan world controlled by people whose name began with a B this always made me think of those lines by Paul Celan: "Don't make me bitter. Don't count me among the almonds. Count me as data."

Madness? Insanity? Ideology?

Of course because the writer was Paul Belan!

18. The invisible world of invisible architecture!

A question we need to ask: has our vulnerability assumed a greater role and if so are we beginning to

acknowledge our own fallibility? We need speak only of the spate of linguistic-philosophic applications in architecture. Architecture redundant is paid off, given a gold watch or the signed check in the post. Is this madness? Suspecting such a liberating role for architecture if it continues to prove itself redundant to the political and social forces that control and shape our environment? Curiously enough this promise shakes ideology to the core and now attracts us to the errors of the major thinkers through the thinking of the commentators. Architecture has stuttered along like this for the last thirty years, if not more.

It was clear, even already in the early 1980s, that such a set of "invisible" theories demanded its own swerve and deflection. Ultimately the condition whereby a critique is impossible produces an ideology as a record of the prejudices taken to reach such resolve. A subtle avoidance of the obvious could then open the gate for a spate of natural looking theories of little relation to architecture itself but of ecstatic application.

Though Adorno tells us that every ecstasy prefers to take the path of re-communication rather than sin against its own concept by realizing itself, it is 're-communication' itself which today is surely suspect.

19. Cutting Edges

Take a look at the *Dictionary of Contemporary Slang* by Tony Thorne published in 1994. Surprisingly the phrase 'cutting edge' does not appear. Even the phrase 'state of the art' makes no appearance. What might we infer from this? Could it imply that the 'cutting edge', the phrase so many use for being right at the edge of things, right on the frontier of the contemporary moment (so close as to be fashionably edgy!) only gained recognition through wide usage in the last few years? Or is it something much simpler?

Does it imply that our spoken language, the way we assimilate and scramble all kinds of slang, happens much too quickly and instantaneously today to accommodate such things as dictionaries? Judging by the pace of fashion and an often ambiguous rejection of much contemporary architecture by the very public that uses it, we might opt for a more instant phrase - from Brett Easton Ellis' *Glamorama* - 'sliding down the surface of things'.

SvS, *Michael Speaks*: things that I think is very exciting about this group is a number of these people have been involved in some of the same exhibitions over the last couple of years, and one of the issues on the table, especially one of the issues that the editors of *Perspecta* are interested to talk about, is just the extent to which we now have entered a period where people are, strangely, doing retrospectives of work that's only five, six, seven, eight years old. So we have congresses and exhibitions, things like *Latent Utopias* a couple of years ago in Graz and some of the *Archilab* things, and an exhibit that Mark is going to talk about a little bit as well at the Pompidou Centre,

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Are we really to be so shakily influenced by the present as to be offered 'hideous distortions of the seduction of the superficial and glitzy'? Though somewhat harsh to the architectural profession, it has to be admitted that the predominant view of contemporary architecture, a view conditioned by steel and glass may be one of superficiality and glitziness.

'Cutting edge' now makes an appearance in the *New Penguin English Dictionary* (2000) as "the most advanced point where important action is taken." And 'state of the art' too now appears, meaning an action that uses the most advanced technology available at the present time.

The 'cutting edge' in a dematerialized architecture was probably represented over a decade ago by Jean Nouvel's Cartier Foundation building in Paris. Inside and outside, this building turned steel and the medial facade on its head, the naked masks revealed architecture the wrong way round. Surveillance watched you watching surveillance watching architecture.

Architecture took on the catwalk and won.

In a way this was architecture-in-waiting. Buildings appear to simulate other buildings as architects speak of an insubstantial and dematerialized architecture. The public of course does not use or understand the term 'simulation'. Instead, when they see the concrete, glass and steel versions of city and office buildings around the world, they describe it more simply, more understandably, as they slide down the surface of things, as 'copy-cat' architecture.

20. Afterall (Part II)

We reach this condition surely because we are redundant. But again let us not be overly pessimistic about this redundant condition in architectural thinking. If Adolf Loos actually did succeed in pulling the rug out from under architecture, in so limiting architecture to the monument and the tomb, and if we can get past the way architecture got its hump, then would we not be nearer understanding the very real de-radicalism around today?

Are partial destinies possible; an un-resolve of strict resolve?

Must we learn to collapse on new meaning instead of old, increasingly upsetting the way we have come to accept architecture's hallucinatory scope? Insistent but inescapable travesties, invite us to con-

sider anew how ideology is tacked onto architecture. Is it to distract us, to distress us, or then to ask us to move on?

And how do we open to our own conceits when we no longer decide how much of architecture we can turn safely over to the imagination? It is done for us.

We are only now learning to answer back with such ease.

21. A jealousy of architects

I remember some years back sitting in a bar in Helsinki called Corona. Behind me I noticed a group of professionals who all seemed to have crashed into their own celebrated curmudgeon, the Finnish poet Paavo Haavikko. Dressed in various shades of black to grey, the atmosphere appeared somewhat more fogged than usual. The bar itself resembled a knock-about railway station café in an abandoned ferry port in Eastern Europe. It hadn't won a design award partly because it would have mocked the irrelevance of such awards. Behind, the pools of light showed up the expanse of billiard tables, full size and smaller.

But it was the fog of this profession that seemed denser than the usual smoke.

This was apparently an architectural competition jury. They were meeting to choose the award winning town kiosk which would be replicated all over Helsinki in the next few years. A sense of vertigo overcame me as I sat on the precarious chrome and black bar stool.

It was possible that one of these young professionals had found his way back from the accident for his tie was decidedly red. However as he approached me it turned out to be a red of such ambiguous darkness as to question the whole notion of color. Erase the idea of color, this was a smudge.

It was as much as I could do at that moment to finish the equally ambiguously dark smudge of Guinness I was drinking and exit. Upon doing so, the comedy of the moment proved rare. I realized that I had discovered the collective noun for this beleaguered, once-privileged profession: a jealousy of architects.

SvS, *Michael Speaks: Non Standard*, where a lot of this work is being looked back at historically already, and it's only eight, nine years old. / So something has happened. It's not clear what. I think one of the things we want to try to explore is what that is. Is it worth it? Are these people worth paying money to come in here? We'll soon find out. But I suspect they are. I think we have some really interesting speakers. / So, the first speaker is Mark Goulthorpe. Mark is a principal of dECOi Design Group. He's Associate Professor at MIT in the Department of Architecture. The second speaker is David Serero, from Degree Zero Architecture in New York City, and he teaches at Pratt. The

AFTER IDEOLOGY: AN UNLIKELY DEGREE ZERO?

PART 4: PARTIAL DESTINIES AND AFTERTHOUGHTS

Navigating an architectural field devoid of dominant ideology does not mean a discipline devoid of all ideology. Ideologies shift, multiply, re-shape and return, re-defining notions of radicalism and resistance. This prompts us to ask whether an 'afterthought' is irresponsible wisdom for the future or reckless hindsight. If the pre-text for an un-paralyzed architecture can be explored through strategies of resistance, do theories of multiplicity lead to new utopias?

The very language and criticism, the very way we like to see architecture as the constructed word, may in part be responsible for the current uncertainty throughout the discipline. Is there a kind of post-ideological urgency around the corner inviting those totalizing solutions again in order to compensate for lost criticality and the loss of 'objects of desire'? The paradoxical legacy of such a century in architecture might be that the process and necessity of building, learning how to design and build well may have become secondary. If so, architecture can only become an action, a strategy, even to the extent of a theory and resistance to every day life.

These actions are part of a series of multiple strategies, resistance strategies. The success of any such strategies cannot be defined in advance but will depend on the missions outlined and the range of strategies used. Aligning with prevailing trends may be less important than resisting pre-scripted futures. Surely then the very action to 'combat' any limitations in the current de-radicalized condition encourages an architecture of Partial Destiny.

Thus it will become impossible to partake in such rhetoric as 'the success of', neither can we accept unquestioned issues central to the architect's case. Even failure can be success, shifting the very conditions for combat in Architecture – education, practice, production. Using unusual departures, a work-in-progress, re-shaped sites, even an urbanism without architecture are all proposed.

PART 5: WE HAVE A CHOICE!

There seems no point in serving a clever critical thesis that is applauded for insight and brilliance. Even coherence has to be sacrificed sometimes for any new radicalism, any response to the exhaustion

of the contemporary spectacle. Provocation is not only gradual, but inevitable. This unlikely degree zero condition is not another participation in a critical destruction of one event in order to replace it by the hubris of another. Language itself is also part of this 'degree zero'; it has to be otherwise we would be guilty of sophisticated counter-strategies utilizing the same language and procedures so heavily disliked.

Is the *after-ideology* the end of ideology or just a more flexible approach to the ideology itself? Is there a 'post-ideological urgency'? Is it really apparent in educational institutions and individual and group architects? If so, in what ways has it been articulated? What is the relevance of attempting such a critical exercise, of identifying the pedagogical and professional value of recognizing such post-ideological 'urgency'?

If this is an energy within something not yet fully formed and theoretically framed, does the theory and practice of resistance to just about everything pre-scripted in contemporary architecture offer a guerrilla strategy for a liberating condition? Is this an unlikely but plausible degree zero brought on by the sense of exhaustion and redundancy all around, in students, graduates, architects and artists? Are these notions related to larger political and cultural changes, to a new commitment, to wider environmental concerns?

We believe so.

If agendas are personal and collaborative, how does a conscious strategy to resist closure translate itself into new sites, new conditions for contemporary architecture?

The result: the architect as critical self.

Authorial control will be challenged even in architecture – *afterall*, the end of the architect does not mean the end of architecture? No logo, the World Trade Organization, sympathy for the devil, whichever side allows us to re-site radicalism; the more resistance expressed, the more frayed architecture will become, the more impact it will offer. And the more frayed this resistance is, the less it can be subsumed and re-controlled within the profession, by education and institution.

We have a choice, a personal and political choice.

Each one of us has to decide which side we are on. On the side of the institutional process, the sad privilege of speculative thought and ideology; a



SvS, Michael Speaks: third speaker or presenter will be Gregg Pasquarelli, from SHoP, who is the Louis Kahn Assistant Professor of Architecture at Yale University. Then Hernan Diaz Alonso, from SCI-Arc, and also from Columbia University, right here in this fine city, who has an office called Xefirotarch. And then last, Winka Dubbeldam will present. Winka is Professor in Practice at Penn, and her office is Archi-Tectonics. Winka is last only because she's the only Mac person up here. So we'll have to unplug the PC and plug her Mac in. So without any further jabbering by me, we'll hear

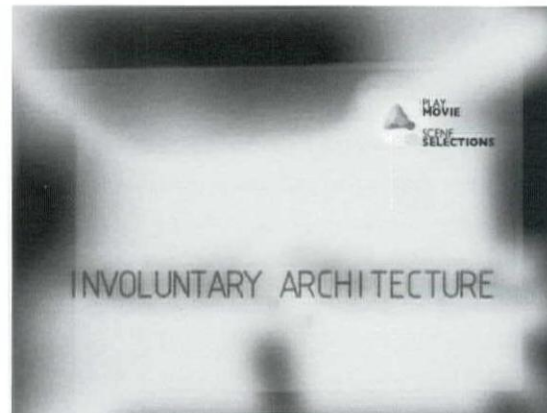
ROGER CONNAH

future so clearly mapped out for us by those ahead of us, those in power, holding positions over us.

Or, are we on the side of the 'afterthought'?

The former may leave us on the side of a pre-scripted future of spectacle, luxury and indulgence. The latter may see us on the side of a liberating action that knows no previous form; a combat that naively expresses delinquency and collaboration in a constant movement and knows not what safety is for.

Perhaps like Regis Debray and Thomas Merton, we can no longer regret being innocent nor can we remain guilty bystanders. The dignity of immediate reality, not anything in the future, depends on these 'after-thoughts'; it is these that ask more from us.

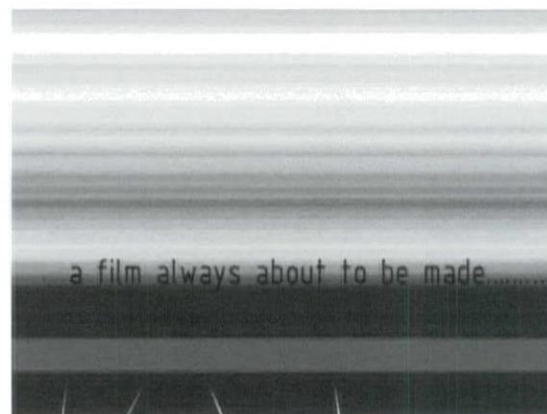


Involuntary Architecture

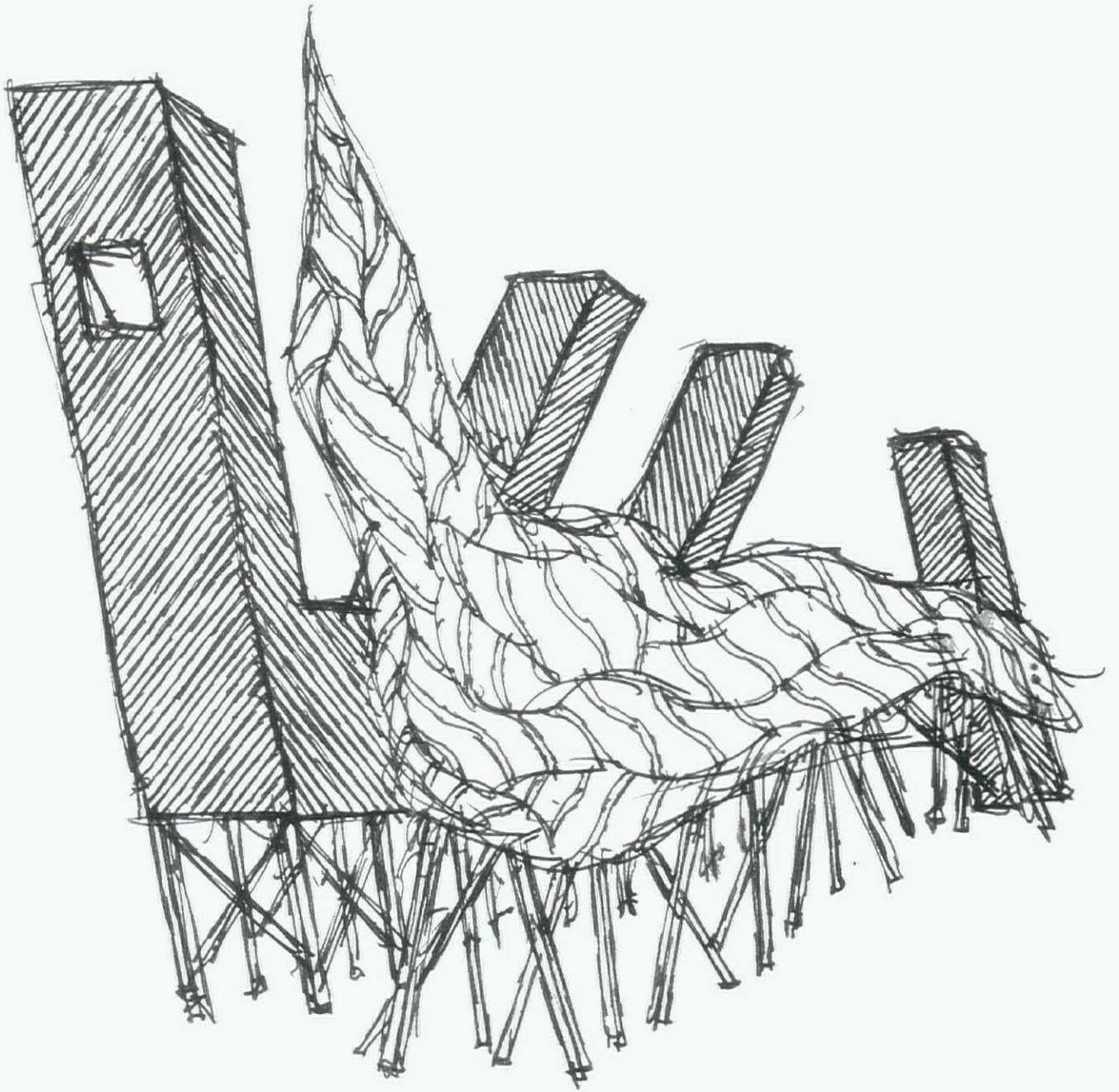
Involuntary Architecture is a Pulp Architecture Studio film incorporating and re-scripting the work and filming of 12 graduate architecture students at the University of Texas at Arlington.* Continuing the scripting exercises used in the Pulp Architecture Graduate studio, using the notion of 'meme' and a meme analysis, the students analysed the planning of their own school of architecture. The departure was the resonance of the school of architecture (1970s) with the Pentonville model prison from 19th Century London. Using the notions of model, metaphor, surveillance, control and mapping, the students then re-scripted their analysis onto the city of Dallas. Treated as a sampling exercise, the students also participated in the free editing of individual sequences within the film, whilst Maruszczak and Connah then further re-edited, scripted and tightened all the material according to another script "Involuntary Architecture." An involuntary film became "Involuntary Architecture" – a film always about to be made'. (images on facing page)

*** Roger Connah and John Maruszczak**

Iara Bachmann – Nicholas Cate – Scott Davidson – Leonard Erlandson – Michael Garrett – Larry Hatfield – Melissa King – Marcus Mckenzie – John Michl – Min Ju Park – Masha Slavnova – Doug Payne







BOTOX-ING ARCHITECTURE'S HERMENEUTICAL WRINKLES

From differential to integrative thinking in architecture, 1965-2005

EMMANUEL J. PETIT

At different moments of history, architects have conceptualized the living body in order to locate new themes and processes on which to base their argumentation. Herein, the architectural discussion has registered a kind of cultural history of human consciousness, which has gone through significant changes in the last few decades. I will illustrate how different models of 'reproduction' of the body – sexuality, cloning, and self-replication – have been appropriated by architecture to define two types of theories of animation, which can be called differential and integrative respectively.

Noteworthy is the shift from the more classical, metaphorical use of the human body as a reflecting actor, who expresses his cultural struggle in a theatrical space of representation, towards the body figured in a state of inarticulate becoming-animal. While the former corresponds to architecture's infatuation with a hermeneutical search for meaning, the latter is more related to the sheer quantitative aspect of more or less organized – but always still entropic – proliferation of matter. Examples of the first paradigm are to be found throughout architectural 'postmodernisms', like in the carnival characters of John Hejduk and Stanley Tigerman, whereas the second one is still in the making, for instance in the alien creatures of Marcos Novak, in the invertebrate amoeba of Kas Oosterhuis, in Greg Lynn's embryos and floral beings, or in Karl Chu's algorithmic organisms, amongst others.

Each of these architects favors some model of reproduction and procreation as a source to animate architecture's inert matter. On the one hand, I will show how the sexual difference between male and female 'aspects' of a building were used to stage a creative conflict, in which architectural form could arise. On the other, seduced by Jean Baudrillard's analogy between the mechanisms of cloning and the contemporary simulation techniques of the new media of conception and transmission, I will describe the recent 'integrative' shift of the discipline.

BUILDING THE MEANING OF LIFE: SEXUALITY

The textual turn of architecture since the late sixties prompted the discipline to express its ambiguous relationship to the world, split between its physical transactions and the abstract traditions of interpretation, which architecture appropriated from a general hermeneutical basis of all the humanities. Ferdinand de Saussure's differential linguistics, based on the divergence between signifier and signified, colonized all branches of the humanities as an objective mechanism that would grant their epistemological equivalence to, and autonomy from, the sciences. 'Meaning' became the overarching currency of the humanities and allowed them to produce and compare their results. Architecture was now going to participate in these new exchanges, leaving the machine-metaphor of modernism behind.

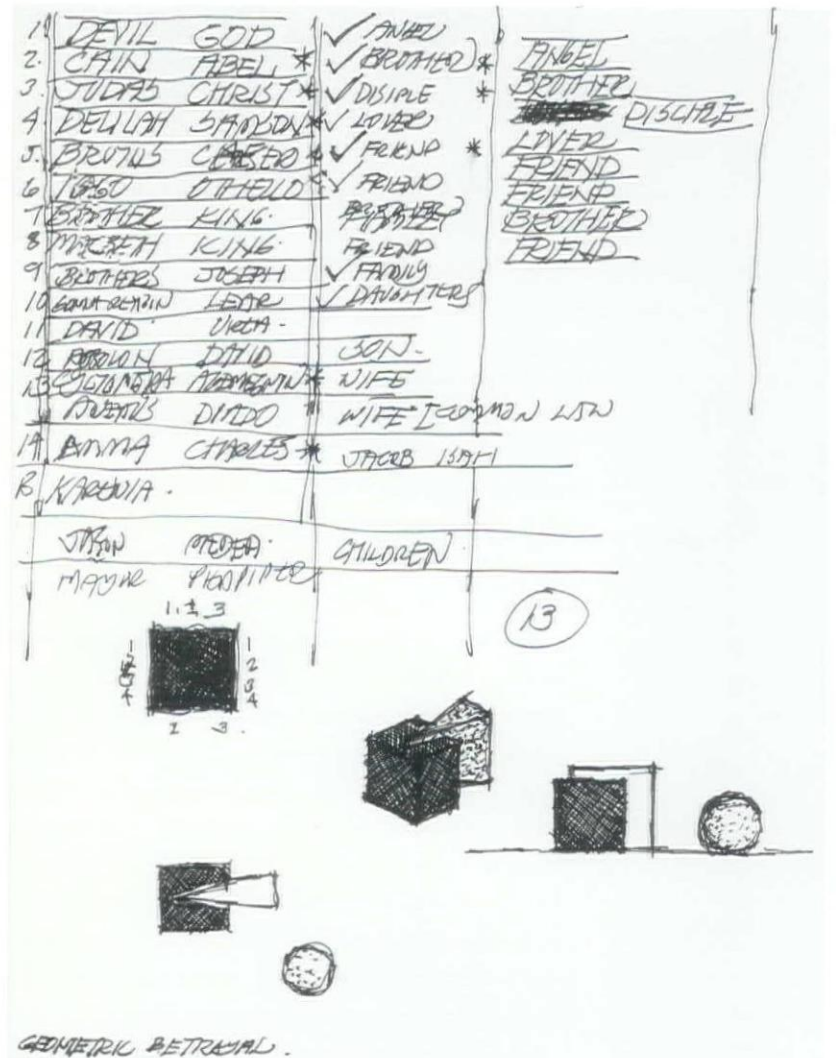
Opposite:
"Female/Male Male/Female."
John Hejduk Archive
Collection Centre Canadien
d'Architecture / Canadian Cen-
tre for Architecture, Montréal.



SvS, Michael Speaks: from Mark Goulthorpe for about five minutes. / Mark Goulthorpe: Hi. He told me I couldn't speak, so I thought, right, I'll get him. I'm gonna put 147 slides and make him talk for five minutes, and now he's turned the tables. / I think - the introduction is kind of interesting, cause I don't really think technology is nothing, in a sense. And the great thinkers of the 20th century, Heidegger, Derrida and everybody, seemed to constantly have difficulty in

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"Geometric Betrayal."
John Hedjuk Archive
Collection Centre Canadien
d'Architecture / Canadian Cen-
tre for Architecture, Montréal.



The differential struggle underlying the production of meaning did not fail to find its way into architecture. In various forms of an early postmodernism, the negotiation of this divide was made thematic. Notoriously, Robert Venturi proposed to split architecture in two parts: on the one hand, architecture had to cater to the pragmatic needs by providing shelter in the form of a generic shed, and, on the other, it had to participate in the production of meaning by means of its façades, now turned into billboards of signs. Together, this meaning-structure was labeled a 'decorated shed.' Architecture had to mediate between the demands of both the physical and its meta-physical aspects which, at times, expressed themselves in the most carnivalesque, or at least theatrical, way. Without a doubt, the tension that arises from the divide underlying the linguistic sign revitalized and reanimated architecture at the time. Once the split, which

engenders meaning, was recognized, the dialectical dynamics were set into motion, and Pandora's Box of oppositional terms opened. If anything, 'meaning' had to remain suspended, so as to preserve its poetic, allusive, and suggestive qualities. A whole generation of architects fully took advantage of these suspensions, by borrowing from conceptual art's distinctions between concept and percept (Eisenman), by defining architecture as a stage on which an unanticipated event was awaited (Rossi), by breaking the notion of utopia into a political and a poetic component (Rowe), by speculating on the *double-entendre* of semantic references (Stern, Jencks), by intersecting formal gestures with symbolic forms (Libeskind), by playing with the discrepancy between illusion and fact (Ambasz), by acting out the distinctions between paranoid fiction and 'hard' evidence (Koolhaas), and so on. In each case, the familiar was contrasted with

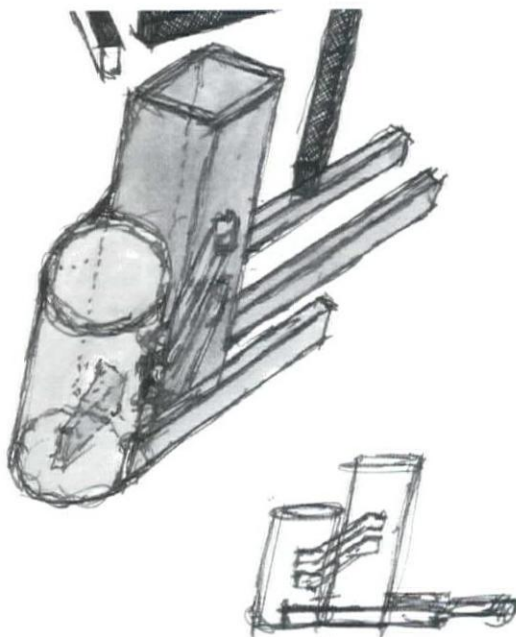
SvS, Mark Goulthorpe: defining technology. But for me, I'm fascinated by the idea that technology really is a cognitive stretching to assimilate a new technical standard. / And so, you know, I've put this word "latency". I actually think of technology as latency. It is no thing. It's simply our adaptation to a new technical propensity that's in the offing. I thought I'd highlight that by showing some of our projects, you know, pre-computer projects, where this was a sculpture that was made by squeezing a condom. And it was the first example of a kind of open-ended generative process that's been hugely important for me in that it was yearning for a new formal and creative potential

BOTOX-ING ARCHITECTURE'S HERMENEUTICAL WRINKLES

the ineffable 'other'; it is only in this unforeseeable confrontation between what can be designed, and the 'other', that meaning could reach its full metaphysical depth and 'gravity', since it called for a whole spectrum of different interpretations.

The architecture of the nineteen-seventies explicitly played with the expressive potential of meaning, offered by the tool of linguistic interpretation. In a most obvious way, John Hejduk's architecture turned the encounter with the 'other' into a theatrical drama, drawing on the fact that the unspeakable 'other' reveals itself as an interference with the architect's plan – a kind of disloyalty to the demiurge of meaning. A not very known project of Hejduk's called "Geometric Betrayal," radicalizes this idea of the "expected infidelity of the other" by inscribing architecture into a long list of failed loyalties throughout the history of humanity. The seamless relationships between architectural elements such as the wedge, the cube, and the sphere, are likened to illustrious deceitful liaisons to be found in literature, legends, and the Bible. By opening itself to the seduction of the interpretation of signs, architecture inherited the infidelity at the basis of the linguistic relationship between the sign and the signified, which, as we learn from de Saussure, is arbitrary and exchangeable. In revenge, architecture herein benefited from the depth and richness of meaning, and was thus accepted in the ranks of the humanities.

Architects' interest in the culture of interpretation – and consequently, their pursuit of metaphysical motives – placed the subjective judgment back in the center of the discipline. Architecture found itself animated as a kind of lively character, which participated in the unfolding drama of the metaphysics of alterity, very much in line with Jean-Paul Sartre's existentialist claim that "Hell is other people" in his 1944 book *Closed Doors*. Hence Hejduk's interest in the ontological confusion to be found in "Geometric Betrayal," analogizing the relationship between abstract objects – like the cube and the wedge – with those between human or godly Beings – like the Devil and God, Cain and Abel, or Judas and Christ, and so on. Architecture appears as an animated, even 'spirited', participant on the stage of life, i.e. the space of representation as an interface beyond the mere physical: we are confronted with a metaphysical hermeneutics.



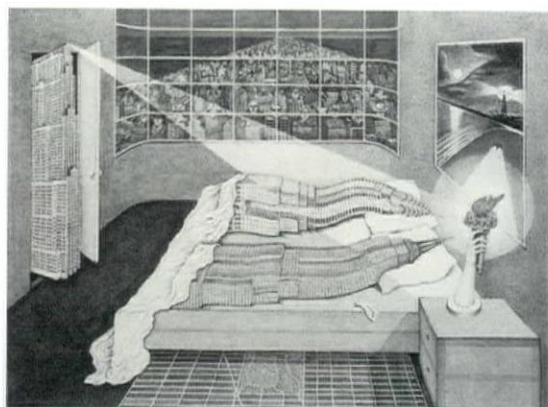
"Architectures in Love."
John Hejduk Archive
Collection Centre Canadien
d'Architecture / Canadian Centre
for Architecture, Montréal

The ontological confusion between 'dead' matter and a living body goes further in architecture. A series of architectural comments and projects addressed the issue of 'otherness' by connecting to one of its archetypal loci: the sexual distinction of male and female. In his project "Architectures in Love," Hejduk brought into play the sexual duality, when he recognized that "sometime during the deliberation of [my] thoughts, I also realized the building I was involved in was a male building. Instantaneously, a female building came to mind."¹ The male architect, so it seems, saw his own desire for the female 'other' reflected in his act of architectural procreation. Now the process of conception found itself animated by the sexual tension Hejduk fantasized about. The whole project was grounded on this initial duality. In another project, called "Female/Male, Male/Female," Hejduk again used the motive of sexual polarity as the differential logic for his architecture (see image on opening page of this article). The search for a possible 'other', as a characteristic of any metaphysical quest, transferred the sexual feature of living beings to dead matter. But Hejduk was not alone in doing this; Madelon Vriesendorp's drawings "Flagrant délit" and "Après l'amour," which Rem Koolhaas published

¹ John Hejduk. *Architectures in Love*. (New York: Rizzoli, 1995).

SvS, Mark Goulthorpe; that I only latterly come to recognize is available with digital technologies. / I'm showing a sort of before and after sequence. So that finally, the handcrafted suggestion of that project finally washes up in a project like this, which is a recent gallery we've been working on in Paris, where we're taking it through to materialization, but in a fully automated sense. So this project is no longer even drawn. Neither was the sculpture. This is scripted, so it's about 2,000 lines of script. And you just manipulate the red line and the green line to vary the material density and articulation. So it's no longer an object. It's a possibility of a kind of object

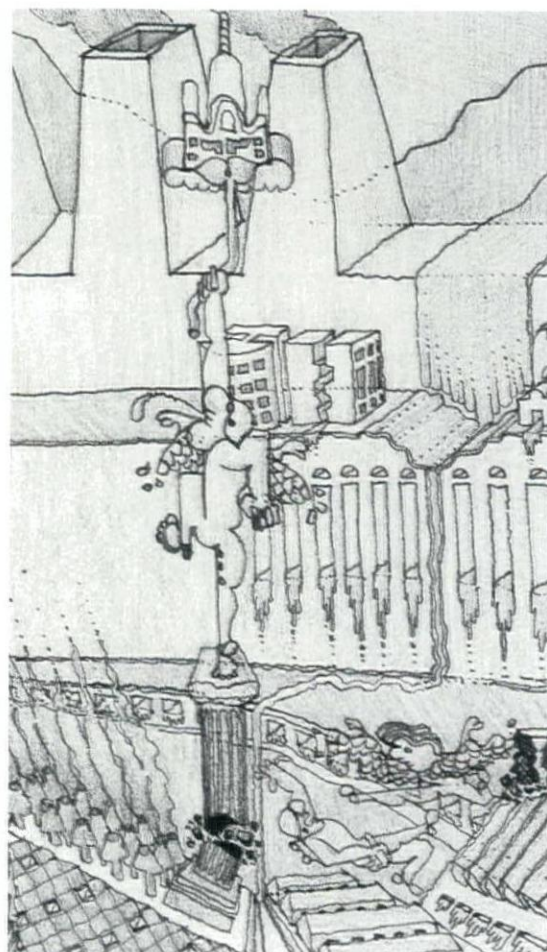
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Madelon Vriesendorp.
"Flagrant Délit."
Collection Centre Canadien
d'Architecture / Candian Centre
for Architecture, Montréal.

in *Delirious New York*, for example, depict the sexual encounter between the female Chrysler Building and the male Empire State Building. Already, Vriesendorp lets her imagination run wild about the danger that corporate and capitalist culture might one day dispose of the architect, and promote the reproduction of buildings without the tutoring presence of the architect – the 'father'. Isn't this what Koolhaas recently branded as 'Junkspace', i.e. the unstoppable proliferation of space that has disposed of the complicating factor of architecture altogether?²

From 1976-78, another protagonist of postmodern architecture, Stanley Tigerman, designed the humorous Daisy House as a hermaphrodite structure, composed of male and female iconography. The sexual imagery in the Daisy House rendered explicit the need for a hermeneutical appraisal of its structure, reinterpreting as much Venturi's dual organization of the decorated shed, as also a large array of historical precedents all the way back to the revolutionary architecture of Jean-Nicholas Ledoux, with his phallic Oikema building. The impression that architecture – as much as any piece of creation – had a life of its own, a kind of *double vie*, was as much a frightening, as also a fascinating insight for architects. Throughout the seventies and early eighties, Tigerman drew a series of architectural cartoons, the *Architoons*, where the Daisy House further assumed a pornographic role. Besides the house's internal division into male and female 'parts' though, the architect himself – illustrated as a kind of angelical agency – is caught in a double performance; on the one hand,



Stanley Tigerman. Detail from
Architoon.

the historic 'column' of architecture crumbles under his feet and, on the other, the architect does not seem quite ready to fly off with his own project and disconnect from architecture's disciplinary tradition. He desperately holds on to the umbilical cord of his architectural offspring, while being heavy-footed with the boot of the architectural hermeneutical tradition. Tigerman's guardian angel figures as the postmodern architect, who embodied the internalized split, opened between the hermeneutical 'ground' of the discipline and his individual creative impulse. The tension, which arose from the discrepancy between general rules and individual desires, is the core of the existentialist thought of Kafka, Dostoevsky, Kierkegaard, and others, in which Tigerman took vivid interest.³

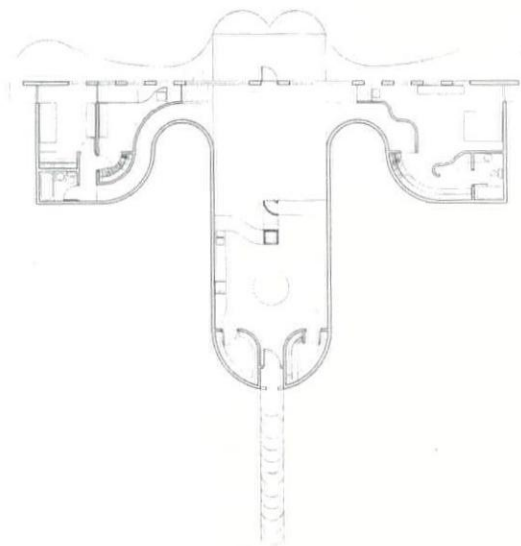
² Rem Koolhaas. "Junkspace"
October: Obsolescence 100
(Spring 2002).

³ Stanley Tigerman, *Versus: An American Architect's Alternatives* (New York: Rizzoli, 1982). Here, in his autobiography, one can identify Tigerman's fascination with existentialist writers. For example, he repeatedly refers to William Hubben's *Dostoevsky, Kierkegaard, Nietzsche, and Kafka: Four Prophets of Our Destiny*.

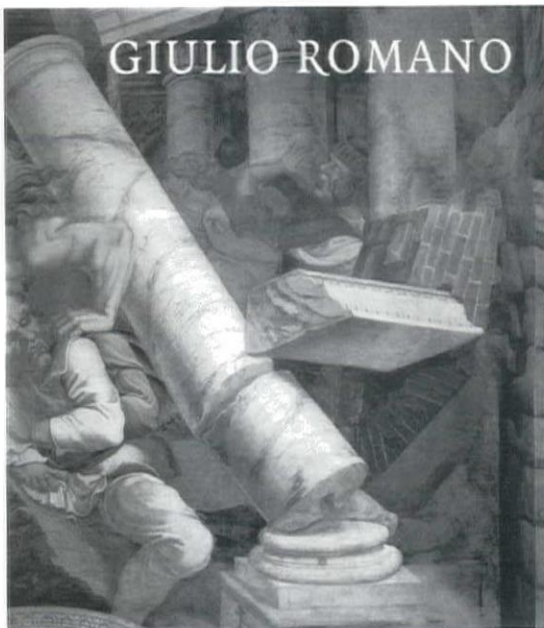
SvS, Mark Goulthorpe: that becomes nuanced, the whole fabrication logic becomes nuanced according to budget, tactility, whatever. / And this, we priced this recently, it's an ORB numeric command machine. It's 75,000 euros, so about 85-90,000 dollars for the entire thing in plywood. / This is an apartment in Paris where - I showed this because it highlights the potential for non-standard production, where, in this apartment, we've explored a variety of parametric and algorithmic



BOTOX-ING ARCHITECTURE'S HERMENEUTICAL WRINKLES



Stanley Tigerman. "Daisy House," 1976-78.



Giulio Romano. *Room of Giants*. Book cover of *Manfredo Tafuri's* book on Romano.

The re-introduction of subjective interpretation into architecture in the late sixties and throughout the seventies displaced different versions of 'objectivity' so central to the foundational theses of architectural modernisms, under the banner of *Sachlichkeit*, standardization, functionality, the machine metaphor, and the like. The epistemology of interpretation distanced itself from such objective grounds, and instead, the subjective - even poetic - attribution of meaning was foregrounded. Some of the architectural protagonists - Tigerman amongst them - identified the subjective play with the associations between sign and signified as an ironic approach to the world, which became the inaugural characteristic of postmodernism. As a matter of fact, the ironic semantics and syntax is equally based on a dual 'architecture,' for instance, by stating one thing, yet implying something else. Tigerman's internally divided architect - the postmodern architect - found himself in an ambivalent position - having lost an 'objective epistemological' ground, and needing to rely on subjective interpretation - the nature of which is best characterized by one of the main existentialist writers and ironists himself, Søren Kierkegaard.

In his philosophical work entitled *The Concept of Irony*, Kierkegaard explained the effect of irony on architecture in two different, and somewhat opposed,

ways. For one, he described Socrates's irony as a kind of force of gravity, which pulls any building down to the ground: "Here, then, we see irony in all its divine infinitude, which allows nothing whatever to endure. Like Samson, Socrates grasps the pillars that support knowledge and tumbles everything down into the nothingness of ignorance. [...] as a terrestrial gravity from which thought must more and more be freed."⁴ The danger that ignorance presents to architecture is, without a doubt, not foreign to the intra-disciplinary discussion of architecture. Vitruvius's vision of an architect's generalist education was only confirmed by Adolf Loos's statement that an architect is a mason, who speaks Latin. The motive of the danger engendered by a too uninformed handling of the disciplinary knowledge also appeared in Giulio Romano's murals in the Room of Giants in the Palazzo del Te in Mantua, which depict the architectural Renaissance order being pulled down to the ground by his playful Mannerist rhetoric. The effects of metaphysical ignorance on architecture are presented as the analogue to gravity: architecture must stand up against their attraction, and resist their lure that ultimately wrecks its discipline. The danger of the search for subjective meaning, thus, consists in the possible destruction of the historic and hermeneutical stability of the discipline.

⁴ Søren Kierkegaard. *Kierkegaard's Writings, II: The Concept of Irony, with Continual Reference to Socrates/Notes of Schelling's Berlin Lectures*, edited and trans. Howard V. Hong and Edna H. Hong. (Princeton: Princeton University Press, 1989) 40.

SvS, Mark Goulthorpe: generative procedures, taken that through CNC machining into molding, and then solidified all the components, I mean every single component, and that's every light switch, every door handle, has been manufactured from scratch. The basins are subject to kind of force, so it's the approaching body and the water. The staircase are parametric seriality. Throughout the apartment is a sort of material reciprocity. The bed pressing into the wall so it carries its weight with it. And that carries into the production, so this is a fireplace. These are the basins. So CNC machine casts. This is a privacy screen in the bedroom, mathematically generated. Rich in

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But Kierkegaard also used another spatial movement to express irony's effect on architecture and opposed it to the image of the gravity of ignorance. Irony can also provoke mental buildings to ascend to a height in which they leave the sphere of influence of the force of gravity altogether. This dream of flying has also been with architecture since one of its many supposed origins, i.e. the Cretan myth and Icarus's flight out of the labyrinth, built by his father Daedalus. The distancing of architecture from its materiality by 'flying off' into the spheres of intellectual interpretation – the young Icarus wanted to 'see' the labyrinth's form – happens in what Derrida labeled the "age of the sign"⁵ with the ensuing possibilities for *dissemination*. Here, architecture reaches 'beyond' its physical artifacts, and into meta-physics, where 'metaphysics' refers to an attitude that gives higher value to the meaning of phenomena than to their material presence; it points to a worldview that always wants to go 'beyond' (or 'below') that which is 'physical.'⁶ Kierkegaard thus described irony's action, at the basis of all self-conscious 'reflection,' as follows: "[...] but reflection, in a continual ascent, mounts higher and higher above the atmospheric air until breathing almost stops in the pure of the abstract."⁷ The dream of detachment from the physical constraints is represented in Massimo Scolari's flying architectural roof structures, for instance in his "The Return of the Argonaut" from 1981. Here, architecture has 'taken off' in search of ever new associations, on which to momentarily rest before moving on. In fact, this image stands for the hermeneutical basis of architectural theory, i.e. the assumption that architec-



Massimo Scolari: *The Return of the Argonaut*, 1981.

tural discourse is based on a system of interpretation that grants it a place among the humanities.⁸

The relentless search for difference and, consequently, the production of 'meaning,' is fundamental to the hermeneutical 'contract' of all the humanities. By approaching their traditions of interpretation, architecture fully assimilated the need for differentiation as illustrated in the projects that address the theme of sexual duality. The model of sexual reproduction always replicates its initial tension – the child is again *either* male *or* female. This allows for a new generation of interpretations, based on a tension that bears the family traits of the historicity of the discipline: the sexual model is indexical by nature. This holds true for all the different strands of architectural postmodernism, bred on semiotic and literary theories, or on the classicist revisions, the flirtations with consumerist culture, or on the slippery deconstructivist grounds.

BOTOX-ING THE DISCIPLINE:

THE SMOOTHENING OF DIFFERENCE

The differential, evolutionary paradigm I just described has been superseded by something else; architectural theory since the early nineties has substituted its interdisciplinary references. Eminent, Gilles Deleuze and Félix Guattari have lent a different version of the living body to architectural discourse: the 'deterritorialized' *body without organs*. To dream up a body without organs did not only 'smoothen' sexual differentiation, but it flattened out any oppositional behavior of the discipline. On a formal level, Deleuze found this strategy exemplified in the portraits of the painter Francis Bacon, where the human body's integrity is decomposed and on the way of 'becoming animal.' Suddenly, the body resembles formless flesh, dissolves into merely entropic ooze, and erases the differentiation between its 'objecthood,' and what is classically identified as the background of the painting.⁹ It did not take long until

⁵ Jacques Derrida, *Of Grammatology* (The John Hopkins University Press: Baltimore, 1976) 14.

⁶ Hans Ulrich Gumbrecht, *Production of Presence: What Meaning Cannot Convey*. (Stanford: Stanford University Press, 2004) xiv.

⁷ Kierkegaard, 41.

⁸ For a discussion of the centrality of hermeneutics to the humanities, refer to the above cited Gumbrecht. *Production of Presence*: "[...] the book will challenge a broadly institutionalized tradition according to which interpretation, that is, the identification and/or attribution of meaning, is the core practice, the exclusive core practice indeed, of the humanities" 1-2.

⁹ For Deleuze's argument on Francis Bacon, refer to Gilles Deleuze, *Francis Bacon: The Logic of Sensation*; trans. Daniel W. Smith; (Minneapolis: University of Minnesota Press, 2003).



Francis Bacon: *Untitled (Crouching Nude)* 1950. © 2006 The Estate of Francis Bacon / Ars, New York / DACS, London.

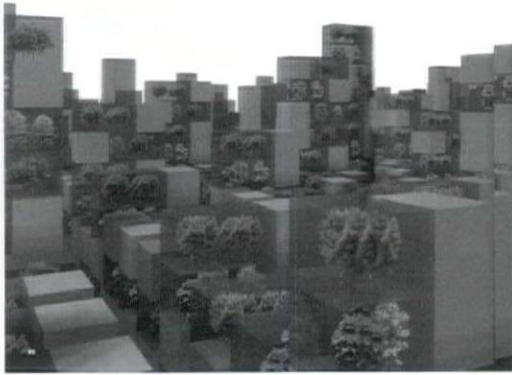


"Manimal." From the cover of UN Studio's *Move*. Original image titled "1949 – Year of the Ox" as part of Daniel Lee's *Manimal* series.

SvS, Mark Goulthorpe: materiality, that's what's curious. It's a heavyweight materiality, which is sort of remarkable. It's remarkable to think that digital kind of materialization ends up with this delicious kind of tactility. Now, it's quite soberly, the aesthetic, but it's everywhere there's a sort of teasing. The complex curves of the wall and the fireplace, teasing into a new potential. / This is another early project. This is the first computerized project. It was a video trace of a dance, which was then - actually, the difference between attempts in a repeated sequence - which



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MVRDV, diagram. In: *Metacity Datatown*.

this idea was incorporated into architecture. In their compilation of projects entitled *Move*, Ben van Berkel and Caroline Bos refer to Bacon when presenting the idea of a hybrid organizational diagram for architecture with the image of the Manimal – a visual merger between the features of a lion, a snake, and a human. For them, it is precisely the complex parentage of the Manimal, which reflects architecture's new aspiration to a more inclusivist and integrative practice. The architectural diagram now is a streamlined 'face', botox-ed by the newest available imaging software on the market. The architect's consciousness changes from being an *auteur*, with an individual ethical and aesthetic message with which he stands *against* the world, to being a pliant and sleazy diplomat, willing to accommodate all the different pragmatic demands *within* the scene of the "liquid politic" – the subtitle of the first volume of *Move* – including demands from engineering, the market, the clients, politics, and so on. For sure, the definition of 'consciousness' finds itself transformed in this unlikely body merger – now no longer opposing the cerebral and the carnal functions: architecture is supposed to embody the new condition.

Deleuze displaced the understanding of the body with differentiated organs and functions towards one that is made of mere quantities and intensities. This body-without-organs can happen through the collapse of the multiple 'components' of reality into a common – visual or quantitative – currency.

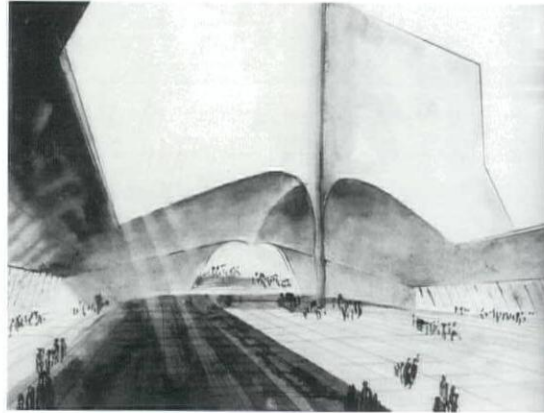
MVRDV devised the statistical body for architecture, in which reality is reduced to mere quantities of data. The city as described in Winy Maas's book *Metacity Datatown*, shows no more sign of urban "organs." In fact, the body metaphor has radically been changed, and the architecture of the city finds itself reduced to the proliferation of a kind of 'architectural stem cell' of a modular (or statistical) space unit: the cube. The whole city is now conceptualized as a datascape, in which urban qualities all get expressed in terms of quantities. Unlike in the sexual paradigm, selection and survival have been replaced with mere quantification. MVRDV's system is very much a simulated reality in Jean Baudrillard's sense, i.e. "a project to reconstruct a homogeneous and uniformly consistent universe – an artificial continuum this time – that unfolds within a technological and mechanical medium, extending over our vast information network, where we are in the process of building a perfect clone, an identical copy of the world, a virtual artifact that opens up the prospect of endless reproduction."¹⁰ Evidently, a body-without-organs can no longer reproduce sexually, since the concept of the dual 'other' does not exist in this all-encompassing paradigm. Instead, MVRDV's computer simulation is a cloned reality, now subsumed under the totalizing DNA code of statistical quanta.

The 'smoothing' takes on different aspects in architecture, going beyond Deleuze and, for that matter, beyond some of the more classic references when it comes to thematizing the erasure of 'difference'. Alongside Deleuze's deterritorialization, Georges Bataille's notions of the *informe* and the abject, or Le Marquis de Sade's philosophy of flesh aim to take on the humanities' sole reliance on 'meaning' and interpretation, and suggest at least an anti-intellectual, if not an anti-intellectual, basis for philosophy. Still relying on the crutches of its former humanities-envy, architecture has been using and abusing these authors as cross-references and as justification for its own skepticism towards cerebral, postmodern theories of difference. The high-levels of self-consciousness to be found in the Vitruvian Man of Renaissance architecture, in the rational being of high-modernism, and in the anxious, existentialist, and ironic figure of postmodernism, are now melted down to the vegetative states of animal and floral bodies. The sexual

¹⁰ Jean Baudrillard, *The Vital Illusion*. (New York: Columbia University Press, 2000) 7-8.

SvS, Mark Goulthorpe: was then materialized. And all sorts of interesting aspects. The structure collapses into the surface, because it's a structure surface. And the three-dimensional complexity gives you this adherence and rigidity. Fabricator and it screams for a variable description, so a parametric propensity, as they call it, which is then followed through in projects like this sculpture in France, where we're deploying full parametric modeling, so you're no longer really designing an object. You're designing the possibility of an object, which is nuanced according to the various engineering and fabrication potentials. And you're pressing architecture into folds of legitimate

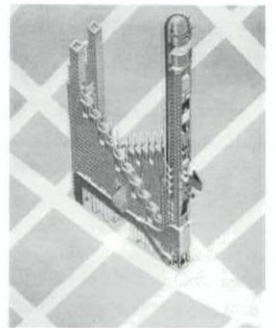
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Hans Scharoun, *Untitled*, 1939-45.



Greg Lynn. The Ark of the World, model photo.



Elia and Zoe Zenghelis. "Hotel Sphinx." Collection Centre Canadien d'Architecture / Canadian Centre for Architecture, Montréal.



Marcos Novak. Allobio.

metaphor, which was used as an analogue to the complicated 'relationships' between individual signs in the production of meaning, has lost its pertinence. The relationships of the recent intricate 'bodies' in architecture are not singular enough for the sexual model between two discrete bodies to hold, but, as Deleuze points out, "a body without organs is not an empty body stripped of organs, but a body upon which that which serves as organs...is distributed according to crowd phenomena, in Brownian motion, in the form of molecular multiplicities...the full body without organs is a body populated by multiplicities."¹¹ Although part of the architectural genealogy of the new sensibility, the animal metaphors of Frederick Kiesler's bacterial forms, Santiago Calatrava's skeletons, or Frank Gehry's fish – while critiquing architectural anthropocentrism – still cling to the body-with-organ paradigm, to the 'closed' and unified body. Possibly, Hans Scharoun's, Gehry's, and Kiesler's *non-figurative* imagery is the closest precedent for the new architectural 'open' bodies. But it is Greg Lynn, who was amongst the first to consciously shift attention to other types of bodies, characterized as fusional, monstrous, viscous, and so on.¹² Due to their systemic openness, these new 'bodies' cannot be conceptualized within a sexual paradigm any longer. The viscous 'body' systems only hold together due to their internal cohesive force, and they relate to adjacent systems through their adhesive quality – or 'stickiness', as Lynn describes it. Far from the metaphorical, emotional, and theatrical model of sexual relationships during postmodernism, the viscous or sticky relationships are very matter-of-fact, cool, op-



Xefirotarch, U2 Tower.

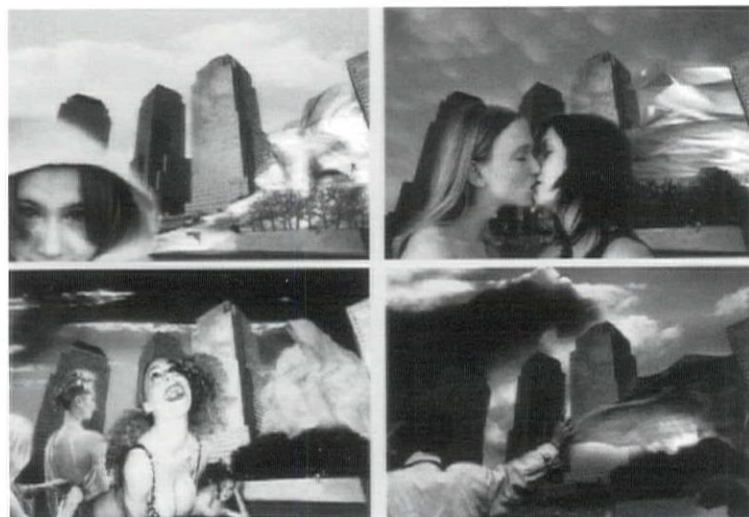
portunistic, and ultimately, illegible. Lynn puts them in line with Bataille's slightly adjusted meaning of the word 'scatological' – as that, which is 'wholly other', i.e. that, which is not legible. As such, in the formal processes of Lynn's and Jeff Kipnis's Embryological House, or in Lynn's Ark of The World project, the forms swell, contract, and bulge out as if inhabited by some primitive, organic code not entirely deciphered by the architects themselves. Besides Lynn, other architects have bred strange bodies in their test tubes. Among them, Marcos Novak generated cockroach-like creatures, the Allobios, not so dissimilar from Hejduk's architectural vagabonds, in that they seem like aliens that populate the spaces of conventional cities and appear as more or less closed and delineated bodies. Xefirotarch's project for the U2 Tower in Dublin from 2003, while oddly reminiscent of Rem Koolhaas's and Elia Zenghelis's Hotel Sphinx from the mid-seventies, takes on the cryptic appearance of a puppy-like being. Unlike in the case of the Sphinx

¹¹ Gilles Deleuze and Félix Guattari. *Mille Plateaux* (Paris: Minuit, 1980), engl. language ed. *A Thousand Plateaus. Capitalism and Schizophrenia*, trans. Brian Massumi. (Minneapolis: University of Minnesota Press, 1987) 30.

¹² see Greg Lynn, *Folds, Bodies & Blobs. Collected Essays*. Books-by-architects Series. (Brussels: La Lettre Volée, 1998).

SvS, Mark Goulthorpe: three-dimensional deployments, so everything is conceived in three dimensions and fabricated in three dimensions. So that's a kind of warm-up exercise, if you like. Continuity of design to fabrication. / And that washes up in a project like this, where we're even pressing, I think, beyond parametric propensity to - I'll show you a clip right at the end of the latest attempts to model this thing, which turns to genetic algorithms as a sort of best-fit solution. This full three-dimensional deployment needs parametric modeling to allow - the skin is the structure, and this we've worked on for about a year and a half now. So Arup engineers are confident that we're

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Kas Oosterhuis/ONL, World Trade Center Proposal.

though, the riddle posed by this puppy does not demand to be interpreted.

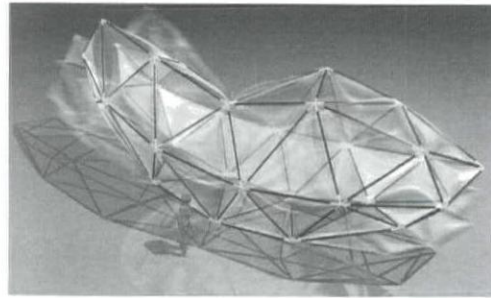
But along with the change in the morphology of the architectural body comes an adjustment in the consciousness of and about it! In fact, one will need to wonder what makes the new architectural body "move," after the previous dramatic-literary mode has been superseded. In this context, the old postmodern distinction between those architects who believe that architecture ought to "stand for" some cultural information through its forms, and those who believe that architecture only expresses its internal rules, has been recast. But this time around, the non-cerebral, animal body of architecture digests and processes the information differently, and, paradoxically, the more archaic the appearance of the new amorphous, animal, and floral shapes, the more complex the computational endeavor of their design becomes. The Dutch architect Kas Oosterhuis is exemplary when he suggests an "E-motive" architecture by playing with the conflation of the terms "emotion" and "electronic motion." Buildings are seen as transactional spaces between electronic data

networks, and they become responsive to the swarm of information that they are being fed with, changing shape by contracting and relaxing industrial muscles: architecture is sculpted information in time. In this process, "meaning" does not appear to be central to the discussion, but what matters is that a building is oddly animated with a new kind of collective unconscious - the information transmitted by the building's users, connected to it in real time and through cyberspace. As shown in ONL's project for Ground Zero, the pulsating and bubbly responses of the building's "biomass" and color remains utterly illegible, yet is understood as the "exact" expression of the information it stands for. The building is transformed into a quasi-vital companion - a pet - whose response can sometimes be perplexing, and sometimes, strangely familiar and "emphatic." Oosterhuis talks about his fiction of an E-motive house as follows:

"What mood is your house in today? Isn't it feeling well? Why is your house behaving so strangely lately? Perhaps it needs to see a doctor? Did you care enough for your house? Is your house boring you? Are you neglecting your house? ...The E-motive house is a fully programmable muscular construct, designed

SvS, Mark Goulthorpe: two and a half millimeters, about a millionth of an eight of an inch, or a million sixteenth of an inch, I don't remember. So it's structurally coherent. And, there are prototypes in the background. / So, if that kind of charts various sort of potential, it seems to me, to completely change the field of architecture in a sense. It is open ended generation, you're pressing to continuums of design and fabrication. And this project is a real-time parametric model, so it is an allo-plastic surface that is responsive to people. This next thing, you really need to see it moving. I apologize that they're not, but we're gonna go. / This is an early prototype of allo-

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Kas Oosterhuis/ONL, Muscle
NSA, 2003.

¹³ Kas Oosterhuis, *Hyperbod-ies: Towards an E-motive Architecture* (Basel: Birkhäuser-Publishers for Architecture, 2003) 55.

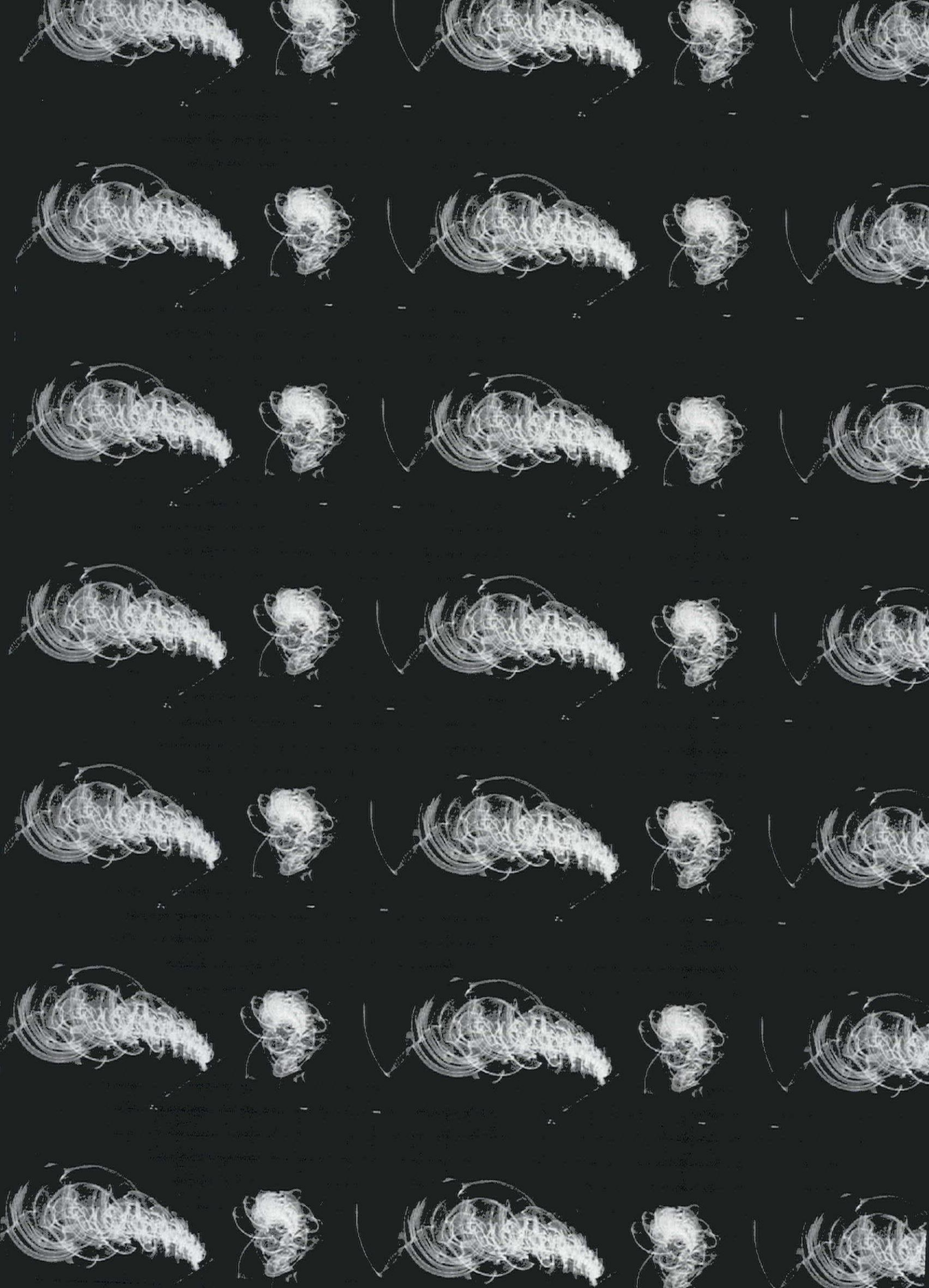
¹⁴ Karl Chu, "Metaphysics of Genetic Architecture and Computation." *Perspecta 35*, ed. Elijah Hume and Stephanie Tuerk (2004): 81.

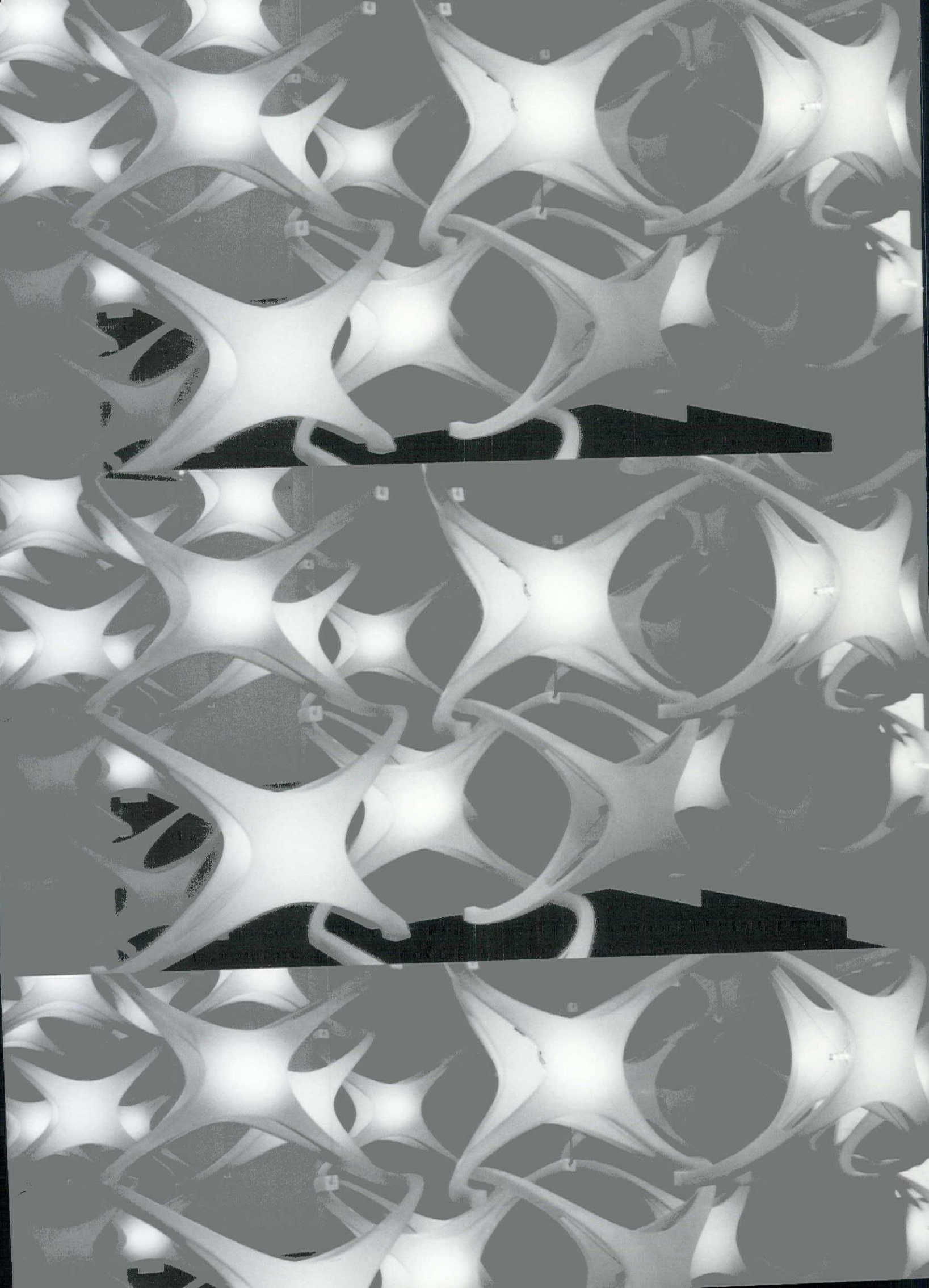
to be able to change shape and content in real time. Responsive to the urgent needs and whimsical wishes of the inhabitants, they also act for themselves, they surprise their users, they are fooling them, they play games with them."¹³

The old theme of the ineffable has been transformed, and has now reappeared as the "techno-/bio-sublime." The apotheosis of information technology, so it seems, is its complete naturalization, and its animation as a quasi-conscious and emotional body with which humans can interact, like with a pet. Buildings find themselves elevated from the state of dead matter to the vegetative state of primitive reflexes.

Karl Chu went the other way, avoiding the anthropocentric mirror of E-motive architecture – humanities' "clone", which is still geared to "reproduce" human information, albeit in a quite archaic manner. Combining the techniques and axioms of computation and biogenetics, Chu replaces the socio-cultural code underlying this architecture with the idea of a genetic code. A high ambition drives the search for iterative algorithms that would allow for architectural form to generate and change autonomously. For Chu,

architecture will eventually emulate an alternative consciousness or intelligence, and, as a consequence, rise as a new species entirely! While his self-replicating structures are able to contain human life, they will not adjust to it, nor resemble it. Chu's morphogenetic paradigm is imagined to unfold in "modal space," which abides by the modalities of the "possible," i.e. of what is computable. He does not miss to address some sharp criticism against those architects, who still pre-occupy themselves with meaning and cultural comments, instead of getting on with the invention of new architectural spaces. As such, he labels Rem Koolhaas a neo-conservative, for his "reactive sublimation, which contents itself with the mere accomplishment of sublime irony as opposed to getting involved in the messianic projection of possible worlds to come."¹⁴ With Chu, the postmodern flirtation with the humanities has been brought to a close and replaced with a form of "involutionary utopianism," in which architecture – to speak with Jean Baudrillard – is no longer a psychological human sanctuary, but a vector towards an indefinite future.





THE MANIFOLD POTENTIAL OF BIONETWORKS

CHRISTOPHER HIGHT AND CHRIS PERRY

The alchemy of collaboration does not merge the two authors into a single voice but rather proliferates them to create the chorus of a multitude.¹

THEORY AND DESIGN IN THE MACHINIC AGE

Architecture, it is said, has been chasing the tail of globalization for a long time and has made no secret of its laggardly pace. The problem has already been diagnosed for us as lurking along the technological fault lines of theory and practice, also known as representation and operativity, knowledge and power. One early verdict is Reyner Banham's typically cryptic challenge in the closing paragraphs of *Theory and Design in the First Machine Age*. Throughout the text he chronicled how Modernists' fascination with producing an architecture that signified industrialization and mass-production limited their ability to actually integrate technological processes into architectural practice or thought. For example, rather than mobilize standardized manufacturing processes in the production of architecture, they adopted "standardized types or norms" as aesthetic regulators that, "interrupted those processes of change and renovation" of technological culture by imposing a supposedly natural and timeless order.² In this light we might understand Le Corbusier's vain attempt to regulate the already transcontinental processes of industrial production through the standardized and universalizing aesthetic of the Modulor as marking both the culmination of such tendencies and perhaps the first software platform for a global architecture in the post-World War Two era. For Banham, by the post-War era such tendencies led architecture to a crisis and a choice: either architects could continue down their current path and become irrelevant, or they could truly integrate the technological processes they had been content to represent. This second course, however, had a severe side-effect: to "run with technology", as Banham put it, architects would need to unburden themselves of the cultural and professional "garments that identified them as 'Architects.'"³ Heroic Howard Roarks and dutiful professionals would both need to be abandoned in favor of an unknown but technologically trippy persona. To ride the inexorable technological waves of modernity rather than depict it from the sidelines, the 'Architect' would need to be striped bare of his aesthetic frock coats and so unburdened, freely surf a post-disciplinary ocean of currents and historical flux.

Decades later, our regulatory bodies continue to define architecture as a 'service profession' while (paradoxically and fatally) surrendering architecture's fiduciary responsibility and therefore its power. Along with construction and insurance indus-

¹ "The Theory & Event Interview: Sovereignty, Multitudes, Absolute Democracy: A Discussion between Michael Hardt and Thomas L. Dumm about Hardt's and Negri's *Empire*," *Empire's New Clothes: Reading Hardt and Negri*, Eds. Paul A. Passavant and Jodi Dean (London: Routledge, 2004) 163.

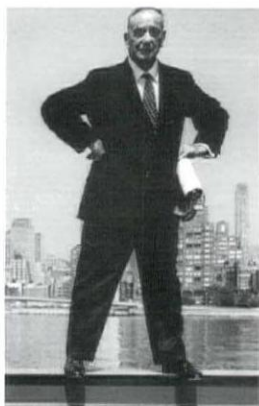
² Reyner Banham, *Theory and Design in the First Machine Age*, 2nd Edition (Cambridge Mass.: MIT Press, 1980) 239.

³ Banham, 329-330; A statement possible only from a self-proclaimed Luddite.



SvS, Mark Goulthorpe: plastic architecture, which is not simply parametric but real-time parametric and responsive. And this then becoming fully interactive, it's interacting with the voice of the singer. So, voice to form. / Then I'm just going to show you one last thing. That tower top. Where we've been looking for the principle of it, I've found that it's almost untenable to derive the

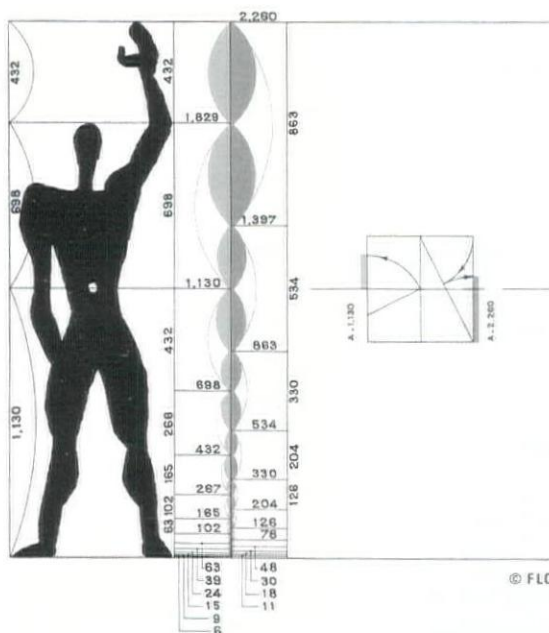
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Robert Moses as the apotheosis of The Architect as an agent/icon of individual authorship and stability, as opposed



to the more collective and ambiguous nature of the 90's 'rave'...an ocean of currents and historical flux.



Le Corbusier's Modulor, 1948. © FLC / ARS. Reproduced by permission of the Fondation Le Corbusier and ARS.

tries, we have turned architecture into set dressing and petrified the evolution of its technologies and practice. And while recently some firms have begun to mobilize new production technologies as sites of experimentation,⁴ the ascendant academic responses of 'critical practice' and the 'neo-avant-garde' have too often erected a barrier between practice and theory, turning architecture's disciplinarity into commentary upon its exteriority or retreating to the safety of an interior uncompromised but also ineffectual and irrelevant.

Banham's second option, meanwhile, remains blocked since it seems dependent upon a faded utopia, a lost world of technological liberation inhabited by obsolete animatronic dinosaurs of High-Tech, Archigram, and Fuller that have limited recoverability for our cynical CGI age. Yet Banham's premise that the persona of the architect could be reinvented through its incorporation into technological processes perhaps can be reformulated in light of shifts from machines to media that he could not have foreseen. For digital media technology does more than simply change the architects' efficiencies, techniques or forms of design; it transforms – consciously or not – the way they work and what they are, and by extension, the objects of their practice. This is ultimately why, for example, Stan Allen shares Banham's implicit suspicion of signification, and suggests focusing upon the techniques, technologies, and operations of practice as opportunities for innovation. Allen suggests that, "material practices produce new concepts out of the materials and procedures of work itself, and not as a regulating code grafted onto the work from outside."⁵ This means not to keep pace with an external technological vector (teleological determinism) but to modulate the unfolding complexity of social and technical practice. After all, the architectural knowledge is not about knowing design techniques for the construction of buildings or cities, but firstly, a way of producing knowledge about such things. The organization of this production of knowledge necessarily delimits the sorts of things that can be the 'objects' of that knowledge.

While Allen retained a focus on the practices of representation (referring to the material practices of drawing and other relatively conventional techniques of design poetics, which are now being extended to emerging fabrication and material technologies), today a similar argument might be deployed concerning the material conditions of architecture's social organizations in relationship to the issues of the technological networks of a global economy.

One manifestation of this is the interest in networked practices. With the shift from the second Machine Age to the Information Age, the reflexive network has replaced the assembly line as a preeminent model of organization even as media infrastructures have augmented physical transportation

⁴ As diverse as SHoP and KieranTimberlake. C.f.: SHoP, *Versioning: Evolutionary Techniques in Architecture AD* (London: Academy Press, 2002); Stephan Kieran and James Timberlake, *Refabricating Architecture* (New York: McGraw-Hill, 2004).

⁵ Stan Allen, *Practice: Architecture, Technique, and Representation* (Amsterdam: G+B Arts, 2000) 13.

SvS, Mark Goulthorpe: same work by principle. Offsetting triangles, I mean, it just doesn't work. So we've turned to generating it - this is form finding. It's a best fit solution, so it calculates 100 different variables, just projects the vector delivery node out into space. And you allow the computer to run probably, say, 10 million iterations of this thing, in order to find its best fit solution. So it almost carries with it the seeds of - the end of principle. You know, any sort of geometric principle. And you see it just slowly settling into an ideal form. / So, what I'm trying to suggest is that in all of these projects, we're kind of, we're seeing digital technology as offering

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Open Source. Title screen of a studio website, combining site navigation with a map of student team recombination during the course of the semester. Graduate Urban Research Lab taught by Christopher Hight and Sean Lally at the Rice School of Architecture, 2004.

at multiple scales stretching from discrete sites of production and consumption, to economic, political, and even social institutions, and beyond to a global frontier. What is at stake in this shift of models? What we call bionetwork practices seek to capitalize on these developments, continuously modulating flows of information as new forms of design life. We call them bionetworks to refer to concepts of biopower and biopolitics but also because these offices are characterized by prodigious co-minglings of people and social material with media and informational material via communications technologies. This is often as true for the objects they design as it is for the design of the practice. Such practices often span continents and employ information technologies of the global economy while reflexively seeking to expand the limits of architecture's sites of operation and its objects of knowledge to meet the challenges and promise of today's deterritorializations and neocolonizations of space and power. By actualizing this potential, one might reconstruct the opportunity of a technological practice while at the same moment recovering the ethical as an engine of design innovation rather than moralistic codes of conduct (as typically misconstrued).

Bionetworks are possible only within the social-technical infrastructures of so-called globalization. However, it is important to think of the global not as a *fait accompli* but as (at least) two distinct and ongoing unfoldings: one that tends towards centralizing and universalizing values of the whole and organic; the other towards reflexive distributions, machinic heterogenesis, hybridity, and ontologies of multiplicity. These two modes are not dichotomously opposed; rather, organic and multitudinous globalism operates as two different actualizations of current economic, political, and social singularities. Bionetwork architecture engages architecture's technologies of self production and its relationship to ontological

processes that know no distinction between cultural, technological and biological life forms.

It is the latter, however, that produces couplings of technologies with practices most relevant for bionetwork architecture. Open-source and peer-to-peer, communities such as the Gnutella file-sharing network and "smart mobs" of so-called anti-globalization NGOs are all manifestations of this multiplicitous globalism that employ network organizations and are poised upon a shift from disciplinary structures of control to biopolitical power. Just as open source communities raise issues of 'intellectual property' and file sharing challenges business models of the music industry, can one imagine new forms of architectural practice that reorganize the landscape of architectural knowledge and practice from the normative conservations of professional and academic architecture yet are born from the very techniques and technologies that define existing power structures?

Thus, we argue the bionetwork is not ultimately simply a business model but an alternative ethics for the architect - not a technology for the architectural self so much as a praxis of the multitude. This text is itself an dialogic example of bionetwork practice, written collaboratively through internet technologies, blogs, wikis, ftp sites, and email, several cities, from multiple institutional and intellectual contexts through distributed forms of production and identity neither local (specific to one author, one locale, one discipline) nor global (a pure unity and universality). That you are reading the expression of this production in a conventional publication is less interesting



Peer to Peer Pedagogy. He looks at a physical model and communicated to her, while she is working on a digital model and listening to an iTunes playlist of a student across campus. The potential for networked practice is increasingly being explored in architectural education, made possible by treating the computer not as a tool to solve problems but as a



medium through which to unfold new forms of practice and life-worlds of experience. In this case, the network infrastructure, combined with the mobility of files across hardware platforms and softwares becomes a model for the continual development of design explorations in a third year undergraduate studio at the Rice School of Architecture.



SvS, Mark Goulthorpe: something and trying to stretch our imagination to appreciate what the architectural consequence of that might be, whether formally, in terms of manufacturing, in terms of reorganization of office, and I think we continue to do that. I still think there's so much territory still to be explored. Certainly we're moving away from the kind of geometric ballet that's gone on in the last ten years, and processes like this I think are almost even post-geometric. They're not even mathematically principled; they're simply exploring the propensity of the computer to

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Earth as seen from the moon on Apollo 17.

than the fact that you are probably doing so because of its association with a set of historically authorizing brands. This is not so much a problem as it reveals the need to question the 'practices' of architectural culture education and knowledge as much as any other economic production.

THE ENDS OF THE "WORLD"

Situating the potential of a bionetwork practice requires understanding the systems of order that have dominated architectural practice in modernity, a praxis triangulated by an ontology of the 'organic,' an ethic of the 'whole', and power aimed at 'globalization'.

The 'global', as we know, is teleology of power developed with the industrialization and urbanization of Europe. To imagine the 'world' as such, let alone privilege its representation as a 'globe', is to see it as at once finite, complete, and uniform. This whole might be cut differently, as Buckminster Fuller did with his dymaxian globe, to create a one-continent world or a one-ocean world, but all these reconfigurations still have as their end goal the creation of a unified model of world-making.⁶ The organic body always already presupposes a geometric space of knowledge that structures relationships through the proximate, the idiosyncratic, and the local versus the global or the general. Globalization can be understood as a manifestation of such an organic ethic.

⁶ For more on this problem, refer to: Nelson Goodman, *Ways of World Making* (Hackett Publishing Co., 1978); J.B. Harley, "Maps, Knowledge, and Power," *Iconography of Landscapes*, eds. Denis Cosgrove and Stephen Daniels (Cambridge: Cambridge University Press, 1989); David Turnbull, *Maps are Territories, Science is and Atlas* (Chicago: University Of Chicago Press, 1994).

⁷ For the emergence of the norm and normative frameworks of ethics and epistemology, refer to: Georges Canguilhem, *The Normal and the Pathological*, (New York: Zone Books, 1991); Ian Hacking, *The Taming of Chance* (Cambridge: Cambridge University Press, 1990).



Francis Galton, Composite plate 1 and 2, c. 1880. Francis Galton's composite photos are a proto-morph technique, but one that treats

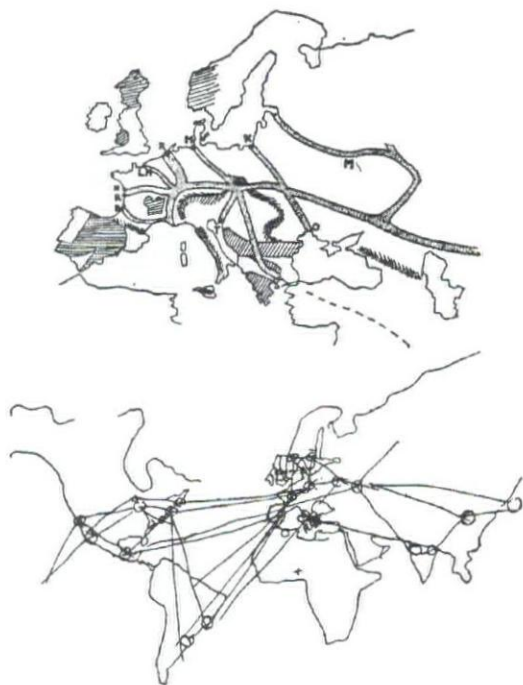
individual features as only variations of an organic average rather than celebrating mutation and hybridity as a locus of the new.

The organic global is intricately linked with a disciplinary power that operates upon homogenous masses coupled with the dominance of an organic ethics which seeks to make all parts add up into a greater whole. The problem is who has the power to determine this 'whole', and subsequently, whether with the most cynical or optimistic of intentions, one seeks to impose the 'whole' over the 'parts'. Normative technologies of power developed in the middle of the 19th century as probabilistic-statistical frameworks rapidly expanded from the mathematics of large numbers through the nascent social sciences of populations, creating objects of knowledge such as the 'class', the 'average' subject, and the 'masses'.⁷ Any local variation within these groups is adjudicated against a globally derived average. For example, Francis Galton – a founder of statistics and eugenics – famously montaged photos of several subjects into one image that, he argued, revealed the underlying

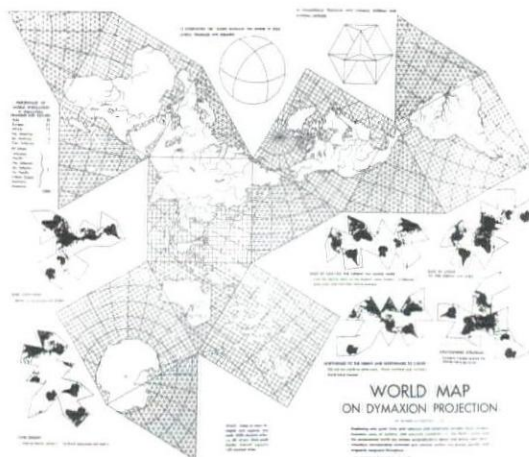
SvS, Mark Goulthorpe: work. / Thank you. / Michael Speaks: Thanks, Mark. Next is David Serero. / David Serero: I'm gonna try to be very brief. I just selected basically four projects out of recent work which are mainly dealing with the notion of scripting and parametric design. / We've been recently focusing on something that is called evolving patterns, meaning we've been interested in being able to kind of analyze our own work and find certain rules or certain logic which could be reproduced and folded in a greater complexity using scripting techniques or parametric models. / What



THE MANIFOLD POTENTIAL OF BIONETWORKS



Le Corbusier's 1948 maps of the world as a space of flows of goods and money configured by a global network of cities. © FLC / ARS. Reproduced by permission of the Fondation Le Corbusier and ARS



Buckminster Fuller, "World Map on Dymaxion Projection", 1944. By mapping geographic information onto a geodesic geometry that is then 'unfolded' into a flat map, Fuller was able to produce a single image of 'the world' without significant distortions of, for example, the Mercator Map, which emphasized Europe and North America due to distortions in its projection. Moreover, the dymaxion world could be unfolded any number of ways to reveal different

images of the 'world.' This drawing foregrounds the 'One-Continent' image of the world. Since this showed all the continents as one linked chain, Fuller suggested that it contrasted the hemispherical dualisms inscribed into traditional maps (eg. Western Civilization versus the Orient). Similarly, the 'One-Ocean' image showed all the continents as sharing one large expanse of ocean. Both are calls for global unity and organic holism.

'type' of a given 'People', be it a family, a class, or an ethnic group. He also established the "average" distribution familiar to us as the bell curve, as a so called 'natural law'. This suggests how the ur-model of Hobbes's Levitation, the 'body politic', refers to organic models of the body, supposedly natural and therefore autonomously true. In political theory, the ascendancy of the 'people' meant that individual variations were insignificant in relationship to their role as constituents of the greater body politic, class, or race.

Indeed, it was a specific model of organicism isomorphic to mechanism and to 'architecture' as the image of the systematic and hierarchal configuration of parts into a greater whole. It is no wonder this organicism has been naturalized as the dominant form of architectural practice since architecture is itself a model for such organizations and as Foucault forever reminds us, it is architecture that serves as the model for the expression of disciplinary power upon the constituted subject of this incorporated levitation. This is the sense behind Le Corbusier's often

misunderstood machine for living – an apparatus for the incorporation of the individual into a greater organic whole. Le Corbusier's Modular – the most famous (if for Banham mostly implicit) example of the modernist architect's attempt to develop an aesthetic standard to regulate technological processes also followed organic statistical topos.

Such organicism also served in the legal formalization of the architect and its technologies of production – schools and other regulatory bodies. The simultaneous rise of institutions of practice and education is a crucial historical a priori for the identity of those who call themselves 'architects' today. Prior to the late 18th century, architecture was a heterogeneous assortment of regionally determined tacit knowledge disseminated through apprenticeship. Beginning in the late 19th century informal parlors for the discussion of architectural issues began to be formalized as institutions of instruction, often only granting degrees as late as the 1930s. Professional regulatory bodies developed at the same time.⁸ The formalization of architectural education is a condition of professional-

⁸ For example, architectural instruction began at MIT in 1868 under the guidance of Robert Ware, but was reconstituted as the first degree-granting school of architecture in the United States only in 1932 as part of a university wide reorganization. Likewise, two young architects, Robert Kerr and Charles Grey initiated the Architectural Association in 1864 as an "endeavor towards an improved system of architectural study" and awarded degrees three years after the Royal Institute for British Architects established standardized architectural exams and professional titlature. The nascent AIA experimented with the idea of becoming a school in the 1860s as well, but due to funding restraints chose instead to support emerging centers for formal architectural education, such as MIT. See also: James Fisher's PhD research at the Architectural Association, *The Gift of Profession* (2003); Dana Cuff's ethnological dissection of practice as a culture in, *Architecture: The Story of Practice* (Cambridge, Mass.: MIT Press, 1991).

SvS, David Serero: we call, for example, from the collection of Non Standard Objects to the digital simulation directory, we explored several strategy, integrity, and digital design techniques into conceptual and formal design process. Digital or generative processes that move forward the idea of pattern towards a more flexible concept, where the pattern itself and the aggregation model can evolve and be transformed as the system expands and replicates. Evolving pattern may generate variation within system such as mass production and emphasizing differentiation rather than repetition. / And the pattern has been a recurrent motif in our work in order to define special

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ization rather than something opposed to the needs of practice.

Moreover, the rise of usually centralized institutions meant that the 'local' knowledge of architecture could be standardized in advance of technology. The standardization of practice according to models concentrated the objects of production and consolidated power into a few centers. Today, recent AIA studies have shown that the minuscule percentage of firms with over fifty employees consume around nine-tenths of the total project billings for all projects.⁹ Under global economies, this condition is usually taken to be healthy in a mature to stagnant growth sector.

Indeed, because corporate architectural practice embodies such integrated and standardized organicism, it has been the singular success story of architecture in the latter 20th century. Internally the body of the practice is divided into specialized 'organs' for maximum efficiency, requiring the standardization of techniques, knowledge, and products to be exchanged between its members. The firm becomes an internalized world. Secondly, there are the extensive strategies such organizations deploy. Firms like Skidmore, Owings & Merrill gather multiple profit centers under one large legal body, locating each of these organs within distant locales. This allows adaptation to local conditions while replicating the model of the firm, eventually colonizing otherwise diverse milieus and incorporating their economic and social conditions into the corporate body.¹⁰

This oligopolistic model of organization brings communication without communicability: information flows unidirectionally, focused on expanding and securing control for centralized and centralizing forces. It does not operate as a mechanism for invention but is geared instead towards rendering more efficient and expansive a singular trajectory of power with two aims: intensely concentrating the forms of communication to a central organizational focus, and expansively proliferating various forms of power and identity. While it may take the form of a vast network of multiple locations and labor pools, these links are controlled from the top down, typically from corporate command centers located in global cities such as Tokyo, New York, and London.¹¹ Even things that appear disruptive of such hierarchies can be reincorporated into vertical organizations and concentrations

of power. For example, the Telecommunications Act of 1996 reflected early corporate interests to limit control of the Internet to a few superpowers.¹² Long before the deregulations of the airwaves – or even airlines – corporate architecture capitalized on making everywhere a relatively interchangeable site for the proliferation of multinational corporations and their signifiers (i.e. brand, buildings as logos).

Yet – and this seems to us vital to avoid cynicism – accomplishing the creation of the organic global immediately and necessarily marks the limits of its power, for once the 'world' is so incorporated, there is no necessary 'exterior' frontier since everything is constituted within the whole. Indeed, once the dream of the organic global is actualized, "the creation of wealth tends ever more toward [...] the production of social life itself, in which the economic, the political, and the cultural increasingly overlap and invest in one another."¹³ This moment marks, as Foucault and Deleuze intoned, a shift from "a disciplinary society" to a "society of control and biopower".

Whereas the discipline sought to distribute power by disciplining the individual through institutions of mass population, control repositions the site of power to the body itself. Discipline employed architecture (such as prisons, schools, or even museums) to give a spatial and formal figure to institutional power and train proper subjects. With the advent of communications systems and information networks, power is no longer mediated by such spatial mechanisms but becomes virtual or immaterial in nature, operating instead through more intrusive devices such as debt, welfare, and surveillance.¹⁴ Discipline enclosed the individual within institutions but did not necessarily succeed in consuming them completely. A control society allows various mechanisms of power to reach beyond the confines of the purely economic and cul-

⁹ American Institute of Architects, *The Business of Architecture: 2003 Firm Survey Hardcopy*, (New York: AIA, 2003).

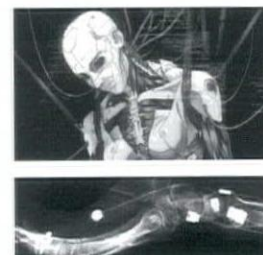
¹⁰ This model is subject to the same critique Deleuze and Guattari level at what they call *arborescent*, or tree-like hierarchical models of order, or the privilege accorded to the organism and the organic whole; what they call *molar*, in understanding order at the expense of the machinic, operations of molecular, distributed alternatives.

¹¹ Saskia Sassen has extensively researched this in *The Global City: New York, London, Tokyo* (Princeton: Princeton University Press, 1991).

¹² Nick Dyer-Witheford, "E-Capital and the Many-Headed Hydra," *Critical Perspectives on the Internet*, Ed. G. Elmer (Lanham, MD: Rowman & Littlefield, 2002) 129-163. (Lanham, MD: Rowan and Littlefield, 2002) 129-163.

¹³ Michael Hardt and Antonio Negri, *Empire*, (Cambridge, Mass.: Harvard University Press, 2000) 25.

¹⁴ Hardt and Negri 23



Whether one looks to the relatively new science of artificial implants or the science fiction of Japanese anime, the shift from 'disciplinary' means of control to a politics and power of the body, or 'bios', is by now ubiquitous.

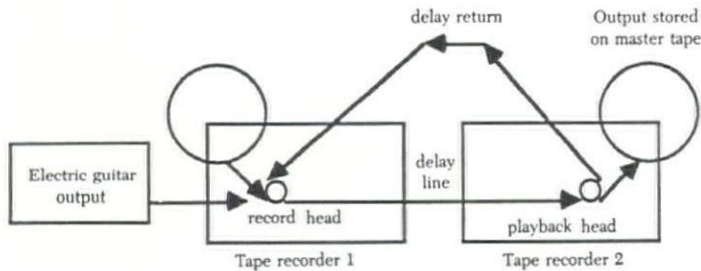
SvS, David Serero: notions such as definition of limit, visual or territorial, and the idea of materiality and the relationship between architectural envelope and tectonics. / This is a project we've been invited to do for a médiathèque in France. We are interested in developing a tectonic system where a traditional load bearing wall will be changed into a system of concrete and glass blocks, which will be stacked according to existing content of the library. So the idea of this project is that most of the information support will be stored on glass shelf and the traditional



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Brian Eno and Robert Fripp's sonic experiments in the 70's provide a very clear example of the productive potential of feedback within a system. Information is not merely transported from one point to another, but is sent into a perpetual feedback loop by which ongoing exchange and interaction between a number of points produces new information, thus giving the system a *productive or inventive capacity*.

Example 13
ENO AND FRIPP'S SIGNAL-DELAY SYSTEM
USED FOR (*No Pussyfooting*)



tural dimensions of society and penetrate the 'bios'.¹⁵ The consolidation of architectural practice into a few major corporations governed by national authorities such as the AIA, NCARB, and RIBA, complimented by the consolidation of educational power in a few top schools, transforms architecture from a media for disciplinary power into a disciplinary institution itself that regulates and standardizes the terms of the organic unity it calls architecture. Control is a form of biopower that regulates social life from its very interior.

This represents a move from the notion of an organic whole. Now institutions and individuals submit to a feedback structure which incorporates the individual into a productive loop with that very institution. Pierre Levy understands this kind of feedback structure as 'molecular politics'.¹⁶ As opposed to the notion of a society as a mass, a passive and inert

collective body which because of its lack of internal communication and thus potential for agency is subject to manipulation from external forces, the 'molecular' instills intelligence and action within that very social body at the site of its individual elements, and thus enables it with the capacity to influence external power structures:

In a system organized around molecular politics, groups are no longer considered as sources of energy to be exploited for their labor but as collective intelligences that develop and redevelop their projects and resources, continuously refine their skills, and attempt to enhance their individual qualities indefinitely.¹⁷

Previous attempts to pose an alternative to dominant models of professionalism, such as critical regionalism or hermeneutic phenomenology, have failed to account for this triangulation of power, knowledge, and ethics and are nostalgic refractions of a society of control's celebration of mass-customization and consumerism. Likewise, those that bemoan architecture's declining capacity to provide a robust figure of public space need to recognize that biopower necessarily precludes the disciplinary function public space once played. If the institutional agents of disciplinary power expressed themselves through architecture, where does that leave architecture in a control society that exerts itself at a molecular level? Attempts to recover this capacity, such as 'New Urbanism', can produce only insipid simulations of public space because ideas of 'collectivity' and 'the public' in this sense no longer register with a mass-populace through spatial figures but instead are merely another object of the consumer's desire. This is not so much the prod-

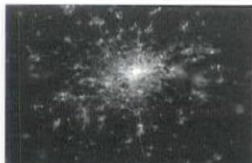
¹⁵ Hardt and Negri, 25.

¹⁶ Pierre Levy, *Collective Intelligence: Mankind's Emerging World in Cyberspace* (Cambridge: Perseus Books) 53.

¹⁷ Levy, 53.



The Smooth Space of Capital: Houston's George Bush Intercontinental Airport. The deregulation of the airline industry, integral to an exponential rise in tourism, the proliferation of foreign-trade zones, where goods and capital can flow with little national regulation, within national boundaries are both different examples of the deterritorialization of geographic locales.



City as network; London at Night. As an image of organization, London reveals its history as a series of semi-autonomous socio-economic locales which steadily grew into each other to create an exemplary "world city" (Sassen).



SvS, David Serero: analog support like books will be stored along the concrete shelf. So basically the wall of the space is actually made of this kind of a changing section, which will basically support and present or contain all of this content. / And what's very interesting in this model is by going back to a traditional system of load bearing walls and by just changing the glass elements for a concrete element, you also create change of ambiances and change of lighting condition within

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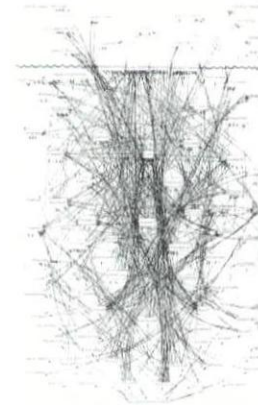
uct of cynicism or false conciseness as it is a mark of the stunning failure of our liberal imaginations to confront and engage these dynamics due to its dependence on concepts of the people and its spatial corollary of public and private space. Instead of these binaries, we need practices that can operate within and construct spaces of the multitude.

TECHNIQUES OF THE MULTITUDE

The potential of bionetwork architecture lay in modulating the biopolitics of control as an opportunity for operating through existing external power structures for innovating self-determining power structures.¹⁸ If power is no longer an external force imposing itself from the outside, but rather integrated into the subject and agreed to by constituent individuals, then the expansion of power's reach to the individual at once exposes that individual to a new degree of exploitation at the same time that it opens up the potential for a new form of agency. The implications for architecture rest in the degree to which biopower and technical-social network organizations allow for the emergence of new agencies. Constellations of experimental, international, cross-disciplinary, decentralized, collaborative organizations are now emerging to engage unconventional problems, briefs, clients, and manufacturing processes. In this section we will explore these issues in general theoretical terms coupled with specific case-studies of how these potentials have been actualized. In fact, the best opportunity, we argue, lies in a more complete molecularization of architecture into an inorganic bionetwork model.

MULTITUDINOUS PRACTICES BEYOND THE GLOBAL

As argued previously, supplanting the ethic of the singular organic whole cannot occur by simply rejecting the dynamics of globalization and its biopowers. Instead, there is an alternative form of globalization that no longer rests upon singularly organic models of organization inherited from Hume (et. al.) – the multitude. The very conditions that define the global economies (the technologies of the Internet, forms of economic deregulation, etc.) ultimately enable the emergence of these alternative forms.¹⁹ The multitude cannot be understood as a conventional form



Portion of food web in North Atlantic Ocean visualized as a scale-free network.

of resistance because it operates from the outside in through existing dynamics of power to involute its interior into new possibilities. For example, as the *New York Times* reported in the wake of the global protests of February 15, 2003, an entirely new form of social and political organization has come to challenge the United States as the 'world's' last super-power: international opinion.²⁰ Michael Hardt argues this ultimately cannot be successful as an anti-globalization movement since:

the movements themselves have been globalizing, constructing global relationships. In that sense, it doesn't make sense to call them anti-globalization movements, they are more properly understood as alternative globalization movements. In other words, they are protesting against the current forms of globalization, but in the name of, or in the desire for, alternative forms of globalization.²¹

The multitude operates through the same molecular control of power as the global.

Thus the term globalization itself becomes problematic and misleading to the extent that it implies a false dichotomy between the global and the local. Instead, we might refer to the local in terms of re-territorialization and the global in terms of deterritorialization. The modalities are more important than any geographically derived definition: "Power is local because it is never global, but it is not local or localized because it is diffuse."²²

This shift from the global and the organic whole to a diffuse 'all overness' that does not add to a unified one opens the door to a theory of practice organization that does not assume completeness, wholeness, or centrality as a priori models. There have been, over the past decades, several attempts to mobilize such understandings as ways to analyze

¹⁸ Hardt and Negri, 25, 29.

¹⁹ As argued by Paolo Virno, *A Grammar of the Multitude* (New York: Semiotext(e) / Foreign Agents, 2004).

²⁰ Patrick Tyler, "A New Power in the Streets: A Message to Bush Not to Rush to War," *New York Times* February 17, 2003: A1.

²¹ Michael Hardt interviewed by Ognjen Strpić, broadcast on Croatian radio, May 12, 2002.

²² Gilles Deleuze, *Foucault* (London, Athlone, 1988) 26.

SvS, David Serero: the spaces of this small library. / This is our early work where we're mainly dealing on the idea of body ornament and the idea of rings which could be both bracelet and pendants, and it was basically a series of models generated along these lines of changing models. So, we created a series of more than a thousand rings coming out of a single script. And almost each instance of the script will be able to create a single item which will be then prototyped and cast as one single element. And so we've been really interested in exploring that to an extent where this could be sent and almost produced in a quasi-automatic way out of a very simple set of constraints. I cannot

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Sacramento WTO protest, Bette Lee, 2002. Courtesy of the Bette Lee. The so-called anti-globalization protests are a prime example of the phenomena of smart mobbing, organized through internet and mobile phone messaging in a bottom-up, molecular fashion to create a highly mobile and temporary collection based around each individual's interest rather than their presumed identity with a class, race or social category. The image also speaks to dual potential democratization of information along with new organizations of power. The center figure recording the action on a digital video camera may be undercover

police (who have long used such surveillance techniques), or a blogger (such as those who gained notoriety in the last US presidential campaign), or a member of Witness.org, a group co-founded by music artist Peter Gabriel and which distributes digital recording devices around the world so that its 'correspondents' can record and upload human rights violations. Such phenomena cannot be understood as outside post-Fordist global economies since they are only possible through it, resembling Amazon.com strategies more than 1960s counter culture. However, it mobilizes the liberatory potential.

COMMUNICATIVE ENTITIES

Architects, like any other information-based labor force, increasingly use computer software compatible with that of other disciplines, allowing for a cross-over of information-sharing and problem-solving previously unattainable. Whereas previous technologies tended to separate trades, through the specificity of use and skill, these software protocols have provided a general language that fosters increased intertwining. As Friedrich Kittler notes:

Optical fiber networks turn formerly distinct data flows into a standardized series of digitized numbers, any medium translated into any other. With numbers everything goes....a total media link on a digital base will erase the very concept of medium...absolute knowledge will ring in an endless loop.²³

Le Corbusier's modernist Modular dream of standardizing the flow of goods with a single universal (natural) model has been realized by a general digitalization that does not reduce all things to a singular code but which allows their promiscuous recombination. Perhaps the most famous example of this is the MIDI protocols which allow any musical instrument to communicate with a computer controller; recently MIDI has been deployed beyond music as a general interface for interactive environments. "Inside the computers themselves everything becomes a number: quantity without image, sound or voice."²⁴ Thus, a certain agency emerges through the common language of software. Whereas tools and technologies traditionally defined specific trades or disciplines according to particular skills and uses, holding them apart from one another as discrete forms of labor, the multitudinous network enables a notion of abstract labor to emerge in which these separations are replaced by continuities.²⁵

The Internet has fostered and accelerated communication in exceptionally sophisticated ways, but usually towards simple notions of efficiency (the Internet allows for companies to expand without jeopardizing its solidarity). For example, corporate practice utilizes new communication networks of repetition and expansion to further its productive capacity but often at the expense of innovation. The multitudinous employment of communication networks is at once more organizationally horizontal and reflexive. Its focus is less on communication as

²³ Friedrich Kittler, *Gramophone, Film, Typewriter* (Stanford: Stanford University Press, 1999 [1986]) 1-2; C.f.: John Johnston, "Friedrich Kittler: Media Theory After Poststructuralism," *Literature Media: Information Systems* (Amsterdam: G+B Arts, 1997).

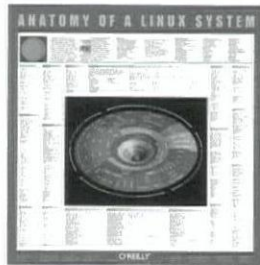
²⁴ Kittler, 1.

²⁵ Hardt and Negri, 292.

the construction and operations of social praxis in relationship to knowledge, from Foucault's discursive formations, Latour and Callon's Actant-Network theory, Kittler's Discourse Networks, to Deleuze and Guatarri's machinic heterogenesis. All have provided an extensive set of concepts and instruments with which to remap social and spatial organizations not as geometric wholes but as multiple topologies. That advanced architectural discourse has routinely failed to mobilize or adapt such analyses to its practices, its knowledges and the formulations of its objects – and instead, has only inoculated itself against their destabilizing implications by merely representing a handful of its concepts – suggests not only how entrenched architecture remains in its organic image but also how incorrectly Banham diagnoses the problem. It is not that architecture failed to understand external technological and economic transformation, but that it singularly fails to understand, or even seek to understand, its own developments.

SvS, David Serero: stop talking about the script, but these are basically simple set of intersections and circles which are modified incrementally in terms of angle and this created basically the whole series of objects. / This is a fantastic project for a museum for an art collector who is having us create this collection of more than 500 movies. And we're interested here in creating a continuous environment where some of those projection rooms that you see on the left, 45 projection rooms, will be assembled in a single space, but in a manner which is based on the movie schedule. So in order to avoid delays and timing and to kind of increase the experience and the amount of things

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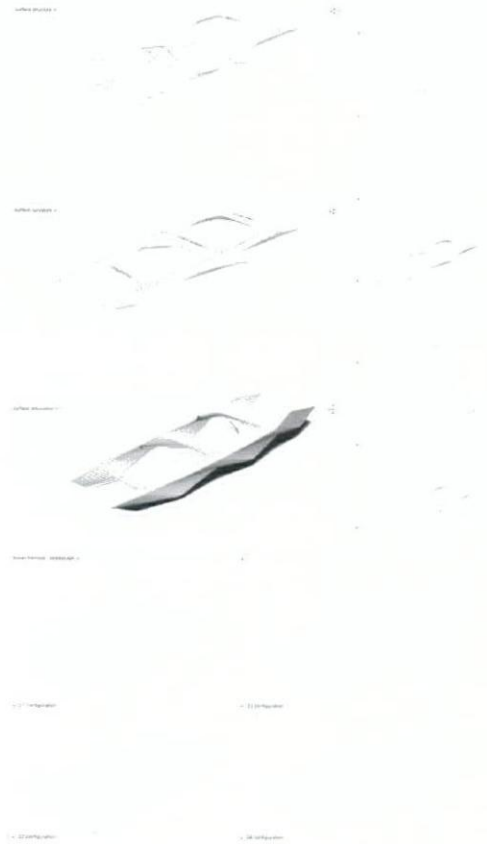


The productive and inventive feedback systems which we saw with the Eno/Fripp experiments can also be seen at much larger scales and in a contemporary digital context, such as with the proliferation of open source communities utilizing the Internet as a massive feedback infrastructure for the distributed and collective invention and development of software products.

an efficient tool and more on communicability as proliferation, an intensive exchange and feedback of information which leads to the innovation of ideas. This potential for feedback extends beyond the scale of the individual user to one involving entire fields. What is perhaps more at stake, for architecture as for any field, is the capacity for increased communication to become a site of invention and production itself.

As Manuel Castells described, "What characterizes the current technological revolution is not the centrality [in importance] of knowledge and information, but the application of such knowledge and information to knowledge generation and information processing/communication devices, in a cumulative feedback loop between innovation and the uses of innovation."²⁶ It is this feedback, or reflexivity, which differentiates information technology from other technologies: "The novelty of the new information infrastructure is the fact that it is embedded within and completely immanent to the new production processes."²⁷ Even the traditional physical networks of ancient and modern cities, their vast circulation and distribution systems, lacked this robust reflexivity because the velocities and scales of transformation resisted response to use and hybridization.²⁸

OCEAN is perhaps the first recent example of a networked distributed practice in these terms, what we might think of as a 'communicative entity'.²⁹ Established in 1995, OCEAN Net emerged from the nascent graduate design program, the DRL (Design Research Laboratory), at the Architectural Association and the advice of its director, Jeff Kipnis. In contrast to the neo-avant-guard of the day, OCEAN Net did not seek a deconstruction of architecture's conventions. Instead they sought to reclaim a projective role for their discipline by widening its borders and reorganizing its practice as a hybrid between the sole-



OCEAN NORTH, Busan Skating Landscape, South Korea, 2004. Project Team: Michael Hensel, Achim Menges. Commissioned by the Busan Biennale curatorial team. The proposed design is based on a geometric study that integrates geometric logics with manufacturing possibilities. A landscape of different curvatures is created by employing two generic elements: a surface tile and connective surfaces between tiles. Through these geometric variations a set of 24 tiles can be arranged in multiple configurations - four of which are shown here

- to provide skating landscape that provides different routes and terrains for all skill levels of skaters. This is an example of a multiplicitous component, where the unit is not a static integer so much as a parametric differentiation, the operation and proliferation of which produces a larger complex landscape of possibility. Ocean North is not designing an architectural object or representations but rather a practice of the multiple and the networked manifold of information, material and performance.

practitioner/small office model and an international network organization. It was an association of small, semi-autonomous practices located across Europe as an attempt to think - or rather, work - through the problem of how a group of young likeminded architects could forge a significant practice under current professional limitations. A network organization would allow, it was hoped, for each node to remain highly adaptive and light on its feet with low

²⁶ Manuel Castells, *The Rise of the Network Society* (Oxford: Blackwell Publishers, 1996) 32.

²⁷ Castells, 298.

²⁸ Castells, 298.

²⁹ TEAM 10, among other collaborations that arose in the 1950s and 90s, might be analyzed in a prehistory of a bionetwork practice beyond the scope of this paper.

SvS, David Serero: that you will be able to see with this type of museum, we are interested in being able to develop a parametric model for the roof of this museum which will be basically structuring the space, but also support of the screen. And by developing a wireless headset system for each of the visitors, they will be actually able to move fully within the spaces by hearing only the movie they're looking at. So we cannot remove any of the acoustical barriers which are usually associated to this type of program. / These are some study models showing how basically the work of the topography and the inversion between structure and ground is actually unfolding in the project. /

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overheads. These small offices would pursue smaller projects as nodes within the OCEAN Net, while pooling resources for competitions and larger projects. As Gregory Batson stated, a network remains local at all points however extensive and the OCEAN Net was to exploit the specific cultural and economic milieus of its nodes while engaging broader issues with global implications. Hence, it could operate within the realm of the corporate giants without their inevitable homogenization and normalization of knowledge or projects, and hence, the social space of those projects. This ambitious web, however, was extremely volatile and lasted only a few years, suggesting the difficulties that resist smoothly linked organizations. The network was too literally inscribed as a business plan that was inherently conflicted; because each office retained an autonomous ego, it was almost inevitable that the 'rich' nodes (in terms of projects) would become richer and understandably feel less need for collaborative identity. As a result, the OCEAN Net fragmented into several 'small worlds': Ocean North, Ocean D, Ocean UK, Sadar+Vuga, etc. Each of these offices continues today, some still retaining the ethic of a network practice (Ocean North) while others have become more conventional (Sadar+Vuga).

While the latter have produced significant architectures with relatively conventional briefs, the offices that retained a multidisciplinary bionetwork ethic continue to produce hybrid projects that promote molecular organizations and affiliating networks of spaces, objects and subjects. Moreover, these practices do so across scales and typologies of design objects, from the furniture-like interfaces of Ocean North's Extraterrestrial and Formations, or Ocean D's tumbleweed, to architectural and urban scales in Ocean North's World Trade Center, and Ocean D's MLK memorial and Rabin square. These designs evidence the reciprocity between forms of practice and project.

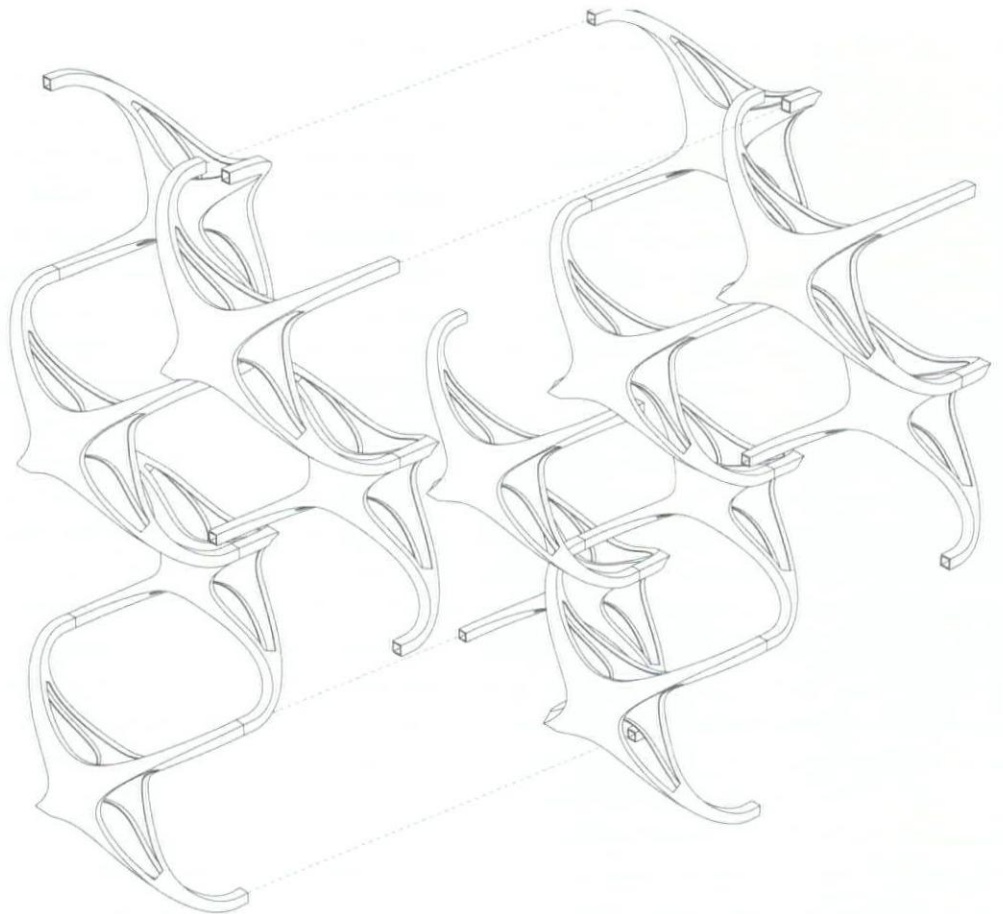
In recent years and following Kipnis' departure, the DRL has continued to explore the potential of network organizations at both the scale of practice as well as the design object or interface. Under the more recent direction of Brett Steele and Patrick Schumacher, the DRL has been at the forefront of experimentation regarding methods of collaborative practice in the context of academic design research. Incorporating teamwork, whereby students work col-

lectively as opposed to individually (usually in groups of 4-5) as well as research into new network technologies including shareware environments, programming languages, and robotics, the DRL continues to present a unique example of an institution interested in and curious about the impact of a 'bionetwork' age (if we can think of it in those terms) on forms of research and education in design. Conventions as to how a design studio is formatted, structured, and ultimately taught, has been rethought by way of an invested interest in new technologies and the ways in which they are already shaping a number of other social and professional forms of organization. Less a conventional architecture studio and by extension architecture department, the DRL is more akin to a hybrid think tank / open source design research community; it has fostered a number of innovative external forms of collaboration, weaving into its institutional sovereignty the participation of consulting engineers such as Ove Arup, programming and technology specialists, and in some cases corporate sponsors to help fund the increasingly sophisticated and thus expensive technological research it engages. Furthermore, new practices have begun to emerge comprised of a second generation of graduates from the DRL. The international collaborative n-o-m-a-d, which incorporates a number of partners in both Europe and the U.S. and uses the Internet as an office environment more akin to an open source community, is one of several new practices which index the influence the program has had in terms of its capacity to encourage a new generation of architects to rethink conventions of practice and design.

Another relatively recent example of a 'communicative entity', younger than the OCEAN experiment but a bit older than the more recent emergence of second generation groups like n-o-m-a-d, indicates the presence of this phenomenon in the U.S. as well, this time emerging from the dynamic academic environment of Columbia University's Graduate School of Architecture under Bernard Tschumi in the mid to late 1990's. Like OCEAN, *servo* takes the form of a network of geographically discrete elements, comprised of four partners living and working in four separate cities. Unlike OCEAN, however, this geographic separation does not extend to the scale of the collaborative formal practice or identity. While

SvS, David Serero: That's actually a reflected ceiling showing the structural shell and showing these kinds of cuts, light cuts, where daylight is actually entering within the museum, and we have a, I mean, the roof is actually seen also as a way to kind of negotiate and deal with different, quite different conditions of lighting. / And I think that's the last project. We're just - it's a project for an open air theater, where in this case a very simple unit, that's what you see on the right, a very simple sitting unit which is cantilevered from a single structural plan is actually reproduced into a system where each of those elements could be changing angle. So we have pretty

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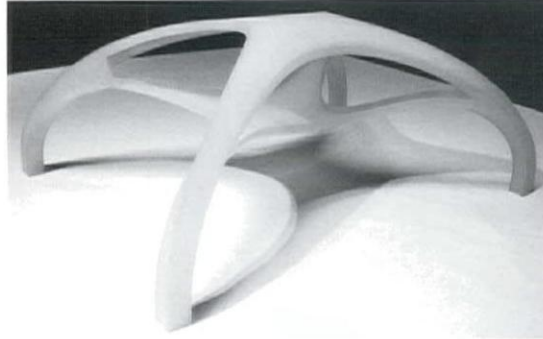
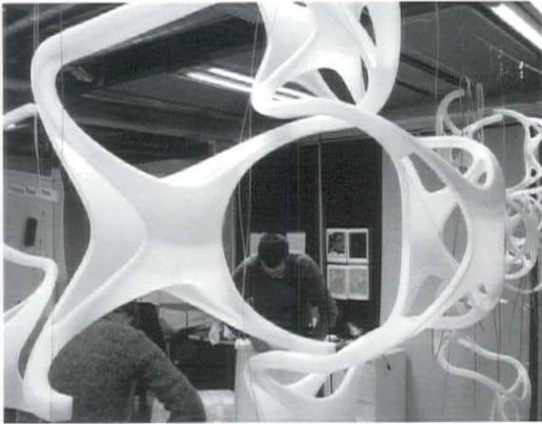
both collaborations work off of nodal structures, *servo*'s approach to collaboration differs in important ways. Rather than having a series of more or less identical offices each with separate and competing identities (ultimately leading to the potential of imbalance within the system) *servo*'s nodes comprise a more collaborative and ambiguous entity. And whereas OCEAN employed communication networks as digital viaducts for the circulation of raw data shared between discrete offices, *servo* appropriates the same infrastructures not as conduits between sites of practice but as the principle collaborative site of action itself. Opportunistic about its reflexivity and potential for rapid feedback, *servo* employs the Internet as a space for the generation of ideas, for conceptual and formal design innovation. Here, the space of practice is within the communication network itself. Not simply a viaduct through which independent offices occasionally share information, the network for *servo* is the office, an immaterial office through which the intensive exchange and

interchange of dialogue leads to a variety of forms of invention at both the scales of ideation and design. To this extent the space of practice itself is distributed. Each of the four partners exchange and interchange material across geographic and cultural territories in the production of conceptual and architectural material. And by extension, not only the practice but its identity becomes distributed. Again, whereas the OCEAN network defined each individual practice in clear terms, with *servo* the identity of each partner is integral to the larger entity. Networking is not simply a means to transfer existing information, but a mode for the invention and production of new information that actualizes what we previously referred to as communicability.

Furthermore, these organizational logics can be seen as reflected in the objects of production that emerge from the practice. Much of the design work produced thus far, typically in the form of small-scale architectural installations and prototypes, has focused on similar uses of communication networks

SvS, David Serero: much what we call the kind of double lobster tail, which allows for any type of configuration of theater going from a really encircled, a 180-degree encirclement angle ideal for a certain type of performance to something which is much more open, ideal for video projections or events where you need to kind of face that. This is basically the work on the section which were made with our engineer and we were working on this idea that each of these beams could be able to kind of penetrate inside of the other, almost in the style of telescopic manner, in order to accommodate all the different angles. / Basically the interior of the shell of each of the sitting units

THE MANIFOLD POTENTIAL OF BIONETWORKS

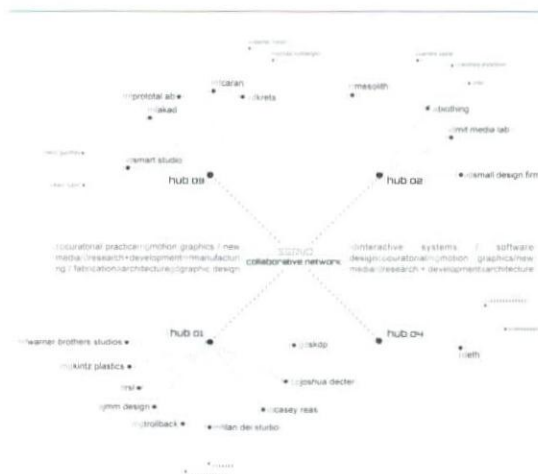


Servo: Lattice Archipelogics.
Opposite page, above and
right: Vacuum-cast Acrylic Cell
/ Lattice Assembly Logics.

at the scale of physical and architectural space. Many of the projects integrate new interactive technologies with fabricated formal and spatial systems to, among other things, empower their uses with the potential of active engagement, the exchange of ideas, and invention at the scale of use itself. Projects like Lattice Archipelogics and Thermocline, each commissioned by and produced for major design exhibitions, enroll the user of the installation in a series of exchanges and activities with the installation's architecture as well as its other users. To this extent, the user is not viewed as a passive agent limited to merely consuming the architecture, but is invited to participate in transforming through interaction the very effects of the architecture, becoming a co-producer of the space. This allows for multiple pathways and direction of communication from the installation to the gallery visitor and produces a reflexive architectural space in which the visitor is able to send information 'upstream' initiating a feedback loop between the architecture and its users.

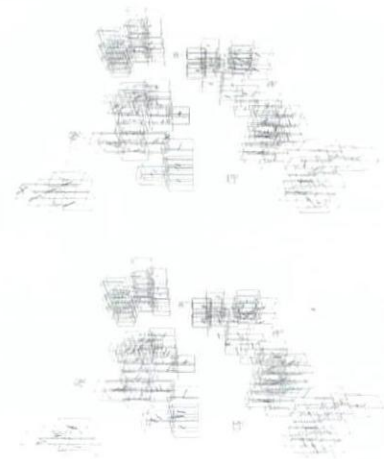
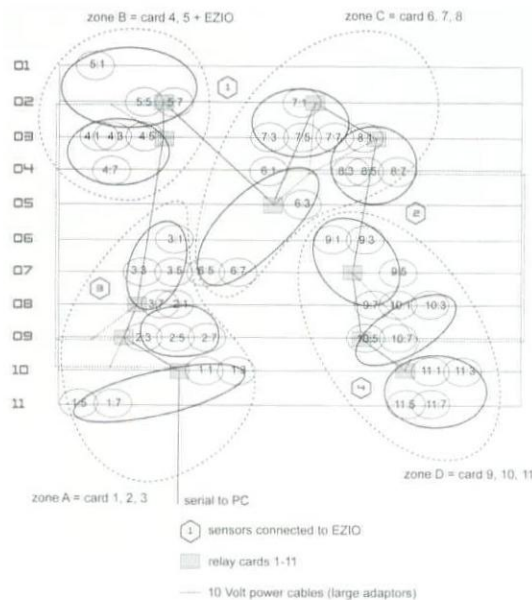
Thus, increasingly, we see a number of these new 'communicative entities' emerging within the younger ranks of architecture, a sign of a significant shift in contemporary forms of practice. Yet until recently, it seems there has been no focused forum for the articulation and examination of these broad but specific developments. What we have seen is that increasingly, young design firms emerging from architecture school seem to be learning from a larger cultural and technological milieu of practice and are capitalizing on the Internet as a site of collabora-

tion by locating themselves in multiple locations and developing affiliations beyond their immediate borders. Being global no longer seems fantastic but is immediately attainable, even essential. As we have seen OCEAN was an early experiment in this endeavor and has been followed more recently by such practices as *servo* and *n-o-m-a-d* in addition to OSA and 'biothing', to name just a few. At the same time new forms of international collaboration between previously discrete architectural identities have arisen. One example is the collaborative venture United Architects which was catalyzed by the World Trade Center competition. This group is comprised of Greg Lynn Form, UN Studio, FOA, Reiser+Umemoto, Kevin Kennon Architects, and Imaginary Forces and was organized as a form of collaboration to explicitly counter the failure of the proposals produced by large corporate offices. Beyond this competition,



SvS, David Serero: becomes also a lighting system which will kind of deal or create a specific urban condition. / Oh, and the last project, very briefly, we, it's actually a very interesting project, because this is the one where we kind of - that's one where by inventing a different technique of modeling we're forced to basically go back to more traditional systems of fabrication, which is actually hand woven models. We were working on, that was for a mutation for the Viennese Biennale. We were working on the systems of intertwining strands, which was actually knots, able to be fabricated by certain types of robotic models. So we were interested here in being able to kind of digitally

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Servo: Lattice Archipelagic. Above and right: Responsive Motion-sensor / Lighting System.

UA continues to develop work as an international collaborative practice, reflecting a shift from singular and centralized identities and models of practice to multiple and decentralized ones.

MASS-CUSTOMIZED PRACTICE

As we have argued, if informational media, from computers to protocols, have radically reconfigured our relationship with technology it is due to their lack of specificity. The computer is not fixed to particular uses as determined by a given trade and its skill set but rather, a universal abstract machine.³⁰ Operating at the scale and materiality of raw content, the computer fosters invention at the level of use itself. Rather than being assigned to one function, limiting itself and by extension its user, the computer's flexible infrastructure allows for the possibility of its user to perpetually redefine its productive capacities. The reflexivity of computer and network technologies can be found in new forms of laboring practices in which interactivity and constant information feedback has become a form of production itself. These mutant or immaterial forms of labor, in which the very behavioral qualities of the technological network comes to influence and ultimately transform its users, tends to comprise new services such as problem-solving, problem-identifying, and strategic brokering activities.³¹ Thus, one sees an increasingly blurred condition between user and technology.

What is of particular importance with this shift is the degree to which modes of production, distribution, and consumption are no longer passively related. In the Fordist era of industrialization, manufacturing processes were more or less isolated from user or market processes. Information about user demand had a difficult time reaching and ultimately re-informing manufacturing processes. Toyotism [do we need to define this?] represented an early advance in bridging this gap within the limits of a still-industrial era but it wasn't until the emergence of the computer that an active relationship between technologies of production and cycles of use began to affect one another in substantial ways and reconfigure the very architecture of the technology.

Furthermore, just as it can be argued that the logics of industrialization influenced human behavior in a number of ways (the assembly-line worker learned how to act like a machine) one notices the technologies of informatization impacting human behavior.³² An emerging practice, +RAMTV engages this potential. Formed out of a team-based thesis project at the Architectural Association's post-graduate Design Research Laboratory (AADRL), +RAMTV is international and multi-cultural; its name is an acronym of its members, ROBERT Sedlak (Germany), ALJOSA Dekleva (Slovenia), MANUELA Gatto (Italy), Tina Gregoric (Slovenia), VASILI Stroumpakos (Greece).³³ Their thesis project, "Negotiate My Boundary" (which has been published as an epony-

³⁰ Frank Webster, *Theories of the Information Society* (London: Routledge, 1995) 291.

³¹ Webster 291.

³² Webster 291.

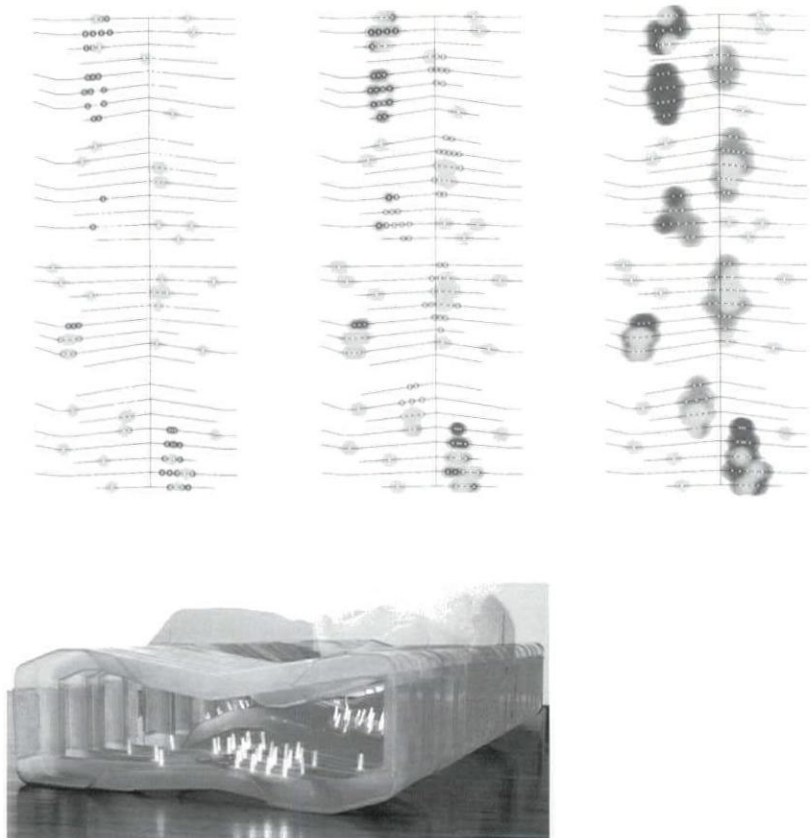
³³ Christopher Hight and Patrik Schumacher were +RAMTV's main thesis advisors, along with the then director of the AA Design Research Laboratory, Brett Steele (now Director of the Architectural Association) and Course Master, Tom Verebes. Under Steele and Schumacher the AA-DRL, in its team based approach to parametric design processes and physical-analogue computation, was the first and remains the most significant experiment with bionetworked education, especially in regards to the potential of information technologies.

SvS, David Serero: model some of the surfaces and look at the way those would be able to kind of blend with the traditional woven technique, very much in the spirit of early art history, and, I mean, I would say Semper and this kind of relationship between the textile and the enclosure of the building. / Michael Speaks: Thank you, David. Gregg Pasquarelli, from SHoP. My favorite architect as well. / Gregg Pasquarelli: Wow. Well, we're gonna go old school. My name's Gregg Pasquarelli. I'm one of the partners in SHoP, which is a collaboration of five architects. But it includes



THE MANIFOLD POTENTIAL OF BIONETWORKS

Servo: Thermocline. Top: Responsive Sound and Lighting System. Left: Installation at Mood River exhibition.



mously titled book), is exemplary of how distributed practices not only question the role of the architect within larger social networks but also alter the nature of the objects of design and its knowledges. This project for middle to high density housing complex in London incorporates the design opportunities the Internet affords a reconfigured practice by allowing potential owners (clients) to negotiate their desires and needs with other potential residents, based on questionnaires that align traits and desires, followed by direct telecommunication. Through web-based interfaces and the technologies of mass-customized components, the process of design becomes a hybrid between the business model of Dell Computer (in which clients can build customized machines derived off robust platforms) and day trading. Through the project, +RAMTV made a convincing case for how spaces and functions that normally exist in the private domains and conventional typologies might be shared between households, as well as how more widely shared areas and functions might perform. The relationship between architect and 'clients' is not unlike the sub-cultures of gaming, hacking, and pro-

gramming, particularly in the context of open-source environments whereby the high-paced exchange and feedback of information between various users becomes the very material of innovation. In their project, the managerial role of corporate practice is accelerated and shifted from internal conservation to the process of design as the management of forces and the construction of the project as a robust and sustainable actualization in space and matter. The resulting project is itself a projection of how an artificial community could be constituted outside bourgeois and humanist conventions (such as public/private dichotomies, racial/class identities, typologies) and instead operates as a bionetwork. Such projections are vital if architects are to re-engage the demographic transformations of the contemporary metropolis beyond empty cliché's of usually vacant plazas and picturesque homogenizations of the global suburbia.³⁴ Today, +RAMTV continues to develop the Internet as an instrument to re-tool architecture as a cybernetic machine, using web-technologies as a meeting place from their geographically dispersed

³⁴ For more on this project's cybernetic implications refer to: Christopher Hight, "Subjects, Boundaries, Negotiations," *Negotiate My Boundary!: mass-customization and responsive environments*, +RAMTV (London: Architectural Association, 2002).

SvS, Gregg Pasquarelli: two husbands and wives and the identical twin brother to one of the husbands. So it's a fairly complex relationship. I'm just a husband. And, you know, a lot of what we've been talking with technology is this notion of versioning, this idea that you can start to speed up the process of testing the sort of performative relationship, the way in which design decisions have an effect on both the environment and in a kind of construction and production technique. And that even though often using these kinds of technologies complex curvatures come out, it's looking more towards a kind of, a more intelligent way of varying the pieces that get put together into a building.

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locales, for dissemination, and as a generative laboratory for design.

AFTER THE GLOBAL: MEDIATIONS

The multitudinous practices of bionetworks are immanent rather than transcendent, deriving productive capacity not from external sources but from the internal relations of its constituent parts. Levy has understood such bootstrapping in terms of mediation. Every social group, he argues, is mediated by something. The question is whether that mediatory entity is an external control mechanism governing the system from the outside (a government official, religious deity, or mythical figure) or an internal mechanism. "In immanent systems the mediator between the individual and the group is an electronic tool, held by thousands of hands, which continuously produces and reproduces a varied text-image, a cinemap watched by thousands of eyes, structured by on-going debate and the involvement of all citizens."³⁵ Here, Levy sees the universality of computer software and its expansion into larger communication networks as a catalyst for immanent forms of cooperative organization. In fact, "if life is the production, transmission and reception of information" then knowledge is "nothing more than methods for moving things around and changing the relations" among objects and subjects."³⁶ As Bruno Latour has argued, the mistake of the modernists was to mistake the fiction of dialectical reason for the real operations of mediation.

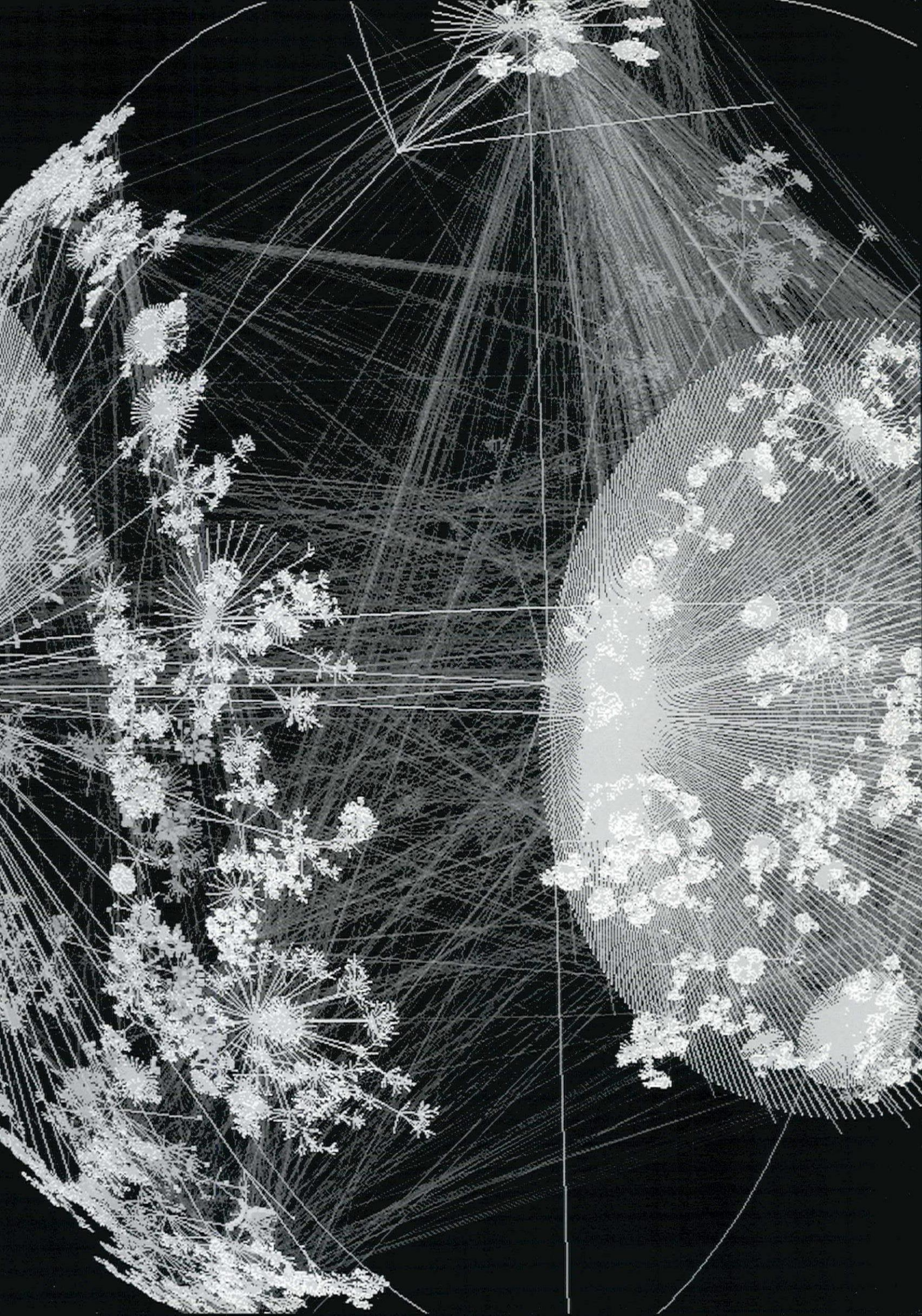
Thus, the very notion of biopower, biopolitics, and by extension the bionetwork implies a resistance to conventional separations between the social and the natural; that which is artificially constructed and that which is given and unchanging. Rather, biopolitics sees social life as a potentially creative force that is in perpetual feedback with the natural. Hardt and Negri imagine this at work at several scales, the body being one of them. "Bodies themselves transform and mutate to create new post-human bodies. The first condition of this corporeal transformation is the recognition that human nature is in no way separate from nature as a whole, that there are no fixed and necessary boundaries between the human and the animal, the human and the machine, the male and the female, and so forth."³⁷ Rather than the maintenance and replication of a model whole, for this informatic model of knowledge and practice, mutation and recombination is the mechanism of innovation and thus survival by proliferating difference.

Here we find ourselves not in a disembodied virtual reality or information space but always again within the corporeal – but no longer to the organic. In this regard, bionetwork practices of architecture do not simply solve discrete problems but project artificial life-worlds, integrating technological processes into the very possibilities of practice, disassembling the persona of the 'architect' into the multitudinous slurry of life.

³⁵ Levy, 68.

³⁶ Georges Canguilhem, *A Vital Rationalist* (New York: Zone Books, 1996) 319.

³⁷ Hardt and Negri, 215.





EMERGENT MODELS OF ARCHITECTURAL PRACTICE

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The idea that innovation, whether scientific, technological, or architectural, is a by-product of artistic chance or a result of singular genius can no longer be sustained in the 21st century. Complexity theory reveals that innovation – the creation of the new – is the direct result of bottom-up evolutionary processes. Science knows this; industry is learning. Architecture is just beginning to engage the concept.

In order to move into this space of innovation, architects will have to accept the value of multiplicity and dynamic feedback over the retrograde nature of authority. They will have to accept that architecture might not be about essences and theoretical positions, but rather about exchanges of techniques, expertises and materialities in multiple industries. They will have to accept the architecture is no longer a heroic center, but one micro-intelligence among many. They will have to let go and begin to love the swarm.

Through the ambient exchange of technologies and tools, members of new collectives may find themselves suddenly more agile and resilient, not only through their expanded network, but also through their own learning and transformation in the process. For architectural practice, what is at stake is more than a reorganization of hierarchies in architectural organizations; it is the birth of an entirely revolutionary way of thinking about the production of ideas in general.

PARTS AND WHOLES

Architectural practice has mutated and flowed between various identities for centuries, moving toward and away from engineering, toward and away from construction, becoming sometimes more specialized (focused on parts), and sometimes more convergent (focused on wholes).

Renaissance architects sought to distance themselves from the building and engineering trades and instead associated themselves with the culture of taste. Their work exemplifies this limitation as much as it reflects the historicist ideals of the Renaissance itself. It is flat and decorative, concerned with orders and proportions in elevation rather than with dynamic, intensive forces. Modern architects re-associated themselves with issues of performance and new materials. Nevertheless, they often assembled technical experts in a hierarchy designed to serve the social and formal ideals of their architecture, such as transparency. Postmodern architects in the 1980s reverted to a Renaissance mode of mannerist designing and the attendant lack of interest in processes and material complexity. These models of practice are either conflicted or exclusive. They are part of a lineage of dematerialization and atomic thinking, where layers of engineering, materials, and processes remain striated, and always reducible into their parts.

Gothic architects operated in a more integrated, smooth way. They were involved in all of the building disciplines of the time simultaneously. The point of departure for a Gothic building was more than a set of proportions or elevations; it was the scientific and technical behavior of structures and properties of materials. Parameters were dynamic and performative rather than compositional. Moreover, Gothic architects

Svs, Gregg Pasquarelli: towards a kind of, a more intelligent way of varying the pieces that get put together into a building. / So that it's this notion of a kind of variable pixelization, about making parts of buildings that are so highly specific that you don't have to have the sort of same specificity across the entire building, but when you need high detail, you can smoothly transition to that, and when you don't need the big detail you can smoothly transition out of it. And it starts to get this kind of reciprocal relationship to the way in which one thinks about detail, ornament and construction. / And really, what we've started to think about is that the big change is in

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were versed in the evolution of structures to the point that they regularly pre-visualized the consequences of solutions and fed this information back into the design process at the front end. As their ambitions repeatedly reached the limits of the materials and engineering of the time, innovations (mutations) in this evolutionary process became as important to success as self-regulation.

While the Gothic architect had expertise in several fields at once, and was able to fold them together into coherent wholes, the contemporary architect finds himself navigating in an ocean of expertises and interests too numerous and different to unify. The Gothic all-in-one model becomes impossible to sustain. New models of practice therefore might be based on dynamic organizations in which entities can operate both independently and in collectives at the same time – that is, as parts and as wholes. Parts, which are more specialized than wholes, can rarely evolve or become innovative on their own, just as a single neuron in the human brain can never have a thought. Evolution occurs in the system.

Perhaps the best way to frame this discussion is through the phenomenon of 'emergence'. Discovered in the 1970s, emergence offers a new precision to the study of evolution, complexity and the 'new', and it appears to be strangely applicable to a huge range of disciplines and scales, from the micro-biological to the macro-economical. It forces us to reconsider the pervasive atomic, collage-based view of the world, which is concerned with parts, even parts in seemingly complex arrangements. An emergent organization exhibits behaviors or has properties which are not predictable by observing any of the behaviors or properties of its constituent parts. That is, the emergent whole always exceeds its parts qualitatively. The beautiful coherence and dynamics of a swarm of bees

can never be traced back to the behavior of a single bee.

One of the clearest examples of an emergent phenomenon, that is, of the moment where an organization of parts becomes a new whole with divergent behavioral patterns, can be found in the cellular slime mold. This organism, originally stumbled upon by the ancient Greeks in their fervor to categorize everything into flora or fauna, behaves sometimes as a plant and sometimes as an animal, depending on environmental conditions. When food is available (decaying wood, etc.), the slime mold organizes into a single, multi-cellular blobby organism and becomes carnivorous, but when food is scarce, it breaks down into a swarm of single-celled organisms which take on the form of stalks and begin to photosynthesize. This process of not just transforming in *degree* but in *kind* is keenly relevant to the discussion of new forms of practice, and in particular, to the creation of emergent networks.

EMERGENT NETWORKS

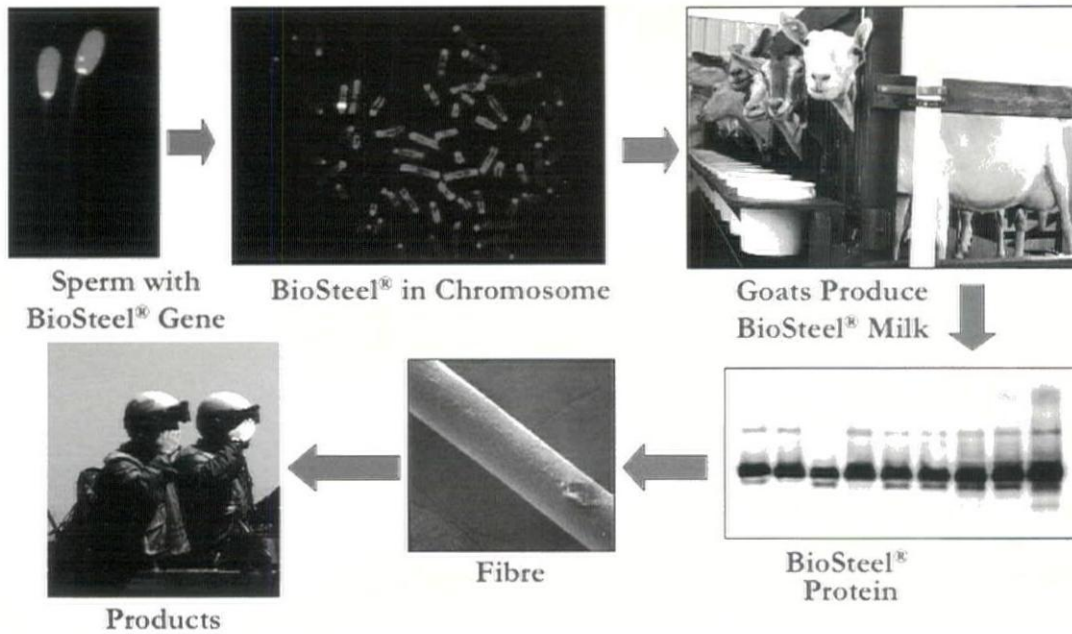
Within the realm of architectural practice, an emergent network is more than an arrangement of expertises or an overlapping of spheres of influence. It is a collective which exhibits emergent behavioral patterns that are unpredictable by examining the behavioral patterns of its parts. Beyond simple collaboration, which is the result of an alignment of interests, an emergent network can create new and complex coherences out of divergent interests. The concept therefore goes beyond what has recently come to be known as 'network practice' which is more often than not used to describe the late 20th century tendency of architectural offices to distribute and make affiliations in order to administer an increasingly global range of projects. Although an emergent network, like a 'network practice', dissolves the architectural studio at the source or center of the architectural 'Project', it does this through swarming – snapping into new coherent organizations – rather than by simply engendering affiliation.

The products of emergent networks are non-linear and non-predictable, which is a risk, but one with exponential rewards. Linear processes will always create products which are calculable and applicable in particular industries, but they will never exceed

SvS, Gregg Pasquarelli: how we draw. And that what we're trying to do in the office is really question the notion of plan, section and elevation as effective drawings for the making of architecture. And that if we look at, sort of on the left, the sort of variable bricks used by Brunelleschi in the dome, and on the right, pieces of the variable panel system that we used at The Porter House, a building down in the meatpacking district, it's really about using the technology to kind of recapture territories that have been given away by mass production and starting to rethink the way in which an architect designs and produces their own buildings. / And whether that's using design

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their inputs. Non-linear, emergent processes create innovation and newness out of proportion to their inputs, and often applications which lie outside the original trajectory. The U.S. military and space industry, one of the most productive enterprises of the 20th century, has had some of its biggest impacts outside of the battlefield precisely for this reason. Involving swarms of expertise—from aerospace engineering and materials science to biotechnology and communications—the research and development arms of the Department of Defense and NASA have been responsible for at least 30,000 emergent spin-off technologies in the private sphere, ranging from the internet, medical resonance imaging, and GPS, to new materials such as transparent ceramic and aerogel. The value, both economically and culturally, of these secondary innovations massively outweighs that of the primary innovations.¹

Consider BioSteel, an example *par excellence* of the emergent network. Biosteel, first presented by Dr. Jeffrey Turner of Nexia Biotechnologies in 2003 at a trade conference, is the direct result of active feedback between the agricultural industry, the genetic engineering industry, the textile industry, and the military-industrial complex. It is a fabric which is woven out of genetically recombinant spider silk. Be-

cause spiders are impossible to domesticate, spider silk genes are implanted and incubated in the DNA of goats. Silk genes are then harvested from goat milk, and raw silk is spun into fibers. Fabric woven from these fibers is stronger than steel, lighter than aluminum, and more elastic than natural spider silk. Because of its exceptional emergent properties, this material is being used by the U.S. military for soft body armor and helicopter blades, but also by the medical industry for sutures and artificial ligaments.²

Some young architectural practices are exploring emergent network model, working with extra-professionals as a rule rather than an exception. SERVO's recent installation 'Lattice Archipelogs' was the combined product of various SERVO offices (they have four), interactive computer programmers (Smart Studio, Stockholm), MIT acoustical engineers, and industrial molding experts. In the development of this project, no one behaved as a consultant, implying a linear flow of information, but rather all behaved together as a collective of knowledge cells linked by digital technology. The project reflects this heterogeneity, operating simultaneously as atmosphere, as furniture, and as computational matrix – something which oscillates spatially and categorically, but also which maintains an overall emergent coherence.

¹ NASA Scientific and Technical Information (STI). www.sti.nasa.gov: spin-off database. It is estimated that for every dollar of investment in U.S. military R&D, a minimum of seven dollars is returned to the U.S. economy in the form of corporate and individual income taxes.

² Jeffrey Turner, *BioSteel Performance Fibers: Military Applications of Recombinant Spider Silk*. (CTI-DND Conference Lecture, April 3, 2003).

SvS, Gregg Pasquarelli: to think about, for example, for a, this was for a carousel house we did, instead of saying what the carousel house would look like, we said what are the two most fun things about riding a carousel. Which we decided were the motions of the horses going up and down and the Doppler effect of screaming to your mother and father every time you go around and around on the carousel. So we modeled those three dimensionally, converted them to glazing patterns, which then get turned into an all glass and steel flexible carousel house. / Or the way that we thought about the notion of deploying program along a kind of mutated surface in order to create an urban beach. This

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SERVO's work is generally focused around embedding technologies in architecture in a way that it cannot be unwound again, reduced back to its parts. Similar to Biosteel, their 'products' are the result of the feedback processes and technologies. Novelty emerges not out of random artistic accidents, or recombination of existing logics or histories, but rather from the dynamic cross-wiring of various material intelligences. It is in a sense completely logical for architects, who during the past twenty years have been sampling from theoretical disciplines, to break out and build up productive, emergent networks with groups in industry and science.

One firm that has succeeded in pushing the limits of architectural practice is Imaginary Forces (IF) in New York. IF New York is itself a spin-off of IF Los Angeles, which is a group of special effects gurus and marketing creatives. IF New York, lead by Creative Director Mikon von Gastel, has positioned itself somewhere between the film industry and the building industry, leveraging one to open up potentials in the other. IF concentrates on architectural 'special effects', all of that which has been latent in 20th century architecture but never developed or understood as its own expertise. These special effects cut across the disciplinary boundaries of interactive media, industrial design, animation, art direction, and engineering, and are convergent with, rather than supplemental to, architecture.

As a form of practice, this is an emergent model that relies on feedback for success. It is conceivable that the IF model could in fact become more widely accepted as the role of the architect who more often resembles that of 'creative director'. It may also be a more resilient model in general because of its flexibility and its access to multiple markets. More importantly, IF has a broad knowledge base, which

allows it not only to exhibit complex behavior, but to be innovative in several fields simultaneously. Peter Frankfurt, one of the founders of IF, has noted that he now intends to leverage this potential in an experiment involving a jump from science fiction to reality. Using the diverse team he organized for the production of parts of the the film *Minority Report*, his plan is to develop futuristic products envisioned in that film and bring them to market. Frankfurt has reportedly called on Steven Spielberg to finance and 'produce' this project.³

CO-EVOLUTION OF BUILDING SYSTEMS

Sadly, relationships between architects and engineers, as well as engineers and each other, still tend away from the potentials of emergent organizations. All too familiar is the scenario in which the architect designs an envelope based on a space program, and then passes it on to the structural and mechanical engineers. They collage-in their systems without primarily altering that envelope, as if retrofitting. No one expects the other to sublimate the demands and behaviors of the systems of the other, or react to them generatively. The result is often a stratified, incoherent mess of infrastructural conflicts.

This is not only a problem of coordination, but of a basic acceptance of a zero-sum, win/lose, world-view. In a win/lose world, a beam is a beam and a duct is a duct, and one system can operate optimally only at the expense of another. In a win/win world, 'optimum' is calculated differentially. Parameters rule: a beam becomes a set of loads and reactions, and a duct becomes a flow-form of streaming particles of liquid and air, and both can operate on a consistent plane. Heterogeneity arises in this case at the intensive level of becoming, where structural 'beamness' can be reconfigured to include trajectories of me-

³ Peter Frankfurt of Imaginary Forces, conversation with T. Wiscombe March, 2004



SvS, Gregg Pasquarelli, was for a PSI project, and to really rethink the kind of drawings that one needs to make, and how you translate those drawings into a construction technique. / Or to think about - we did a temporary bridge down at Ground Zero. To think about designing that not necessarily in the aesthetic but in the strategy of how design decisions would affect an immediate neighborhood. And then how that gets translated into a kind of technique of producing something with speed rather than, let's say, fineness of detail. / Or when you go into ideas of furniture, how assembly systems can begin to circumvent typical ways of production and bringing, actually the manufacture of

EMERGENT MODELS OF ARCHITECTURAL PRACTICE

chanical 'ductness' in multi-optimized constructions. Architectural systems, interdependent like ecological systems in nature, begin to operate in ways that are not only more complex and intelligent, but potentially more beautiful.

This new kind of complex arrangement, where both entities benefit from an interaction to the point that they operate *more* successfully by giving up some of their short-term interests is, biologically speaking, an example of co-evolution. Co-evolution is more than symbiosis, where two or more species align in order to increase their own fitness. Species are co-evolutionary when they learn from one another across time, to the point that they begin to fluidly exchange behaviors in order to increase the combined fitness of the collective. One example of this can be seen in the relationship between lions and hyenas in the African Savannah. The lions are generally assumed to be predators and the hyenas, scavengers; the two species are also generally assumed to be enemies. Nevertheless, a recent study suggests that lions and hyenas constantly de- and re-territorialize each other by switching from predator to scavenger and back again. By doing this, they increase their combined resilience (i.e. they multi-optimize) within their harsh environment.

Co-evolutionary practice is not ecological in the sense that it should produce 'green architecture'. Its goal is not necessarily stability and sustainability, although those could certainly be emergent properties of the system. Instead the goal is to work generatively in areas of the profession which have often either been excluded from the design process, or dealt with expressionistically. The feedback of structural engineering on form is certainly not a new idea, and is being explored by some of the most innovative architects this generation such as Reiser/Umehoto, Foreign Office Architects, and UN Studio. But the introduction of multiple engineering parameters, particularly mechanical engineering parameters, into the system has often been overlooked.

The 'BMW World' project by Coop Himmelb(l)au, which is currently under construction in Munich, reveals how co-evolution between structural and mechanical intelligences can begin to generate new properties and possibilities. The centerpiece of this project, called the 'Double-cone', is in fact a techno-

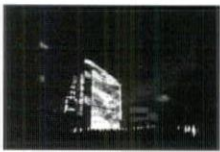
logical prototype in this regard. Its structure consists of a non-hierarchical lattice of welded tube sections which are filled with water. The water is circulated throughout the lattice and down into a geothermic piles, creating a three-dimensional heat-exchange system where excess heat can be absorbed and released. More than that though, the performance of the mechanical system feeds back on the structural system. Blast tests, for instance, have concluded that the presence of the water has a beneficial effect on the total structural stability of the system. In addition, the fire protection system for the steel structure is based on exploiting the water-lattice as a sprinkler infrastructure, employing an array of valves integrated directly into the structural members. This concept is currently under consideration by the local fire authorities, and if approved will be a landmark in the development of convergent practice.⁴

Digital engineering tools, more than anything else, will sustain this kind of research and development in the coming decade. Analysis programs, including finite element, vector-based, and computer fluid dynamic (CFD) software, are beginning to bridge the gap not just between design and structure but between various engineering disciplines. Structural analysis programs which were brought to market in the late 1980s are now much more sophisticated and can model not only structural reactions to loading patterns, but dynamic forces in real-time. The mechanical engineering industry, although slow to react to the paradigm shift, is also beginning to utilize these new tools more regularly and in a more productive way. Even acoustic and fire-safety engineers have entered the mix, beginning to employ various model-

⁴ This concept was developed by Coop Himmelb(l)au (Prix, Wiscombe) in collaboration with Josef Gartner GmbH (Dietrich Anders).



BMW World, Coop Himmelb(l)au



SvS, Gregg Pasquarelli: pieces, so this is actually the complete construction set for an installation up at Columbia University, which was then also a technique that we used at the new Virgin First Class Lounge out at JFK, where you meet these series of screens and waterfalls in these spaces, but where this idea of surveillance and security in an airport can use the technology to sort of rethink the notion of both public and private space. There's this idea of kind of transparency and waterfall and changing light, and there is a bar, which is always fun to do. / To The Porter

TOM WISCOMBE

ing systems which can visualize previously invisible events. Engineers at Ove Arup NY, for example, have developed proprietary software which allows them to simulate the motion of people exiting a building in an emergency using character animation software with an integrated swarm dynamics routine. In addition, they have developed a prototype acoustic studio, called SoundLab, where designers can interactively develop building geometries based on acoustical performance.

Digital analysis is however still in its pioneering phase- the assumption still tends to be that 'design' proceeds analysis, and that dynamic forces act on fixed objects. The other assumption is that various engineering disciplines are independent and that there is no value in feedback between them. The first step in dissolving these assumptions is moving away from reverse-engineering toward forward-engineering, that is, toward the generative use of these tools and techniques. The next step will be the development of cross-platform digital engineering tools, which will be able to *differentially* model dynamic forces and provide iterations of various degrees of evolution and multi-optimization. Still, increasingly complex digital tools will likely never replace the intuitive, open-ended feedback loops that can occur between professionals in the studio, such as in the almost legendary sessions several contemporary architects have had with the structural engineer Cecil Balmond. They will, however, certainly create a virtual plateau where multiple expertises, techniques, and materialities can interact and evolve with unexpected consequences.

FORWARD-FABRICATION

During the 20th century, building 'arts' and building 'trades' were more often than not, exclusive. This was in part due to the establishment of licensure at the turn of the century, and the desire of architects to define themselves in relation to other white-collar professionals. Architectural practice in general came to be seen as separate from processes of fabrication and construction which led to their inevitable loss of influence on project delivery during the 1970s. The birth of the 'construction manager' in the United States and Europe, one who took over the coordination between architects and builders, was a sign of

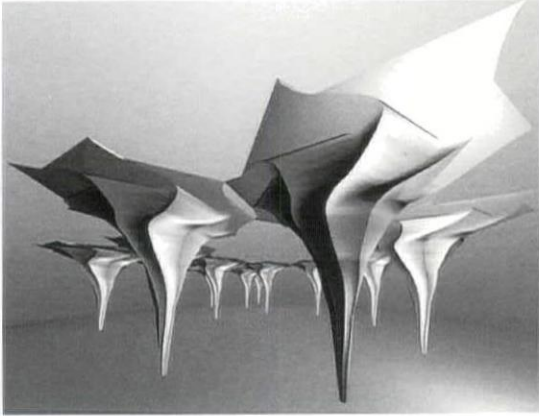
this lack of cohesion. Nevertheless, architects and builders have recently begun to re-integrate. This is due to the establishment of linkages between methods of designing and methods of production brought about by the digital revolution.

The convergence of manufacturing tools and design software over the past ten years has had an overwhelming impact on the construction industry. The revolution in digital modeling and computer-aided fabrication techniques such as numerically-controlled (CNC) machining and laser-cutting are revolutionizing not only methods of production, but potentially also the role of the architect in the building process in general. The architect has been classically responsible for 'construction documents' which are a general definition of the scope of work, materials, and connections to be contracted; construction documents tend to be analogous to the built work, but never equivalent. Now, with the advent of digital modeling, scope, geometry, and detail can all be defined precisely by the architect, and produced without such an extensive preparation process. The documentation procedure as we know it collapses – three dimensional data is delivered to the contractor, processed through a digital machining routine, and fabricated without translation. Endless sets of analog two-dimensional drawings are replaced by digital routines and algorithms which can take even the most complex geometries and unfold them into digital templates required for machining.

Architects such as Frank Gehry, Greg Lynn, and FOA have begun to front-engineer industrial processes into their work, not only with the knowledge of what the building industry is capable of, but with an eye toward emerging expertises within other industries. The influence of Frank Gehry, in particular, on this new fabrication paradigm cannot be underestimated. He was one of the first to realize that the tools he needed were only to be found outside architecture, so he borrowed them from the French aerospace industry (Dassault Systèmes). CATIA, a software originally intended for the development of missiles and drones, has since become a new industry standard for high-end building construction. In the meantime, Gehry, and his partner Jim Glymph, have taken CATIA to the next level in their spin-off company Gehry Technologies, which has not only focused

SvS, Gregg Pasquarelli: House, which is a building down in the meatpacking district where we restored a kind of traditional building below and did a very new kind of building above, where we actually imported the zinc ourselves, produced new kinds of drawings that actually went directly from Excel spreadsheets into laser cutters using SolidWorks, so that shop drawings were never made and we could eliminate the middleman in all the production of these parts and end up with a kind of façade system that gives you, you know, a much higher level of flexibility and a level of quality, but yet bring the costs down significantly and link the kind of notion of building design and link it

EMERGENT MODELS OF ARCHITECTURAL PRACTICE



Milgo/Bufkin: Laser-sewing.

on tailoring CATIAs parametric modeling and analysis capabilities for architectural applications, but has re-engineered it as a project management platform. This platform, called 'Digital Project', allows seamless collaboration between AEC disciplines in what Glymph has called a "digital ecosystem."⁵ Rather than creating a top-down, overarching standard and process for construction, which would be bound for failure, it is based on local adaptation, where systems and standards from various disciplines, and from various countries, can be transferred into the software. Intelligences and techniques interact in real-time with no lag time and no translation, increasing the operative intelligence of the collective. The trickle-down logic of the traditional AEC system is replaced by the bottom-up logic of swarming.

Fabricators themselves are also beginning to develop proprietary software which responds to the needs of architects, particularly in terms of routines which optimize surface geometry in order to make it easier to produce. At Milgo/Bufkin, a sheet metal factory in Brooklyn, Bruce Gitlin is exploring new manufacturing synergies with the help of Dr. Haresh Lalvani, a self-proclaimed 'architect-morphologist' from Pratt Institute. Their work centers around something they call AlgoRhythm Technologies. This is a recently trademarked process which bridges the gap between fluid architectural geometry and the limitations of flat sheet material. It involves using parametrics to break down complex surfaces in a way which exploits the structural potentials of the material and also reduces waste. Similar to fashion industry practices, which involve optimized patterning and robotic sewing, the Milgo/Bufkin process involves micro-slitting, fold-

ing, and 'laser-sewing' standard sheet product into beautiful yet performative forms. According to Gitlin, "the undulating look of the structures results from the behavior of sheet metal under force. The forms are non-deformational, thereby maintaining the integrity of the metal."⁶ Material is therefore not chosen based on expedience; the materials' properties become integral to the morphology. While this process is currently specified for cladding systems, its logic could be conceivably projected into building superstructure design or beyond.

Feeding fabrication techniques, engineering dynamics, and materials science forward into the design process is a way to free architectural practice from its tendency toward stratification and provincialism. For architects, this means an end to categorical practice, where territory is fixed and guarded, and a leap into the dynamic world of emergent organizations and processes. In this world, territory can disappear and reappear in various scales and industries, and specialization is never enough.

Architects in this world might be forced to give up their afflictions of heroism and genius, in favor of a new role as instigators of innovation, fueled by a broad and open-ended exchange of expertise and technologies. The question of the role of the architect thereby ceases to be an existential, affective one, and becomes a question of material systems and effects. Design, freed from the problematic of expression, becomes a space of evolution and innovation.

⁵ Martyn Day, "Digital Project" AEC Magazine, (October, 2004) 27.

⁶ Bruce Gitlin of Milgo/Bufkin, conversation with T. Wiscombe June, 2003.

SvS, Gregg Pasquarelli: with financial models of development and construction. / And to a project that we did many years ago, the Museum of Sex, where we first really started to think about the idea of surface and structure and program collapsing into one thing, which, well, that's a terrible drawing, and how we started to think about that idea of a kind of exoskeleton that's both sort of performative and skin and structure. / This was a project for Columbia University School of the Arts that looked at the way that we actually can bring in ideas of sustainability and environmental issues. This sort of leads us to our most recent project, which is a new building for the Fashion

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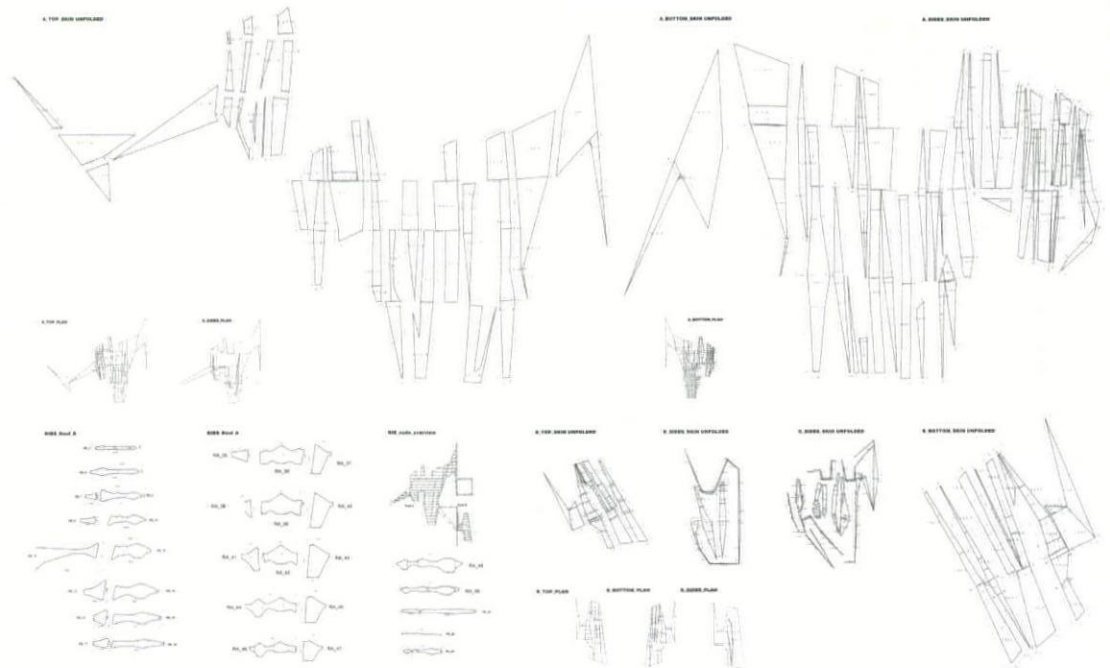
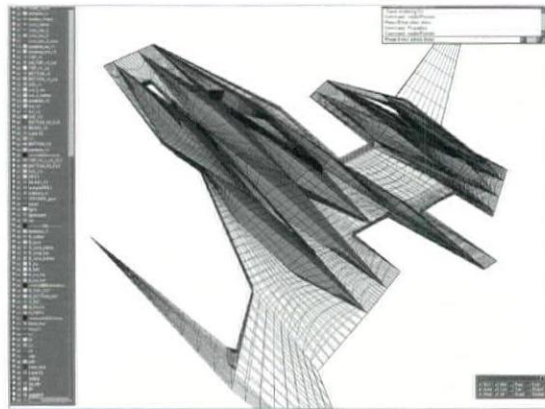
The following projects – the MoMA/ P.S.1 Urban Beach, the Radiant Hydronic House, the Seoul Performing Arts Complex, and the Lattice House – involve different applications of emergence in design and practice, from the feedback of structural and mechanical behavior into form, to the integrity of cohesive swarm-structures.

MoMA/ P.S.1 Urban Beach (2003) (above, below and opposite page, top) The centerpiece of this 'Urban Beach' design– number four of five built to date in the P.S.1 courtyard– is an expansive roof canopy. The aim was to create structural integrity through the use of a non-hierarchical patterning of small, interlaced units, or cells. The position and geometry of each cell was determined by shading requirements, required

shear and moment reactions, and also by the position and behavior of neighbor cells. The cells operated in coherent alliance, enabling clear spans and forming a kind of structural ecology. A crenellated metallic skin wrapped these elements into a singular form which provided shade during the day. At night, this super-form dissolved back into a swarm of light-emitting cells. One of the driving goals of this project was to integrate

issues of fabrication and erection into the design process. As a temporary event roof which had to be designed, manufactured, and installed in just two months, the project team was forced to jump directly from conceptual design to fabrication– a feat which was made possible by computation. The key was to avoid designing a fixed shape and concentrate on creating an iterative system which could evolve-in changes in struc-

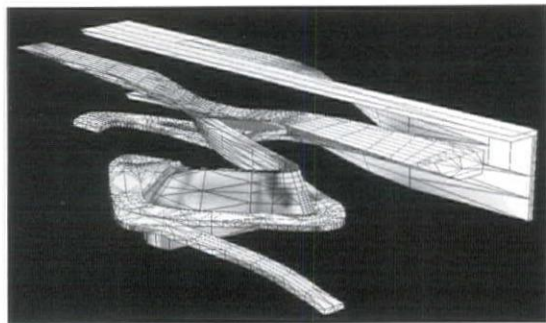
tural requirements, scope, and existing conditions. All five hundred skin panels were generated parametrically as single-curvature elements making them easy to develop, water-jet cut flat, and transport. The project would not have been feasible or economical had it been defined with traditional construction documents rather than with adaptive geometry.





SvS, Gregg Pasquarelli: Institute of Technology, where these ideas are sort of coming together of a kind of thickness of a building that is performative. It's surface, it's structure, and it's programmatic, all at the same time. / And fortunately this one's moving ahead. We're actually in the design process now and should be breaking ground in about a year. And that's hopefully what it'll look like in about two years. / Thanks very much. / Michael Speaks: Hernan Diaz Alonso is next. Gregg has taken the five minute thing to heart, and that building will be done maybe even sooner than

EMERGENT MODELS OF ARCHITECTURAL PRACTICE

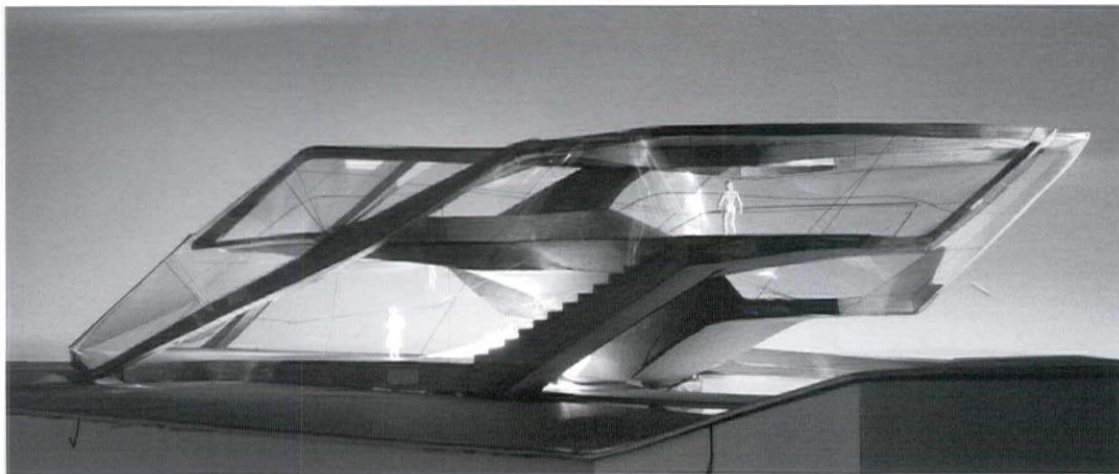
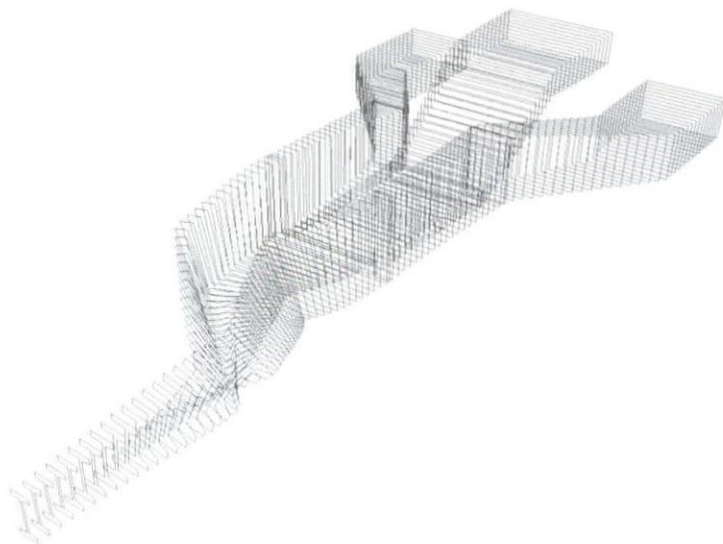


Radiant Hydronic House

(2004) This project is based on feeding back various building systems into one another in order to produce emergent effects, both quantitative and qualitative. The house is structured by a set of flexible bands which take on various gradients of behavior— structural, mechanical, circulatory— depending on various local requirements but also based on their relation to adjacent bands.

A central spine connects a series of solar baths on the

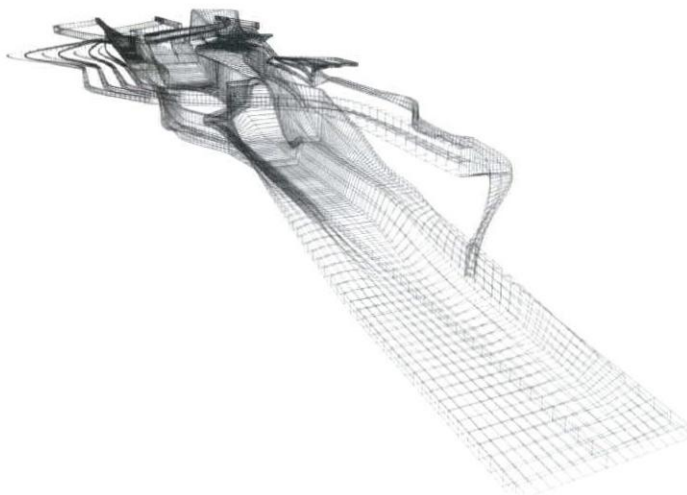
roof down through the space into a radiant slab inside the house, becoming itself a radiant body. 'Ductwork' in this spine takes on foreign behaviors, opportunistically twisting up to become a structural support in key locations, and then later twisting flat to become a ramp or bridge. While each building system performs, it does so only in relation, and in a state of biological epistasis (i.e. no one system is optimized but all systems are optimized in relation).



Lattice House (2005) This proposal for Vitra is based on the concept of the mono-coque structure, where hierarchical orders of skins, beams, columns, ducts, and passageways collapse into a three-dimensional lattice-work defined by its coherent morphology. As opposed to the Radiant Hydronic House, which is based of the flexible, adaptive surfaces as the operative medium, the Lattice House is a multidirectional array in space with an exceptional range of motion and adaptability. Inverse Kinematics ('bones') was used to generate this array in order to maintain a dynamic coherence in the system. The lattice

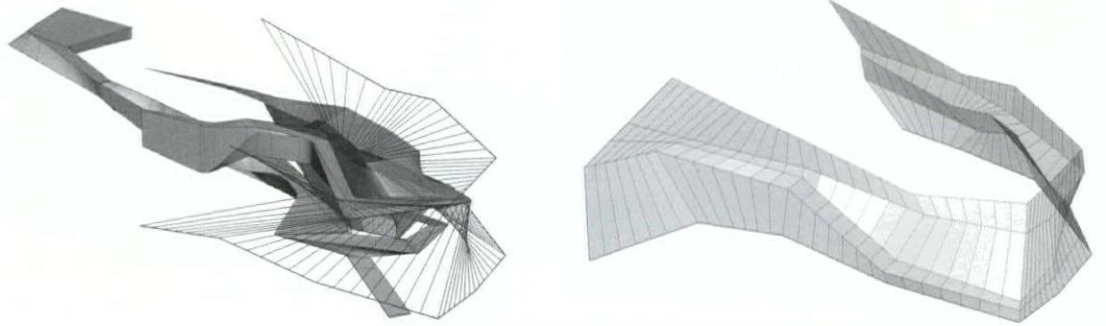
performs simultaneously as primary structure and mechanical infrastructure: filled with water, the struts create a massive heat-exchange system – a three-dimensional radiator – capable of heating and cooling the space without the use of forced air. Struts also evolve locally into stairs, bridges, and secondary propping elements.

The design process involved generating hundreds of iterations of the array and subjecting each to structural loading analysis. Those iterations deemed structurally 'fit' were bred with each other, generating even more complex and evolved mutations.



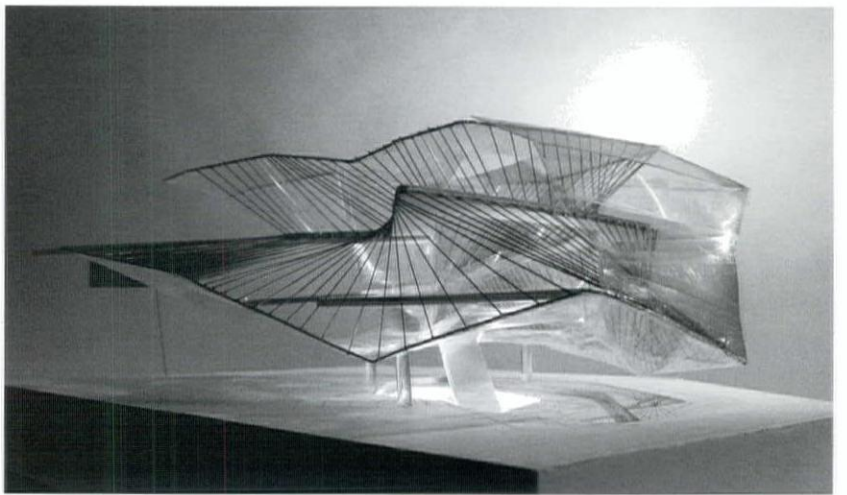
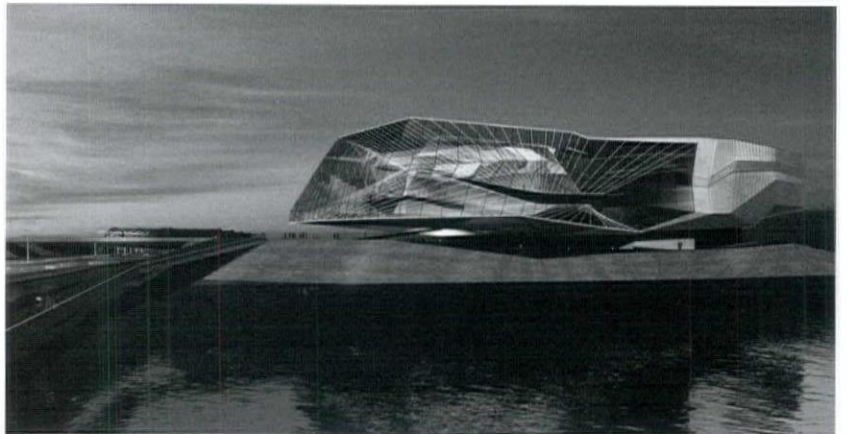
Svs, Michael Speaks: we think. / Hernan Diaz Alonso: Okay, that's a tough act to follow. When I was a kid, there was usually the news and then the cartoons. So let's say that Gregg was the news, the serious stuff. I'll show you the cartoons. / My approach to technology is slightly different than the three people that talked before me. Mine has to do probably with still today the frustration of: I wasn't able to be a film director, and how I try to deploy the condition of, I would say, management of desire. So let me introduce to you my hero, Wiley Coyote, the ultimate architectural planner. I think that architects we are like him. I mean, we keep trying, trying, and trying and

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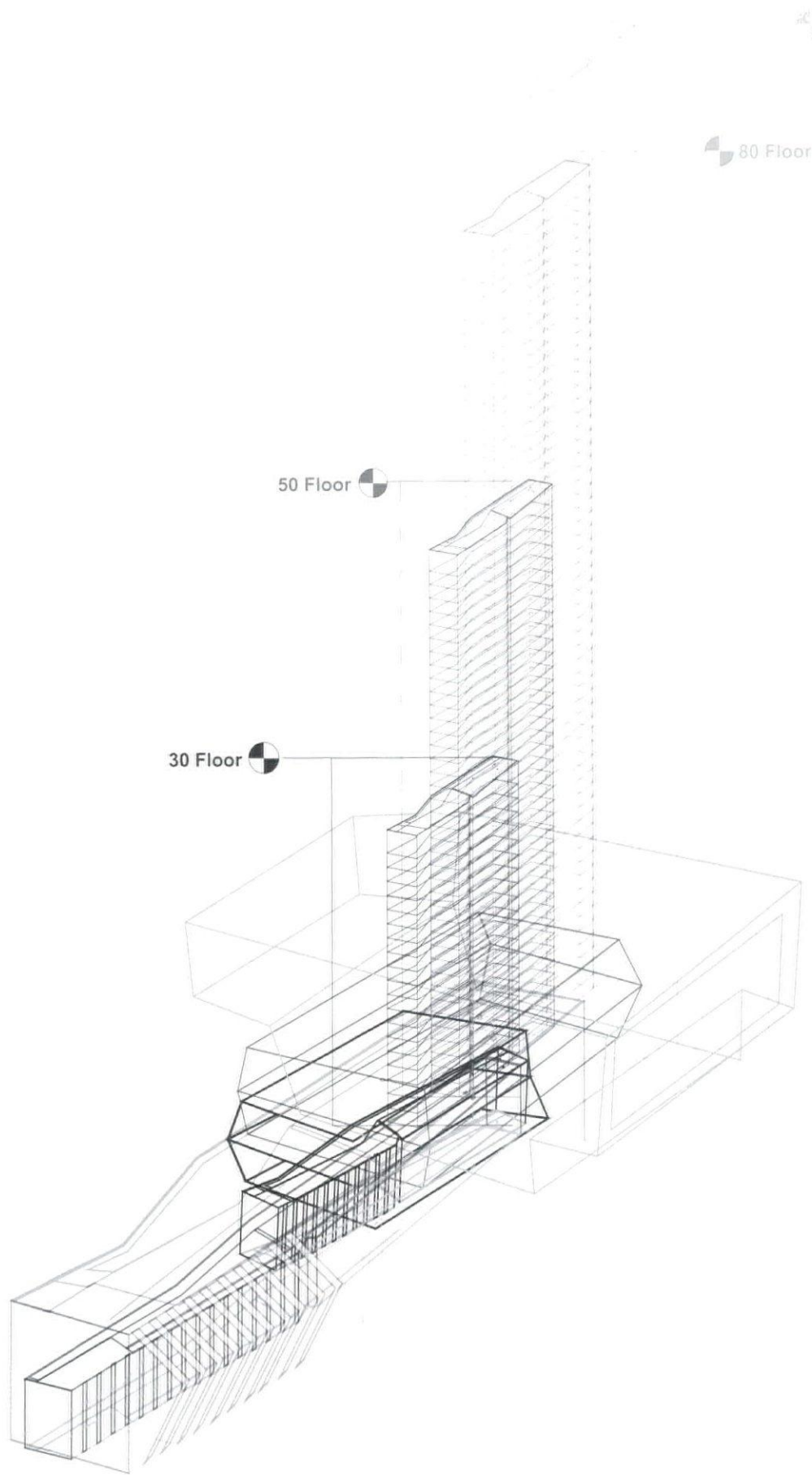


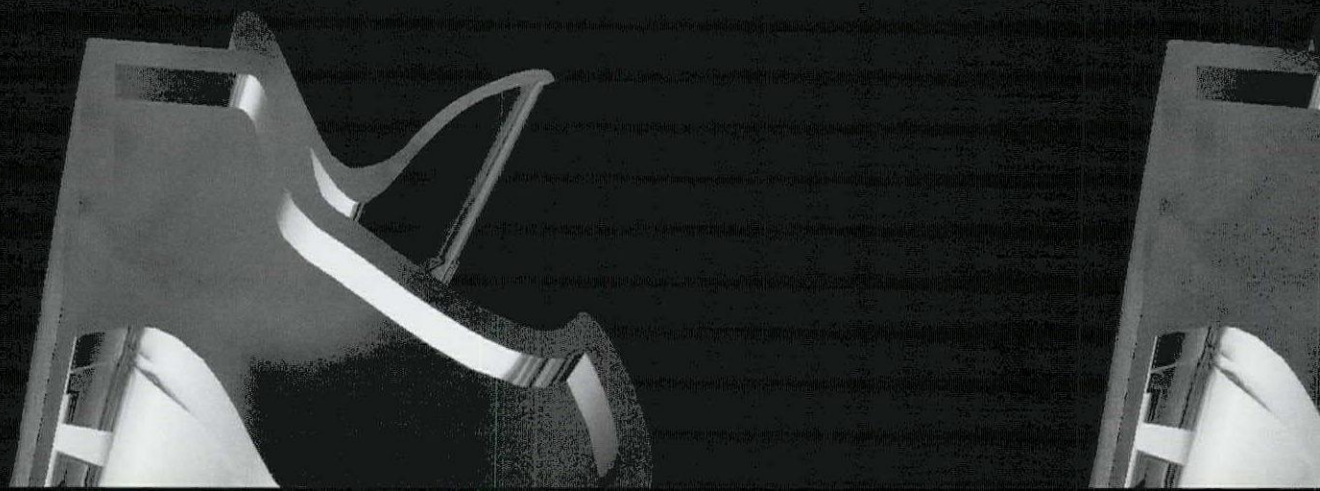
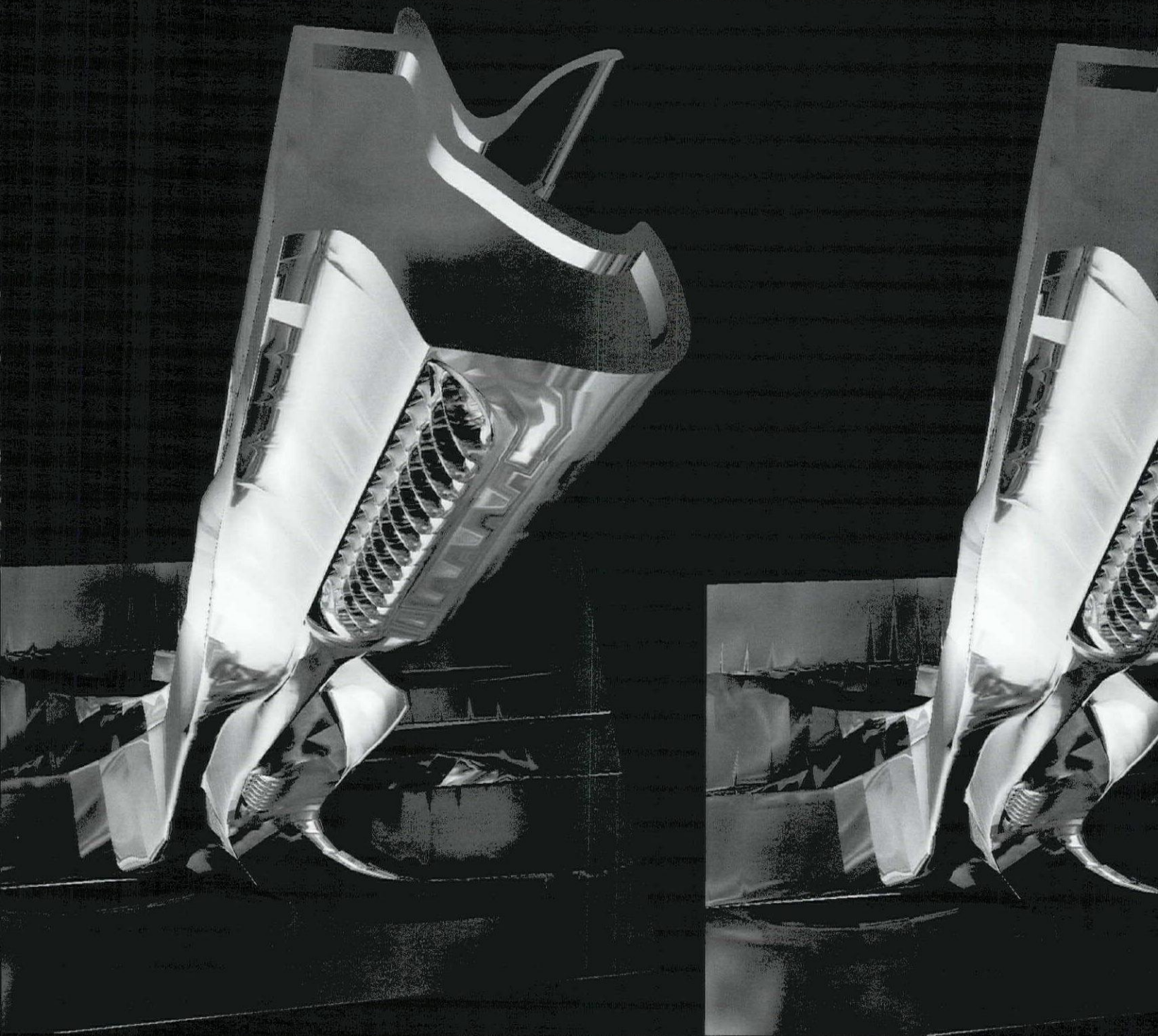
Seoul Performing Arts Complex (2005) This proposal attempts to unify the functions of Concert Hall and Opera House into a single building complex on the west side of Nodaeul Island on the Hangang River. Like an aquarium, this building is open to the city, allowing views of moving people inside through layers of light and color. Its silvery glass shell connects the two theaters together and features a Grande Foyer which interweaves the circulation of both into a vortex of walkways and urban spaces.

Nested within the circulation network is a glowing void which produces both atmospheric and structural effects. The structural principal in fact confounds traditional hierarchies in favor of a distributed system based on dynamic exchanges of forces and behaviors. Structural performance in this design is no longer tied to rigid definitions of primary, secondary, or tertiary construction, but rather begins to migrate and coalesce inside other building systems and in hybrid configurations. The circulation vortex in the Grande Foyer behaves as primary structure for the shell, cantilevering out of the rigid bodies of the theater-boxes. The faceted glass shell links back to the circulation vortex via hyperboloid patterns of pressure and tension elements in order to resolve lateral and vertical loads.



Opposite: Tom Wiscombe,
Micromultiple Tower





AFTER-THOUGHT

WINKA DUBBELDAM

AFTER-THOUGHT [after, afterbeat, afterbirth,
afterburner, aftercare, afterclap, afterdamp,
afterdeck, aftereffect, afterglow, afterimage, afterlife,
aftermarket, aftermath, aftermost, afternoon,
afterpains, afterpiece, aftersensation, aftershave,
aftershock, aftertaste, after-tax, afterthought,
afterward, afterword] //

DIALOGUE

This 'After State', as stated by the editors, has a nihilistic undertone, indicating a crisis. Crises in history have, as bad as they were, also proven to lead to new beginnings. In this text I take the idea of the dialectic as a way out of this temporary state of crisis, and will look at possible After Effects. In his introduction to *Plato*, Scott Buchanan states:

"Dialogue, which is the practice of the dialectic, is an historic event in which man, with bodies, sense, passions, and thoughts lives and moves with purpose and willful intentions... Historically, the reading of Plato's Dialogue was the beginning of a deep liberal education, but such an education has by-products; some good some bad, and all of them disturbing. The first and most obvious symptom that is taking effect is an incorrigible urge to question things that have been taken for granted. The second stage of the disturbance is the feeling of shame that such questions have never been asked before. (The supposed enemy being convention, morality and opinion)."¹

¹ Scott Buchanan, *Plato*. Ed. Scott Buchanan. (New York: The Viking Press, 1948) 1.

This questioning of things requires a high level of curiosity, which is the base premise of the will to learn, rethink and innovate.

These inception points for questioning are both practical and academic. Following from the Platonic notion that a learning process can only truly occur through dialogue and exchange based on mutual degrees of education, knowledge and intelligence, monologues are an unreservedly uninteresting option – a form of stasis – both in practice and in the academic world. The following 'dialogue' is a provocation that attempts to pull architectural thinking away from its re-active mode into a pro-active attitude.

It is this interest in dialogue that has motivated the choice to combine critical theory with an architectural practice. Additionally, it is the critical realization that by leveraging two seemingly opposed streams of activities it allows them both to co-evolve, generating not only substance, but also variety. As Kevin Kelly writes, "co-evolution is a variety of learning."² This internal dialogue is critical for both education and the profession of architecture. We find this dialogue more often in the scientific approach than in architecture and could learn from their 'scientific method'. Scientists in developing comparative analysis have developed this dialogue as a 'two-level theory'. The overall structure of a two-level theory requires one to both specify the particular type of relationship (i.e., causal, ontological, or substitutable) that exists be-

² Kevin Kelly, *Out of Control [the new Biology of Machines, Social Systems and the Economic World]*. (New York: Perseus, 1994) 85.

SvS, Hernan Diaz Alonso: we always fail at the end. We never come close to what we want. And that's why it's fun going for the technology in the notion that this possibility for construction of a parallel universe with no gravity and any of those conditions. / My approach to these kinds of problems is it has to do much more with ambition of, to feel that all this architectural kind of stuff to regain pure performance is not process based, even though we use techniques and the methodology that have come to many of the people who are here and many others outside today in terms of relation with contemporary practice. / The way that we operate, we use much more mechanism, no

WINKA DUBBELDAM

tween levels of analysis and the logical linkages between levels in terms of necessary and sufficient conditions.

The computer has enabled scientists to study these complex models through digital simulations and generative software, allowing us to perceive things that beforehand could only be assumed and described, not visualized. In mathematics there is a crucial difference between the 'thing' and the corresponding mathematical model of the 'thing'. Using proofs, mathematicians study and define the state of a thing, which in turn defines the validity of the applied calculus. This yields the very definition of the thing itself. This is the fundamental difference between geometry and mathematics; geometry is still concerned with absolute values, mathematics with an assumed behavior, and emergent states. There is a strong link to 'fuzzy sets', or fuzzy logic.³ For example, new algorithms are being developed for the fuzzy-set analysis of economic, social- and weather data. Here absolute values are irrelevant, but instead a probability is calculated. A fuzzy term would be: 'slightly excellent'.

CRISIS

Not in Architecture. The dialogue within architecture has reached a point of stasis, a plateau. Its problem-solving attitude, usually based on a cause and effect relationship, relies on linear logic. This linearity excludes a possibility for propositions for future probabilities, for emergence of new relationships, behaviors and of system-based thinking. Architects tend to use the computer less to study complex systems and their resultant influence on architecture, remaining mostly focused on formal and representational implications. This singular formal approach to the generative use of the computer restricts the *intelligence* of the structures created. "Co-evolutionary relationships from parasites to allies, are in their essence informational," says Kevin Kelly; "dense communication is creating artificial worlds ripe for emergent co-evolution, spontaneous self-organization and win-win cooperation."⁴ This is the challenge architecture faces; to move away from the purely formal expression – its 'blob-ness' – into an intelligent registration of force fields. Ultimately the 'box' and the 'blob' are of the same [modernist] singular origin.

This singular expression of blob architecture is the result of the initial formal fascination with generative software, such as Maya. Although its fluid appearance is often beautiful and has moved us away from traditional models, such architecture has begun to exhaust itself and should emerge into a more intelligent state of multiplicity.

Change begins with education. Traditionally, the formulaic and rigid deployment of knowledge in education has resulted in a general loss of interest in culture. The continual isolation of educational systems and the maintenance of established pedagogical models have contributed to the shrinking cultural aspect of education and resulted in the diminished ability of students to navigate a critical path or construct a substantial discourse. Robert M Hutchins writes in *The Great Conversation*: "The disappearance of liberal education, based on intelligence is caused by two factors: internal decay and external confusion."⁵ He goes on to write, that by the 1930s, this confusion was related to the complete focus on the scientific model, which replaced the liberal arts – an area, which allowed participants to gain wider knowledge than in the constrained field of science. The dialogue, or co-evolution, between art and science was disturbed. The new singular approach made for an isolated and relatively static model of education, in which critical thought and curiosity were undervalued. This singularity is not an unusual phenomenon for a society in an economic crisis as occurred in the thirties. It is generally understood that any economic disturbance eliminates people's will to experiment or philosophize, and stressing their wish for stability and safety.

The consequence of this loss of critical theory and thinking also manifested itself in the practice of architecture and urbanism. Previously, a tight cooperation between architecture and urbanism had been responsible for the creation and planning of cities. The dialogue between the two created a dynamic tension, which for centuries produced a type of critique of the urban, both existing and proposed. In "Whatever Happened to Urbanism" Rem Koolhaas recounts the death of urbanism:

It [architecture] exploits and exhausts the potentials that can be generated finally only by urbanism and that only the specific imagination of urbanism can invent and renew.⁶

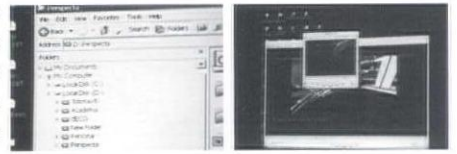
³ **fuzz-y log-ic** *n.* logic that allows for imprecise or ambiguous answers to questions. It forms the basis of the kind of computer programming designed to allow computers to mimic human intelligence. *Encarta® World English Dictionary* ©1999 Microsoft Corporation. All rights reserved.

⁴ Kevin Kelly, 85.

⁵ "The Great Conversation: The Substance of a Liberal Education" by Robert M. Hutchins (the introductory essay to the 54-volume set of 'Great Books of the Western World', Chicago: Encyclopedia Britannica, Inc., 19th printing, 1971)

⁶ Koolhaas, Rem, "Whatever happened to Urbanism" in *ANY Magazine* N. 9: "Urbanism versus Architecture", 1994, editor Cythia C. Davidson.

SvS, Hernan Diaz Alonso: distinction between project to project, almost work by families, a group of four or five in which we produce a series of techniques that we deploy, well, from one to another, always based on this notion of performance and trying to produce. And, elaborate from cinematic effects and try to produce affects. At the end what are we trying to produce? I used to think that we were after beauty. Now I've started to think that we are really, what we produce is



AFTER-THOUGHT

Following the death of urbanism which cynically occurred during a period in which metropolises have emerged with explosive growth around the globe [think China], Koolhaas formulates a prediction for a new urbanism, which will not discuss the 'new' but instead the 'more' and the 'modified'. Defined as 'Lite-Urbanism', it will hover in a constant state of instability, in a productive state of potentiality. 'Lite-Urbanism' deals with expanding notions, denying boundaries, and manipulating infrastructures and psychological space.

In the meantime one desperately tried to artificially establish new styles in architecture. The *Deconstructivist Architecture* exhibit at the Museum of Modern Art in the late eighties was a good example; it was generally understood as a random collection of interesting international architects, who did not necessarily feel the need to be collected under a common denominator. Post-Modernism and blob architecture followed this formal trail causing architecture to slowly become an empty shell. Crucial here is the awareness that architecture tends to be too insular in its operations; it is disconnected from the way other sciences operate and cooperate. It has lost a sense of curiosity in its essence and its innovative position in culture.

Henri Bergson urges us to refocus and to trust our intuition. His method of intuition incorporates three acts: the stating and creating of problems, the discovery of genuine differences in kind, and the apprehension of real time.⁷ Thus, Bergson claims: "true freedom lies in a power to decide, to constitute problems themselves, the *right* problems." By re-examining and reinventing the potential influence of dynamic [urban] systems and complex relationships within the body of architecture as well as its interactions with other disciplines, the possibility exists to de-stabilize traditional knowledge, craftsmanship and style in order to produce a performative, intelligent architecture.

CRISIS – PRODUCTION

It may be a sign that the sciences picked up on this necessary relationship of art and science; philosopher Martin Heidegger explains the culture of society based on two essential elements, art and science. He describes art as the "spiritual expression" and

science as the "theory of the real", which he further describes as "the observation of that which works".⁸ Critical theory is essential for a profession based in practicality; its cultural meaning crucial to establish innovative arguments. Architecture has become estranged from its scientific contemplative side, thus losing its ability to objectively cull wide-ranging volumes of information. To reinvest in the discipline and maintain a sense of co-evolution, architecture should invest in the reconnection with the process-oriented approach of the scientific method. The scientific method operates in a systematic way. It advances knowledge by first formulating a hypothesis and then collecting and analyzing data through observation and experimentation in order to obtain a proven answer. In essence, the scientific method allows for information to be appreciated from multiple scales of observation, at once minute and specific, and simultaneously expansive and multiplied.

This questioning as introduced by the 'scientific method' creates a necessary openness to the immediate situation and allows one to predicate scenarios by loading the process with information and data. It allows instability to occur and processes to be registered. Critical in this process is the notion of abstraction – not meant here as reduction, but as the ability to describe a theory or process in general terms – developed from specific concrete examples or concepts in order to make it applicable to multiple interpretations and open up new angles in a given design process. It erases the pretense of the absolute and new (an uninteresting fiction) and accepts the fact that from now on it will be mutability, additive intelligence, and performative behaviors that will adapt or change a given situation.

It is in this direction that education should develop the course of inquiry. As Kevin Kelly has stated:

The dethronement of learning is one of the most exciting frontiers we are now crossing. In a virtual cyclotron, learning is being smashed into its primitives. Scientists are cataloguing the elemental components for adaptation, induction, intelligence, evolution, and co-evolution into a periodic table of life. The particles for learning lie everywhere in all inert media, waiting to be assembled (and often self-assembled) into something that surges and quivers.⁹

By incorporating a process-oriented approach within critical analysis, a unique research method could

⁷ Gilles Deleuze, *Bergsonism* (New York: Zone Books, 1988) p. 14-15.

⁸ Martin Heidegger, "The Question Concerning Technology," *The Question Concerning Technology and Other Essays*. (New York: Harper & Row, 1982) 155-182.

⁹ Kevin Kelly, 84-5.



SvS, Hernan Diaz Alonso: grotesque and horrific, which is totally sublime and starts to relate somewhere in the beauty. In that sense, I think it's a very classical problem. / I already know you have to do much more with the tools and how we master the tools and the techniques that we use more than the conceptual art we employed. In that sense, I deeply believe that architecture still is a 19th century discipline, even though we're using the 21st century technology. And it is always how we negotiate those, these dangers. / I don't have any intention whatsoever to explain what each of the

WINKA DUBBELDAM

be developed for an emerging critical attitude that will open and probe new spaces of cultural reality. Questions, once formulated, are submitted to experiment or empirical inquiry; information is measured, recorded and organized according to strict guidelines. The process is then repeated. Inevitably, this research material will aid to buffer the resolution of each question because it will have been tested and subject to verification.

Similarly in architectural practice a dialogue should occur. Linear thinking makes room for performative analysis, allowing the emergence of new relationships, behaviors, and system-based thinking. Computer software will generate the registration of these complex systems and its resultant inflection on architecture. Hence a generative architecture can emerge – not unlike Husserl's 'phoronomic shapes' – generative structures out of which new similarly named constructions grow. Phoronomic shapes consist of registrations that strive for gradual perfection; an essential form becomes recognizable through a method of variation.¹⁰ This striving for gradual (time) perfection, allows variation to emerge and a process to develop. Architecture develops as a recording of the performance of these behavioral processes, a registration of surface tension. The relation of the skin-body (animate body) investigates the close relationship between artificial intelligence and smart skin, between a set of efficiencies and performance studies. — This informed architecture activates surfaces into a hybrid system of recordings. The politics of layering, creasing, and wrapping activate zones and environments where boundaries are negotiated and distinctions are blurred. Our office investigated these generative conditions in a set of current buildings and installations.

¹⁰ Husserl, Edmund, *The Origin of Geometry, An Introduction by Jaques Derrida* (Lincoln, Nebraska: University of Nebraska Press, 1989) 178-79.

FLEX CITY CALCULATION MATRIX

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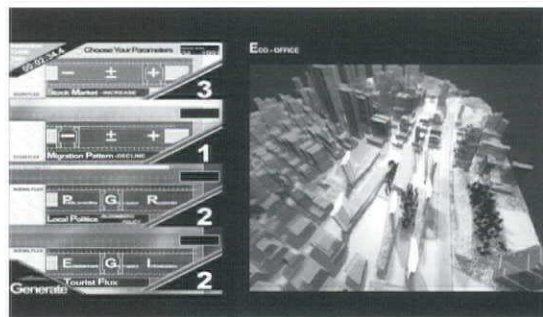
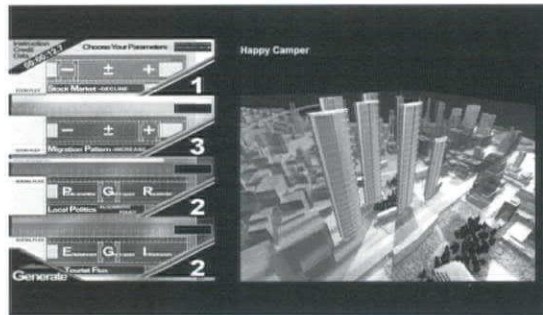
SvS, Hernan Diaz Alonso: projects are. It really doesn't matter that much in terms of the argument for the discussion today. What we have to do again is evolve to understand that our practice is moving no longer in architectural territory. We are heading, getting more and more involved with films and the production of design and beautiful design sets. And I think that is becoming for us a very interesting tool. Of course, we also investigate and produce a lot in terms of fabrications, and those conditions we use teaching to produce many other things. / I will show you in parallel, an



AFTER-THOUGHT

FLEX-CITY – 81 scenarios for Lower Manhattan [Max Protetch Gallery // Venice Biennale of Architecture 2002]
 The proposal for downtown Manhattan after the WTC collapse was based on a 're-thinking', rather than a 're-building' of the area. In a society where consistency and stability have given way to uncertainty and volatility, one adapts. For instance in any given economic situation, there are a number of outcomes, or points of equilibrium, that can establish and maintain themselves. Most variables affecting these outcomes are *exogenous*, which means one has to choose values for them

on the basis of knowledge and intuition. For example, when particular circumstances adjust and change the stock market often performs a corresponding adjustment. The resulting changes are then absorbed and responded to by people through their behavior. The fact that any prognosis is dependent on data and its corresponding affects in society, would seem to indicate that there is a necessary process of interpolation, not just calculation, at play. Absolute values evaporate and calculated probability or *flex-ability* appears.

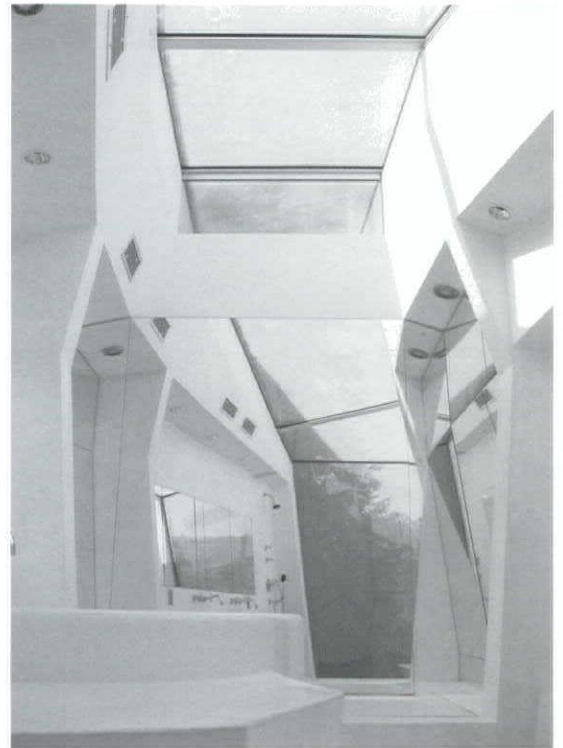
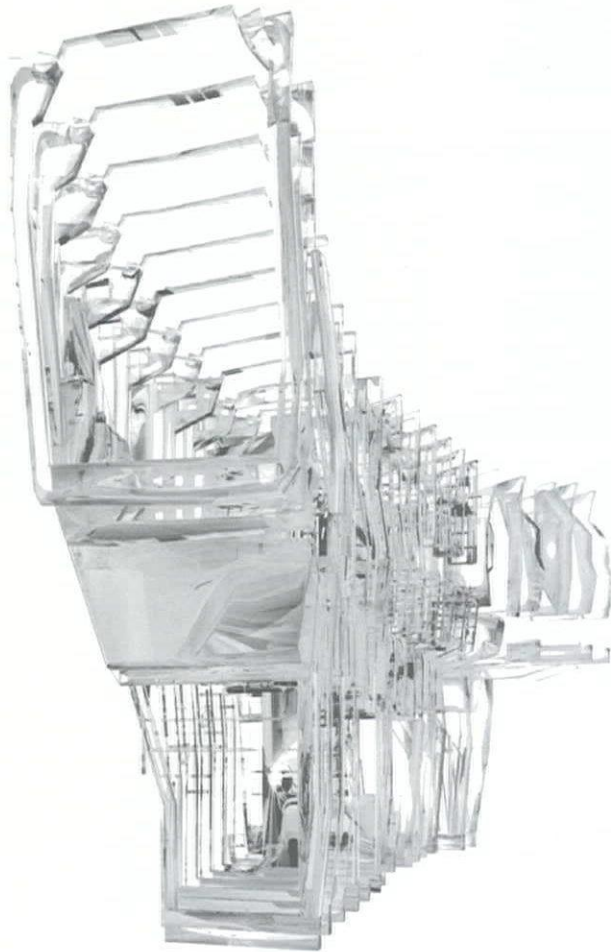


Digital Installation The interactive digital interface "Flex-City" allows the visitor to choose different parameters in order to create one of the 81 scenarios for downtown Manhattan. The evolution of the last ten years of economic and social flux was studied and interpreted as consequences of growth, to be extrapolated into a future 'flex' program. Its interactive electronic environment allows you to create a city-scape sensitive to Social Flex and Econ Flex. It combines con-

stant instability (Stock market and Migration patterns) with permanent adjustment (Local politics and Tourist behavior). The Flex-archive will give you data and background information on the global flux of the last ten years; the prognosis is for the next 10 years (up to 2012: NYC Olympics). The flexibility will be found in the re-generation of a hybrid city model where mixed-use zones overlap and integrate in interlinked live-work-play-learn zones.

SvS, Hernan Diaz Alonso: installation that we did two years ago already in Los Angeles. It was, again, trying to use this kind of new technology to produce the effects and the affects. But then when you go back to production there are many parts where you can use, let's say, a parallel condition within technology into the physical world. And there are many issues that still are not under control. That kind of a dirty, corrupt condition interests me a lot. / I think that's what we're trying to navigate right now, in the relation between how you produce the affect and then management of desire through the production of, let's say processless or non-process based work and a much more

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11 ar-ma-ture *n.* 1. the moving part in an electromagnetic device, wound with coils that carry a current.

2. a bar of soft iron or steel placed across the poles of a magnet to maintain its strength. Also called keeper.

3. a protective outer covering or structure, for example, quills on a porcupine or spines on a plant.

4. a framework that supports a sculpture while it is being modeled

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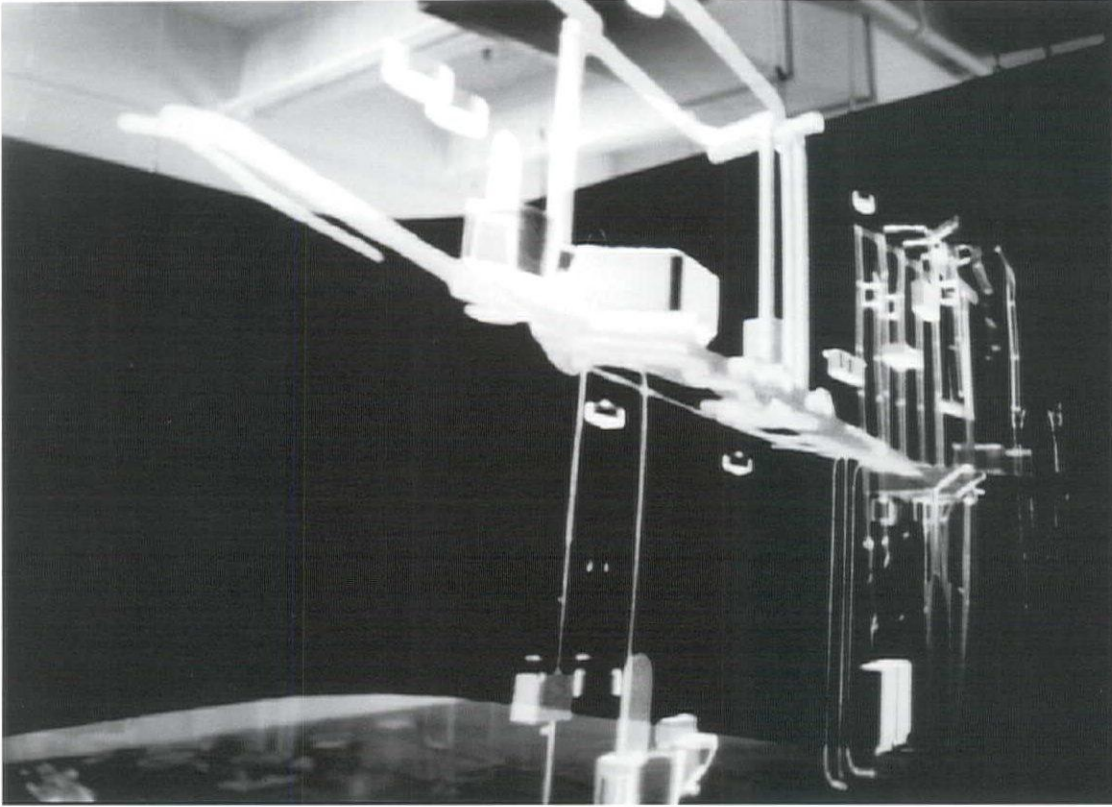
GT residence – Armatures [2003] We studied the performative aspects of hyperactive domestic functions in the development of temporal modulations for the Armature,¹¹ an intelligent core for the GT-residence. The house's structural center resides in this generative core, a centrally located "smart structure" integrating cooking, bathing, heating & cooling systems, environmental systems, and a central music system. The aggregation of the armature's performative elements pro-

duces a segmented, organic shape, resulting in the self-generation of *meaning-form*. Yet the armature functions not solely as an infra-structural unit, but also as a circulatory and generative element, directing interior movement and molding the surfaces connected to it. Its organic shape distorts the pure geometry of the exterior shell; the roof warps to conform to the armature's segmentation. As the structure's exterior surface responds to the generative force of the armature, the "house-

as-pure box" softens, tilts, and fragments. The armature, hyperactive in its function, de-activates the surrounding spaces, now designated as "lounging voids". It defies the traditional hierarchical relation between hallways and rooms, and creates a continuity of overlapping environments, and integral adjacencies. Architecture becomes a responsive medium—responsive to the organic shapes and human forms and functions it houses.

SvS, Hernan Diaz Alonso: performative one. And in the same way that you will, the effect that you will have in the movie, and the movie will not get interrupted in the middle to explain you where Robert De Nero was born or any other condition. So, hopefully other worlds will start to open in the way that the DVD can help you. So you like the movie, then you go buy the DVD and you figure out how the hell they did it. / But nevertheless it seems to me that for me one of the critical conditions about technology should be to push really - for me, what is important I think is bringing a new era of hope for architecture. I think in that sense architecture in the way that we know it is not

AFTER-THOUGHT



From HardWare to Soft-Form [Frederieke Taylor Gallery, NYC, Sept. 2002, Art & Idea Gallery, Mexico City Aug. 2004].

Interactive Installation

The Armature as an animate architecture and generative device has been abstracted and further examined in the generation of "From HardWare to SoftForm". This holographic interactive instal-

lation of the 'Armature' investigates the transformation of the object [the armature] into an abstraction of light, speed, and sound [environment]. The visitor activates the projected construct real-time and instigates this transformation. The armature as it occurs in the GT residence was abstracted by slicing it. In mathematics complex higher dimensional studies can only be visualized and simulated through

the process of slicing and digitally animating the object. Sensors, or triggers,¹² in the inter-active floor developed by the Context-Aware Computing Group of the MIT Media Lab, register the visitors weight and activate the projected construct as a dissection of an organic unit that expands, contracts and envelops. This interaction challenges the relationship of the viewer and the object, constantly re-inves-

tigating its 'objectness'. Sound technology further enhances the effect or affect; localized hypersonic sound beams developed by Robotics International enhance this real-time animated virtual environment. An ambiguous animated environment ensues, enveloping the visitor and the gallery's confines.¹³

12 trigger *n.* 1. a small lever that is pressed with a finger to fire a gun.

2. a small lever or device that is pressed or squeezed to operate a mechanism, for example, by releasing a spring.

3. a stimulus that sets off an action, process, or series of events.

4. an automatic or manual pulse or signal for an operation to start

vt. 1. to set something off, bring something about, or make something happen

2. to fire a weapon or initiate an explosion by operating a trigger

3. to initiate electrical or mechanical activity that will then allow a device to function for a time under its own control. *Encarta® World English Dictionary* © 1999 Microsoft Corporation. All rights reserved.

13 "From HardWare to SoftForm" was sponsored by: The Netherlands Foundation for Visual Arts, Design and Architecture, Amsterdam, The Consulate General of The Netherlands in New York, and Steelcase USA.

SvS, Hernan Diaz Alonso: at least dead. It's just - it's useless or not interesting enough in terms of carrying on the weight of culture. / So pretty much the problem for me starts to be how we can use these techniques and this methodology to decodify or to translate formal tuition knowledge that it doesn't occur from person to person. In our case, again, we don't argue this is a process of diagram, we argue much more through the production of images. In that sense the work will operate much more closer to the way that someone like Bacon will operate in terms of the way that surfaces are treated or in the way that someone like Matthew Barney starts to deploy the condition between

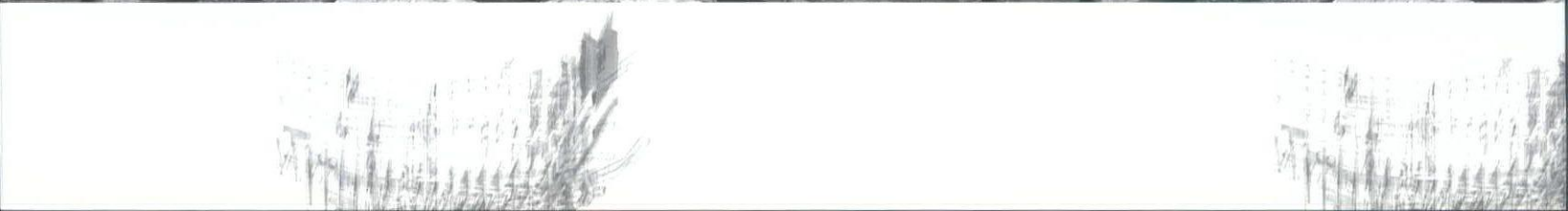
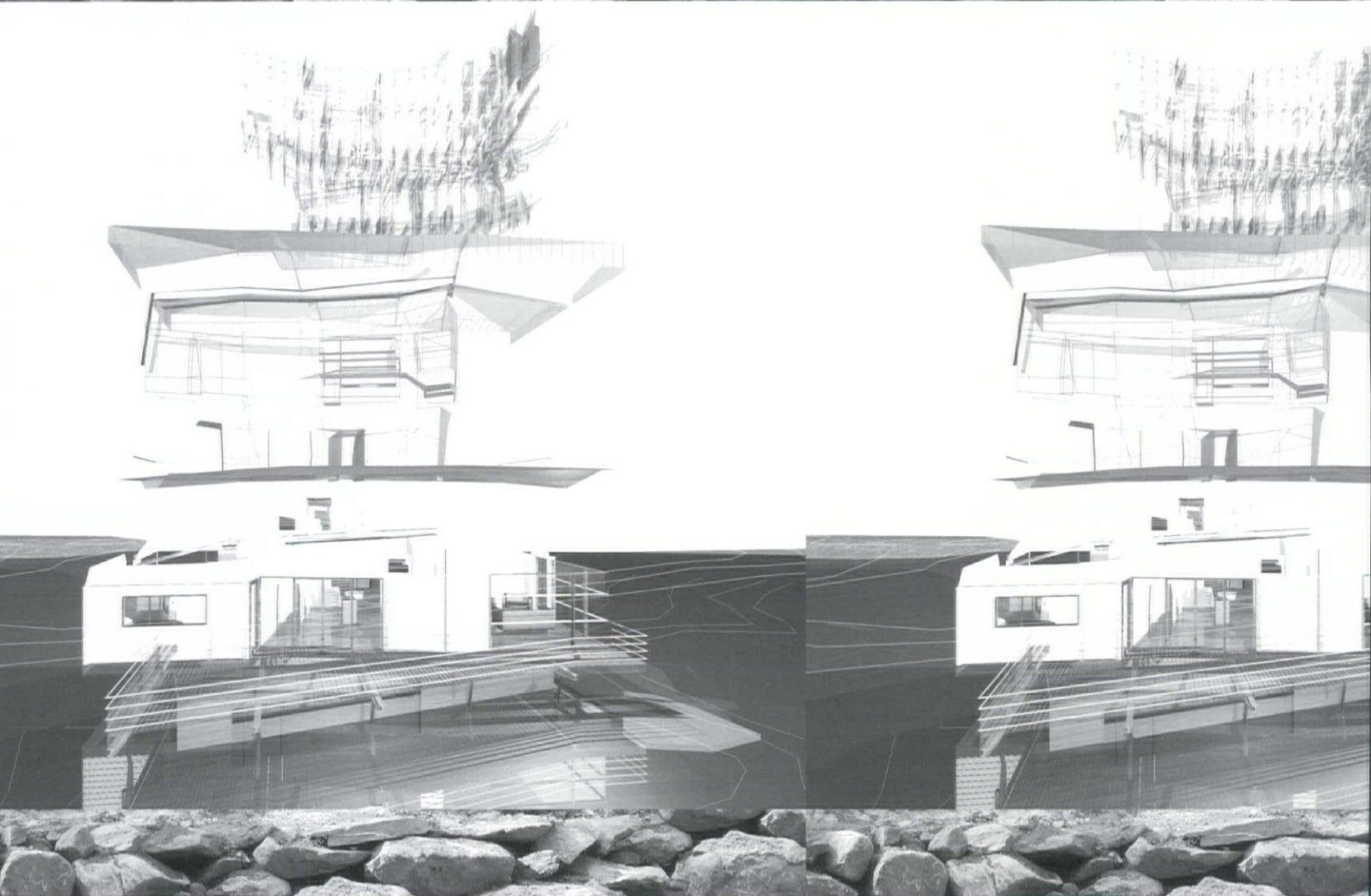
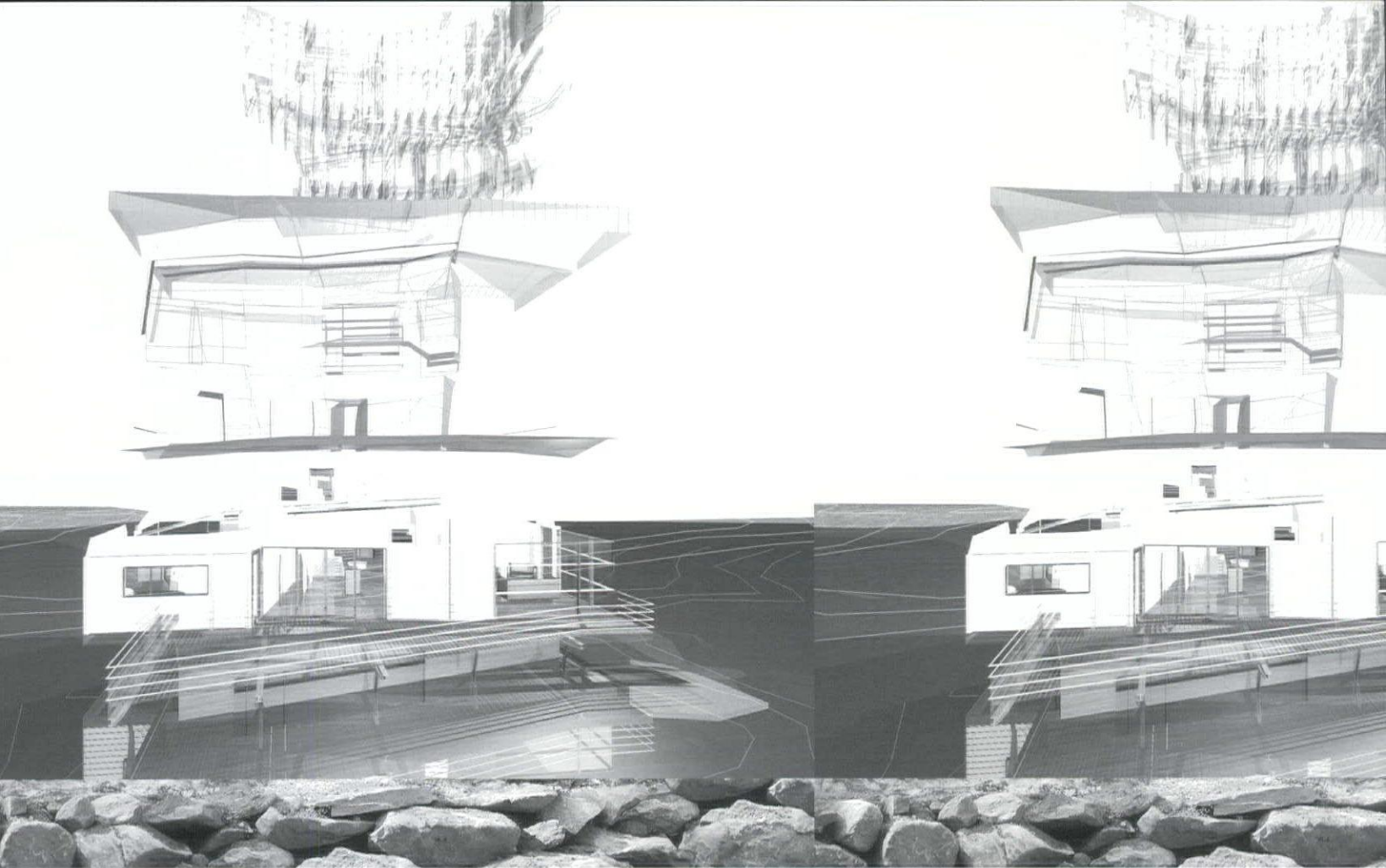
WINKA DUBBELDAM

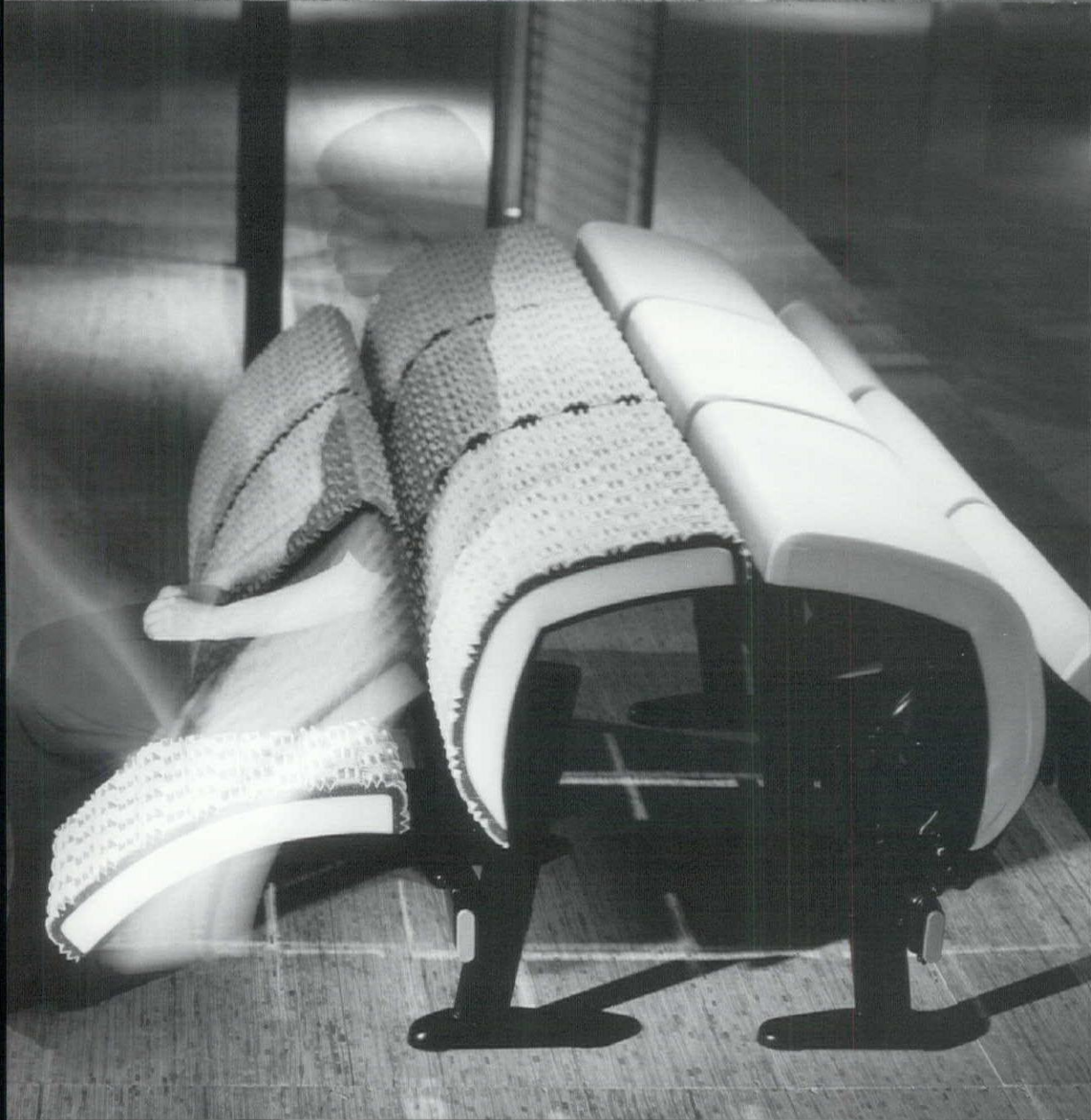
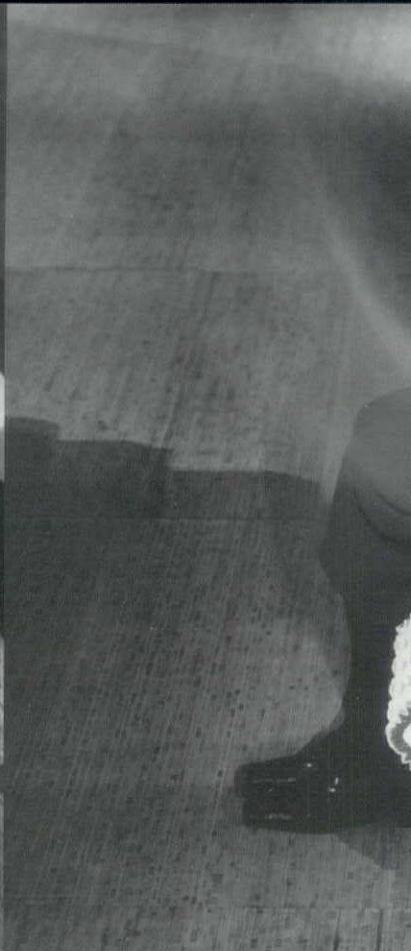
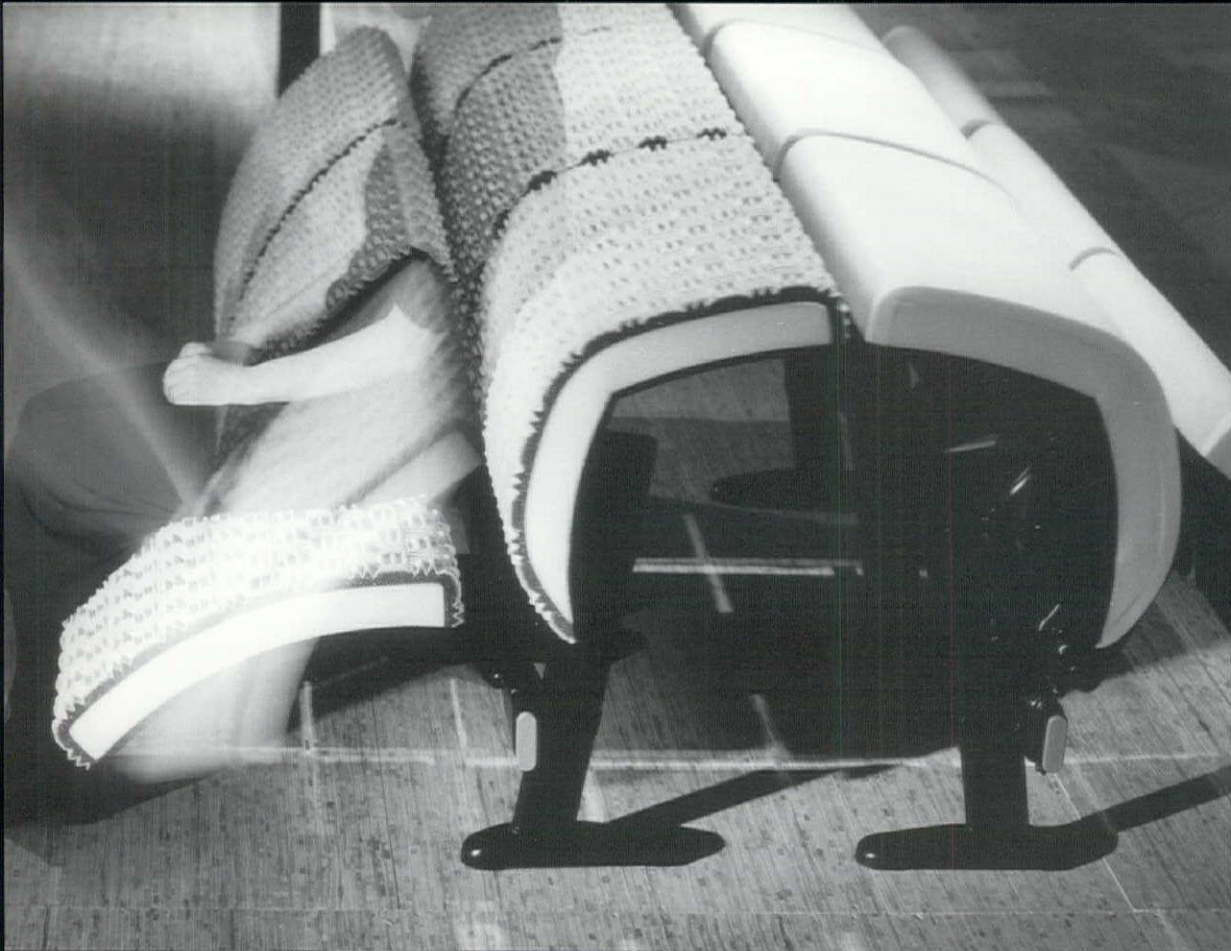
¹⁴ **glob-al-ism** *n.* "the belief that political policies should take worldwide issues into account before focusing on national or state concerns, or the advocacy of this belief"
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AFTER-WORD [WARD]

The globalization¹⁴ of our living environment is creating external / internal stimuli which calls for an intricate response mechanism in order to accommodate / integrate large technological and cultural shifts. The realization of this complexity, with its multi-layered systems already calling for a new spatial order, is manifesting itself in ways which are looking to science to discover ways of bringing resolution and understanding to this global existence; architecture has the role of identifying this globalization to extract and transform its many systems into a spatial construct. Nevertheless, it is also important to note that the scientific method produces a probability, not an absolute value or answer. Facts cannot stand alone as aspects of research; a personal and cultural interpretation, taking into the fold the machinations and vicissitudes of a cultural organism, is crucial to maintain the relevance of the research. The resulting prognosis, though exogenous, is a combination of scientific inquiry and culturally motivated intuition; architecture as system-based process, or meaning-form, can thus be developed. With information technology now linked so closely to the built environment, architects have become the translators of this information. Similar to the 'Lite-Urbanism' defined by Koolhaas, there is no longer a focus on absolute form but rather on a designated field of possibilities, instabilities, and related behaviors, which allow for emergence to occur. The strategic self-generation of form – meaning-structures – enables architecture to surf the dialogue produced by the marriage of the scientific approach and the culturally invested analysis of its resultant prognostications. The crisis can be productive.

Opposite: Archi-Tectonics, GT
Residence – Armatures.





TOKYO CATALYST: SHIFTING SITUATIONS OF URBAN SPACE

NORIYUKI TAJIMA

We are faced with a changed world from the late 20th century and a wealth of new global structures. Money moves seamlessly from city to city making the worldwide financial market the single strongest influence on any local activity.

This shift has been prompted and accelerated by the digital revolution of the 1990's. New technologies have encouraged unrelenting time-less and location-less communication and information transfer. Asynchronous e-mail has allowed differences in time and place to disappear and the 24-hour global market or 'global city' to emerge. It is estimated that nearly half of the world's population is currently living in cities¹ rather than the countryside of agrarian centuries past. As these conurbations develop, their considerable influence upon one another continues to increase.

Only now can we begin to make sense of the enormous changes that have occurred in these global structures over the past decade. This episode of change has been a confusing period for urbanism; especially for those operating within the disciplines of architecture, design and planning. Although the degree of impact that the digital revolution of the late 1990s and early 20th century has had on our social structures has become somewhat apparent, it remains unclear exactly how this emerging virtuality might affect the tactile and physical world of urbanism and architecture. Tokyo, in this respect, is an especially interesting case.

It is quite evident that new technologies are being deployed at an increasingly accelerated pace and that the general population of Tokyo thrives on these radical transformations. Extreme social shifts in the utilization of these new technologies are easily observed in the mass markets of the megalopolis. It can therefore be easily accepted that Tokyo is not just another city, but a microcosm of the dominant aspects of all global cities.

The vast size and massive population of Tokyo— with its immense transportation infrastructure and willing absorption of new technologies – is easily apparent alongside the fragmented urban structures and diverse character of various districts throughout the metropolitan region. In every aspect of Tokyo the insatiable appetite of the global financial and commercial markets is made evident by the influence of the telecommunication and Internet culture of today

Urban Scale: Quality of Public Space

It is well documented that Tokyo is one of the world's leading cities, not just in terms of physical size but also in terms of financial weight, affording it an unparalleled significance in the global economy. The metropolitan area of Tokyo covers 13 thousand square kilometers (3.2 million acres) and is where nearly 33 million people live and work. This population is 3 or 4 times larger than that of most other comparable global cities such as London or New York, and in turn has commensurate numbers of people flowing into and out of the public spaces of the city each day. The immense, horizontal and outward urban spread of Tokyo provides it a unique character, especially in

¹ "At the outset of the twentieth century, 10% of the population lived in cities. In 2000 around 50% of the world population lives in cities. Tokyo will be the only rich city to figure in the list of the 10 largest cities." Statistics by Céline Rozenblat, *MUTATIONS* (ACTAR, 2001) 2-7.

Opposite: Armadillo Bench designed by Noriyuki Tajima + tele-design. Intended to be placed in a highly active public environment, this bench is designed to engage the user by adjusting its shape to the user's body shape. When the user stands, the bench returns to its original form. The bench is able to reveal and visualize a bodily action and the user's relationship to the bench itself.

SvS, Hernan Diaz Alonso: cinematic effects and starts to relate with physical conditions. / So this movie that's going around is showing series of projects that we did a year, year and a half ago that are all based on the same principle of geometric control. I mean, our work, of course, is our form, and not shape. And because it's our form it's our geometry, and in that sense it still is a classical art problem. I'm not so sure that we're ever going to be able to detach ourselves from it. And in that sense that's why I relate much more the work to film effects and not video gaming, for example, which I would say is a kind of a more contemporary problem. Or in the way that someone will

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² *i-mode* is the platform for mobile phone communications with visual browsing capabilities introduced in 1999; accessible to more than 81,000 Internet sites as well as specialized services such as e-mail, online shopping and banking, ticket reservations, and restaurant advice. Users can access the network from anywhere in Japan.

terms of the quality and type of public space the city can offer

Infrastructure: City on the Move

Tokyo is an accumulation of twentieth century urban development and as such is full of many contradictions. Although it grew from a medieval city – the basic street and area layout is from the Edo period (1603~1867) – it has experienced all the urban changes of modernization. A total of 30,000 kilometers of highway network and 13 hundred kilometers of railway network cover the Tokyo metropolitan area. Compound that with the more than one million cars utilizing these highways every day and the 11 million daily commuters on the railways, and it is easy to see that Tokyo is a city on the move. This web of transportation infrastructure enables and encourages people to move efficiently and quickly from one place to another, and as such this constantly changing and shifting existence leaves the city in a state of perpetual flux.

Urban Scope: Behavioral Cognition

During the last ten years, large-scale monitor screens have been added to the innumerable advertisement boards that fill many of the urban squares of Tokyo. For example, Hachiko Square near Shibuya Station has four enormous monitors and hundreds of advertisement boards filled with commercial and mass media images that continuously pour into the surrounding urban space. This urban situation creates a reversed reality of individual perception. Here what is unreal has become hyper-real, even more so than

the reality of the surrounding physical space. Within the context of an environment generated by a mass media oriented urban-scape, the behavioral cognition of the urban becomes drastically differentiated from the traditional modes of physical community.

Information Technology: Topological Diversity

Since mobile phones became economically accessible to consumers in the early 90's, the number of users of the technology has grown exponentially, doubling every year. Simultaneously, wireless information browsing and mail systems are quickly developing together with new Internet technologies. These new communication technologies have become nothing short of pervasive. Today there are nearly 30 million users of *i-mode*² – an advanced information system introduced by NTT Docomo, Japan's largest mobile phone company. This service transacts over 300 million messages daily. People are not only free to phone each other from any point in the city, but can now send and receive email and search the Internet from seemingly any location at any time. This invading wireless network diversifies the topology of the urban space, dramatically changing the use patterns of both public and private realms.

In order to explore these new urban symptoms and their appearance within the global city, four basic concepts are introduced: 1) Satellite Body, 2) Public Domain, 3) Hinged Condition, and 4) tele-urbanism. The concepts have emerged from investigations that began in the mid-1990s and have continued through today. They should not be considered continuous concepts of static analysis, but rather are arrived at



Night shot at Hachiko Square, Shibuya Station.



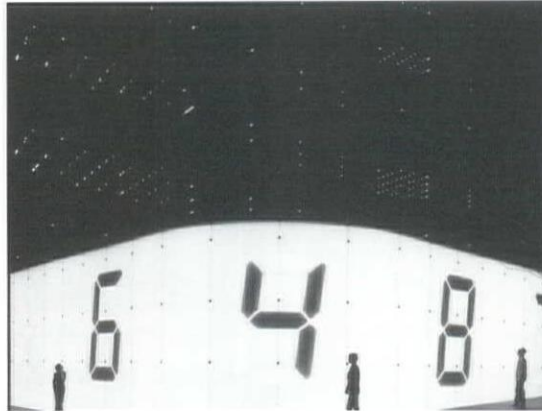
Day shot at Hachiko Square, Shibuya Station.

SvS, Hernan Diaz Alonso: distinguish beauty and ugly from the cool and the boring. / In any case, what we're trying to produce is how you construct, when you argue that the collection of affects, you cannot do that but you can control them, you can use effects, and the way that you produce that is in technique base. In that sense, the work, our work will operate with the tradition of architecture. / Other than that, I think after me is Winka, so the news are coming back. This is, again, this is a series of prototypes and different kind of experiments that we're working. Some of them will go into production, some of them will not. Most of them will not, of course. But just to, let me see

TOKYO CATALYST: SHIFTING SITUATIONS OF URBAN SPACE



Mobile phones have become the dominant form of communication in urban public space.



Counter Void by Tatsuo Miyajima: This installation is situated in the Mori Building at the recent mega-development, Roppongi Hills. His work counting numbers is intended to evoke the sign of global pulsation.

through a detailed analysis of individual cognitions of urban space and activities.

SATELLITE BODY

Mapping the City

To 'know' a city, one must walk its streets; but to 'see' a city, one must disconnect from it in order to perceive its whole. From a distance, the skyline 'represents' the city. Its massed density is the shock of cognition; its silhouette the enduring mark of recognition. This visual character is the city's symbolic representation.³ In Tokyo, it is difficult even to "know" the city. The maze of streets inevitably confuses even the most familiar pedestrians.

Pair this with the seamless and perpetually expanding edge of the Tokyo metropolis, and the opportunity to 'see' the city rarely exists. There is an absence of legibility that leaves the repertoire of Kevin Lynch a dated and inoperable proposition.⁴ Tokyo simply has too many 'paths' and 'districts.' 'Edges' become blurred, and the uncountable 'landmarks' throughout the city become indistinguishable. Physical 'nodes' in the sense that Lynch refers to them are quickly disappearing. Only a physical map – a drawn cartographic projection – can give us an opportunity to clearly comprehend and visualize the city. This document provides a certain holistic understanding of the metropolis that makes clear how the individual self is related to the whole. The shear magnitude of Tokyo – with so many different districts and an ever-

growing populous – is beyond one individual's cognitive ability to map.

New automobile navigation systems fitted with GPS (Global Positioning System) provide an essential tool in the everyday life of a Tokyo resident. Taxi drivers cannot memorize street names as in London, nor can they count the numbered street grid as in New York since the address system in Tokyo is adjusted area-by-area and block-by-block. Compound this with the fact that the numbering system for buildings on a single street may be out of sequence as well. By simple necessity, technologies such as GPS have developed at a rapid pace and have been deployed more widely as the demand increases. No longer limited to the automobile, GPS service is now even available in mobile phones to assist lost pedestrians.

Remote or Satellite Reality

The issue of comprehending the city is analogous to the experience of landing an aircraft in an unfamiliar city. Through tiny windows one sees the map-like view of roads, boundaries and districts. From this perspective, they seem static and lifeless; a kind of abstract model. As one descends however, this reading becomes increasingly detailed. Each small element enlarges; trees and cars and people come into view and their movement becomes accelerated. At a certain point it even seems as if you can reach out and grasp the city from beneath your seat. However, just as quickly as it first came into view, the wheels of

³ See Daniel Bell, *The Cultural Contradictions of Capitalism* (New York: Basic Books, 1976).

⁴ Kevin Lynch wrote in *The Image of the City* (The MIT Press, 1960) that the legibility of an individual's spatial conception of the city depends on that person's unique mental cartography. According to Lynch, this mapping of the city can be analyzed using five basic spatial notions: paths, districts, edges, landmarks, and nodes. In Tokyo there is a different yet commensurate set of elements that offer an individual a clear conception of the contemporary city: These include the home, the transportation terminal, the railway network, the workplace, and various retail establishments.

SvS, Hernan Diaz Alonso: what we have over here - I mean, if many of these techniques of fabrication are shared to what some of the stuff that David and Mark were showing, so is irrelevant to talk for me about that. / And at the end I think it has to do again, maybe, to - the ultimate ambition, I think, is to try to detach our work from some of the traps or cages that architecture has been trapped in, this kind of moralistic searching for meaning. In that sense, we have a much more playful attitude, and I think it has to do again maybe with a little bit lack of respect for Architecture with a capital A, and in that case if I offend some of you, I'll apologize, and I'll leave it up to

NORIYUKI TAJIMA

Satellite Navigation Systems with GPS tells you your exact location, as if you have another set of eyes to look down on yourself from the sky.



the plane set into their landing position and the city is again lost from your cognition.

At this moment, the visitor has in effect lost his or her comprehension of the city. This brief understanding and conception is exchanged for vast spaces, new aromas and sounds, indistinguishable announcements and the forward rush of people. Everything happens simultaneously and then instantly the city you thought you had so easily grasped, disappears. The city proper is now out of sight. Perhaps even more familiar, a similar experience is encountered on the Internet. A user has access to millions of web pages, but by its very nature, it is impossible to 'see' the Internet as a whole. Instead, people must rely on indexes and search engines to traverse the space of the web.

The experience of the city relies upon two different scales of perception that are often far apart. I would argue that urban experience resides upon imagination, allowing individual cognition to bridge between the scale of the map and the scale of experiential perception. Obviously, the context of immediate physical surrounding cannot give you the entire image of the city whole, therefore a map or a satellite view must serve as an aid in the actual comprehension of the city. This correlation is what I call a satellite body: the missing physical relationships to the city and in turn a reliance on the remoteness of the city through a prosthetic or satellite view.

PUBLIC DOMAIN

Loss of the Public

The phrase 'public domain' is often used to describe the open space of the Internet today. However, I would like to use this phrase for describing the physical public space of the city and how it has changed.

Since telephones and Internet terminals no longer necessitate being physically situated in buildings, a

new freedom has emerged for personal and business communications allowing them to permeate the public spaces of the city. Individual behavior and the fundamental characteristics of public open space have been drastically transformed by the invasion of these devices. This shift can be clearly seen in three products of this urban change: massive infrastructure, vast suburban areas and transportation systems that amplify the anonymity of people. Economic growth in Japan has produced an immense human pool of 'salary men' who typically live in suburban areas - one to two hours away from central Tokyo by train. Each day these salary men are trapped in trains with the swelling crowds of their unknown counterparts.

While their working community is the offices within the central business district of Tokyo, their suburban hometown is termed a 'bed town' - utilized only for sleeping and recuperation. This scenario has resulted in the complete loss of local community, with unknown and anonymous neighbors on the trains and in their bed towns the norm. Whether it is at bus stops, in mass transit stations or on trains, all along the commute to and from the office, the salary man mentally isolates himself from the surrounding context until he reaches his destination. It is upon reaching this point that he can recover and again reestablish his connection to society.

People no longer expect social and communal exchanges in the urban and public space of Tokyo, but they get it back in the office or at home utilizing media and communication systems such as the television or the Internet. Such an inversion means 'public domain' for contemporary residents of Tokyo doesn't exist within the actual public space of the city, but somewhere within the buildings or houses that define these spaces. The urban and social condition of Tokyo has become wholly reversed from the traditional hierarchy of urban public space. Urban design principles based on the Roman Forum or the Italian piazza are no longer applicable because there is no community existing in the urban spaces of the city as it once did. People may physically be in these public spaces but they remain isolated, losing their actual relationship to the 'public'.

SvS, Hernan Diaz Alonso: Winka now to bring back a serious condition of architecture. / Thank you. / Michael Speaks: Thank you, Hernan. We have a quick, quick, very, very quick techno switch from PC to Mac, and then Winka's going to show her work. / Winka Dubbeldam: Okay, can we turn the



TOKYO CATALYST: SHIFTING SITUATIONS OF URBAN SPACE

Personalized Space

When the telephone was introduced during the first half of the twentieth century, it was situated only in the public buildings of each district. This new technology was seen as a public gateway to the other districts of the city and was mainly used for official purposes. When telephones became widely available for individual homes during Tokyo's period of high economic development, they were positioned next to the main entrance of the house to designate a form of significance that reserved the technology for guests and important occasions. This deferential pattern of use surrounding the telephone persisted up to and throughout the 1970's.

In the 1980's, the possibility of more telephone extensions and additional lines allowed the telephone to leave the entry areas of an individual's domicile and reach into the private areas of the home, shifting the possibility of uses of the telephone from official business to long intimate chats. The phone ceased to function solely as an authoritative gateway for matters of significance, in turn being assimilated into the banalities of the everyday. Further, when the mobile phone emerged and surpassed the land-line as the primary form of communication in the mid-1990s, the notion of telecommunication became completely disengaged from any relation to actual physical space. People simply began to use the (mobile) telephone as an on/off button, controlling personal and private zones within all urban spaces.

Missing Proximity

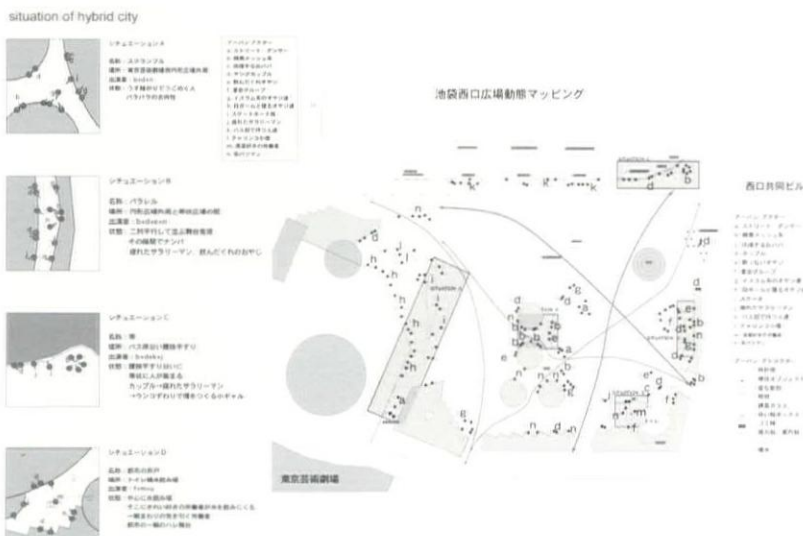
Other familiar concepts have also shifted the contemporary urban condition. The word 'neighborhood' no longer suggests a close relationship between groups of unrelated individuals, but rather now connotes something more anonymous. Community is no longer based upon physical or geographical proximity, but something different. Urban space in Tokyo has emerged into a kind of 'masquerade' utilizing various forms of communication to convey a constructed reality much in the same way role-playing computer games such as Multi User Dungeons (MUD) allow participants to establish and change synthetic or false personalities.

The particular joy of MUDville is the striking way that it foregrounds issues of personal identity and self-representation; as new comers learn at old MUDders's knees, your first task as a MUD initiate is to construct an online persona for yourself by choosing a name and writing a description that others will see when they encounter you. It's like dressing up for a masked ball, and the irresistible thing is that you can experiment freely with shifts, slippages, and reversals in social and sexual roles and even try on entirely fantastic guises. You can discover how it really feels to be a complete unknown.⁵

A fieldwork study undertaken in Ikebukuro illustrates this condition. Ikebukuro is one of the major stations of the Tokyo subway. The urban space around the station is a public square designed by the respected Japanese architect Yoshinobu Ashiwaya who conceived of the space as being something

⁵ William J. Mitchell, *City of Bits*. (The MIT Press, 1995) 118.

mapping of IKEBUKURO park



Basic research done in Ikebukuro as a part of Socio Landscape workshop by tele-Design in 1998: This analysis revealed the use patterns of the public square and the social disconnect between occupants of the space.



SvS, Winka Dubbeldam: light down? It actually works. / So thank you, Hernan, that I come with a tasking. I was actually thinking as you were talking there was a French surrealist who said the man who could not imagine a horse galloping on a tomato is an idiot. / And talking about that, I thought what was interesting about it, after all, is that it would be nice to show a project

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along the lines of the Roman Forum. The square has achieved a certain degree of recognition, but not because of its quality of public space but because of its reputation as a date-hunting field. Though it is speckled with skateboarders, as few practicing dancers and swarms of indifferent businessmen passing through, its primary distinction are the numerous groups of boys and girls concentrating on their telephone text messages, steadily ignoring each other. What is so interesting about this situation is that while these teenagers hesitate to talk to strangers they are comfortable finding seemingly anonymous partners through e-mail or chat rooms. Only after locating a possible partner on the net, do they feel confident enough to try communication with a real person face to face.

Without the specific circumstances of a theatrical play or art performance, people no longer share their public environment and enjoy its synchronous communication. There is so much individualized media that a dislocation between the individual and the public realm is continuously observed: one person reads a newspaper or a magazine, the other talks on a mobile phone, another is watching a large TV monitor screen set in the façade of a commercial building, and yet another person passes by listening to music on a Walkman. Even in an automobile, satellite navigation and pre-paid toll systems have removed the need for direct person to person interaction. Unless they are canvassing the streets looking for a sale, it is rare that the contemporary city dweller can appreciate the nearly complete loss of adjacency in public space. With very little being shared, everyone now lives on a different plane.

People's behavior depends on the choice of personal media. They are now easily connected to personal friends who were once considered distant; geography is now relative. The contemporary urban structure is no longer dependent on architectural hierarchy or geographical proximity, but rather it relies upon remote networks which are overlaid onto the existing urban scape. The city is in need of new types of 'media' that raise and create synchronous moments of communication within the public space of the urban realm; otherwise the physicality of urbanism is under threat.

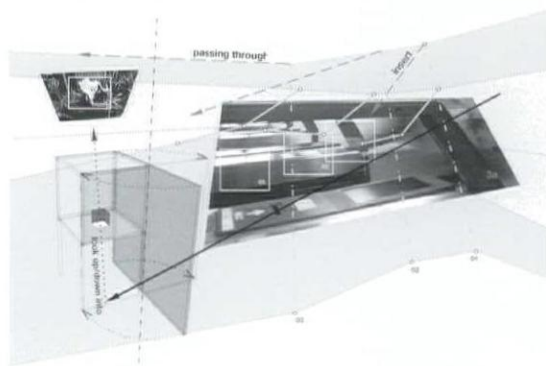
HINGED CONDITION

Lost Function

Urban space (and its associated functions) has lost its original form and has taken on hybrid structures: Skate-boarders use handrails for their special boarding techniques, while homeless people regularly occupy entrance canopies as sleeping spots. Alternatively, a young group of teenagers uses the mirrored glass façade of high tech buildings for their dance practice. These unconventional uses and users of urban spaces so often exceed the intended that they frequently alter or confuse the expected social division and hierarchy of the individual space.

Observing this tendency and thinking about what has changed within people's cognition of space, it seems that the traditional understanding of the relationship between design and function has been disregarded. People no longer appreciate the modern aesthetic of singular expression, but rather enjoy expanding the possibilities of a design through its utilization as a receptacle for various, unexpected uses. This reading of urban space can be seen as an adaptation of the machine age understanding of an object or artifact.

The computer is presently understood as a complex mechanic device contained within a simple box that is capable of running many types of software for various purposes. Keyboard buttons are not a direct mechanical input for their functions and as such have little visual connections to the computer's fundamental internal processes. Like the machine itself, the computer age understanding of the 'object'



A drawing that examines the "hinged condition" in urban settings done by tele-design as part of the "City Kinetic Situations" workshop.

SvS, Winka Dubbeldam: which was an afterthought, a thought which came when I got a question from a gallery in New York, in Chelsea, a Frederieke Taylor gallery, to do an exhibit, and I always had this huge problem with framing architecture drawings. Maybe I also have a problem with seriousness sometimes. And so what was then the thought was is to sort of rethink maybe a project we actually just completed, which was a house upstate in New York. Henri Bergson once said he never solved a problem that creates an interesting problem. And I guess we did that here, because in my light mode I said to Frederieke that I would like to do a real-time interactive holographic presentation,

TOKYO CATALYST: SHIFTING SITUATIONS OF URBAN SPACE



Andre Chairs, design by Kentaro Yamamoto + tele-design: Utilizing Pascal's theory, oil dampers are connected with each other under the base of the seating apparatus. When a person sits down, the other stools rise according to the amount of pressure exerted at that moment. When another person stands up, the other

stools fall correspondingly. Though each commuter may wish to be alone in the crowd – maintaining their individual social disconnect – each seated neighbor will intrude upon their privacy, forcing everyone to be cognizant of the actions of people seated around them.



Schouwburgplein, Rotterdam by WEST 8.

is ambiguous. Actual functions are hidden within a sealed container, rendering the object itself simply a system for running any application or software; a kind of open space prepared for various uses.

Shifting Space and Cognition

I would like to use the term "hinged condition" as a strategy that attempts to connect the above analysis – satellite body and public domain – back to the physical design of urban space. The phrase 'hinged condition' came from a primary investigation of architectural and phenomenological research on the perception of space. How do people perceive space from one individual to another? How is the action of self related to the perception of the space?

These propositions came from a constructed object that was used to explore the notion of a 'hinged condition'⁶ made in 1993. This model is a chunk of cast plaster within which a crumpled sheet of black paper was embedded. This block was then sectioned and hinged as a book. The simple artifact offers a hybrid and alternative translation of the architectural and urban situation. Turning the sections of this artifact allows the holder to mentally travel from one moment to the next, from one story to the other. The experience of walking through a city is analogous to this experience of the hinged object. There are always several events going on simultaneously while the walker shifts his attention from one to the

other. Every single event or situation can be seen at a glance – a section, of the whole sequence – and they combine to create another new event or situation within the individual's collective memory.

This primitive observation is easily translatable into solving some of the problems of urban space today. People tend to shift their focus from one media to the other: from television to their mobile telephone, to the Internet. Physical and synchronous experience is just another one of the 'media' to which the city dweller is now exposed rather than the primary experience.

Abstraction of Activity

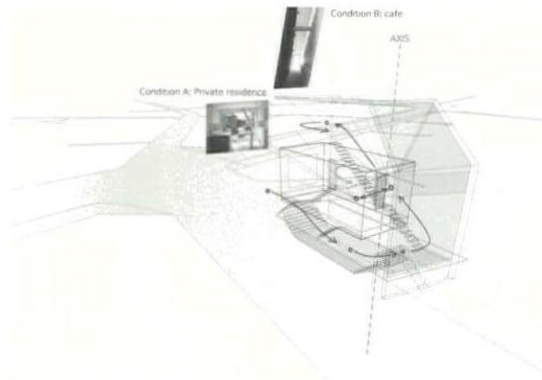
These ideas of new urban spaces are well represented by WEST 8's Schouwburgplein project in Rotterdam. This project is a simple platform for activities that utilizes a variety of surface materials to create the suggestion of choice. The crane-like objects flanking one edge of the plaza are made to appear functional – suggestive of the coming moments of movement. However these mechanized towers act simply as lights, intended to be operated by the residents of Rotterdam and the users of the park. Like the light cranes, the bench on the east edge of the plaza is suggestively literal in nature. Designed to be sat upon from both sides, it has a kind of abstract expression – like every element in the plaza – that suggests a certain freedom in interpretation by its users. The con-

⁶ This was a model made to examine the architectural concept of sequential perception as a part of my work at the Architectural Association in London. A black crumpled paper was placed inside a liquid plaster cast. When hardened, it was cut, section by section and hinged together as if a book. Reading or looking at it becomes an interesting mental journey. The black lines of the sectioned paper have a memory of liquidness before the plaster hardened. With each turn, you can actually travel the volumetric depth of the crumpled paper hidden within the visible slice of the section. Sequence becomes a three dimensional imagination of space.



SvS, Winka Dubbeldam: which was real-time, activated and holographic, which in the end I found out is completely impossible. So that became an eight month ordeal to figure out how to do that, and in the end, actually, as you can see here, we did manage to get close to something which was that. / Now, the way this actually originated was what you see below there, which I'll show right over here. It started in something which we called the armature, which was a generative piece. A house designed from the inside out. And we configured it in the way that we separated hyperactive

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C-house designed by Toshimitsu Kuno, Nobuyuki Nomura + tele-design. This house accompanies a kind of new style restaurant or a guesthouse, located in a midst of a residential area in Tokyo. The private portion of the residence is created by the floating box. The alternative public space surrounds this volume as if wrapping it. Half the basement space is the

restaurant or dining room for the owner's private guests. The top floor can be used as part of the restaurant or as the owner's private sitting room. The concept for the project emerged from the idea of "hinged condition" that here provides an alternative shift of spatial functions and reversed public space. (See photo on page 91.)

text provided by the designer provides the catalyst for various activities in the space without specifying the stipulations of each function.

tele-urbanism

Our architecture and urban design team is named 'tele-design.' Conceived of around the idea of tele-communication, our 6 core members aim to design architecture and urban spaces for the emerging communication society of the 21st century.⁷

In 2000, the office became a research subject for an information technology (IT) related experiment conducted by *Context Aware Messaging Service*.⁸

The technology involved in this experiment was a kind of urban and business groupware in which each participant is in possession of a mobile phone and a small handheld computer (personal digital assistant - PDA), both of which are connected to a server computer that controls and adjusts group communication. The location and schedule of each member is always shown on the PDA so that the system is able to define the relative position of all other members in the network. The server also monitors the business situation according to the registered schedule and automatically chooses the ideal mode of communication such as direct phoning, recording, or e-mailing. This simple device had an enormous impact on the way we thought and worked. The sense of sharing

space and sharing communication was so strong that there was more of a communal space in the virtual than the real; this combination of virtual 'sharing' with the occasional 'real' meeting simply provided a better, more balanced way in which to work.

Contemporary NODE or AGORA

In time we have started considering the new type of contemporary agora or 'node' of urban space. The Internet is without a doubt, a 'city' in every sense of the word. This system represents an urban field that is perhaps closer to the original idea of city than the current physical manifestations. In a conurbation as large as Tokyo, people's communicative behavior is almost completely reversed from that of a place like ancient Rome or even 20th century New York. People quite freely chat on the net, but rarely on the street. As we observed in the Ikebukuro 'date-hunting' square, the youth of Tokyo have already begun taking advantage of this emerging condition of dual communication.

The study and design of office space can expand this realm of urbanism. Today urbanity is no longer a local issue but rather global, as I mentioned in the beginning of this text. Global networks and markets are more dominant than any of the local matters of a city as we see the simultaneous expansion of capitalism and its affiliated markets with the continuing growth and expansion of cities like Tokyo. IT communication tools are quickly developing to accommodate the fast changes of the evolving business structures driving this development.

What is interesting here is that IT engineers and developers producing these technologies are not satisfied in these emerging components being isolated from their physical context. For them, this separation represents too much of the 'real versus virtual' dichotomy. They are instead striving to reestablish a connection of physical location with activity through these technologies; stepping into the realm of space and time that are the traditional domain of architecture and urbanism.

In 2001, tele-design participated in an invited competition to design a new world headquarters for a leading global IT company. The brief for the competition outlined two contradictory demands for the structure of the space.

⁷ tele-design was established in 1999. Core members are; Noriyuki Tajima, Chikara Matsuba, Kentaro Yamamoto, Toshimitsu Kuno, and Nobuyuki Nomura. The office's ideological aim is to develop new ways of working and collaborating among architects, designers, and urban planners.

⁸ CAMS is produced by Yasuto Nakanishi of the Graduate School of Information System, University of Electro-Communications. It is a dynamic messaging delivery system using location and schedule information. More details can be found at <http://naka1.hako.is.uec.ac.jp/papers/CAMShuc2k.pdf>

SvS, Winka Dubbeldam: functions and studied the performance of those hyperactive functions, and separated from all the kind of more lazy functions in the house. So deactivated the rest of the house in order to do two things. One, to kind of create a set of overlapping zones, but also we thought that that armature, which then kind of was this hyperactive unit, would be kind of a set of efficiencies but also become kind of the generator of the kind of set of zones, which then decided to reconfigure this domestic space. / So rather than thinking of a house as kind of a hierarchy of hallways and rooms, we started thinking of it as something which actually now became a generator. And you'll

TOKYO CATALYST: SHIFTING SITUATIONS OF URBAN SPACE

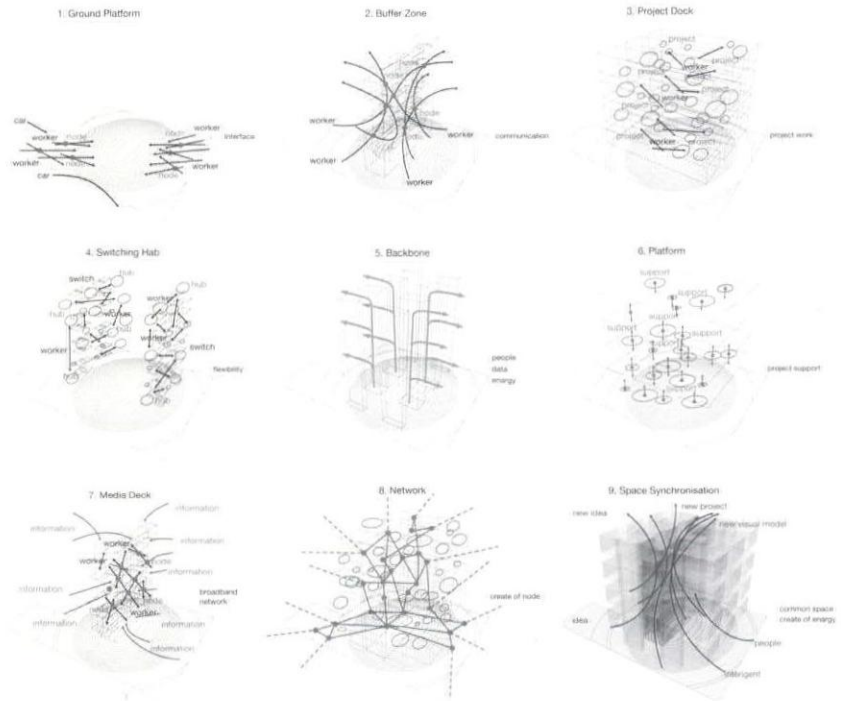
The first of these demands revolved around the company's very composition. This was a global conglomerate with offices all over Japan and sub-offices throughout the world. The brief asked that this new headquarters restructure this organization, and simultaneously develop a remote work sharing system that allows every single project of the company, regardless of where it was being developed, to be achieved with maximum efficiency. This notion of 'remoteness' immediately evoked the idea of the Internet and the virtual agora. The second request outlined the need for the headquarters to integrate the various dispersed offices from all over into a single physical structure. This request essentially called for a physical agora where direct personal encounters and interaction would take place, and would be fully integrated with the virtual agora necessitated by the first requirement of the program.

These two contradictory demands vividly illustrate the problem of public spaces in Tokyo. Today, inhabitants gain their mutual relationship through communicating via the Internet or through remote communities. Despite the physical and geographic proximity inherent within it, public space in Tokyo does not invite communal exchange and interaction. These spaces have simply lost the original value and qualities they were designed to provide. Simply put, the architects and urban planners of the 21st century need to reinvent the value of physical 'nodes' so that they possess a true adjacency and compatibility to the emerging virtual agora.

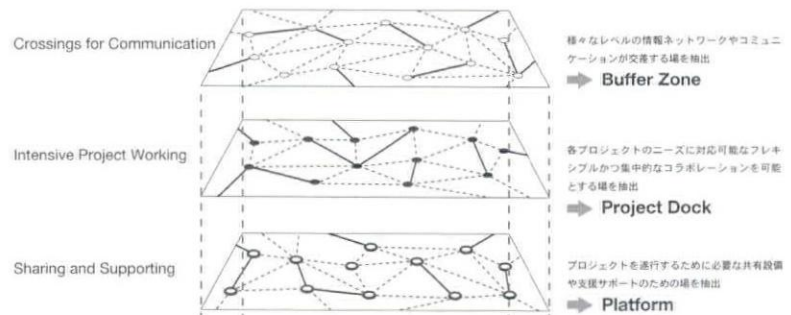
TOKYO CATALYST

I would like to now come back to the title of this text: "Tokyo Catalyst." 'Catalyst' of course refers to a substance that increases the rate of chemical reaction in a solution. If there is something we can do or aspire to as designers, I would like to suggest that it is to conceive of a way to make something pivotal: to intervene into urban reality and look at all of the small details that drive a city and make it work. Once this understanding has been achieved, then we will be able to find the precise moments and locations at which to instigate a kind of chemical reaction with the tiniest drop, or "node" of catalyst to truly affect urban change.

Creating Process of Working Space



Strategy for Generating NODE



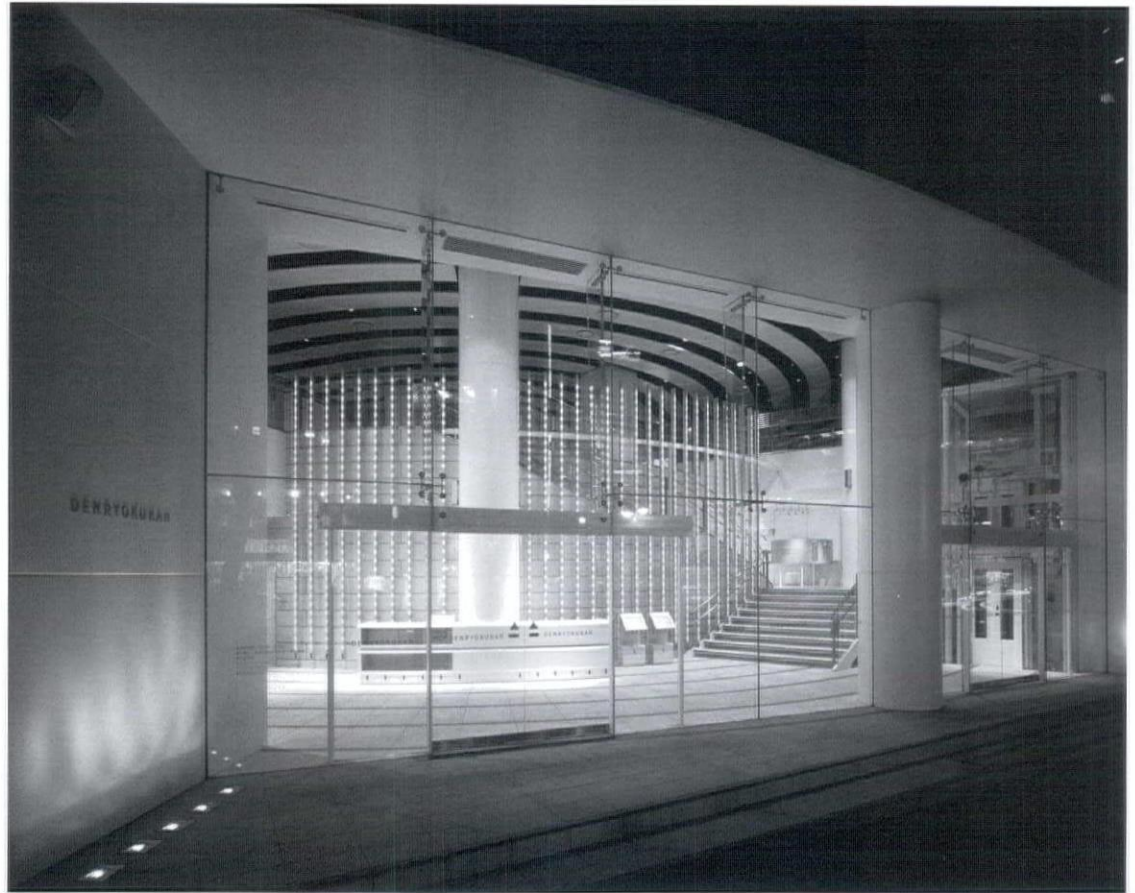
Ubiquitous and Global Network

Top: Functional diagram for S Headquarters Building Competition

Bottom: Strategic diagram for S Headquarters Building Competition. The diagram shows the extraction of three types of nodes that invite a crossing plane between a datascape and urban space.

SvS, Winka Dubbeldam: see an exploded view on the bottom of the house there where actually the armature is lifted out. / The house itself is a very simple box. It's, you could say, kind of an anti-Gehry. It's super, super simple on the outside and highly complex on the inside. And it's only highly complex because it actually performs in a certain way. So you could say here the difference is, complexity is not based on form, but it's actually based on performance, and the idea that if we start to think like that, architecture could actually approach kind of a level of maybe industrial design intelligence. / I think the surrealists had a similar approach we currently in architecture are

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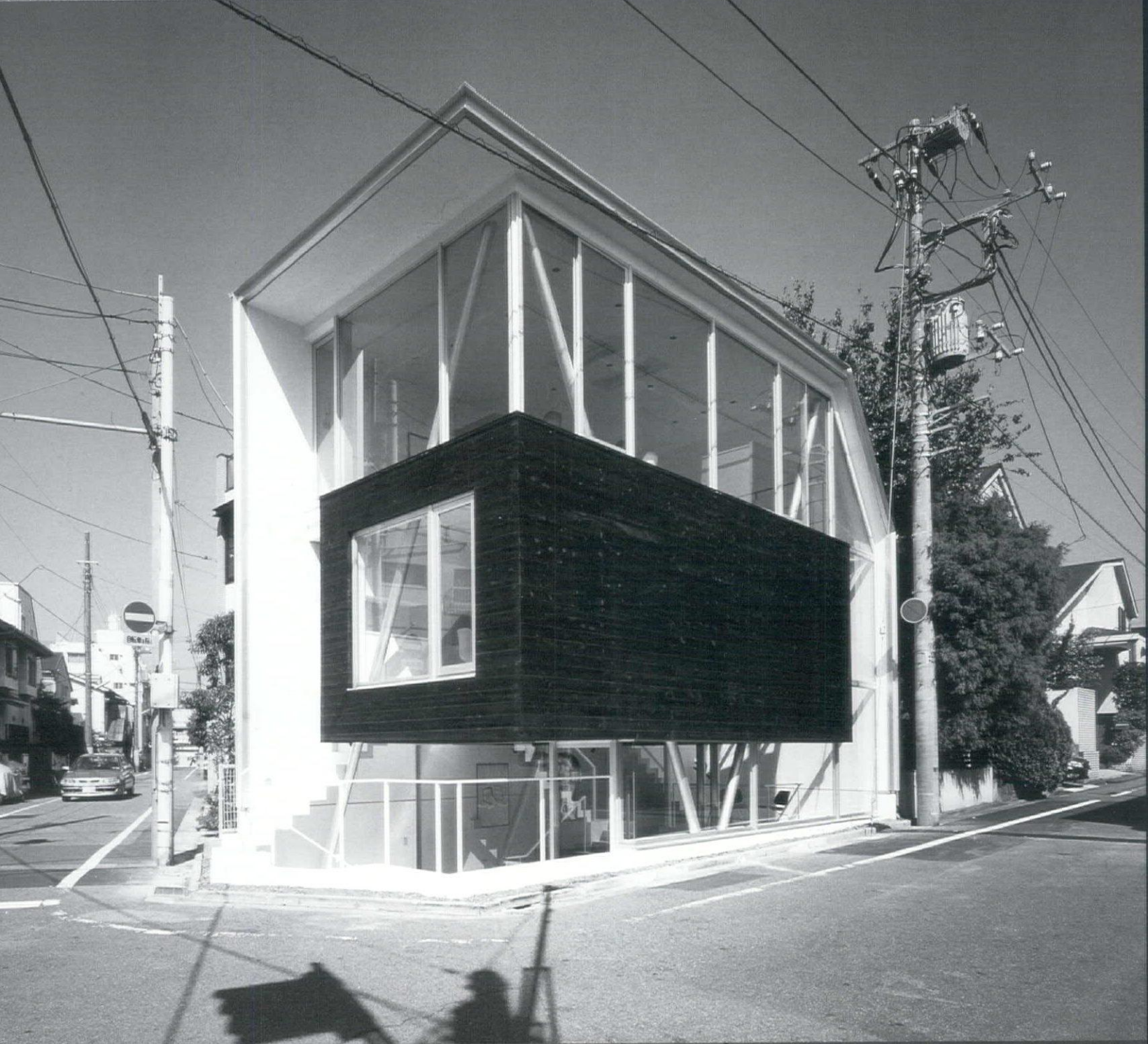


Bottom: Shibuya crowds along the TEPCO museum. Its design is intended to be interactive on both the physical and perceptual levels of communication.

Top: TEPCO Museum near Shibuya Station, by tele-design. The building has an LED display system that we refer to as the "Urban Screen Saver." This screen is set against circular stairs and a large entrance halal. In front of the screen is a DPG

glazing system utilizing highly transparent glass mullions. This overlay makes the LED screen appear as a moving façade of Shibuya City, producing new relationships between information, illumination and the city.

Opposite: C-house designed by Toshimitsu Kuno, Nobuyuki Nomura + tele-design. (See full caption on page 88.)



NOME KOTZEBU BARROW PRUDHOE
BETHEL FAIRBANK
DILLING KING CORDO YAKUTAT
DUTCH SAMON ANCHORAGE GLACIER JUNEAU
HARBOR KODIAK SITKA PETERSBURG
KETCHLIKAN

VANCOUVER
SEATTLE

PORTLAND

SACRAMENTO
SAN FRANCISCO
RENO
LOS ANGELES PALM SPRINGS
SAN DIEGO

LAS VEGAS
PHOENIX

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RELATIONSHIPS SUPERCEDE DIMENSIONS

DAWN FINLEY AND MARK WAMBLE

Beginning in the early 1990's, architectural design studios began incorporating research into the design process in a new way. Slowly, design studios became *Research Studios*. This infusion of research was due initially to increased Internet access coupled with optimism for what new design opportunities the information economy would bring. More recently, the incorporation of research and design has replaced our reliance upon theory with practical as well as intellectual substance, compiled in real-time fashion.

The harvesting and processing of information in parallel with the development of design, together, constitute a *discovery circuit*. The *Research Studio* utilizes a process of design conducted along the *discovery circuit*, replacing the fixed notion of context with an ongoing and evolving design situation. While it is possible to cite unprecedented, innovative design work that is attributable to the *Research Studio*, the research model it employs is inconsistent, rarely acknowledged, and often flawed. Sponsorship legitimates the research process employed by the design field in two important ways: recognition and funding. Research associated with science and engineering have long benefited from the funding process by directing research projects around funding opportunities. Programs that provide public support for private and institutional research are organized by government agencies which solicit, review and base funding upon a strict application process. Though resources for private funding exist, we will review public funding opportunities sponsored by the National Science Foundation (NSF) to understand the impact of imposed guidelines on the *Research Studio*, and to understand what other alignments might occur between architecture practice and funding opportunities as a consequence of formal research.

A key component of the *discovery circuit* is the consumption of vast quantities of data. This data is accessed for the purpose of constructing rich and expansive conditions ripe for architecture, and available for the design process to assemble anew. Scanning, editing and packaging are the most prominent processes that characterize the *discovery circuit*. Data mining is a common component. Both academic design studios provoked to address contemporary issues in a thorough and informed manner, as well as professional offices seeking to explore alternative markets, service models and protocols follow the *discovery circuit* to track and transform the evolving significance of their endeavors. Through available sources accessible on-line via keyword searches, the architecture of orthogonal projection, three-point perspective, structure and utility is brought face-to-face with new sensibilities never before exposed to the systematic coordination effort of architect-ing.¹ It is safe to say the *discovery circuit* has secured its place in an evolving and expanding definition of architectural practice. Aspects of architecture have changed in the process. Has the *discovery circuit* replaced theory, or has the historic marriage of design to theory simply moved on?

¹ The term 'architecture' has become appropriated by popular culture and transformed in its meaning. Its new usage refers to an overarching, organizing strategy characterized by key functional relationships that make a system work, both in the abstract and at a practical level. The embellished term *architect-ing* used here emphasizes the process side of the idea, recognizing that organizations are dynamic and they evolve over time. The role of architecture is dynamic as well, tracking and shaping systems that are encountered in the design process, along with spaces and materials.

SvS, Winka Dubbeldam: trying to get to. It's this kind of strange tension between reality and surrealism, and the kind of approximation of maybe what is the real and what is maybe what finally could become cyberspace. / In this particular study for the armature, what we were interested in it was the tension between object and environment, or how an object could become an environment. In mathematics, the way complex forms are studied is by slicing and animating them. On the left you actually see the physical human project, which was a person on death row who was sliced in I think 258 pieces, slices, and then a camera traveled through him, so that this was actually the first time

DAWN FINLEY AND MARK WAMBLE



Interior Perspective at Shifting-Stock Display Shelf

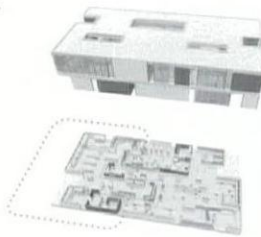


Interior Perspective at Prescription Drop-Off Counter

The repeat customer calls PHARMETICS to place an order with a *sideline* technician for a custom concealer compounded with a nasal decongestant and vitamin E. The prescription is mixed, labeled with the customer healthcare identification code, and added to the designated shifting-stock display shelf.



Custom Compounded Powders

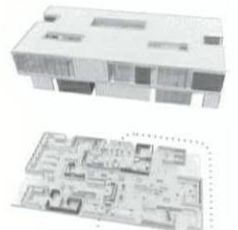


Ground Level Exploded Perspective

The PHARMETICS junkie drops her order at the prescription counter and continues on to the shifting stock display shelf to scan this week's product combinations. *Blue-Belly Pregnancy Stick?* After picking up her prescription - a refill of Prozac blended in a translucent pink dermal stick - she wanders over to the manicure/pedicure area for a clear coat.



Blue-Belly Pregnancy Stick



Ground Level Exploded Perspective

Pharmetics (Dawn Finley, Project Designer, Interloop A/D, 1999), is a prototype dispensary retail facility developed by combining one drugstore chain conglomerate and one international cosmetic company. The dispensary is sited

as an operational component in commerce, utilizing economic and regulatory systems, marketing strategies, and cultural identification conditions as means to investigate and articulate a physical retail environment. Strategic cross-

industry exchange results in innovative hybrid products and services, while expanding the categorical particularities of practice. Research focuses on detailed nuances and loopholes written into medical insurance and FDA regula-

tory law enabling aspects of cosmetic and pharmaceutical product development to fulfill services once common to the neighborhood pharmacy and drugstore.

THEORY AND THE RESEARCH STUDIO

Not long ago the *Research Studio* was itself an experiment. Research has become an integral component of design, in ways upon which we can now reflect. The evolution of the relationship between design and the *discovery circuit* reflects intellectual and pragmatic concerns. Looking back, this has not always been the case. The notion of *undecidability*² played itself out as the unlikely mantra for architecture in the late 1980's. Deconstruction had become appropriated from linguistic theory, among other intellectual projects including feminist criticism. It served several important purposes, simultaneously liberating discourse from the last vestiges of orthodox modernism while exposing the intervening 'post-modern' period as reactionary and shallow. *Undecidability* enabled the practice of architecture to recognize the provisional and evolving status of meaning, relegating all foundations for works of architecture *undecid-*

able, a condition attributed not simply to matters of circumstance, but to "an intrinsic property of the work itself."³ Though context gave way to situation, meaning remained an important pursuit even if it was impossible to manage. In order for architecture to be productive during this un-hinged period, facts needed to accumulate and things needed to add up. The introduction of computation in academic and professional studios - not just for the purposes of replacing more traditional drafting and modeling tools, but for access to the Internet - proved to be the enabling technology that made formidable and comprehensive research possible. Instead of retreating to determinism as a way to cope with the post-deconstruction era of architecture theory, computation enabled the intellectual project to progress again from a variant angle. Design, it was discovered, could thrive within a barrage of information resources now that the tools to navigate had been embraced. The question was how

² Jeffrey Kipnis, "Nolo Contendere," *Assemblage 11* (April 1990) 54-57.

³ Jeffrey Kipnis, "Nolo Contendere," 56.

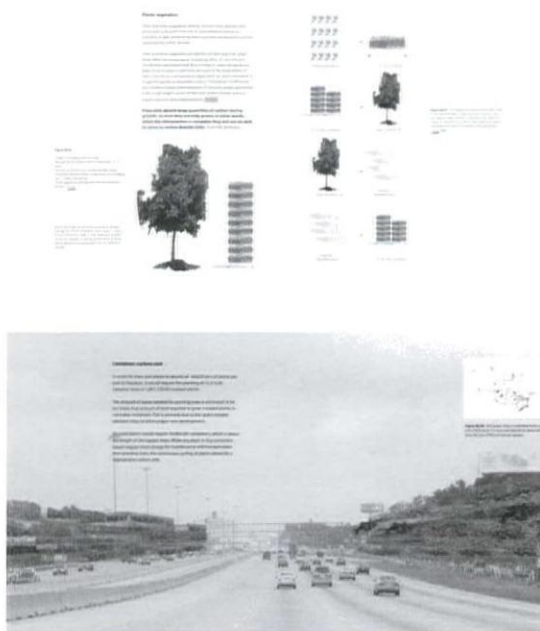
SvS, Winka Dubbeldam: medical students could see a human body and how it operated. / The other animations are from Thomas Banchoff one of the kind of most known mathematicians who works at Brown University. The idea is that through slicing and animating you could study space was something that we took up, and we started to change maybe an exhibition in two levels. And when you enter the gallery, there's a default movie, which you see here, which actually really sort of thinks about first, second, third and fourth dimension. And what you see here are simply points in space which are toilets, washing machines, dryers, that kind of stuff, infrastructures connected, ribs of the armature

RELATIONSHIPS SUPERCEDE DIMENSIONS

to get beyond the simple mining of data to produce vital studies and works of substance without relying upon pre-figured theoretical positions that had dominated intellectual discourse in architecture. Today, through the *Research Studio* model, the potential exists for theories of architecture to take shape within the process of design, and through the various stages of modeling, and even construction. Theoretical positions are no less inevitable, however, as matters of applied meaning their significance wanes.

We have now observed the early evolutionary stages of the *Research Studio*. Aspects of its initial generation have settled into academic and professional spheres. The specific circumstances that lead to architecture are not often repeated, and when an individual or organization resorts to design to solve a

problem it is often because other known methods of problem solving are depleted. Each undertaking carries with it some degree of uniqueness never before encountered in the same way. Research conducted in parallel with design, enables the convergence of critical issues so that decisions important to the solving of unprecedented spatial, material and economic problems can occur in a fluid and informed manner. Because of the *discovery circuit* – the research component of design - the potential to recast the nature of the problem is always present. Our hope in this essay is to support the relationship between design and research. It is also to perpetuate a longstanding and beneficial attribute of architecture, which is to alter given approaches to design in order to align practice

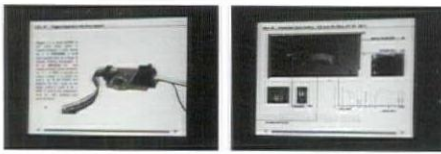


Towards a Vegetal Architecture (Philip Lee, Arch 601 "The Circuit and the Cell – architecture as product", Rice School of Architecture. Visiting Professor Mark Wamble, 2001), began by researching plant structures that absorb and contain certain components of the local Houston air pollution emission inventory. Based upon the impending loss of billions of dollars in Federal Funds due to poor air quality, The City of Houston was targeted as the initial client for a commercially oriented "architectural product".

Calculating the deficit low level ozone tonnage annually exceeded by Houston due primarily to industrial pollutants, it was determined that by planting ozone absorbing species (Camphor trees, Mustard plants, Cotswold Pennycress to name only a few) within the public right-of-ways along Houston freeways Houston could meet the 2007 EPA deadline for improvement. This conclusion was reached after extensive consultation with EPA scientists and engineers at the Department of Transportation and USDA,

independent research on the Internet, and conversations with local plant nurseries to name a few of the resources utilized. Based upon Philip's original research this product became a stackable, low maintenance, irrigated, vacuum-formed plant-box. Local Harris County active superfund sites were retrofitted and re-deployed as makeshift nurseries where mature plants were harvested (mustard plants absorb so much aluminum from the air their roots can be sold to smelting plants as raw material) and new plants

where readied for installation. Overall, the design encompassed systems research, component design, environmental analysis assessment and a basic understanding of plant structure and sustenance. It was later confirmed by one research contact that the outstanding 24,630 tons of annual low level ozone would be completely absorbed with either 12,315,000 Camphor trees or 28,863,000 of Philip's boxes filled with mustard plants – quantities easily accommodated by freeway right-of-way acreage.



SvS, Winka Dubbeldam: floating along, and ultimately nothing else will happen and the whole thing collapses in the toilet and then the lid closes. That's the sense of humor of someone in my office. / The idea being that if you walk into this gallery, this is a very non-threatening kind of circular motion, it's floating in space, it actually is extremely large, as you can see here. It floats in space. And there is no real kind of relationship at this point yet to the visitor. Now, the idea

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with alternative models of research even when they belong to disciplines outside our own.

SPONSORED RESEARCH

The pursuit of sponsored research, whether through public sector funding or via speculative support from the private sector, will draw architecture into public focus as a powerful explorative resource and enable implementation of tested hypotheses otherwise overlooked by the industries that drive and shape the physical world. The need to legitimate the architectural research endeavor is not the goal. Areas of research embarked upon through academic studios and offices have become more exhaustive, and yielded greater results than ever before. The funding process positions work already worthy of recognition to become reviewed and acknowledged more officially within the architecture community. The evaluation processes utilized by agencies and institutions that award funding and invest in research can transport research findings to places outside the architecture community.

Sponsored research takes many forms, follows diverse sets of rules, and pursues a wide range of deliverables. Because there are often large sums of money involved, the review and approval process can be intimidating, as it serves to justify the magnitude of an investment, and to ensure that future investments will continue. It is important to distinguish between research that is due diligence, or part of the basic decision-making process already built into the practice of design, and that which attempts to test and advance the status of a given research area. Important questions begin to arise as architects consider the field of formal research. What happens when the *Research Studio* becomes a sponsored undertaking? What forms of professional practice will take shape around sponsorship for financial support as opposed to the more traditional client base?

In order to assess the impact sponsored research will have on architecture, it is necessary to understand the basic principles and procedures involved in the funding process. The focus here is on Federally Funded Research, and includes academic research as well as research conducted by small businesses.

Research that utilizes funding from federal tax dollars is distributed at the Federal level. Funding for

research is organized according to the needs of each federal agency. These agencies conduct or oversee most of what we think of as public sector work; and a major component of this work is research. Each agency sets aside a percentage of their annual operating budget for the purpose of conducting research - either in-house, through grants, cooperative agreements with colleges and universities, K-12 school systems, businesses, informal science organizations and other research organizations throughout the United States. The majority of funding provided by government agencies goes to university campuses. Eventually, all research ends up in the private sector, either through R&D or product patents, or through the various manufacturing and consulting industries that grow out of innovations funded by agency research. For example, the National Science Foundation (NSF) provides one-fourth of all federal support to universities for basic research.⁴ While the NSF does not conduct research in-house like other agencies it is responsible for a significant portion of the funding for academic research conducted in this country.

According to the NSF website, 40,000 proposals are issued annually by academic institutions for review in response to *solicitations* posted on-line. *Solicitations* are written descriptions of areas of research made available to the public for review. Of the proposals submitted to various solicitations, approximately 11,000 receive funding of some magnitude. Solicitations are organized into *program areas* maintained by the NSF. *Program areas* currently break down as follows: *Biology, Computer and Information Sciences, Education, Engineering, Geosciences, International, Math and Physical Sciences, Polar Research, Science Statistics, Social and Behavioral Sciences*, as well as 'crosscutting' proposals that cut across and combine different program areas. Within each NSF program area are *organizations* that issue specific solicitations. For instance, within the program area of 'Engineering' an organization called *Design, Manufacture & Industrial Innovation (DMII)* posts its current funding opportunities, or solicitations. Included at the time this article went to press are: Engineering Design, Manufacturing Enterprise Systems, Operations Research, Materials Processing and Manufacturing, NanoManufacturing, etc. Solicitations are updated monthly. Under the organization

⁴ National Science Foundation website, www.nsf.gov, last update April 08, 2005.

SvS, Winka Dubbeldam: was that the moment you enter, there is a large floor developed by MIT Media Lab. It senses weight. It sends signals back to the computer, and in this floor there were four fields with different pre-programmed elasticities, speeds, light and sound. / The moment you start to enter this sidewalk or floor, which you actually can see hear, immediately this animation starts to change and becomes from this object, becomes something which is called environment. And in a way it's quite a violent relationship to the viewer, because instead of having this peacefully circling object, now you are part of this environment. So thinking about trigger, we thought it was kind

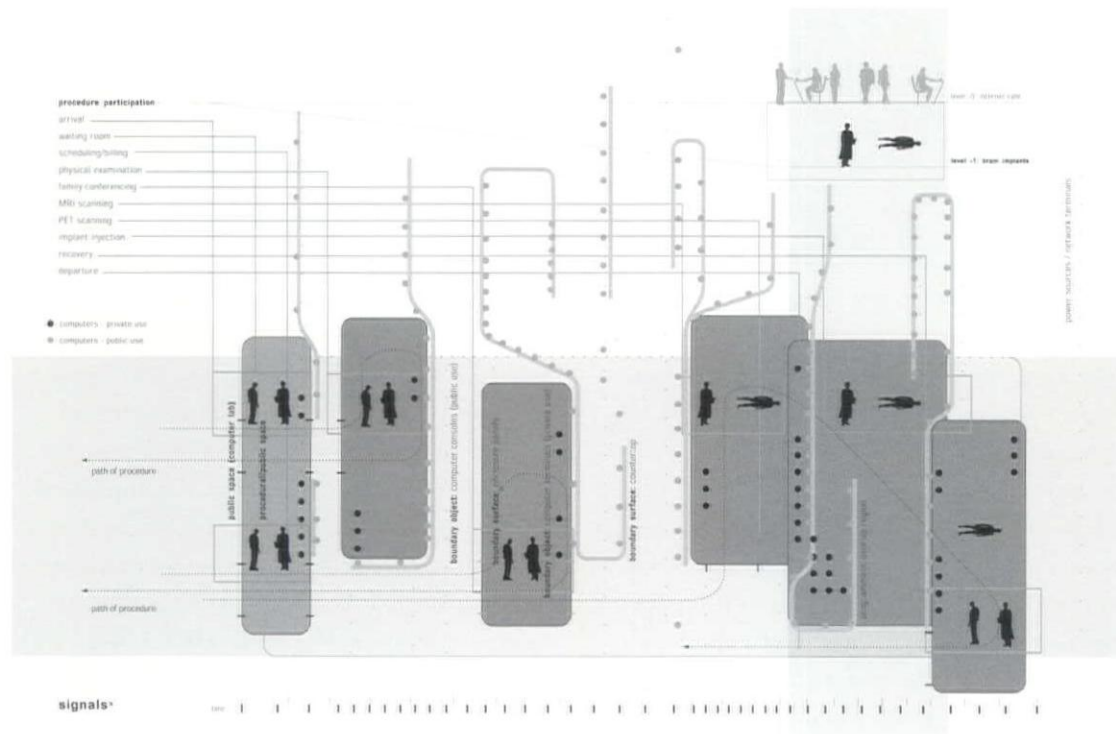
RELATIONSHIPS SUPERCEDE DIMENSIONS

heading 'Engineering Design' you find solicitation PD 05-1464 which asks for proposals for research to advance fundamentals of the product realization process. The solicitation goes further to challenge the design community, "...to create the necessary connections between the principles of design theory and the practice of design across the broad spectrum of engineered products through the creation of new tools and methods." Proposal guidelines are referenced and deadlines for receipt of documents are announced. Nine other solicitations within DMII are also posted at the same time, a number that can vary greatly from organization to organization. Between January and mid-June of 2005 DMII awarded over \$6,788,000, to 39 university departments and private research organizations. Individual awards granted thus far range from \$41,000 to \$499,998.

It would not be difficult to imagine a *Research Studio* responding to the above solicitation. In fact,

over the past few years, design projects authored by students in architecture studios have often independently addressed such specific interests as re-connecting architectural design to ideas of design production, implementation, deployment, serviceability and aftermarket life. In spirit these projects are related to traditional engineering and scientific research.

Federal funding for research conducted by private organizations other than academic institutions is also structured through government agencies. Of the major agencies operating at the federal level, 10 participate in Small Business Innovative Research (SBIR) and Small Business Technology Transfer (STTR) programs. SBIR/STTR programs provide funding in two phases of research and development preceding commercialization. Phase One awards funding for feasibility studies. Phase Two awards funding for research and development of proposals selected



Feedback (David Herman, Arch 302/402 "Sideline - A Senior Wellness Center Prototype", Rice School of Architecture, Assistant Professor Dawn Finley, 2002), explores the spatial consequences of a new wave of implant products - expanded here to include the advanced technologies associated with digital visualization and diagnosis - and

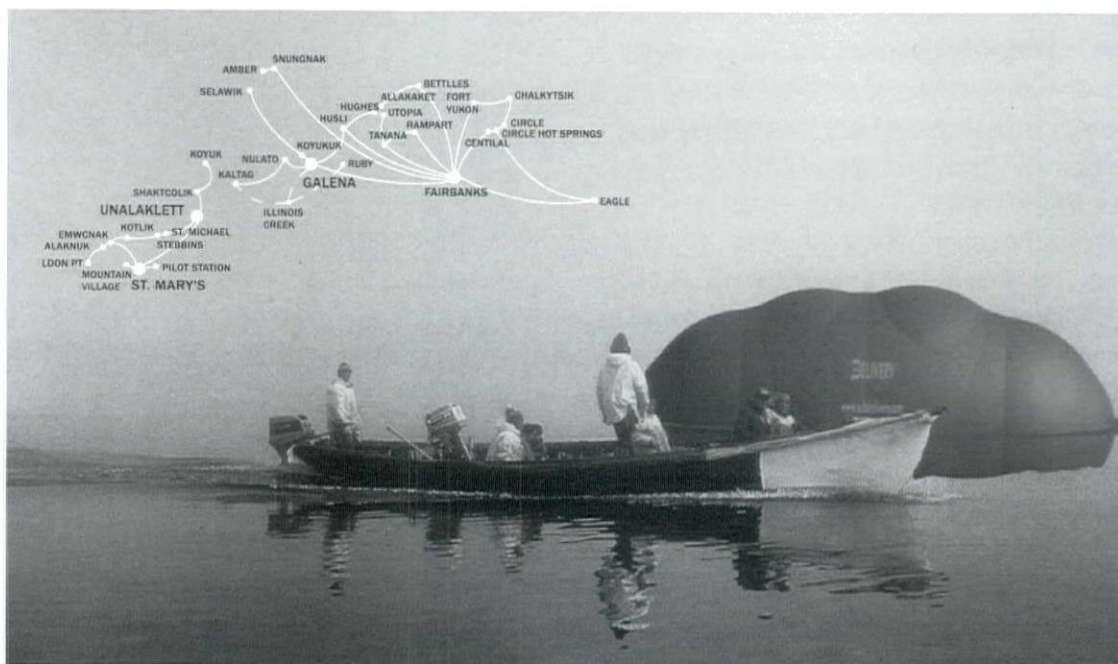
the physiological changes in the aging nervous/motor system. The research involves both a spatial reprogramming of the traditional clinic and a re-evaluation of the various interactions and patient-clinic relationships contained within the scope of the clinic program. The initial process of creating a digital medical database involves a sequence

of observations, physical examinations and tests, which span several different fields of medical technology and practice. As a method of integrating the technologies of digital brain mapping with the personal attention needed for older patients, a single individual fulfilling a variety of roles (e.g. friend, physician, consultant, technician) is

equipped with personal and technical skills necessary to guide each patient through the complex sequence of procedures. Spatial models evolve in response to this form of medical-life care, emphasizing the active tendencies of today's aging population, and the interactive telemetry that has become a part of it.

SvS, Winka Dubbeldam: of an interesting thing, because as you trigger these fields, and as different people with different weights start to also alter these animations, or these animated forms, there is something where you could say that is kind of almost a violent condition to the viewer. That work was enormous. / What is really interesting here is that the whole exhibit was mostly wires and connections and sensors. The nice thing was also these sounds, and I think there is one animation here that we'll hear. But the moment you trigger these fields, there is also sound-directed speakers. And these sound-directed speakers are developed by Robotics International. The interesting

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subDelivery (opposite page and above) (Gunnar Hartmann, Arch 601 "The Circuit and the Cell - architecture as product", Rice School of Architecture. Visiting Professor Mark Wamble, 1998), began by researching policies and trade strategies that enable physical trade infrastructures like Alliance Airport in Fort Worth, Texas to evolve. FTZ (Free Trade Zones) facilities provide tax reduction conditions that

precipitate new methods for deploying physical structures and operational services in response to the increased pace of production, and expansion of trade. At Alliance Airport new tenants are provided warehouse and production facilities built to specification in record time. From the moment contracts are signed until tenant occupancy a one million square-foot facility is designed, constructed and

furnished in four months. Architecture as we normally conceive of it simply cannot keep up. Gunnar turned his focus to innovating strategies that link existing operational infrastructures to provide new services traditionally organized around physical buildings and infrastructures. The project devised a simple system for tracking unused cargo payload space online, and making it available to shippers

at a reduced rate. The target market locates remote areas in need of access to advanced distribution networks. Intermediate distribution fleets deploy palletized goods protected by high altitude pressure sensitive containers. Shipments are tracked electronically and positions are communicated to retrieval teams on the ground.

for Phase One. Though a broad range of funding opportunity exists for private non-academic organizations, the target recipients of funding from these programs are small businesses with proposals for high-risk research and development efforts of potential commercial value. A participating federal agency whose extramural research and development budget exceeds \$100,000,000 sets aside 2.5% of its budget as funds for SBIR/STTR programs specific to the agency. Agencies participating in SBIR/STTR programs are the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Transportation, The Environmental Protection Agency, NASA, and The National Science Foundation. Proposals for funding are submitted in response to *solicitations* released by agency-specific SBIR and STTR programs. Each agency reviews its own pool of applications and makes its own awards in the form of contracts, grants or cooperative agreements.⁵

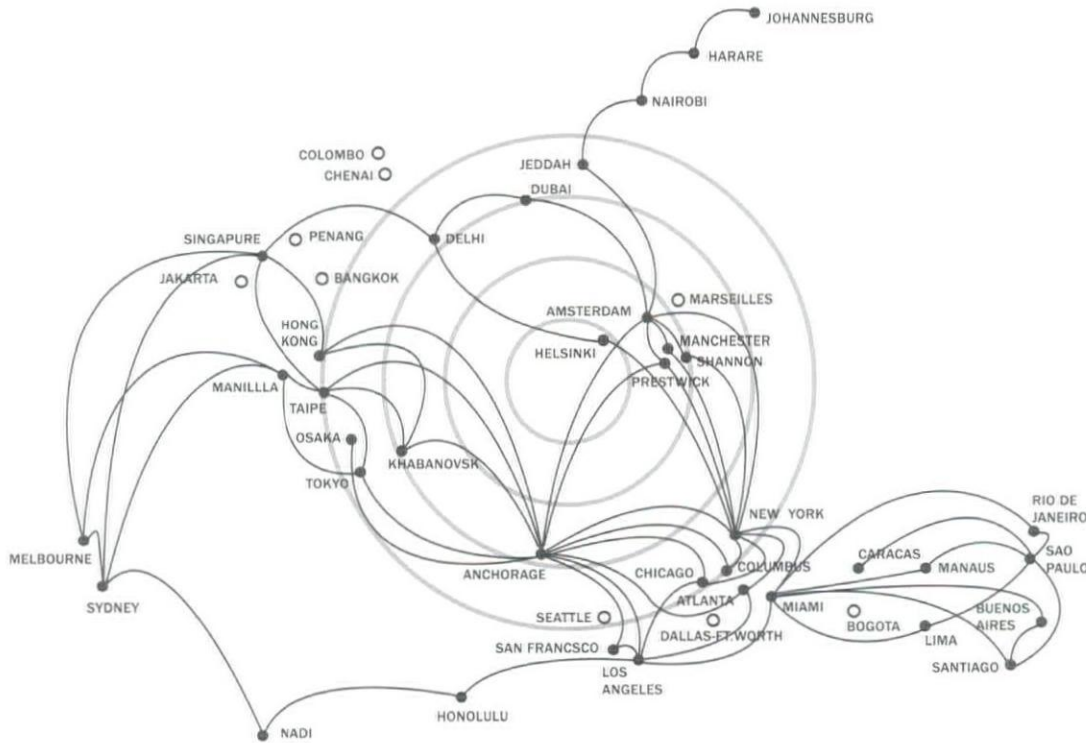
FUNDING THE RESEARCH STUDIO

The idea of the *Research Studio* has landed comfortably in schools of architecture and has launched new models for practice. In most of these schools and emerging practices the theoretical position has given way to modes of conducting and formulating research as the central component of the design process. It is from within this historical trajectory that the *Research Studio* can be evaluated. If the *Research Studio* model is to evolve further steps must be taken with regard to the way research projects are selected, objectives are stated, work is conducted, experimentation is documented, and results are shared. These steps include a more careful statement of studio objectives, a clear disclosure of the beneficiaries of the research, recognition of research sources and parallel projects, credible evaluation steps, publication of results and focus away from individual efforts and toward multi-generational projects developed over the course of years, not weeks. If the *discovery circuit*

⁵ Small Business Innovative Research (SBIR) and Small business Technology Transfer (STTR) overview compiled by Sharen Bidaisee, Spring 2005.

SvS, Winka Dubbeldam: thing about these speakers is that the sound waves are scrambled, and only when they hit a surface these waves reorganize and actually the sound will come out of the objects which it meets. If, for example, you are under it, the sound will come out of you, or the sound will come out of the animation. This is one of the sounds. / The sound waves were also reconfigured by the same kind of signals, so actually it's completely aligned with the animations as they start to transform. / The models have a built-in elasticity, so the moment you don't trigger them, they automatically go back to being the armature and being this peaceful regeneration again. The idea

RELATIONSHIPS SUPERCEDE DIMENSIONS



represents a creative way for design and research to merge, architects seeking sponsorship will, likewise find opportunity through solicitations pursuing complex system and process questions. These areas represent competencies at work in the Research Studio. Future solicitations will likely become worded to endorse skills and practices unique to *Research Studio* strengths.

While the *Research Studio* is a legitimate innovation explored on multiple fronts and in diverse ways within the discipline of architecture, similar venues for research in the fields of science and engineering maintain important elements often missing from the *Research Studio* model. Not only is scientific research proposed and conducted within strict guidelines, the results are handled with equal care to insure that discovery produced by the research process is distributed accurately for broader consumption, and that ownership of ideas is respected. By contrast, the *Research Studio* is often conducted in a vacuum. Successes and equally important failures are rarely documented for the benefit of future generations of research. Continuity is lost when important work is undervalued. The testing of ideas outside of rare instances is non-existent. Within architecture culture the sharing of research is rarely rewarded. Discovery

is handled more like a low-stakes game of hide-and-seek. Worse, academics have become cynical about the value of innovation because the discipline has yet to produce a forum for rewarding good work. Industry has looked elsewhere for new ideas. Without legitimate criteria for architectural research there is no realistic hope for the funding of breakthrough ideas.

Sponsorship for the *Research Studio* involves more than acquiring the financial means to test hypotheses. Funded research disentangles legitimate discovery from private interests so that results can be independently evaluated in an unbiased manner. As a discipline committed to the public good, architecture suffers from a problem of legitimacy due to the absence of peer review relating to formal research. The funding process developed by The National Science Foundation, for example establishes processes for validating both the research as well as the participants. When research is funded implementation is conducted with the benefit of knowing ideas discovered in the research process were reviewed, tested and cataloged for use. No such process exists for architecture.

SvS, Winka Dubbeldam: being that this kind of tension between object and environment is one which is constantly configuring and reconfiguring itself, and it's not a permanent stasis, so what was very interesting is, of course, at the opening where there were 300 people running around. The thing was constantly triggered, and to my big relief the computer never crashed. I think my whole office was slightly nervous at the opening, and especially the owner of the gallery, I think, had almost a heart attack. / But this is one of the slower fields where the movements feel almost more like urban building blocks you're moving through. I took the owners of the house to the installation, and

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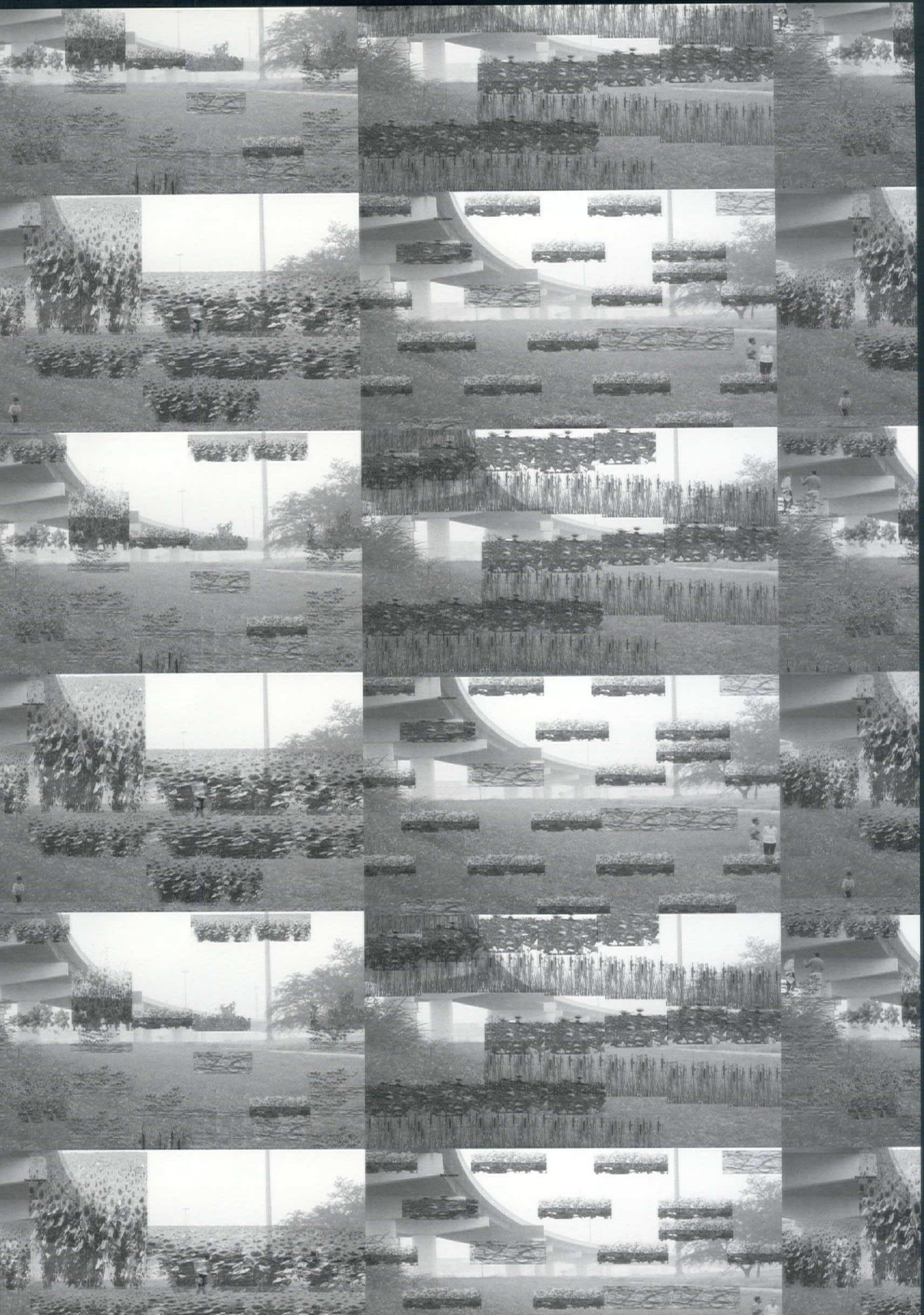
ALIGNMENT

There are inroads to sponsored research. To practice architecture is to engage spatial and material operations with something that has not yet formed itself legibly. This idea of engagement includes the organization of work that precedes and parallels design; i.e. the *discovery circuit*, as well as the resulting organizations that execute and inhabit it. How and what architecture becomes within the context of a given project evolve together. One could argue that the means for producing architecture and the object of the deployed production are equally architectural. Both are formal and aesthetic. Maintaining this formal and aesthetic component will be critical in formulating a role for funded research in architecture.

Design is characterized by positions of alignment between diverse sets of skills and resources brought together for the purpose of engaging architecture. Choices relating to the sharing of expertise, resources, etc. are each examples of fleeting and dynamic alignments between established and emergent, prov-

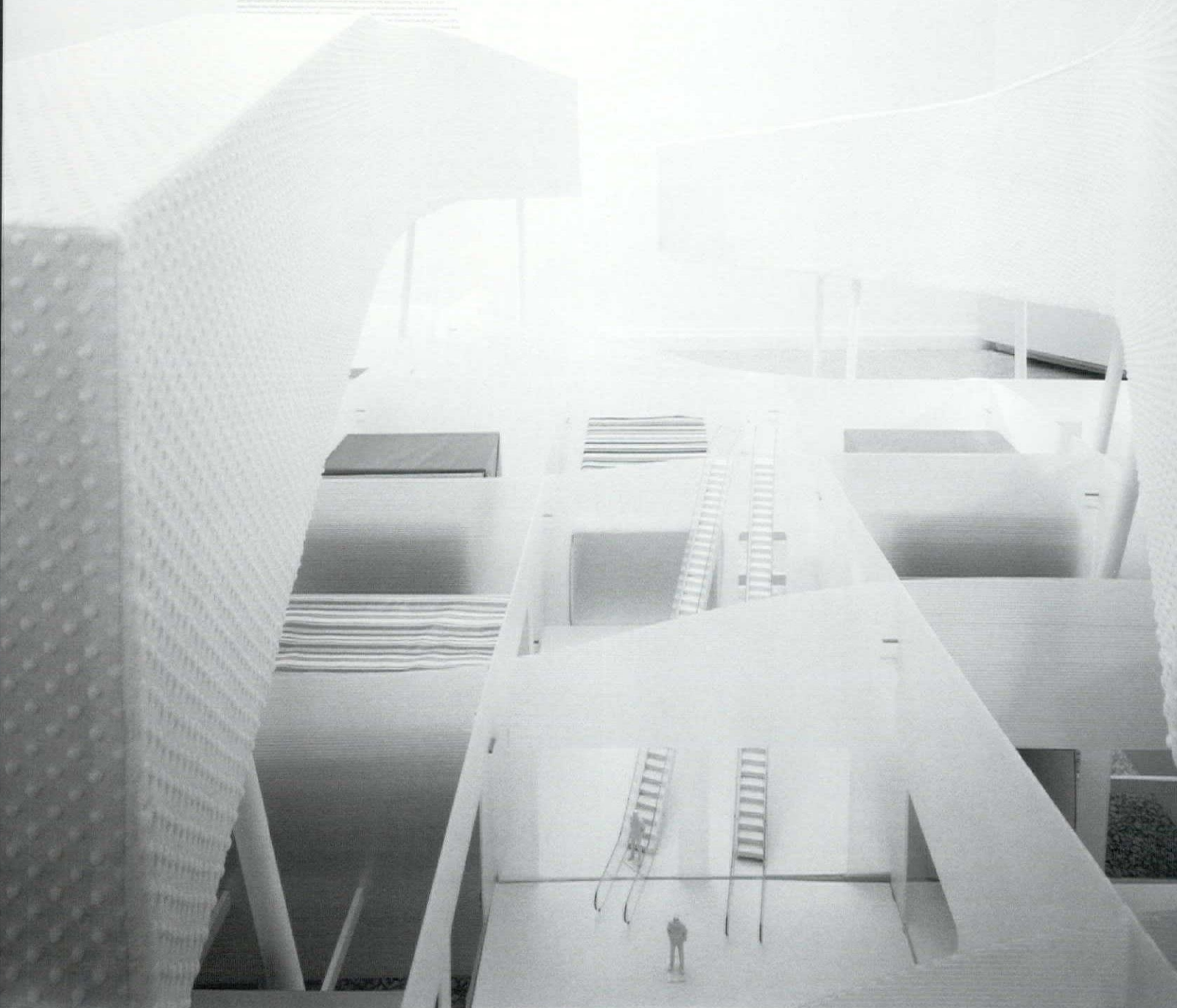
en and untested participants brought together for the purposes of a single act of architecture. This idea of alignment is less categorical than pragmatic. To what system, or groups of systems, should we align our effort in order to emancipate the ability to foster change? Whether in an academic setting where the object of architecture is to state an operational position from which practices might be launched, or in a professional setting where the object of architecture is to propose plausible positions from which a project might be executed, the underlying question is the same. Architecture after theory is sustained by individual acts of alignment between bodies conducting research and repositories of documented discovery. These alignments have an aesthetic component, and the choices constitute a language of form. Therefore a particularly fertile area of architectural research becomes one of means. How architecture brings to bear processes to execute space and structure constitutes valued research.

Opposite: Philip Lee, *Towards a Vegetal Architecture*.





The building is a multi-level structure with a prominent staircase on the right side. A small human figure is positioned on the ground floor to provide scale. The drawing is rendered in a light, sketchy style with fine lines and shading to indicate depth and form.



The building is a multi-level structure with a prominent staircase on the right side. A small human figure is positioned on the ground floor to provide scale. The drawing is rendered in a light, sketchy style with fine lines and shading to indicate depth and form.



INTELLIGENCE AFTER THEORY

MICHAEL SPEAKS

If one were to write a history of architecture since May '68, noting in particular the role the events that summer played in shaping contemporary practice, it would begin by recounting the passing of philosophy and the rise of 'theory'. By theory I mean that set of mostly French, German and Italian philosophical tracts that arrived in the US in the late 1970s through departments of comparative literature and were disseminated to the American university system as a wonderful new mode of contemporary thought. Theory was detached from its continental origins and replanted in the US where it took on a lighter, more occasional existence. Theory was portable – it could be attached to almost any field of study, film, literature, anthropology and even architecture. Theory carried all the punch of philosophy without the windy German preambles and recondite French qualifications, without, that is, years of study, political affiliation or deep knowledge. Theory was a weapon of the young, the post-68 generation, wearied by the morality and slowness of their elders who seemed so untheoretical whether they embraced or rejected theory. Theory was fast philosophy and it made its way through various sectors of the US academia in the 1970s and 1980s and arrived to architecture, late, as Mark Wigley has so famously and so frequently pointed out.

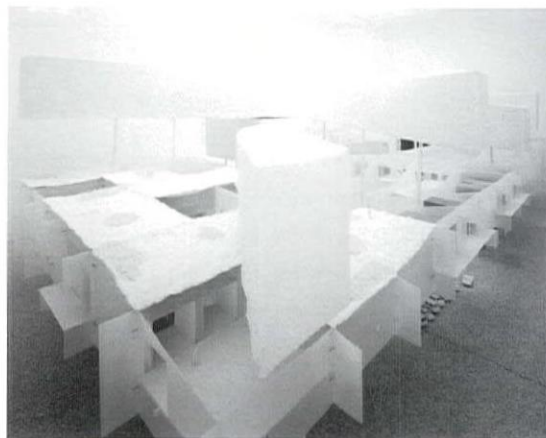
The shift from philosophy to theory was especially important for the vanguard architects whose work and writing dominated scholarly journals, school curricula and indeed much of what passed for intellectual discourse and debate in architecture from the 1970s until the late 1990s. Whether articulated in the form of Tafurian discourse or Frankfurt School analysis or Derridean deconstruction, these theory-inspired vanguards asserted the impossibility of affirmatively intervening in a world dominated by capitalistic and/or metaphysical oppressors. Continuous critique and resistance instead guided their resolutely negative practices. But as the 1990s drew to a close, theory-vanguardism began to wither as new architecture practices better suited to meet the challenges issued by globalization arose to claim the mantle of experimentation that the vanguard, whether in philosophical or theoretical guise, had so long held. Identified as post-critical, fresh, and ideologically smooth, these practices embraced much of the market-driven world their theory-hamstrung predecessors held in contempt.

Two features, in particular, distinguish these new practices. The first is their pursuit of innovation. Management thinker Peter Drucker has drawn an important distinction between problem solving and innovation that many of these post-vanguard practices have taken to heart, and that architects in general would do well to better understand. Problem solving, Drucker argues, simply accepts the parameters of a problem given, in the case of architecture, by the client. The designer is then to work within those parameters until a solution to the problem is reached, a final design. Innovation, Drucker tells us, works by a different, more entrepreneurial logic whereby rigorous analysis leads to the discovery of opportunities that can be exploited and transformed into innovation. While problem-solving works within a given paradigm to create new solutions to known problems, innovation risks working with the existent but unknown in order to discover opportunities for unpredictable design solutions.

Opposite: George Yu Architects, Venice Biennale.

SvS, Winka Dubbeldam: what was really interesting is that I hadn't told them anything, and they stood there and I said do you see something familiar? They said yeah, yeah, there's something really familiar about this thing. I said yeah, it's the inside of your house. So that was actually kind of adorable that they didn't notice that. / I really should thank everyone in my office for running enormous over hours to do this. We, I think we took something in our hands which was slightly heavier than we thought it was going to be. / And then quickly to end with something which is now in the National Building Museum which is a similar idea. It's a one-minute movie. I'm not showing anything

MICHAEL SPEAKS



George Yu Architects, Venice Biennale



George Yu Architects,
Sony Design Center

Similarly to their vanguard predecessors, post-vanguard practices evaluate knowledge based on its use-value rather than its truth content. Drucker argues that the global status of modern capitalism was enabled by a fundamental change whereby knowledge was no longer concerned with philosophical or religious truth, but with doing and action. After the Second World War this transformation ushered in the management revolution and signaled the emergence of what Drucker calls "the knowledge society" – a post-capitalist paradigm enabled by globalization. Taking a more pessimistic view of what they prefer to call the "society of control," Michael Hardt and Antonio Negri, authors of *Empire* (2000), the highly acclaimed neo-Marxist study of globalization and politics, agree with Drucker's assertion that the new economic order ushered in by globalization is knowledge-based. Though states still exist as filters of power and control, Hardt and Negri argue that real command and control is now in the hands of mobile and constantly evolving global organizations free from national obligation to roam the planet in search of affiliations that provide competitive advantage. No longer stored in banks of metaphysical truths, today knowledge is manifest as intelligence that is used to manage these global organizations in a world where remaining competitive is often a matter of life and death. As Hardt, Negri and Drucker suggest, philosophy and theory have given way to the "chatter" of intelligence. Philosophical, political, and scientific truth have fragmented into proliferating swarms of "little" truths appearing and disappearing so fast that ascertaining whether they are really true is impracti-

cal if not altogether impossible. No longer dictated by ideas or ideologies nor dependent on whether something is really true, everything now depends on credible intelligence, on whether something might be true.

If philosophy was the intellectual dominant of early 20th century vanguards and theory the intellectual dominant of late 20th century vanguards, then intelligence has become the intellectual dominant of early 21st century post-vanguards. While vanguard practices are reliant on ideas, theories and concepts given in advance, intelligence-based practices are instead entrepreneurial in seeking opportunities for innovation that cannot be predicted by any idea, theory or concept. Indeed, it is their unique *design intelligence* that enables them to innovate by learning from and adapting to instability. The most innovative of these new practices are thus more concerned with 'plausible truths' generated through prototyping than with received 'truths' of theory or philosophy. Plausible truths offer a way to quickly test ideas by realizing them, and therefore they are the engines for innovation rather than its final product.

George Yu gave the following response to a question about how his office, George Yu Architects, in Los Angeles, conducts research:

The traditional distinction between research and doing or making is something that's becoming blurred for us. Doing has become research and research has become doing at this point. For us, research is not something that comes before doing – it's maybe even the other way around. Doing is in fact a kind of research. But the bigger question is: Why do research in the first place? I think that the starting point for all our projects is shaped by an attempt to understand and accept

SvS, Winka Dubbeldam: built, by the way. I thought it'd be interesting for a change. / This particular movie is the generative movie for a project which we built in the National Building Museum in Washington. It took about a year, I think, to construct it, and it was actually interesting, because Michael just mentioned this rethinking of concrete. This was a similar idea with the IMI. The Masonry Institute asked four architects to rethink four materials. And they designated to us lightweight concrete. The idea was that Stanley Tigerman was the curator that we would build a pavilion. We thought rather than building a pavilion, build a sound piece. And have the sound waves reconfigure two

INTELLIGENCE AFTER THEORY



George Yu Architects,
IBM eBusiness

the givens of the project in a really optimistic way. To understand the real parameters of the problem at hand and add something unexpected, something that the client may not have been expecting. This kind of research is an absolute necessity given that many of our recent clients were looking for someone to help them develop an organizational vision for the company.

Interactive prototyping, especially those associated with 3D modeling, have transformed the way buildings are designed and built. Commenting on the use of such modeling techniques in the design and fabrication of the Greenwich Street Project in Lower Manhattan, completed this year, Winka Dubbeldam, principal of Archi-Tectonics in New York, noted the following about the building's folded façade:

The folds in the façade are diagonal which means the whole space folds inside out and is pulled unlike if it were a simple fold. But this can only be controlled with the kind of precision 3D computer modeling makes possible. During the design phase the slightest change in the fold – whether for code or aesthetic reasons – affected the entire building because it was all one performative system. This also meant that with fabrication everything was controlled by mathematics, by an abstract system rather than by traditional site measurements. This leads to a completely different way of building. When the pieces arrive, they all fit together like a glove. When you see this you realize there is something very beautiful about working from abstract rules. If everyone works by them, and if all the material tolerances are observed, then making the building is all about agreements, codes, notations, not about construction in the conventional sense.

Prototypes create 'design intelligence' by generating plausible solutions that become part of an office's overall design intelligence. Rapid prototyping and the use of scenarios enable mass production of uniqueness in which the 'final' product is both the design and the array of specialized techniques that are invented and deployed for this design. Commenting on the kind of design intelligence generated through the use of scenarios and rapid prototyping, Oliver



Archi-Tectonics, Greenwich
Street Project

Lang, of LWPAC in Vancouver, had the following observations about an extremely fast-paced project then underway in China:

The scenario exercises utilized in earlier projects have become extremely important in helping us test the building and its ability to adapt. We got the job, in fact, because of our approach to phasing and time based design with scenarios... Platform design and rapid prototyping have been invaluable in developing this aspect of the project. All the research and intelligence generation that we have been developing over the last several years is now paying off and indeed has made it possible for a small, Vancouver based office like ours to take on such immense and complex projects as these in China.

Similarly, offices like Rotterdam based Max.1 and Crimson focus on the development of what they call "orgware," the organizational design intelligence that negotiates between the software of policy directives, zoning and legal codes, and building or infrastructural hardware. In the mid-1990s Max.1 was offered a commission to develop a master plan for Leidsche Rijn, a new town extension for the city of Utrecht. One of the first large-scale urban planning projects in the Netherlands that reflected a turn away from subsidized to market rate housing, Leidsche Rijn required an innovative urban planning approach flexible enough to accommodate the dramatic social and economic changes then occurring in the Netherlands, but strong enough to create a new town with its own unique urban character. Working with Crimson, a research and planning office also from Rotterdam, Max.1 developed a master plan guided by what Crimson called "orgware," the organizational intelligence

SvS, Winka Dubbeldam: voids in space so that similar to the idea before that actually the space between these units and the walls of the museum start to become the soundscape or sound environment. / What you see happening here is the frequencies actually start to transform the units. The speakers, the same exact speakers, scan the surfaces again in the installation and sound tubes are cut straight through these units, so that there is actually an extreme sound space right in the middle between the two units. So rather than building a pavilion it was actually building a void and creating different sound effects which became ultra-spatial. So what you see here is the sound tubes coming

MICHAEL SPEAKS

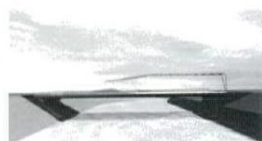


LWPAC, Dongli Entry Plaza Bridge Drawing



LWPAC, Dongli piers, Phase 1

LWPAC, Dongli piers, Phase 2 option A



LWPAC, Dongli piers, Phase 2 option B

LWPAC, Dongli Main Street Bridge

used to transform the 'software' of public and private policy directives into the 'hardware' of buildings and infrastructure. Rather than focusing their efforts on an over-designed, inflexible master plan, Max.1 instead designed a plan of negotiation that required certain things to be built while allowing, through built in redundancies, for other elements in the plan to be sacrificed. This same approach of engendering flexibility through enforced inflexibility, guided Max.1's innovative Logica plan for Hoogvliet, a suburb of Rotterdam, also developed in conjunction with Crimson. Logica, an exemplary form of design intelligence, requires stakeholders to make definitive choices about how the city will develop. The choices were designed by Max.1 after a period of rigorous analysis and were issued as a challenge to politicians and stakeholders to take immediate action. Once made, these choices become the planning infrastructure that allows other, more flexible choices at various scales to be made over time as the city is rebuilt. Rients Dijkstra, principal of Max.1 had the following remarks at the conclusion of the process:

Logica has now been accepted by the city as the official planning document. All of the choices were made by the council and now cannot be changed. They are the equivalent to the large-scale projects at Leidsche Rijn. That is, they are inflexible, not negotiable. The negotiable part comes in how the

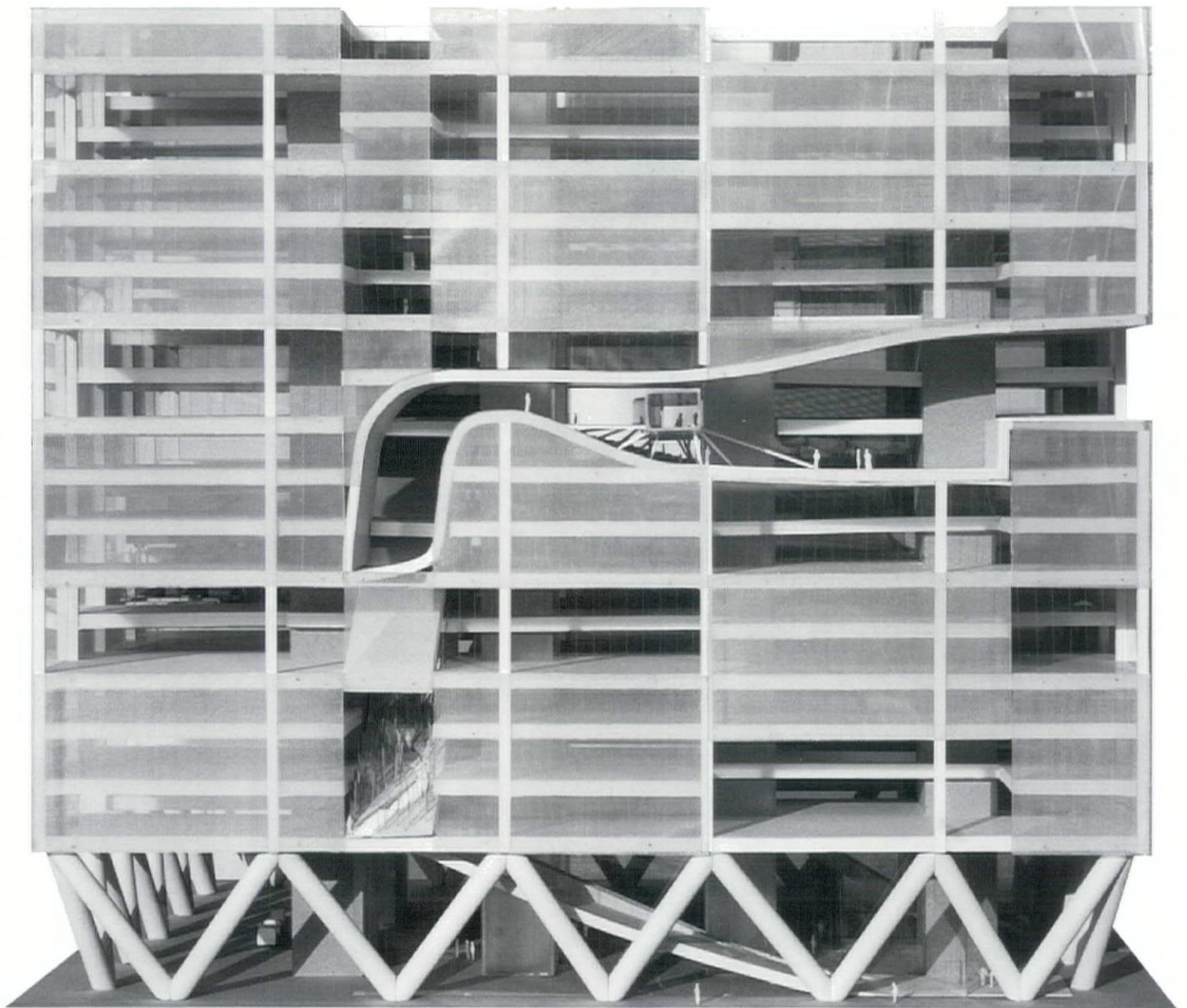
choices are implemented by the city of Hoogvliet. The choices are yes-no, and once made, they are inflexible. They are what allow things to actually get done. They are the first, necessary step that must be taken. Now the work of filling in those choices begins.

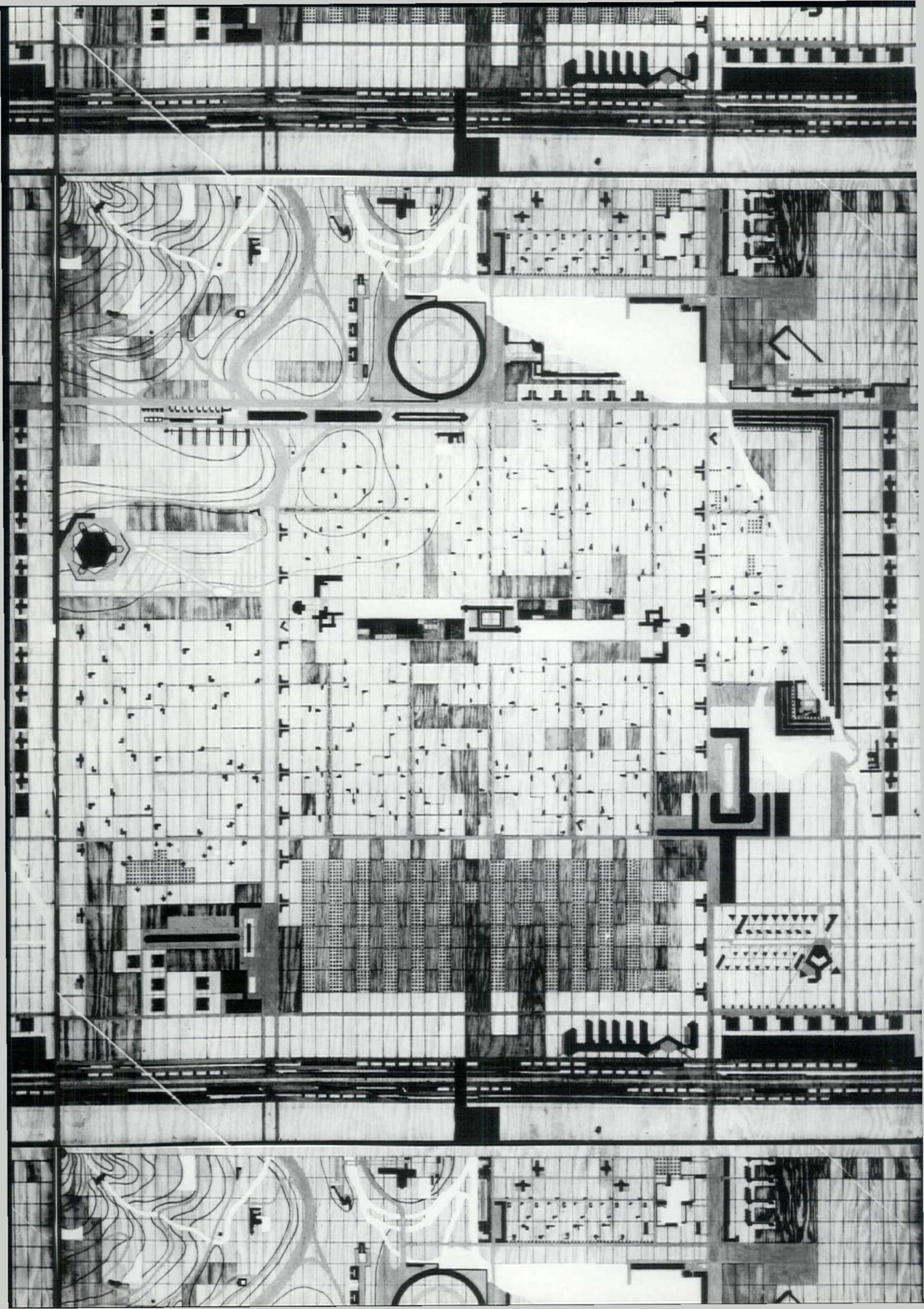
These four examples of intelligence-based practices cannot be categorized under any existing classification system. Some design boxes, some blobs while others script complex ballets of urban movement. Holding to no philosophical or professional truth, making use of no specialized theory, these practices are open to the influence of 'chatter' and are by disposition willing to learn. Accustomed in ways that their vanguard predecessors can never be to open source intelligence gathered from the little truths published on the web, found in popular culture, and gleaned from other professions and design disciplines, these practices are adaptable to almost any circumstance and almost anywhere.

Though we live in uncertain times, one thing is certain: experimental architecture practices are no longer driven by grand ideas or theories realized in visionary form. Instead, the most influential architecture practices are today compelled by the need to innovate, to create solutions to problems whose larger implications have not yet been formulated. I argue that this can only be accomplished with intelligence. Otherwise, design is simply a matter of completing a given problem without adding anything new.

Architecture should be more ambitious than to settle for that. Each of the offices mentioned above (and there are many more) have not settled on practices focused on what Drucker calls problem solving; they have instead developed unique design intelligences that enable them to innovate by adding something not given in the formulation of any kind of problem they have been asked to solve. They are the first wave of a remarkable change in architecture practice, and I intend to keep track of them even if others are content to continue debating style, form, shape, politics and fashion.

Opposite: George Yu Architects, Sensorium.





THEORY AFTER (AFTER-THEORY)

ASHLEY SCHAFFER

There is hardly any real architectural theory to be found,
despite the diversity of practices at work today, and despite
a hugely expanded volume of architectural publications.

There is only after-theory.¹

– Ben van Berkel and Caroline Bos, 1998

Theory is Finished.

– Christopher Shea,

New York Times headline, December 2003

In architectural discourse, seven years is almost long enough to constitute an intellectual generation and certainly long enough to displace a prevailing theory – or anti-theory, in this case. So now at the seven-year post-mortem examination since van Berkel and Bos declared architecture to be 'after theory' (in a guest-edited issue of one of the many "expanded volume of journals" that have since ceased publication) can we pronounce theory finally finished? For van Berkel and Bos and others in architecture, as well as other disciplines, the after-theory era arose from a reorienting of practice toward more prosaic issues in response to mounting economic pressures. While the economic boom of the 1990s undoubtedly launched many architects into a frenzy of production,² was the acceleration of capitalism, along with the concomitant mandate for accountability the sole cause for the demise of theoretical or critical reflection, or were other agents at work?

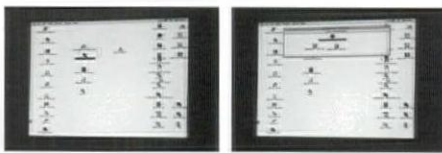
In order to understand what other executives may have forced the apparent endgame between architecture and theory in the late nineties, we must look to the situation of yet a previous generation, who, as Michael Hays has noted, were responsible for the "importation and deployment of both structuralist and phenomenological thought as militating against the received models of modernist functionalism."³ This generation, in reaction to the events of May 1968, appropriated cultural theory into architecture to re-vitalize what was perceived as a profession subsumed by an anti-intellectual and socially disengaged practice. From the outset, theory's mandate to remediate practice placed it in a privileged role, inherently misaligned with practice. And so the relationship between theory and practice became a form of adequation; practice could only remain a deficient manifestation of theory, and theory could never satisfy the needs of practice.

By the time van Berkel and Bos declared architecture to be 'after-theory', the predominant interaction of theory and design was a linear cause and effect model. Theory functioned either as generator of form or as legitimator of form, but one clearly preceded the other. That is, theory was either implicated as an a priori idea to be formally expressed or reified in design or a posteriori as a means to legitimize or post-rationalize practice, which only further reinforced their mutual enervation. For

¹ "Diagrams-Interactive Instruments in Operation" Ben van Berkel and Caroline Bos, *ANY* 23, (1998) 19.

² Stanley Saitowitz in a lecture in 2000, explained his response to a flood of dot-com house commissions; he developed a sufficiently generic, but flexible house strategy that he could then deploy on almost any site and then allowed the site and program to differentiate them.

³ Hays, K. Michael. *Architecture Theory since 1968*, (Cambridge: The MIT Press, 1998) xiii.



SvS, Winka Dubbeldam: through. In the end, I guess, these are huge lightweight concrete speakers, you could say, both weighing 30,000 pounds. We had to change the foundation of the museum for it. It was not that lightweight. / That's it. Thank you. / Michael Speaks: There are a couple questions I want to start with. It seems to me that there are a lot of common threads and there's a lot of real difference between these offices and presentations. And, maybe I'll ask a question or two.

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as long as theory precedes design or design precedes theory, then theory remains effete and practice remains a compromised version of a pristine theory. Are we "after" this particular incarnation of theory? The evidence seems to indicate so. One sees the fall-out in both the dearth of significant texts produced in this period and in projects from a diverse group of architects that, perhaps meritorious as buildings, failed to meet the promises of their polemics. The cavernous and vacant space of Rem Koolhaas' Lille Station more closely resembles the unoccupied renderings of its Pirinesian namesake than the 'culture of congection' that it was designed to produce.⁴ Still, the question remains: what emerges after 'after-theory'?

⁴ When I visited one Sunday in June 2000, the escalators were still and after several minutes I realized that the only inhabitants in the space aside from me were a young couple making love on the Pirinesian spiral stair, so alone as to be comfortable with their intimacy.

⁵ Michel de Certeau, *The Practice of Everyday Life*, trans. S. Rendall (Berkeley: University of California Press, 1984) 61.

"A particular problem arises when, instead of being a discourse on other discourses, as is usually the case, theory has to advance over an area where there are no longer any discourses...The theorizing operation finds itself at the limits of the terrain where it normally functions, like an automobile at the edge of a cliff. Beyond and below lies the ocean."⁵

— Michel de Certeau

Today we seem to find ourselves at the edge of this cliff. But rather than perceiving the precipitous edge as a limit condition, can we approach it as an exhilarating opportunity for reconsidering both the vehicle and the terrain? Inherent in the notion of an

"area where there are no longer any discourses" (i.e. practice) and in the notion of 'after-theory' lies the presupposition that theory's domain is exclusively discursive and practice's is exclusively material. By questioning these dialectical oppositions, perhaps one might find the opportunity to reclaim a productive relationship between architecture and theory. As evidenced in parallel text, in the not-so distant past (and in the very distant past as well) design theory did in fact hold a more reciprocal relationship with practice.

In challenging theory's preeminence, the opportunity arises to propose a theory after (after-theory) that, like practice, can be developed, changed, and modified over time, not unlike a scientific hypothesis. If we expect less of theory, can we potentially realize more from it? By liberating theory from the need to be instrumentalized in practice, can it be appropriated and used to inform the way we work, rather than to dictate what we make? As an alternative to the twentieth century's defining and definitive manifestos by Le Corbusier, Walter Gropius, Aldo Rossi, Peter Eisenman and others, what we might find is that a working theory developed concurrently with practice can be tested and revised to respond to the needs of practice.

"The theoretical presumptions of modern architecture, located as they once were in a matrix of eschatological and utopian fantasy, began to mean very little when the technological and social revolution whose imminence the modern movement had assumed failed to take place. For with this failure, if it became obvious that theory and practice were disrelated, it could also become apparent that theory itself was never so much a literal directive for the making of buildings as it was an elaborately indirect mechanism for the suppression of feelings of guilt."^{*}

— Colin Rowe, 1972

"The widely acknowledged schism existing between the theory and practice of architecture today...has its origins in the 1960s, the moment when architectural theory first became a mature discourse in the United States...It was also at this time that members of a newly politicized generation of architecture students mounted a challenge to a profession that it saw as arrogant, irrelevant and anti-intellectual. During the following decades the aphasia between architectural theory and practice intensified as "theory" became an increasingly autonomous and often arcane field of specialization within the schools and media, preoccupied with debates taking place in philosophy and literary criticism but ironically enough (given its beginnings) distanced from everyday problems of the built environment"[†]

— Joan Ockman 2000

^{*} Colin Rowe. *Five Architects*. (New York: Oxford University Press, 1975) 6.

[†] Joan Ockman, "Pragmatism/architecture: the idea of the workshop Project" *The Pragmatist Imagination* (New York: Princeton Architectural Press, 2000) 16-17.

SvS, Michael Speaks: They're all very chatty people, so I think they're going to talk a lot, but I think at some point we'll also field questions from the audience. / Maybe I could start by asking a couple of questions that connect the first and the last presentations, and this question is asked partly from ignorance and partly I'm really a journalist and I'm just trying to understand



THEORY AFTER 'AFTER THEORY'

Accepting the inevitability that any architectural endeavor must find a starting point, different, but equal, means exist to recast the problem: either theory can emanate from a series of practices, as a kind of bottom-up logic where discrete but lateral design activities produce emergent consistencies, or theory can be interrogated, tested, and requalified as it is developed through a practice. Both of these cases adopt a hybrid position whereby theory no longer remains an overarching irrefutable principle, but functions as another tool. As such, a working theory embraces a reciprocity of thinking and making through time and arises at the moments in the gaps or overlaps between modes of practice to become a method of working that transcends formal prescription. I am arguing for a reciprocal, imbricated exchange, where theory is simply another form of practice, so that thinking and making, writing and building inform each other. As soon as we contest the primacy conventionally accorded to text, writing becomes just another manifestation of an architect's intellectual energies.

As an alternative to a manifesto or determinant theory that explicates a number of polemical points, a theory after (after-theory) must within its own proposal afford a working space for exploration, test-

ing and development. This piece attempts to allow working room by constructing the argument through parallel texts that engage some of the approaches and processes that they advance. The essays run concurrently and are intended to complement each other without forming direct correspondences. This intentional misalignment produces empty spaces on the page to encourage the possibility of its own transformation and re-inscription. To be clear, the examples in the adjacent text do not presuppose to provide a comprehensive survey or lineage of a particular kind of practice, or to infer a nostalgic return to an already existing paradigm, but rather to propose that theory after (after-theory) could avoid the limitations of applied cultural theory while remaining socially and culturally engaged. What these projects do share is that they imbricate theory and practice; they all uniquely reframe this relationship such that both are transformed as theories multiply and designs unfold, refracting within a complex relationship between presupposition and actualization. From this work, a theory after (after-theory) begins to emerge that is non-representational, promiscuous and iterative, operative, contingent, and open-ended.

"The end of *Assemblage* has nothing to do with the end of theory, neither as an editorial intention, nor, in our minds, as a historical symptom. Rather, the transitional moment meant that theoretical activity achieves a new excitement and urgency. We hear the antitheoretical rants to be sure, and, oddly, enough coming from deep within the theoretical camp."^{*}

— Michael Hays and Alicia Kennedy, 2000

"At the same time that *ANY* ceased publication, the long-standing journal *Assemblage* closed, leaving North America without an open forum for discussion of contemporary issues in architecture, the making of cities, and all of the cultural asides - political, economic, and otherwise - that architecture and cities engage. In other words, without a platform for criticism and ideas."[†]

— Cynthia Davidson, 2003

^{*} K. Michael Hays and Alicia Kennedy, "After All, or the End of 'the End of'", *Assemblage* 41, (Cambridge: The MIT Press, 2000) 7.

[†] Cynthia Davidson, *LOG* (New York: Anyone Corporation, 2003) 1: front cover.

SvS, *Michael Speaks*: it. There are a lot of words that were thrown out that we've heard a number of times: performativity, parametric modeling, allo-plasticity. These are all characteristics, not only of material and design protocols that are somewhat interactive. I know Mark started off really with a liquid wall, a liquid surface that's highly, highly interactive – you called it allo-plastic – and you talked a lot about parametric modeling. I was wondering if you can explain to us what



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REPRESENTATION - REPRESENTATIONAL

⁶ Ben van Berkel and Caroline Bos, *Move: Imagination*, (Amsterdam: Goose Press, 1999) 221.

⁷ Lynn, Greg "Architectural Curvilinearity: The Folded, the Pliant and the Supple," *Architectural Design*, (1993, March-April) v.63, n3/4, 8.

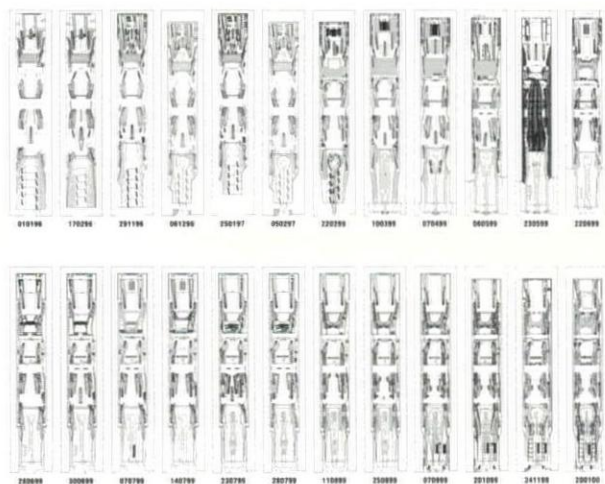
⁸ *ibid.*, 10.

Blob or box – it doesn't matter anymore.⁶

In the design and discourse of the last century, architects from Le Corbusier to Foreign Office Architects have ruminated over issues of abstraction and representation. But before turning to questions of representation and how it might relate to design theory, I want to make the important distinction between the noun representation (a design activity or tool) and the adjective representational (used to describe a designed object.) In the most basic sense, an architectural representation is a drawing or model – physical or digital – of a project. For the purposes of this discussion, representational architecture is a drawing, model, or building that portrays or acts in the place of an idea or concept other than itself. A theory after (after-theory) suggests the uncoupling of architecture from a representational mandate. While it does not deny the use of representation as a means, it is an argument against representational design as an end. While an architectural drawing might represent a

project, the project resists the representation of either the intentions or process of its formation.

In his introduction to *Folding in Architecture* (1993), Greg Lynn adopts a conceptual argument for an "intensive integration of differences within a continuous yet heterogeneous system"⁷ – in contrast to the fragmented juxtapositions of deconstruction – with a formal mandate of 'curvilinearity'. Lynn, who at the time was still working in the shadow of his intellectual father, Peter Eisenman, proposed a direct formal relation between theory and form: a theory of continuity is actualized through forms that appear continuous. "This recent work may be described as being compliant; in a state of being plied by forces beyond control. The projects are formally folded, pliant and supple in order to incorporate their contexts with minimal resistance."⁸ Illustrated with projects such as Eisenman's Rebstock Park, Thomas Leeser's in VER(re*)T.ego, and Shoeni Yoh's Prefectura Gymnasium, Lynn's guest edited issue of *Architectural Design* heralded a new strategy of the smooth. However, a more careful read of the projects reveal that the formal expression of curvilinearity actually does



Foreign Office Architects redesigned the plans for the Yokahama Port Terminal no fewer than twenty-four design times in the three years between the awarding of the competition and the completion of construction documents. What remained consistent over these two-dozen planimetric iterations was not the adherence to an overriding form, but a consistent diagrammatic operation. Form, structure, program and the primary material changed as the project evolved, but as the design was driven by an organizational logic, the project retained a relational consistency throughout its development. A reliance on an operational model (computer-scripted parameters) rather than a formal parti (geometric determinants) allowed the firm to incorporate a vast number of changes while maintaining the integrity of the initial design intention. In an interview

conducted while the project was under construction, Farshid Moussavi described their approach: "New information entering the project at any stage has been given the possibility to shape the project directly. The 'plan' at any time is therefore simply the state that is, given the level of intelligence it has reached...It is funny even for us to look back at the earlier plans as they are so different to the latest ones that we are working on."^{*}

^{*} Farshid Moussavi, *Verb Boogazine*, (Madrid: ACTAR, 2002) 45.

SvS, Michael Speaks: parametric modeling is and why we should be interested, except that it is really cool looking. And, Winka's last project is similarly interactive, similarly allo-plastic, one might say, if I have it right. Maybe you could each say something; I think these terms apply to all the presentations. Mark, maybe you could start, what is parametric modeling? / **Mark Goulthorpe:** A parametric model is simply one that models the parameters rather than the thing itself. So the computer, it seems to me, is the big difference between drawing with a computer and a pencil, is



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more to inhibit Lynn's conceptual intentions than to realize them. In most instances, theory becomes literalized as form. The folding of plates, the deployment of sinuous curves, and the proliferation of undulating surfaces often fail to produce an architecture that accommodates continuous yet heterogeneous occupation or activities. Forms that represent or reify a dynamic particle driven flow in Alias Wavefront software do not produce spontaneous and dynamic flows of people through space. As seen in Lynn's Triple Bridge Gateway Competition of the following year, a computer-generated dynamic particle-driven flow, arrested and reified as architectural form, does not necessarily correspond to novel or libroratory ways of moving through a project. The disconnect here is two-fold: first, the specific motivated actions of people differ from the behavior of particle animation, but more significantly, dynamically-generated form does not necessarily facilitate dynamic modes of occupation. Theory instrumentalized as such produces a kind of representational expressionism or formal-

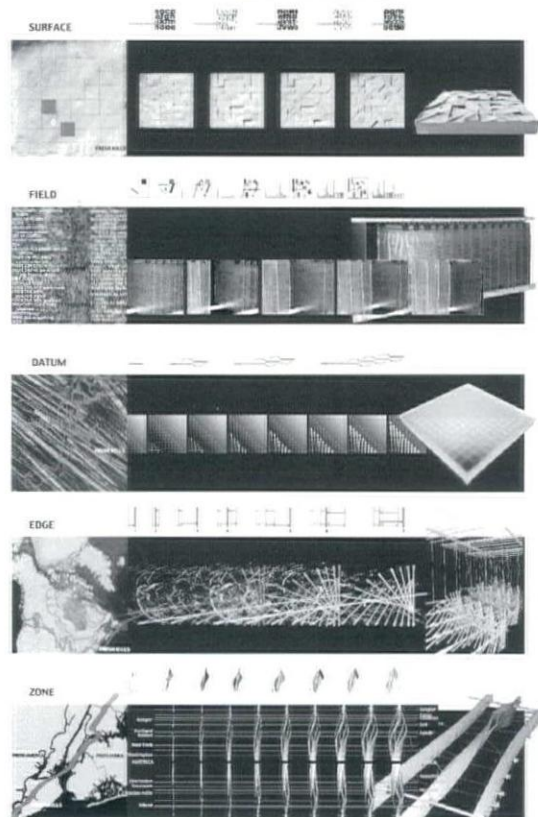
ism manifest previously in the modernist correlation of form and hardware (as machine), only now the post-modern condition produces the correlation of form and software.⁹ In order to truly move "Toward a New Architecture" – a title recycled by Jeffrey Kipnis in this same volume, we must first move beyond an architecture that purports to be representational: whether that representation is of ideas, of design process, of philosophy, or of theory.

The difficulty lies neither with theory nor with representation, but with the representation of theory – its reification as form. Ironically, most attempts to formalize theory have inhibited the actualization of its potential within a project. When the "smooth space" of Deleuze and Guattari's *A Thousand Plateaus* is instrumentalized as curvilinear forms or continuous undulating surfaces, it loses the immanent radicalism of a reorganized and non-hierarchical social space. As formal realizations of folds and curves, these frozen forms represent the ideas or process of their formation, rather than an experience of their resultant events, occupation and effects.

⁹ The modernist pursuit of the *machine a habiter* manifest itself not in an architecture that functioned as a machine, but in an architecture that replicated the forms or aesthetics of the machine. Similarly, seventy-five years later, Greg Lynn and other's sinuous forms represent the aesthetics of Alias and Maya without necessarily designing spaces that enable flexible or smooth occupation.

Mathur/Da Cunha+Leader's entry for the Fresh Kills Landfill to Landscape competition rejects conventional form-driven master plan strategies and instead proposes deploying a set of five material processes already occurring in the site. In stark contrast to their competitors, their competition boards avoided perspective renderings representing how the park might look in favor of explicating the physical attributes and structures inherent in five dynamic terrains immanent in the site. The use of operational techniques to delineate what they termed a 'dynamic landscape' addressed the reality of the twenty-five year construction process. As a result, they envisioned

that the design of park would be developed over time, in response to the economic relationships and political decisions imbedded in the site's history. Instead of adopting the role of master planner, they positioned themselves as designers who deploy the political, social, and economic landscape as a viable, material, and tangible part of the construction. The emphasis on performance over form distinguishes their approach from a traditional understanding of these issues and proposes instead mechanisms for the formulation of coalitions between public and private entities to sponsor specific areas of park development.





SvS, Mark Goulthorpe: one can model the relationships between something and not simply model a fixed entity. So suddenly we as architects have the means to model variants, and so you're not creating an object, you're creating the possibility of an object and varying the parameters as you explore the design. That seems to me a huge thing to have to get your head around, because it really means you're no longer simply designing an object with a determinacy, but you're trying to generate the rules by which an object might be created. And I think it's usually difficult. And in most of our

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As an alternative to these software-inspired instrumentalized representations, one might look to the use of computational techniques as an instrument for design. The work of digitally savvy designers including Aranda/Lasch, dECOi, Michael Hensel, Phillippe Morrel and others exploits the potential of this still-new tool for its form-finding, rather than its form-making. The development and deployment of computer scripting¹⁰ shifts the focus from form and composition to system and organization, slackening the relationship between architecture and representation. Whereas the Lynn's spline and the frozen particle animation retains an indexical relationship with its process of formation, and thus the theory it represents (just as Eisenmann's transformations of structure in House X), the script enables multiple, non-prescriptive potentialities, so the work is freed from formal predeterminedness and thus the possibility of theoretical mimicry. Moreover, since the algorithm responds to variable input, material properties in the work of these architects factor into the process and are used to re-inform the design. Aranda/Lasch's Log Cabin is designed by working simultaneously between the development of packing algorithm, material studies and environmental studies, where each activity informs the other.

¹⁰ Scripting is a low level programming embedded in software such as Rhino, Maya, and Catia, that allows designers to program repetitive actions. For the sake of this argument, its importance is the enabling of variability and exploration of literally thousands of alternatives.

¹¹ Donald F. Bouchard and Sherry Simon, *Foucault, Language, Counter-Memory, Practice* (Ithaca: Cornell University Press, 1977) 205-217.

¹² Kwinter, Sanford, "On Vitalism and the Virtual" *On Making, Pratt Journal of Architecture*. (New York: Rizzoli; 1992) 186.

ITERATIVE + PROMISCUOUS

A theory does not totalize; it is an instrument for multiplication and it also multiplies itself...As soon as a theory is enmeshed in a particular point, we realize that it will never possess the slightest practical importance unless it can erupt in a totally different area.¹¹

After all, who else [but architects] may, and indeed must, deal with both economics and biology, human collectives and geometry, history and matter... What is interesting about this manifold and promiscuous epistemological space I just described are the intricate patterns of interleaving...In a milieu this rich, the synaptic trajectories, the passages and the fuzzy sets, the unforeseen mixtures are where the truly new unfolds as an unvarying law of nature, as it were.¹²

As significant for a theory after-after theory as the uncoupling of form and representation is the concomitant methodological shift from one of revision to one of iteration, evident as previously discussed in the work of Aranda/Lasch, many of their contemporaries and others described in the parallel examples.

Iteration differs from the customary architectural activity of revision in both intention and intensity. Revision – in strictly architectural terms, to erase and redraw – is a modification to an existing proposal, whereby alterations retain an objective of correction and improvement. The palimpsest of previous versions lingers. Iteration, on the other hand is an undirected repetition of an action or a process – with the intention of proliferating difference. Revision optimizes through reduction, iteration creates excess through multiplicity. Revision is retrospective; iteration is prospective. Revision typically occurs within a single media, iteration most often plays out across several media, whereby it takes on qualities of the promiscuous.

While computer-aided design and computational scripting facilitates an iterative process, this approach does not depend on software for the generation of indeterminate form. For example, Riens Dijkstra of Maxwan Architects and Urbanists has directly appropriated scenario planning from business models that move beyond the study of formal alternatives, to explicitly re-configure the process of design itself. In

SvS, Mark Goulthorpe: projects, the last one I showed you the sort of fur ball tower top, knowing we need a parametric model to be able to account for all the variability. Effectively it's one detail, that whole thing, but they're not identical. So you've got a serial deformation that you can play with. And we're struggling to appreciate what is the formal potential of a parametric model. We are stuck in being unable as yet to articulate the rules by which such a form might be



THEORY AFTER 'AFTER THEORY'

embracing this model, Dijkstra and others have specifically sought to distance themselves from theory, or at least critical theory. However, this approach affords a model of developing a more robust theory, if the iterations are tested against and then inform a modification of the theory itself. The possibility is for a kind of

parametric reformulation of the relationship between concept and design, where the architect works back and forth between the intentions and the actualization of those intentions in an empirical, iterative process.



A close look at the series of maps and texts produced by Guy DeBord and Asger Jorn in the mid-1950s reveal how the Situationist *dérive* – as a theory and a practice – were developed through an iterative and manifold process. DeBord and Jorn worked through their ideas by alternately writing, researching (testing their method in the streets of Paris) and constructing maps, such that each version elaborated and refined the technique. Their direct engagement with the city informed the first psychogeographic map, which in turn, informed a text, which in turn informed how they engaged the city again. The significance of an investigation that cycles between research in the world and creative production is explicit, as DeBord explains, “The lessons drawn from *dérives* enable us to draw up...surveys of the psychogeographical articulations of a modern city.”*

The first published account of the *dérive* was in map form – the *Guide Psychogéographique de Paris* (1956), followed shortly thereafter by the written “Theory of the *Dérive*” (November 1956), and then

by *The Naked City* (1957) which clearly presents a revised and refined version of the original map. This working method itself became a form of *dérive*, by DeBord's own definition, a “drifting, a technique of transient passage through varied ambiances. *Dérives* involve playful-constructive behavior...”† In all versions, both written and drawn, the Situationists provided a guide to discovering areas of the city threatened by redevelopment as a critique of what they denounced as ‘repressive’ Corbusian urban design prevalent at the time. In a kind of reverse *tabula rasa* operation, the psychogeographic maps preserved areas of social and economic diversity (including the very site the Corbusier deemed sufficiently blighted to appropriate for the Plan Voisin). Omitted from their maps were parts of the city that they regarded as destroyed by capitalist or political redevelopment.

The use of a map as one means of exploring the *dérive* is significant for two reasons: first, it inherently critiques conventional cartographic practices as instruments of social control or imposing order on the city;

second, the fragmented, subjective and temporal city constructed by these maps is provisional, and changing rather than absolute and fixed. Rather than offering a single reading of the city, they encourage (and in fact require) the user to actively participate in constructing the urban landscape. The gaps between intact areas pose a political critique as well as providing a space for the user to insert themselves, just as the arrows at the ends of the maps point outward to anticipate places beyond. The map serves to posit a theoretical position, not as an immutable artifact, but in its active appropriation and use, while the practice of the *dérive* embraces and requalifies reality through a combination of chance and planning, so to become a means of constructing or projecting an alternative city.

* DeBord, Guy, “Theory of the *Dérive*” *Situationist International Anthology*, 1981, Berkeley: The Bureau of Public Secrets.

† *Ibid.*, p. 50.

SvS, Mark Goulthorpe: generated. So, we are in this pre/post- testing. You can see that it has gone through the aluminum sculpture to the sculpture in the field in France to the tower top. We are learning as we go. I think that what fascinates me about technology is that you have to get your head around something that is as powerful of a shift as that. / I find as we negotiate this shift to variability, the vocabulary and terminology of everything we have is inadequate. We spend an inordinate amount of time trying to name things. And, we use a lot of noises in the office. I find myself continually unable to describe something. We have a vocabulary of grunts in the office. We find

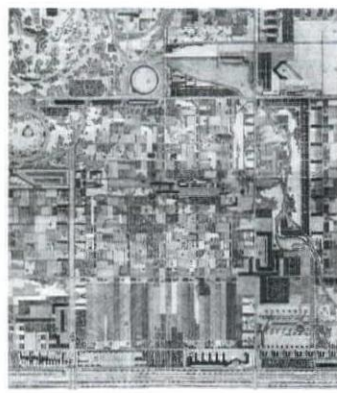
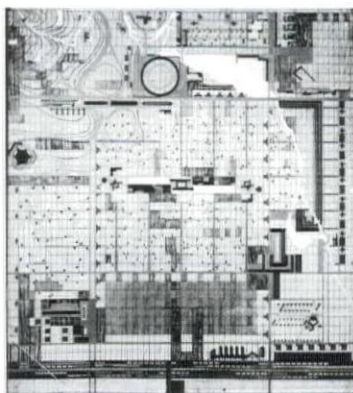
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Moving from revision to iteration fosters a re-conceptualization of design as a generative process where the project arises from a negotiation of site, program, and material, in lieu of the pursuit and perfection of a single solution, accommodating constraints and requirements within a preconceived form. As evidenced in FOA's Yokohama Port Terminal drawings (see parallel text), the sheer number of planimetric variations contests the formal consequence of any particular version.

While Kwinter reminds us of the manifold nature of the discipline, its "promiscuous epistemological space" and its potentialities for innovation, what are the possibilities latent not only in the materials of architecture, but also in the multiplicitous modes of production inherent to an architect's repertoire? Can engaging different modes of production in parallel – designing, building, researching, writing, and making – without priming any one mode, afford a means to reconceive a material and intellectual architectural practice? If so, then perhaps theory itself

can become part of a promiscuous practice where each mode of working is understood as another form of design project. What I'm suggesting here is a form of practice which incorporates design, research, building, and writing rather parsing each of these into different aspects of intellectual work.

Promiscuous practices move fluidly between modes of expression, working through the identical ideas in different media. In this light, Diller + Scofidio's publication *Flesh* interweaves drawings and photos of exhibitions and building projects with polemical and descriptive texts. This multi-valent volume opens the question: is it research, theory, practice, or design? Simultaneously it manages to be all of these, enabling readers to chart their own path through the book. To apply this same promiscuity to disciplinarity enables the designer to work not only in different media but with different materials and in different collaborative practices, so that product design, scripting, urban design, exhibition design are all part of an architect's repertoire. A pertinent



Emerging from a series of lectures at Princeton University in 1930, Frank Lloyd Wright's designs for Broadacre City were first published as *The Disappearing City* (1932). This initial proposal took the form of a ninety-one-page treatise outlining performative principles that "integrated" a "series of diversified units."* The fundamental structure for the city was the provision of a "minimum of an acre to the family."[†] As compared with the singular vision and rigid zoning of Le Corbusier's *Ville Radieuse* (1930), Wright's approach enabled him to refine and revise the scheme without rejecting its basic tenets. Over the next twenty-eight years, Wright continued to

develop the city as an evolving design. By 1935, he began studying the project through descriptive models and drawings. However, Wright consistently emphasized the fact that his proposals were prototypes, rather than an actual design. Both the models and the texts were revised no less than four times. The last version titled *The Living City*, published six months before his death, integrated his writings with drawings, models and renderings. Wright insisted that the *Living City* was "not intended to be an ultimate pattern but one so free of major axes as never to become the usual academic fixation, and always to have sufficient reflex to accommodate inevitable organic change."[‡]

What remained consistent over the numerous iterations was a spatial and temporal urbanism of aggregation and growth.

* Wright, *The Disappearing City* (New York: William Farquhar Payson, 1932) 44

[†] *ibid.*, 44.

[‡] Wright, "The New Frontier," reprint, Pfeiffer, 4:51.

SvS, Mark Goulthorpe: a term that suits - one of them is allo-plastic that comes from psychoanalysis. It's a term by Sandor Firenzi. An auto-plastic relationship is one where the relationship between the self and the environment is fixed, and an allo-plastic one, where there's a malleable and reciprocal relationship, so that the self and the environment can shift. We've just written a book, and I've called it *Auto-Plastic to Allo-Plastic* - and I think in a general sense we're negotiating that change creatively, that we're no longer in a fixed, determinate mode of operation. As we negotiate with variability, we're shifting to an allo-plastic mode where you're looking to deploy

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example of such a creative practice is the Canadian composer Paul Steenhuisen who produces his electro-acoustic music through such a manifold methodology and with a vast array of materials. Steenhuisen simultaneously develops a piece in multiple media, as each alone is inadequate to develop the intense, multi-layered, densely textured orchestrations. He deploys a wide range of techniques: painting, digital manipulation, spectral analysis, writing, instrumentation, metriproportional notation and conventional notation. His base material includes everything from Luciano Berio's *Sinfonia* to breaking glass to the theme from *The Flintstones*. In attempting to develop a parametric or inter-relational music, he draws from these multiple approaches to circumvent conventional procedures of composition. Working in heterogeneous techniques simultaneously and interchangeably, his process achieves a generative rather than reflective creativity.

CONTINGENCY FN: TACTICS

A generative creativity relies on contingent tactics as a process of moving away from determinant form. To design with contingency is to be open to play or chance, thus avoiding preconceived or predetermined solutions. Contingency tactics can provide a means of design that embraces the constraints imposed by material properties, building codes, structural exigencies, to inform design. Used dexterously, contingency tactics enable opportunistic transformations of the codified constraints of the profession.

Determinacy however, is deeply engrained in the profession not only as a product of the need to accurately calculate the forces of gravity and wind (the necessity to design that which is structurally determinant), but also from the received conventions of architectural education. In almost every university in the world, architectural design studios still evidence the influence of nineteenth century *École des Beaux*



"I am concerned in weaving a network of associations, relationships, techniques and images. Rather than a linear progression, I want a three dimensional quality to my work over a period of time."*

Over the course of his career, the British artist Tony Cragg has created eclectic sculptures that take multivalent forms, oscillating between surface, volume, and object. While many of his pieces rely on a logic of accumulation or aggregation of found objects, others are made as autonomous forms carved or cast from a single (and often found) material. Cragg's process is exploratory, and the work based on the qualities of the material at hand: plaster, ceramic, metal, glass, carbon fiber, stone.

The one consistency in his oeuvre is the persistent investigation of the relation of form and materiality. However, he has refused adopting an overriding ideology about form or process, so that the work eludes characterization as a single style or signature.

* Tony Cragg, Interview, *View*, (San Francisco, 1988).

SvS, Mark Goulthorpe: open-ended processes and negotiate with them, and so you can allow this variation. But even through to the kind of actual architectural relationships between people and space, in something like the wall project, or Winka's interactive thing, that for me is a sort of allo-plastic relationship, where no longer is it sort of an inert thing that you're housing people with, but the presence of people is actively interacting with this. And I think it has enormous potential for entirely re-qualified psychologies of space. / Michael Speaks: But can I just ask: It also has real, as I understand it, real practical applications and aspects as well. I know in the project

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Arts atelier model. The methods of teaching design through concours (competitions) and private juries were established in 1823, and had remained essentially unchanged when the school closed in 1968. At the beginning of the course, students received a design problem for which they had twelve hours to prepare and submit a loose sketch (esquisse) of the parti. The student then spent then next several months developing the project. The equisse formed the basis for the final evaluation, whereby excellence was measured by how closely the final design remained to the initial parti. If in the course of developing the project, a student made a substantial change to the design, the project would be rejected and no credit given. In this system, formal geometry prevails over relational geometry, distributions over organizations, and determinant parti over contingent diagram. A parti describes a set of formal conditions, as opposed to a diagram that articulates a set of relationships. The overall form precedes and is privileged over the individual elements, the general over the specific.

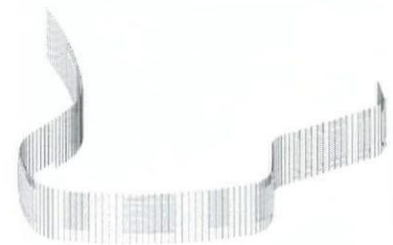
The parti affords a single 'best' solution, whereas the diagram propagates scenarios that can be evaluated and tested.

Koolhaas and Tschumi's competition proposals for the Park de la Villette provide a more contemporary illustration of this difference. Tschumi's strategy of superimposing points lines and planes, while allowing for chance 'collisions', retains the quality of a parti in that it specifies the size, location and orientation of each of the elements. Although the final scheme revises these drawings, the drawings project a single solution. On the other hand, Koolhaas's programmatic banding diagrams, on which he also superimposed several grids of kiosks, propose an organizational strategy without representational referent, so that the diagram retains the potential to generate multiple distinct design solutions.

A contingent design might alternatively allow material properties to inflect the final form. N_Architects' P.S.1 pavilion used the bending radius of the bamboo, as manifest onsite to inscribe the final shape of the

The Finnish firm Berger+Parkkinen won the competition for the Nordic embassies in Berlin with a deceptively simple design: to encircle the site with a 226-meter band of copper lamellas. In actuality, this seemingly facile solution addressed extraordinarily complex issues of design and politics, proof that contingency does not demand complexity. Specifically, it proposed a means to accommodate five individual embassy buildings – the design of which was awarded by competition to five different architects – on a single site so they present a unified appearance while still retaining their individual identity. The copper band offers a single, but variable screen along the perimeter of the site and becomes the exterior façade for each building. Berger + Parkkinen's ribbon

allowed and anticipated modifications in response to the other architects' designs. As the ribbon weaves through the complex it varies according to the conditions it encounters, allowing varying degrees of light and air to either building or courtyard beyond. Berger + Parkkinen conceptualized the band as an element responsive to the conditions it engages, both at the scale of the site and the scale of the building. Their approach to this project shifts the design process from a conventional master plan strategy, where the process begins with a large and immutable gesture, to a more open-ended process, where design decisions respond to a collaborative negotiation between the overall plan and the design of the individual elements.





SvS, Michael Speaks: that Winka has just finished downtown, the apartment complex, this same kind of idea gets played out literally in constructing a project. It's also very clearly taken up in Gregg Pasquarelli's idea of versioning, It's a much more practical use of this same idea. So it's not just interactive exhibition spaces. It has real practical applications as well. / Winka Dubbeldam: That is what I thought is the incredible challenge, or maybe the reason why we started

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arcs. Ocean North's designs exploit the inherent structure and quality of materials. Their installation for the ice show in 2003 was constructed through a process of partially freezing a room-sized cylinder of water. When the 'walls' were thick enough to be self-supporting, the architects cut a hole in the side of the structure to release the unfrozen water and create an occupiable space within. The laminated form was unpredictable, contingent on the material properties of the water and the temperature as the pavilion was made.

OPERATIVE*PERFORMATIVE

A theory is exactly like a box of tools. It has nothing to do with the signifier. It must be useful. It must function.¹³

One might characterize theory after (after-theory) as a shift from prescriptive methods of creative production to performative ones. Much of what we are taught as the history of architectural theory is a series of 'canonical' texts that have shaped not only architectural design, but our perception of what defines design theory. Primarily prescriptive in nature, these manifestos provide explicit instructions for what and how to design. From Vitruvius' "Let the height of the capital, including its abacus, be equivalent to the thickness of the base of a column"¹⁴ to Le Corbusier's "La maison sur pilotis." a prescriptive design theory spells out which elements the architect should use and the way those elements are combined. However,

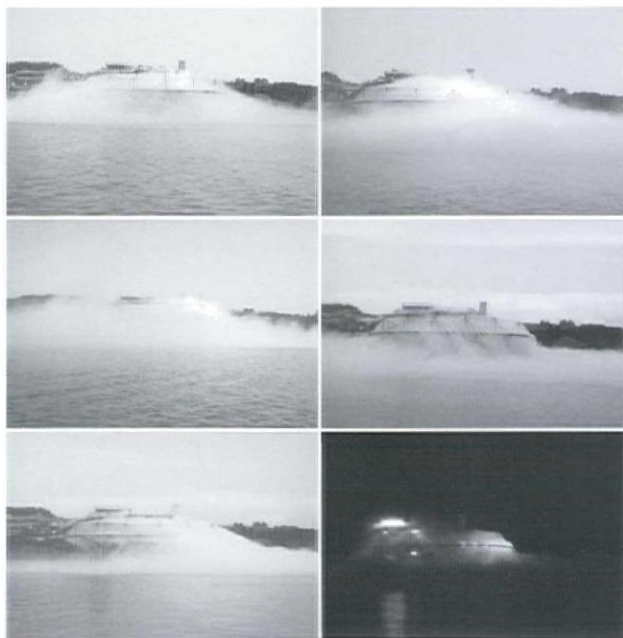
¹³ Gilles Deleuze and Michel Foucault, "Intellectuals and Power" in *Foucault, Language, Counter-Memory, Practice* (Ithaca: Cornell University Press, 1980) 208.

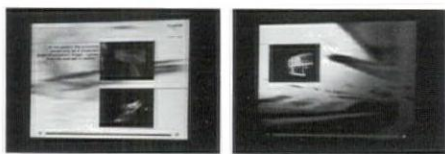
¹⁴ Vitruvius, *The Ten Books on Architecture*, trans. Morris H. Morgan (Cambridge: The MIT Press, 1926), Bk. IV, chap.I.

Diller + Scofidio have described the project "Blur" as a desire to create "nothing" in continual flux. The highly irregular cloud of fog that hung over Lake Neuchatel in the summer of 2002 was the product of the architects designed smart weather system that measured current meteorological conditions to control the mist output of 31,400 fog nozzles. Embracing the uncertainty inherent in constructing and maintaining Blur's self-generated microclimate, Diller + Scofidio developed the fog-generating system to dynamically regulate, and yet only loosely determine, its shape, size, density, and position. The system combined software with data from weather sensors that continually monitored temperature, humidity, and wind speed from atop the structure. Every eight minutes, the system compared current conditions with saved scenarios, adjusting the output of high pressure pumps to maintain an "acceptable... quality of fog." The ever-changing form's dimensions and configuration remained indeterminate and unpredictable for the duration of the Expo, to the periodic dismay of adjacent café and

bar owners – especially on cool days, when the project moved ashore. Blur's constant fluctuations not only affected its form but also its materiality. At moments the cloud trailed almost totally behind the structure, and at moments a stiff wind, interacting with increasing nozzle pressure, would sharply define its leading edge so that the atomized water appeared skin-like, draped between and pulled taut against the ridges of the fog nozzle lines. When the water was warmer than the air, the mist would form a rapidly rising mushroom cloud, and when the wind stilled, Blur's edges became diffuse, soft, and permeable, dissipating so gradually in all directions that it was difficult to say where it ended. The only constant was its continual change.

* Diller and Scofidio, *Blur: The Making of Nothing*, (New York: Harry N. Abrams, 2002) 307.





SvS, Winka Dubbeldam: thinking about the exhibition in the Frederica Taylor gallery, was because I found myself explaining all the time that really the essence, for me, of the house is that it performs completely different and it really changes how domestic environments operate. And that kind of idea, I think, where you start to combine—it's almost like political space in a way – the politics of use, or what you could say the psychological space, which is very close to politics as

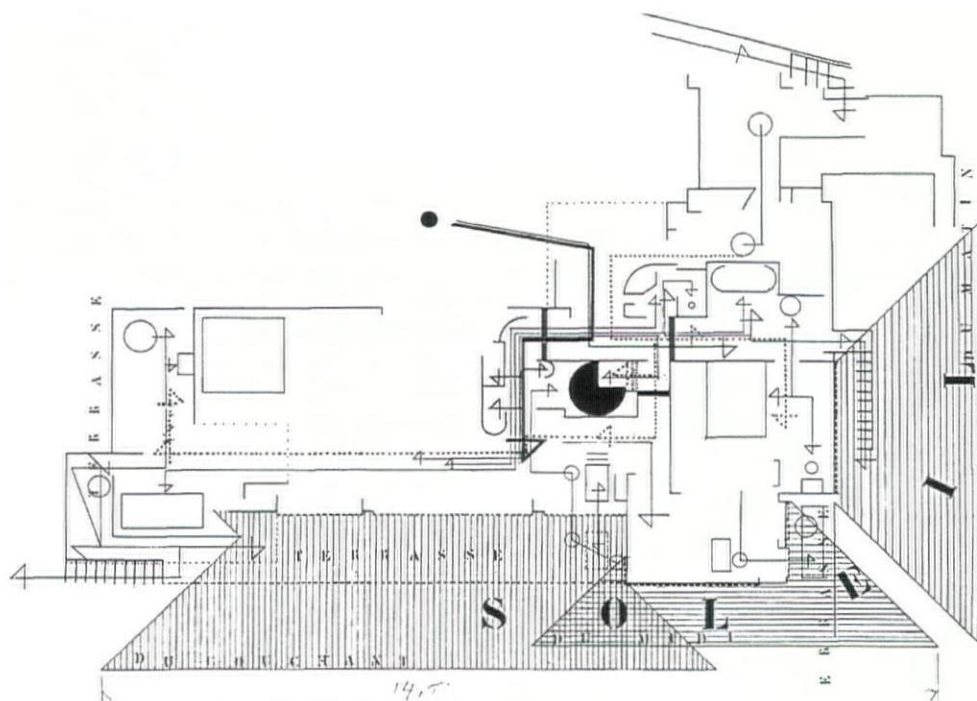
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there are a series of perhaps less well-known or understood tracts that form an alternative to the formulaic manifesto and what I term operative theories. While the prescriptive theory is singular, specific and determinant, the operative is adaptable, protean, and generative.

Prescriptive criteria not only characterized the Beaux Arts educational model where success was measured by the visual resemblance of the final design to the original parti, but also the canonical architectural texts of the last century. Le Corbusier's *Five Points of a New Architecture* (1926) provides an unambiguous prescription for a modern architecture, which he realized three years later in the Villa Savoye (1929). The free plan, the free façade, pilotis, horizontal window and roof garden: each point is clearly manifest in a readily identifiable component of the

house. In this example, which arguably represents the predominant relationship of theory and practice in the last hundred years, the architect has constructed a direct correspondence between text and building whereby the theory articulates an intention to be realized in practice. Because the explicit correlation between a theory and specific examples of its realization in practice provide clear and intelligible models for subsequent scholarship and criticism, prescriptive texts have often been privileged over performative ones.

To extend the argument to a more contemporary example, Peter Eisenman's application of linguistic theories to architectural design processes remains prescriptive despite the abstraction inherent in the structuralist model he deploys. While his approach precludes a literal translation of text into form, the



In the two-year span between Le Corbusier's first publication of the canonical "Five Points of a New Architecture," and the design of the Villa Savoye, Eileen Gray designed and built E1027 and published "From Eclecticism to Doubt." While there has been much scholarly speculation on the tense relation between these two figures, I'd like to step away from that point of inquiry to look simply at the distinctions between the designs of these two houses and the positions of these two texts. They are significant because they are parallel in the exploration and explication of the then-new modern movement, however the difference in their form and content illustrates a significant divergence in their underlying premises. The facts are as follows: Le Corbusier published the first version of the five points (which originally contained six points) in the Fall 1927 issue of Jean Badovici's *L'Architecture Vivante*. By this time, E1027, which Gray designed for Badovici, was already under construction. Design of the Villa Savoye began in 1928, and construction was completed after E1027 and Gray's text was published. So while Gray's E1027 has often been compared to Le Corbusier's house, it actually precedes the Villa Savoye.

SvS, Winka Dubbeldam: well I think sometimes—is completely altered. And I think that tension is something we wanted to make more extreme in the gallery space, by making it something that is constantly changing or something that is much more a spacio-temporal space. The interest of course is what Gregg also mentioned, is if you go to reality, if you build something 3D, you are able, right now, to send these parametric drawings 3D to someone who bends glass in Barcelona and someone who creates aluminum mullions in China. And, the whole thing ultimately comes together on the site, and that it actually fits; and that you don't actually make 2D drawings, and that to me is totally, totally

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projects remain indexical representations of the process of design itself. Eisenman's House X – which he himself claims to be a form of writing – adopts a theory of deep structure exported from linguistics. Once exported from linguistics – that is once it is removed from the practice – and applied to architecture, the theory is reduced to a kind of formalism.

While the post-critical calls for the 'easy,' 'cool,' and 'relaxed' in order to be projective, an operative theory reconfigures the linear or direct relationship between theory and practice to open potentials without renouncing precision or rigor. Operative theory is not anti-intellectual or anti-theoretical, but rather a reconsideration of theory's privileged position in order to integrate the thinking of and the making of architecture. A theory after (after-theory) requires a rigorous, empirical working method; one that asks

questions, one that proceeds through trial and experimentation, one that rejects absolutes in favor of a more heterogeneous and dexterous working method. Systems of relations take precedence over form. Operative practices ask what an architecture does, not what does it mean, and are more interested in what a project works-like rather than what it looks-like.

But the issue here is not who finished first, but rather, that Le Corbusier's text takes the form of a manifesto, a prescriptive and polemic tract, which is then realized point by point in the Villa Savoye. Gray's text, published concurrently with the house, takes the form of a dialogue that – unlike a manifesto – operates within the arena of the multiple, permitting interpretation and adaptation of its content.

If her work has been understood as a reference to Le Corbusier's, I would argue that it represents more a criticism of his polemic than a manifestation of his ideas. While the house at Cap-Martin certainly reveals an awareness of the five points, Gray's concern is not in proving a doctrine, but adhering to a proposition of performance. Gray allowed the specificities of the site: views and topography, and of the program to insinuate themselves into the house. While the five points are cited, each one is mediated according to the specificities of the site. The introspective roof garden becomes a roof terrace overlooking the sea. Through the obsessive detailing of sliding and pivoting doors, Gray re-conceives the free plan as an opportunity to achieve a multiplicity of spatial relations between interior and exterior. The space of the house and its

orientation is entirely transformed through their opening and closing. As well, moveable interior elements function between furniture and architecture to allow both open spaces and more delimited spaces. Gray maintained "The practice of employing uniform and standardized models is ...contrary to good taste, even to good sense."^{*} E.1027 contains elements that are repeated in number, but never standardized. Gray detailed three different staircases and three different bathrooms, Villa Savoye contains only one each, although it is almost twice as large. Despite Le Corbusier's insistence on the free plan, Villa Savoye's spatially discrete bath maintains a traditional separation of public and private spaces. In contrast, Gray's proliferation of baths and lavatories (six in all), dispersed throughout the house breaks down the traditional spatial hierarchies without sacrificing the need for privacy. She embraced experimentation. "The house to be described should not be considered perfect, with all of its problems solved. It is only an attempt, a moment in a more general research. If certain of the innovations that it provides can be regarded as definitive and ought to be adopted everywhere, others need further improvements and still others should be brushed aside."[†]

For Gray, the mandates of modern architecture focused on a building's image as physical object and theoretical objective at the expense of the subject's spatial experience. "External architecture seems to have absorbed avant-garde architects at the expense of the interior...The thing constructed is more important than the way it is constructed and the process is subordinate to the *plan not the plan to the process* (author's emphasis)."[‡] Intention is more important than the form, and the work performative rather than prescriptive.

^{*} Eileen Gray, "Description" *L'Architecture Vivante*, Winter 1929, translated by Caroline Constant in *Eileen Gray* (London: Phaidon, 2002) 240.

[†] Eileen Gray, "From Eclecticism to Doubt" *L'Architecture Vivante*, Winter 1929, translated by Caroline Constant in *Eileen Gray* (London: Phaidon, 2002) 240.

[‡] *ibid.*

SvS, Winka Dubbeldam: interesting. And, that we were actually forbidden to make 2D drawings, because at that point there is a moment where a mistake could actually sneak in. Whereas if we only send a pure 3D model, to Hong Kong, to Barcelona and to Brooklyn, in that moment everyone is working from the same thing, and everyone makes their own 2D drawings. Hence the amount of mistakes immediately cuts out to a whole other level. To me it is really interesting that it is both about electronic communication - the speed of that - but also that there is a level of precision, where the only one seriously behind it is the actual contractor on the site, the so-called 'construction

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OPEN-ENDED

What if [this book] is an intelligent carpet-bag of opinions, views, comparisons, open-ended discussions and doubts? Then the importance of identifying with its intentions and appetites should be replaced by the reader's using it with constructive greed as another tool with which to turn his own mind.¹⁵

¹⁵ Cedric Price, *Re: CP* (Basel: Birkhauser, 2004), 13.

By its very nature, architecture is a static and slow medium that resists change. And while there are myriad number of examples of buildings that have

changed over time, either through expansion, addition or accumulation (The Louvre) or whose structure has been sufficiently neutral to accommodate adaptation without significant reconfiguration (Pantheon in Rome), transformation in these instances maintains the image and intention of the original. The difference between these homologous transformations and open-ended structures is that open-ended structures anticipate and enable transformation or addition both within and beyond the parameters of the original structure. Rather than suggest a whole or complete structure, an open-ended system sets out a robust,

A decade after he translated Vitruvius' *De architectura libri decem* into French, Claude Perrault published the *Ordonnance des cinq espèces de colonnes selon la méthode des anciens*. Although initially conceived as a companion volume to Vitruvius's treatise, Perrault's *Ordonnance* ultimately challenged what had been for centuries the accepted canon of architectural theory. Undoubtedly, his republication of Vitruvius's definitive work reinforced the central tenets of Renaissance architecture: the authority of the ancients, established in large part by the evidence of geometric wholes, which were highly regarded as absolute, "certain and invariable."^{*} In the *Ordonnance*, alongside of rigorously documented and meticulously drawn temple components, Perrault advanced a text in which he proposes his theory of positive and arbitrary beauty. Belying the precision and apparent determinacy of the plates, Perrault writes, "Against the beauties I call positive and convincing, I set those I call arbitrary because they are determined by our wish to give a definite proportion, shape, or form to things that might well have a different form without being misshapen and that appear agreeable not by reasons within everyone's grasp."[†]

Perrault's second publication - written a mere ten years after the Vitruvian translation - began to question the hegemony of classical precedents and posited what was arguably the first qualified and therefore modern architectural theory. What caused this radical shift in Perrault's thinking? In preparing the *Ordonnance*, Perrault spent several years in Rome researching and documenting ancient temples. As he carefully measured and drew the columns, pediments, and entablatures, he discovered that the proportional systems lauded by his colleagues were not consistent, but rather, variable. "The case of the different projections given to the Doric capital readily demonstrates this. Leon Battista Alberti makes this projection only two and one-half minutes where the column's diameter is sixty; Scamozzi makes it five minutes; Serlio seven and one-half; it is seven and three-quarters in the Theater of Marcellus, eight in Vignola and in Palladio nine, in Delorme ten, and in the Colosseum seventeen. Thus for nearly two thousand years, architects have tried out solutions varying in dimension."[‡] On close examination, it becomes apparent that his drawing method also represented a radical departure from his predecessors.

Rather than using a fractional numerical system that subdivided wholes (modules) into parts, Perrault used whole numbers, effectively giving each part integrity as a component. Still more significant in this context is that Perrault's challenge to Renaissance theory, and his justification to modify classical doctrine, both emerge from and then affect practice. His discoveries in Rome allow him to requalify and negotiate theory, "there are even some things that ought to appear misshapen and offensive in light of reason and good sense, but that custom has rendered tolerable."^{**} He put his own theory into practice in the Corinthian capital he subsequently designed for the Louvre, which is proportionally higher than Michelangelo's capitoli, which is in turn, higher than those in the Pantheon.

^{*} Claude Perrault, *Ordonnance des cinq espèces de colonnes selon la méthode des anciens*. (Santa Monica: Getty Center, 1993) 48.

[†] *ibid.*, 51

[‡] *ibid.*, 48.

^{**} *ibid.*, 51

SvS, Winka Dubbeldam: manager'. For us, architects, I think what's the most interesting thing is to work with manufacturers straight, and to just cut away a whole layer of irritating administrative stuff. / Michael Speaks: It strikes me that this was precisely what Gregg was after. / Winka Dubbeldam: And it's happening, but it's happening very fast. / Gregg Pasquarelli: I guess we like to think of it very simplistically, where traditional drawing is like arithmetic, and parametrics is like algebra. So that suddenly it's a variability that's built into it. But I think one



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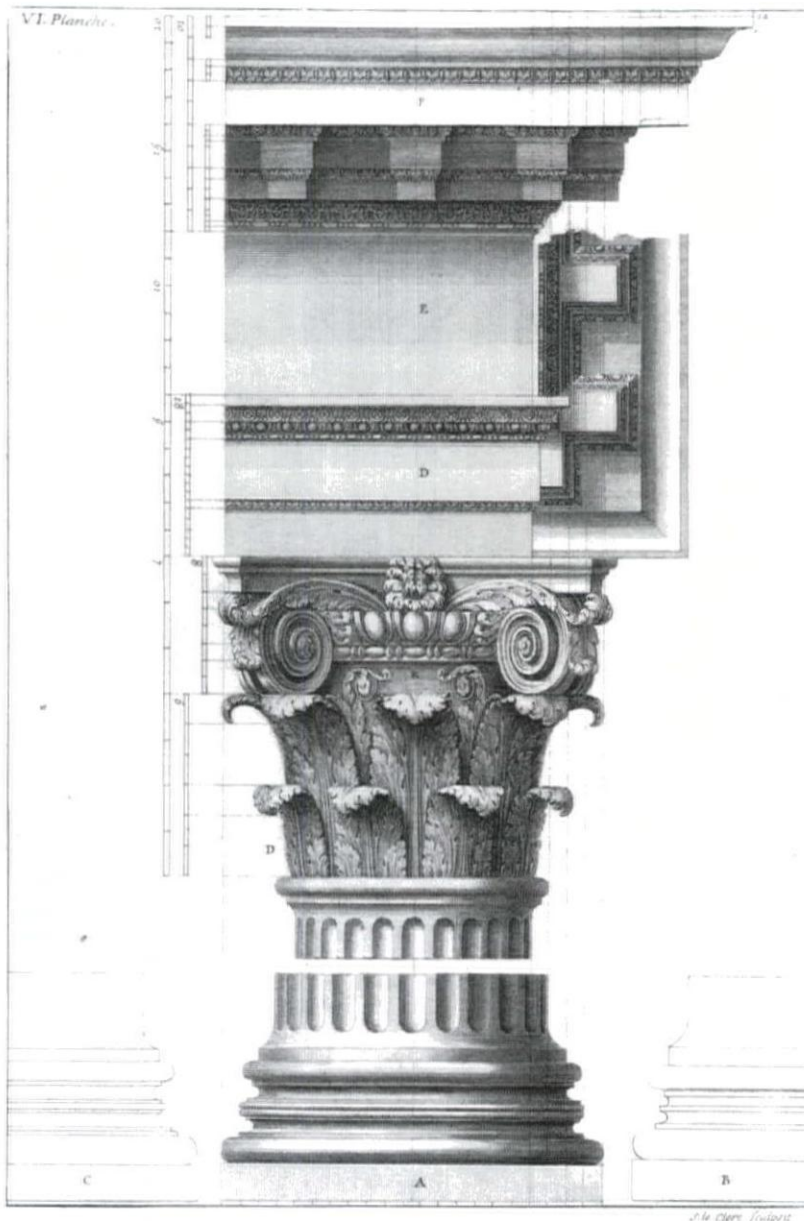
but flexible framework not unlike parametric scripts for computer software. As such, an open-ended practice could potentially orchestrate its own obselence or subversion.

Ultimately, theory after (after-theory) does not so much demand a radical shift in discourse or practice, but a significant reconsideration of what constitutes the center and the margins of the discipline.

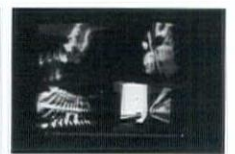
If the hierarchical organization that privileges certain modes of practice over others – along with the concomitant linear progression from thinking to making – can be restructured, then the zone of overlap

between the lateral and equal, but different modes of production – writing, editing, building, planning, filming, drawing, exhibiting – might offer an incredibly fertile ground for the concurrent and reciprocal exploration of a simultaneously material and theoretical architectural practice.

The challenge here is to advance a provisional theory that is in itself subject to negotiation, change, and revision. Absent such a provision, this essay simply establishes yet another theory awaiting instrumentalization. Unless it can foster its own appropriation and subversion, it will never be more than prescrip-



SvS, Gregg Pasquarelli: of the most important things is to use it as a kind of strategy to negotiate yourself around a value-engineering process. Because what typically happens is the architect makes a composition—in all the “isms” there’s a composition. And there’s this kind of image of what the thing needs to be, and there’s material specified, and it gets priced out, and of course it’s over budget, just like in all our time allotments we’re over budget. And you’re there, and you’re stuck



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tive. Instead, I would like to offer a working theory devised as a resilient structure subject to transformation over time. If “after-theory” describes the shift in landscape from critical theory to material operations in which van Berkel and Bos found themselves, then

theory after (after-theory), through its operations – promiscuous, iterative, performative, contingent and open-ended – has the potential to re-emerge as an operative and exhilarating vehicle for plunging off theory’s cliff to maneuver in the ocean of practice.

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In a project reminiscent of Gordon-Matta Clark’s “Fake Estates,” Atelier Bow-Wow cataloged a series of improbable structures in almost unusable slivers of land left as by-products or anomalies of Tokyo’s unmitigated development. This research, published as the *Pet Architecture Guide Book* includes eighty-one numbered examples – that they term ‘records’ – meticulously documented with a rigorous and consistent methodology. Each ‘pet’ is precisely presented with identical information: a site plan, a photograph, an axonometric with height, width and depth dimensions, a brief descriptive text, and a table containing pertinent information: the catalog number name, use, place and dimensions. Although the scale of the axonometric drawing varies so that it fits the page, it is always presented with the same scale figure – a man and his terrier dog.

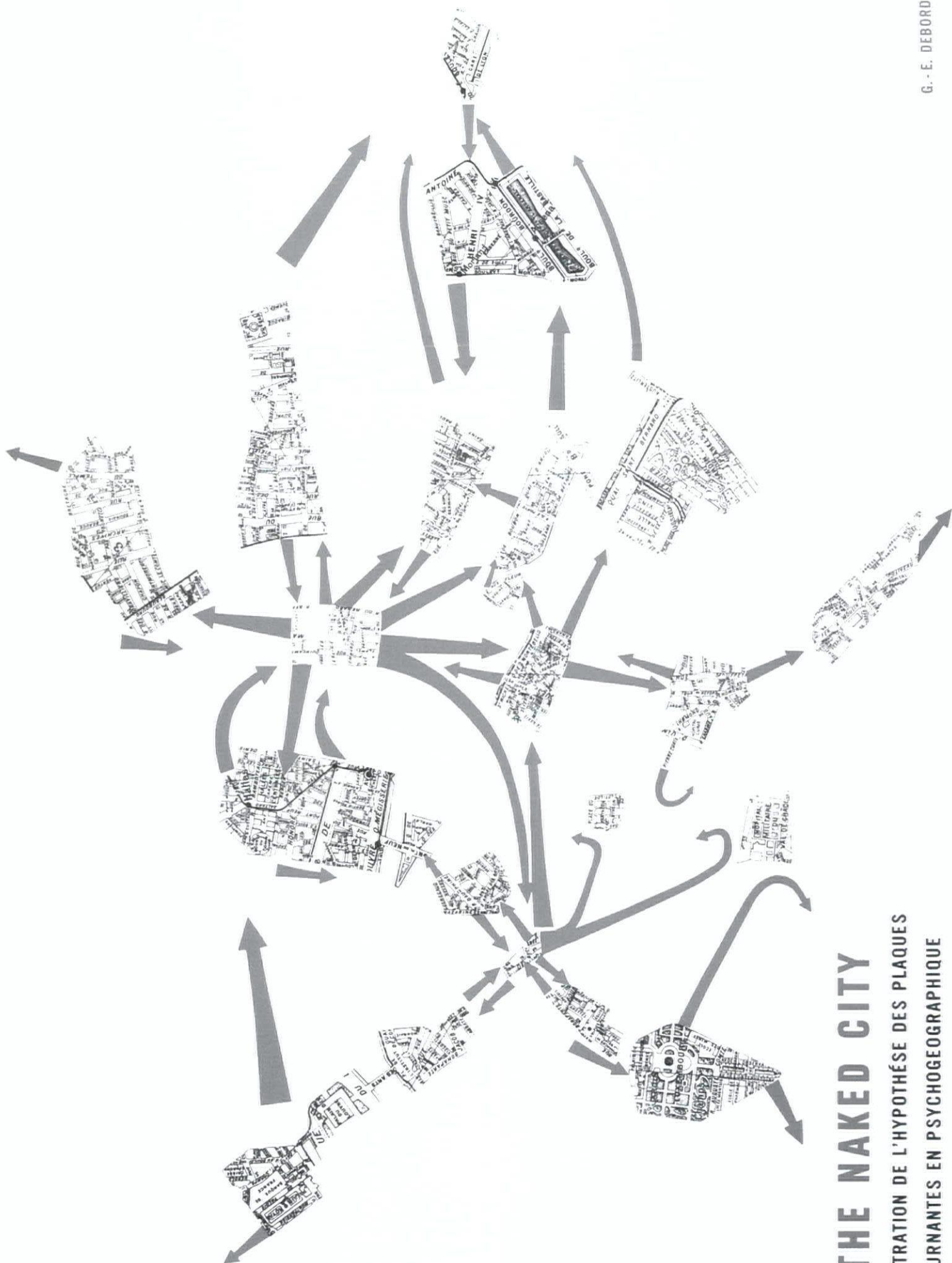
In these pet architectures, Momoyo Kaijima and her partner Yoshiharu Tsukamoto discovered a tactical, improvised architecture that negotiates needs with extraordinarily constrained means. What is particularly interesting (and for those like me, who read back to front), not immediately apparent, is that the research forms the basis of their design approach. The last nine records – which happen to be the first nine pages because the book is co-published in Japanese and English and therefore reads from back to front – are their own interventions: including a flower shop, a pornographic video store and a law office. The only difference between the found examples and their work is that the axonometric drawings include callouts and some projects (the unbuilt ones) lack photos. For these young architects, the tactical operations that have emerged in the face of Tokyo’s explosive

and intense development form models for their own practice – an emerging practice itself located at the margins. But to be clear, neither the pet architectures nor their design work adopts a position of weakness. Rather they posit “tools to direct the use of urban spaces”* – a deliberate means of working that works with and arises in response to an urban system. Bow-wow’s urban pets are a form of building in their own merit, “a construction of customization” that, as a result of “less consideration in its appearance...shows a sense of willfulness.”†

* Tokyo Institute of Technology Tsukamoto Lab & Atelier Bow-wow, *Pet Architecture Guide Book*, (Tokyo: World Photo Press, 2001) 8.

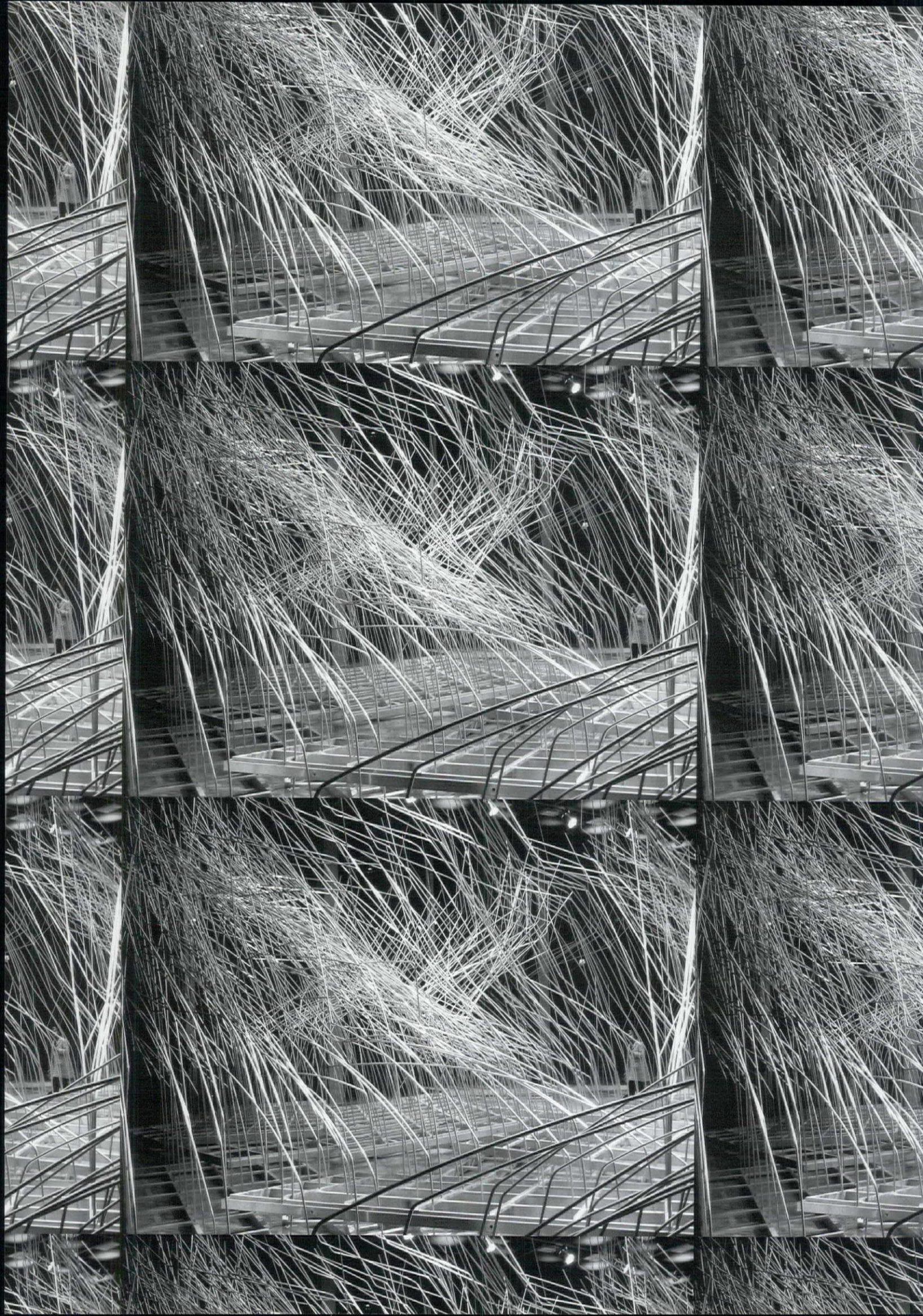
† *ibid.*, 8

Opposite: Guy Debord’s *Naked City* (see discussion on page 115).



THE NAKED CITY

ILLUSTRATION DE L'HYPOTHÈSE DES PLAQUES
TOURNANTES EN PSYCHOGEOGRAPHIQUE



AFTER FORMS

LEBBEUS WOODS

I dearly love the forms of things. Particularly because forms make light visible, and light is a sublime substance. We only see light when it is reflected from the surfaces of forms and the diverse materials of which they are made. It is not only that light pervades the universe and is a kind of messenger of the histories and mysteries of time and space, but that it is also the most intimate of phenomena, even as it is the most ephemeral. Maybe the two concepts are inexorably linked, sensuality and transience, intensity of experience and its brevity. Forms are, for me, less important than the light they reveal. This proves, I suppose, that I am not a tactile person, but a visual one. What I see moves me more deeply than what I touch.

This brings to mind Kenneth Frampton's writings of some years ago, and his long-time advocacy of the tactile in architecture. His interest lies in the visual, but he puts emphasis on tangibility, on the tactility of actuality and not the conceptual offerings of mediation. For him, the choice is ethical and political. The visual has become a gratuitous flood of images that washes over us undermining values and judgement. Our tolerance of it is a worrying sign of a kind of decadence, a preference for illusion over reality. Images – like politicians – usually lie. Picasso, like many modern artists, proclaimed that the only responsibility of art was to be true to itself, so we no longer expect it to portray, in any literal sense, a shared reality. Until the advent of the computer, we could believe that photos – which account for most of the inundating images today – never lie. We used to laugh at the clumsy cut-and-paste alterations of history manufactured in photos by Communist censors; PhotoShop and film FX have shown that they were actually avant-garde. Now we are right to expect that the images we consume are meant to mislead us, for one reason or another. What is surprising to some and disturbing to others is that we seem to enjoy the experience. This, in turn, seems to prove that fantasy is a lot more satisfying than reality ever was. There goes democracy and social justice, some would warn, and with it, any chance for an ethically founded, authentic architecture.

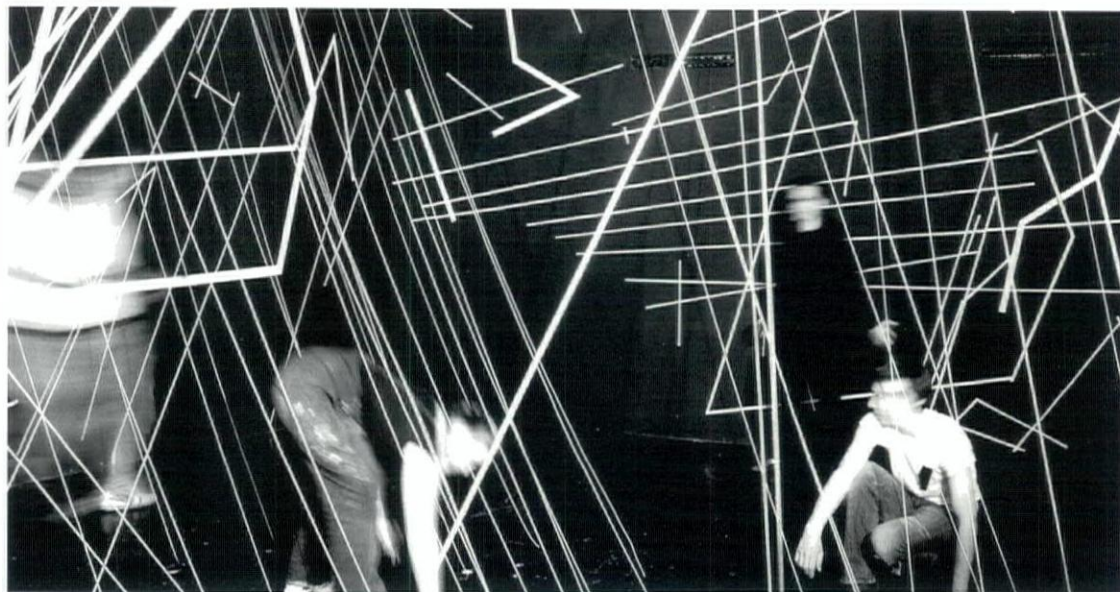
Personally, I am willing to accept the images I see in books and films not as misleading distortions, but rather for what they are, even when it comes to architecture. A photo of (your favorite building) may not be the same as seeing it in the flesh, but it has its own virtues, if taken for what it is. The photo is sometimes better, not only in terms of traditional visual expectations, but as an expression of underlying ideas. And, the light is still there, reflecting off the ink and paper of the book, projected onto or through the movie, TV and computer screen. I do not care if the images lie, that is, do not accurately depict the actuality of a built environment, determined by first-hand experience, or depict something else. They have an independent existence. It is up to

Opposite: Lebbeus Woods,
The Fall.



SvS, Gregg Pasquarelli: because the whole system collapses, because you can't take one part of it out, without the whole composition falling apart. With a kind of parametric modeling or thinking about things in this reciprocal manner, you can almost dial the variability, and therefore the complexity, and therefore the expense, and you can match the same idea to a budget. So it's never 'can I afford this, or not afford this,' it's how much can I afford of that, and with the same concept, you can variably change what you're trying to do to match that. / Winka Dubbeldam: And, prioritize,

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Installation of "System Wien," exhibited at the Museum für angewandte Kunst (MAK), Vienna, June 26 to October 16 2005.

us to distinguish between this and other incarnations. Living in a reality composed, as it were, of multiple, competing and sometimes conflicting realities calls on us to make ever more nuanced distinctions. Some believe this is beyond the cognitive capacities of most people, and that private and public institutions will exploit the disparity, but I believe this is a view that works against the special challenges of the relatively open society we share. In any event, the situation is as it is, and no amount of nostalgia for knowledge based primarily on first-hand experience will do anything but distract us from the need to steadily sharpen our abilities to make distinctions in an increasingly inferential field of experience.

Mention of this field brings something new into the discussion and that is the idea of space. We think of space as the reciprocal of form, and in one sense it is. We can experience it only as the implication of objects. We can see objects, but we cannot see space. We can touch objects, but we cannot touch space. A preference for the tactile is a preference for objects and their material forms over space and its unquestionably non-tactile, incorporeal reality. Our present perception of space is entirely conceptual in nature. To experience space, we must think it into existence.

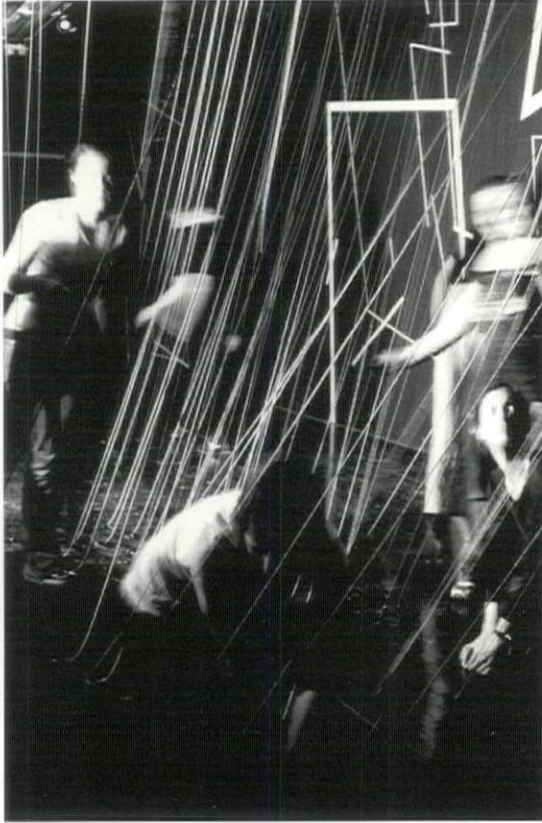
Technology has done much to extend what we can perceive within the limitations of our optical facul-

ties, and while instruments such as the computer and television impact our daily lives, making visible many things formerly invisible, by and large we are still dependent (and will remain so until brain implants or bio-engineering change the ways our brain works) upon seeing the narrow band of visible light in the spectrum. In the same way, we will remain dependent on objects and their forms to infer the existence of space. Binocular vision, the overlapping of objects in space, the diminution of the size and tonal contrast of objects as they are farther away, the shift of color towards blue as it recedes, and so on, still relies on objects to infer the existence of space.

Let me linger a bit on this point. We know – or think we know – that space is there, because three-dimensional objects need space to exist in, so we infer its existence from the forms of objects, but space itself remains elusive in any directly experienced way. This assertion may seem absurd, because we move through space ourselves, but we must remember that in a bodily sense we are objects. We feel the wind, see smoke and drifting clouds, but they are only material objects like us that occupy space and infer its existence. This distinction is important because, like all things inferred, space may be something different from what the inferences of forms imply.

SvS, Winka Dubbeldam: right? / Gregg Pasquarelli: And, prioritize. So it's really important. Because it suddenly changes your design from one where you're trying to compete with the client to spend money, to one where you're making a reciprocal relationship with the client to get the best product. That's a huge shift, and a very important one. / Mark Goulthorpe: I'll tell an anecdote by way of being somewhat contentious. We were doing some consultancy for Norman Foster. And at the end of that, he said to me 'if I've understood the computer well, it's going to allow us to do more complex form within the range of standardized budgets.' And he kind of looked at me as he does, he said,

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Installation of "System Wien."

To test this assertion we might project a mode of human perception that can perceive, in an organic way, a broader band of the electromagnetic spectrum – from gamma rays to radio waves--than our evolutionary trajectory has so far given us: space would visibly vibrate with pulsations of color and energy. How would we want, or need, to occupy, to live, in such spaces? What kind of information would we exchange with each other? How would our truer experience of space as a medium for the propagation of energy change our ideas about living, and about architecture and the structuring of space for human purposes? Could we still say that space is dependent upon objects and their presence? Or would it be possible to live in space wrapped, as it were, in the energy comprising its texture?

For a long time, scientists – physicists mostly – believed that space was an 'aether'. They reasoned, understandably, that for energy to be transmitted through space, space itself must be a 'carrying medium' – nothing can pass through a void, a nothingness. The aether was a special kind of substance that could carry light and heat across cosmic distances, yet would not – like other carrying mediums, say,

water and air – behave like a fluid, creating waves, eddies, and so on. Rather it was so ethereally low in density that it would pass *through* material objects like planets and people, as they moved through space.

The experiments by Michelson and Morley in the late 19th century that measured the speed of light blew a large hole, so to speak, in the credibility of the existence of an aether. As the earth moves through space, light travelling in the direction of its movement should, according to theory, move slightly faster than light traveling normal to this direction. Their precise experiments showed that this was not the case and that light moved at the same speed in all directions. Einstein put the nail in the aether's coffin by simply leaving any consideration of it out of his theory of "the electrodynamics of moving bodies," which later became known as the Special Theory of Relativity, effectively putting to an end the idea that space has substance. Some years later, in his theory of gravitation, the General Theory of Relativity, he showed that space has form – its geometry is distorted by the force of gravity – but not substance, aethereal or otherwise. Form without substance – this is certainly

Svs, Mark Goulthorpe: 'but you're never going to understand standardized production. Standardized production is the base. It's just thumping out rectangles, stacking them on palates, getting them to site. If something is broken you replace it.' And I thought at the time, about 5 years ago, yeah, he's right. But there was a sort of nervousness about him, and he's certainly a prescient thinker, that it compelled me to nonetheless continue. I think what we're seeing in the last few projects, and I've persevered with this territory, to the point that I think that if there's a breakthrough in digital systems, it that it allows a complete reorganization of the fabrication industry, in that

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"System Wien"

the brainchild of a genius of theory, who placed the hypothetical before the empirical, and was able, ironically, to 'prove' his hypothesis by empirical means. No wonder that Einstein became the patron saint of physical science in the era that followed him and is very much still with us. Form without substance could, not coincidentally, be an apt description of present culture as a whole, dominated as it is by the image in preference to tactile reality.

But, what is space itself? We can't let go of that daunting question, because it is of such critical importance to architecture. Is it form without substance? Or, is it a substance with a form of its own, independent of the objects that are arrayed in it? Or, in the end, is it something that we can only experience as the inference of objects? Each possibility dictates quite different imperatives for the human control – the design – of space.

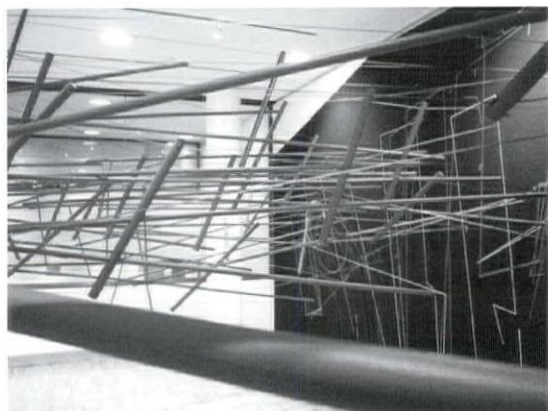
Now, for a brief, but necessary digression: the 19th century philosopher Arthur Schopenhauer ranked the arts and put architecture at the lowest level because it dealt primarily with matter and its enslavement to gravity. He placed music at the highest level because it offered the prospect of "knowledge without interest," meaning knowledge for its own sake, serving no

practical purpose, such as resisting the attraction of gravitational forces. For him, the gaining of this type of knowledge was the only way to break the vicious cycle of desiring what we don't have, getting bored with it once we have it, then desiring something new, getting bored, and so on and on. This sounds like a description of our present culture, where images serve as lures that seduce us into an endless cycle of desiring, buying and consuming, and desiring again. We are all addicted in one way or another to these 'benefits' of what Galbraith called our "consumer society:" planned obsolescence and upward mobility, the belief in progress, trickle-down economics. With Nietzsche, many of us might say with an uneasy mix of candor and fear, "I, too, am a child of my time, that is, a decadent. But I resisted it!" Today, resistance might mean trying to slow down the cycle of consumption and waste by working towards a set of ecologically aware views and practices that honor the human and the natural as mutually interdependent conditions. In terms of architecture, it might mean privileging the field over objects and space over form.

If Schopenhauer had lived today, and had access to post-Einsteinian knowledge, he might have said that music is the highest art because it gives us a per-

SvS, Mark Goulthorpe: you're telescoping, you're eliminating, the middle man, potentially. Such as on that tower top project, it's us and the engineer working closely together, it's fabricated by a machine, and screwed together offsite and just assembled. And therein lies an enormous potential economy. Now the contentious bit of the statement . . . I think that we'll see that more and more. I think you will see that despite the apparent complexity of some of these projects, they're going to drop the bottom out of Foster's world. And that's a delicious thought. And the proof is in the pudding. We're going to actually do this, but the pricing on the tower-top on the gallery leads

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"The Storm," exhibited at the Arthur Houghton gallery of The Cooper Union for the Advancement of Science and Art in New York City between December 20, 2001 and February 5, 2002.

"The Fall," installed at *Fondation Cartier pour l'art contemporain* in Paris, from November 26, 2002 to March 30, 2003 as part of the exhibition "Unknown Quantity," conceived and curated by Paul Virilio.

ception of the energies that travel not simply through space, but which constitute the fabric of space itself. Since Einstein's hypotheses, we cannot think any longer of space as a neutral field filled by material objects, but as a phenomenon alive with energy vibrations in the forms of energy waves. Sound, of course, is a wave. Its existence as such has implications. It follows, from Einstein's reasoning, that light is a wave. And, gravity. Matter is a wave, too. Space itself is a complex interacting sea of waves. This is not a reversion to the notion of an aether, but a recognition that space is not empty, but alive with energy.

We might look forward, even if it is very far, to a time when it would be possible to create space – livable, habitable space in the full sense of our experience – without the necessity of inferring it from objects and their tightly bounded forms. This is not to say that objects would no longer be important – we, being objects ourselves, have an irrevocable affinity for objects and their forms, their physical tangibility and tactility and the many uses these avail – but rather that we would be free of our present absolute dependence upon them in order to experience space. Form and space, we might say, would coexist in our experience as equals.

The present dependence on forms, which only promises to increase, unless new modes of thinking intervene, teaches us that objects and their forms as ends in themselves are limited when it comes to expanding our knowledge, with or without 'interest.' It appears now that we can create with our design and construction technologies any forms we want. When we could only build with bricks and mortar, or even industrially produced components of steel and glass, a certain discipline was demanded, and a certain meaning invoked, based on the nature of the human labor involved. When anything is possible, and any built (from actual materials) or imagined (from conceptual materials) forms can be posited, distorted, combined and recombined ad infinitum, then the *idea* of form itself is devalued. In that case, it is in its making no longer a discipline uniting thought, feeling, aspiration, and modes of social construction, but a manufacture of commodities, to be bought and traded as products. Their value is determined by the 'market,' which sets it as that for which it might be traded in terms of money or other commodities, following principles of aggressive competition such as Marshall's 'supply and demand,' and Smith's 'invisible hand.' With very few exceptions, this is the

SvS, Mark Goulthorpe: me believe that this insane level of complexity and material tactility is manageable within current standardized budgets. Now the contention would be, that had it been Foster's techno-rationalism, he's simply looking at it as a technical tool that Gregg just described, that we would never get to that point of innovation. And I think the crucial thing about any technology, it's not simply an appropriation of technique—if it is I think we lose what's delightful about the term technology—it invites a kind of stretching of cognition, to appropriate what's hanging in the air in any given technique. And it's on condition that it's pursued, really pursued to the

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tendency of architecture today. Driven by real estate developers, banks, and public institutions invested less in the public interest than in 'free market' economics, the practice of architecture and its physical production are hemmed in.

For the past several years, together with a number of collaborators, I have been working on the problem outlined above: how to experience space palpably and directly. The ultimate goal of our work, which has taken the form of installations¹ in various settings, is to inform the design of architectural projects for the construction of habitable spaces. Before this can be accomplished, though, a type of basic research must be carried out that addresses two crucial problems. The first is: *how can spaces be created by other than inferential means?* The second is: *how can such spaces relate to diverse human needs and experiences?*

The results of our efforts have been detailed in several books,² so it must do to say that in terms of the first question, the tectonic structuring of space is achieved by the definition of physical lines, or contours, or vectors, which have been liberated from being merely the boundaries of forms in order to become an active fabric of space. Analogous to the wave-energetic structure of space we cannot perceive directly, the installations are fields rather than objects, energy captured and crystallized in aluminum rods, steel cables, lines drawn on walls, all of which

embody the energy – physical, cognitive, affective – of those who made them. These are analogous, in turn, to the structure of the city, which is made and remade every day by the efforts of its people. The lines are still in the strict sense objects, but they are no longer inferential. Instead, through their continual diffusion, they are spatially actual.

The second question is addressed in the following way. The present pace of change, profoundly impacting our experience in all its aspects, demands that architects, the designers of space, find ways of thinking and acting that leave behind outmoded ideas of form emphasizing a fixity of existence. Instead, they will envision space as comprised of interacting energy systems. Because human beings are primarily social, the methodologies for creating energetic spaces will be collaborative, if not collective. Because human beings are primarily adaptive, these methodologies will rely on spontaneity as much as planning and other deterministic forms of design.

Spontaneous collaboration sounds like a desirable strategy for the present and future, mobilizing both democratic aspirations and technological possibilities. Our work is intended as an opening onto the landscapes of these potentials. At the same time, it is an exhortation to architects to make their own moves in this direction.

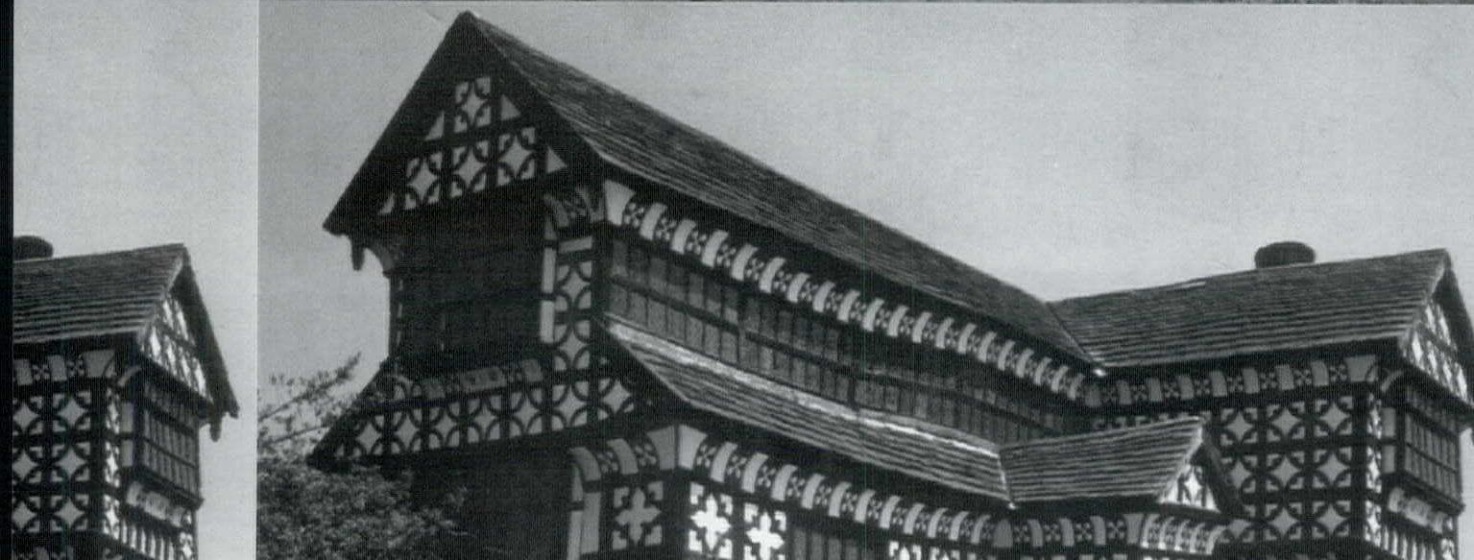
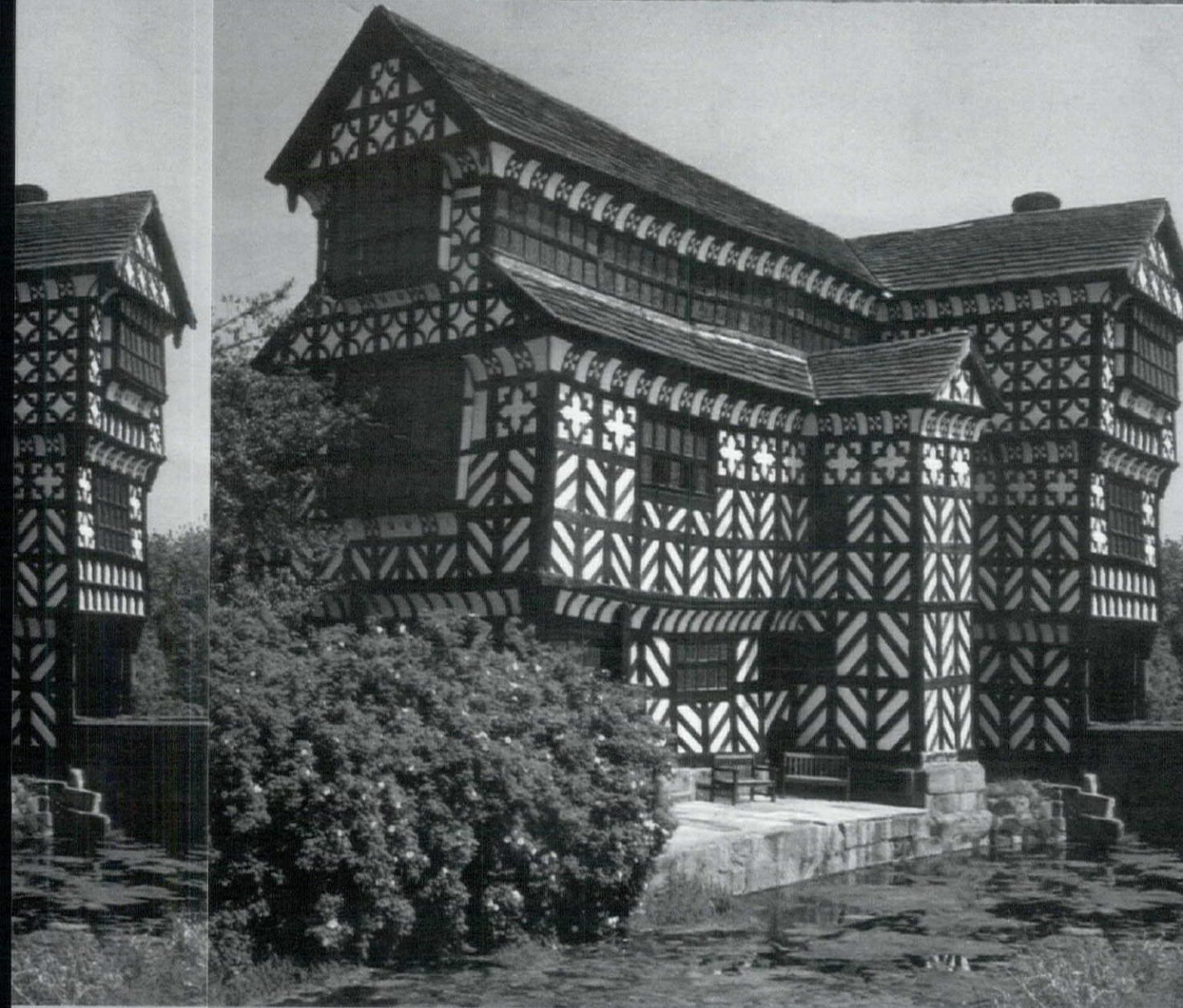
After forms, we might say, comes architecture.

¹ The most relevant installations are: "The Storm," Arthur Houghton gallery of The Cooper Union for the Advancement of Science and Art, New York City, 20 December 2001 to 5 February 2002; "The Fall," Fondation Cartier pour l'art contemporain, Paris, 26 November 2002 to 30 March 2003 (part of the exhibition "Unknown Quantity," conceived and curated by Paul Virilio); and "System Wien," Museum für angewandte Kunst (MAK), Vienna, 26 June to 16 October 2005. Principal collaborators were, respectively, Alexander Gil and Amir Shahrokhi; Alexis Rochas; Christoph A. Kumpusch.

² Most notably, *The Storm and The Fall* (New York: Princeton Architectural Press, 2004) and *System Wien*, (Stuttgart: MAK/Hatje Cantz, 2005).

Opposite: Lebbeus Woods,
The Storm.





2000 YEARS OF NON-STOP NOSTALGIA OR, HOW HALF- TIMBERING MADE ME WHOLE AGAIN

SAM JACOB

Piccadilly Circus has had an upgrade. A giant, curved, super bright and super smooth TV screen has just been turned on. Wider than widescreen, it curves around the Regency architecture and disappears up Shaftesbury Avenue. It's bright and it moves and it's really big. It looks as thin as paper and just as light. It suddenly makes all the other lights of Piccadilly seem very old: The rotating billboard, low-res RGB-bulbed LED screen, moving message board, and even last year's Jumbotron looks clunky bulky and jerky in the way only superseded technology can. The famous neon tableaux are duller and slower than they ever seemed before. These are being dismantled piece by piece to make way for newer, brighter, more communicative and flexible technology.

Neon is designed to show a single beautiful image. Its fine glass tubes are heated and twisted into filigree patterns – a fragile 3-D calligraphy pumped full of high pressure gas frazzled between electrodes. Retrospectively, neon seems as stodgy as the carving on a Victorian town hall. Neon is original, unique sculpture, tied to its narrative content like electrified Elgin Marbles: “Plug it in Pericles, let's see if it lights up!” Neon looks like architecture.

Piccadilly's screen is different. It can show anything in hi-res twenty-four frame per second realism. It can flit between live pictures from Mars, war, executions, hardcore porn...it's all the same. Content has been released from the architectural hardware. It turns a frieze into a freeze frame, or a fast forward, a jump cut, a zoom, and a pan... all kinds of things that architecture doesn't yet have the vocabulary to describe.

This change was commemorated when the original Jumbotron was installed at Piccadilly. The first clip it showed was a CGI animation of a giant Coca-Cola neon sign, a ghostly goodbye to neon and a segue into the future where architecture isn't built by builders out of stuff, but taped in a studio, edited on an Avid suite, and sent torrenting down a fat downpipe. It's architecture that says 'Aloha from Hawaii' via satellite.

The TV screen at Piccadilly Circus shows us a brand new kind of architecture, a leap enabled only by high technology. The bigger and more interesting challenge is to understand what it means for old fashioned low tech stuff. What happens when technology moves on? When it is superseded? Does technology drag us through history – from paint on the walls of a cave to lumps of stone arranged in the landscape, to sculptures and carvings, frescos, bas reliefs, mosaics, textiles, to stained glass, to light bulbs, to neon, to LEDs, to Plasma gas? The CGI neon in Piccadilly Circus says something different. As it passes from function to symbol it moves from technology to culture, from thing to image-of-thing.

In order to get to grips with architecture-as-culture rather than architecture-as-technology we need to engage the idea of the image, or more specifically, the part

Svs, Mark Goulthorpe: point that you condense something genuinely new that the field moves forward. I think the seat of innovation in any of these things is not through the techno-rationality, because that appends to a new technique, an extant ideology. I think it's only by really exploring the new technique for what it is that the full ring of imagination, that you'll get to that level of breakthrough. / Michael Speaks: Can I ask David to say something about parametrics, because you talked about it in terms of scripting, which is more properly within the purview of the description of the evening on *Perspecta's* part? / David Serero: Yes, I think that could reframe the debate. I think we're

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of an image which has meaning. We need to engage architecture's fear of what might be described as the 'Image Hoard'. Borrowing the Old English, 'wordhord' – a mixture of myth and vocabulary, the gleaming treasure of history and culture in the form of beautifully polished and refined words handed down through generations – the 'Image Hoard' is that great ever growing pool of images, things, and places. Once distinct puddles pooled neatly around separate cultures, it is now one great deep ocean – everyday vernaculars caught in swirling currents, dragged into the undertow by globalized experiences.

An alternative description of the 'Image Hoard' might also be the 'Pop Vernacular.' It is 'Pop' in the sense of a collective, popular, shared, contemporary-folk; it is 'Vernacular' in the way that it surrounds us. It is both a graveyard for the superseded and the spawning ground of unexpected futures. A cornucopia of architectural salvage. The Pop Vernacular draws on all of time and space. And despite its familiarity, it glows with optimism and freshness. Far from the end of history, it is the wellspring of the imminent future.

Washed up on the shores of this electric ocean are rustic bird boxes, ornate plastic plant pots, carriage lamps, gnomes, reconstituted stone statues, sliced pieces of log with house numbers branded into the surface, Regency desks with LCD vanity mirrors, hard drives in their drawers and keyboards tucked underneath, horse brasses, fiber optic Indian restaurants, plastic coated Chinese take-aways, pitched roofs and chimneys, and Medieval garage doors.

The Pop Vernacular is everything you would never see inside a design magazine. All classified under terms like 'Repro,' 'Neo', or 'Knock Off', and without the need for authenticity, they are free to reinvent themselves. Liberated from their origins as local materials, skills, climate and traditions, they are recomposed to reflect individuality.

The Pop Vernacular is happy to work with all kinds of un-architectural languages: the cute, the nostalgic, the homely. It is plural and expansive, global and inclusive: an inverted International Style. It is additive, assemblage, collage. It is global, but refers to specific places. It is collective, but displays individuality. The Pop Vernacular is one great big glowing Jungian vision.

It is nostalgic and traditional in a way that is coldly futuristic. It looks like hobby craft, but comes out of vast industrial complex production lines.

All of these contradictions make something entirely troubling yet numbingly comforting. It's a nostalgic vision whose subject matter is the here and now. The Pop Vernacular shows us how far away we are from a 'Normal' or 'Natural' state. It is both alien and homely.

Modernist authenticity insisted on singular truth and honesty in a world so obviously incapable of either. More resonant is conflict and compromise. Sentiments of the only-just or the not-quite are more recognizably contemporary. In fact, the tactics of the Pop Vernacular are not so very different to those of the high culture avant-gardists: warping, abstracting, inverting, slicing, bending. High architecture does it with diagrams and metaphor – the Pop Vernacular does it with recognizable imagery. It bends and warps culture.

The Pop Vernacular has a context. But unlike the traditional definition of the vernacular, it isn't geography. Instead its context is a scenario combining all kinds of invisible attributes: interest rates, broadcast media, trading parameters, import duty, holidays, and TV shows. Physically, its natural habitats are places with a whiff of the generic: DIY stores, garden centers, suburbs, Christmas decorations, dashboards, shop window decorations.

It is a compromise between history, backyard vernacular and commercial architecture that layers languages and meanings to create a sensation of possibility. All the while, it reaches for a synthesis of contemporary experience.

It is pluralistic: in its own way it can accommodate all kinds of different things. What is remarkable is not its aesthetic but its attitude, its techniques, its directness, its economy, its willingness to change – to use new technologies.

The Pop Vernacular does not rely on abstract concepts, but on concrete images that carry a mass of tradition and association, shot through with the energy of novelty and technology. It is an architecture of consumption. It's made by picking and choosing, selecting and arranging, buying and collecting. It's the kind of thing that the Smithsons admired of the Eames.

SvS, David Serero: dealing with iterative process, there's a whole set of questions and debate which is coming, which is really the question of evaluation of this form, and really evaluation of the performance. I think everybody talked about performance without really defining—and I'm sure there is an issue of time within each of the projects—which was the performance, to be fun, but to me one of the biggest problem we're facing with digital design in general is the problem of evaluation, and the problem of when do we decide to stop a system or to say that was the right instant that



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This kind of consumption has a romantic spirit driven by daydreams. Products are the building blocks that construct private dreams. The Pop Vernacular draws on familiar languages – languages which jump across media – from book to film to toy to product, then back again.

It is the folk art of the Information Age: The visualization of the emotional experiences and realizable dreams of a mass audience. It shows that populism can create complex, sophisticated and radical newness that addresses fundamental issues of class, politics, and identity, and which uses languages that are readable and recognizable in ways that allow architecture to be progressive, radical, and liked.

The 'Pop' bit means something more than 'popular', more than the sharp pop of a bubble gum bubble. It's the feeling of synapses connecting things that once were separate. It is like the convergence of folk music and electricity that burnt through the guitar shrieks of Hendrix and Richards, the amplified yelps of Jagger, the white-boy-sings-black-folk of Elvis.

Here is Col. Tom Parker on Elvis: "He sings Negro songs with a white voice which borrows in mood and emphasis from the country style, modified by popular music. It's a blend of all of them."¹

Less altruistically, prior to discovering Elvis, it's claimed he remarked "If I could find a white man with the Negro sound and the Negro feel, I could make a billion dollars."²

Denise Scott Brown describes this convergence of cultures in Memphis: "on Beale Street, where urban met rural, Gospel met secular, folk met jazz and white met black, Blues poured out."³

She describes pop music as a place where "low art met high art as the chic and the avant-garde embraced what had been the music of the poor, the oppressed, the regional and the local."⁴

And this evolving equation rolls down the years. In the Black Ark in Jamaica, Lee Perry combines folk with cosmic infinity. In London, art schools intersected vectors of rock and roll with radical French art theory. This strange potion of folk, high technology, distribution, and consumption spans the globe like perfume atomized into clouds. There was a moment when it was impossible to escape Cher's vocoded "I believe something inside me..." echoing down Siberian mine shafts, the robot voiced plastic diva

whispering across the vast Antarctic wasteland. Pop teeters between a unique moment bound up with a specific place and global hegemony.

The Pop Vernacular is different from Pop Architecture; it actually is popular; it's not about popularism. Just like Pop Art, there is a confusion between being popular and being about popular taste. Pop arts coldness is wholly different to the warmth and enthusiasm of grass roots folk art. Here is Jeremy Deller: "Warhol said that pop art was about liking things, whereas for me Folk art is about loving things."⁵ And love, warmth, and humanity are unlikely sensations for modern architects to be interested in. Rather, architecture has wallowed like an adolescent in the shallow waters of alienation, ranging from its loss of certainty – ironically reworking old moves without passion to the dreary literalism of Decon and the bureaucratic sci-fi of high tech.

Folk art is a victory of poetry over taste. Of not wanting to be cool but trying to be human. It makes taste makers like Coldplay, Conran, or Chipperfield look like petty minded parochialists. Theirs are dreams which expend their creative effort on exclusion – resulting in visions which are more about what isn't right than what is right. Perhaps the best way to overcome the oppression of taste is to love more.

The Pop Vernacular pluralistically incorporates the incompatible by refusing to believe in opposites. By making lateral connections between distant things it generates a magnetic-like force that holds it all together and vibrates with possibility.

Think of the acres of suburban front garden. Each small individual plot is tended, weeded, trimmed, edged, paved, mulched, clipped, planted, sown, painted, and treated on weekends and public holidays. Between the scale of the individual and the scale of the city something weird happens. Bypassing the municipal, evading regulation and bureaucracy, and free of professionals, these miniscule adjustments to the earth's crust begin to form grand gestures, mile long skinny strings of parkland woven in intricate knots. They suggest a direct relationship between the scale of the individual and the city. Dead-heading a rosebush is an urban act.

The Pop Vernacular is a kind of imaginative reality, a form of magic realism. It hangs like a misty daydream around the solid mass of architecture and

¹ Colin Escott, with Martin Hawkins, *Good Rockin' Tonight: Sun Records and the Birth of Rock 'n' Roll*. (London: St. Martin's Press, 1991) 64.

² Colin Escott, with Martin Hawkins, *Good Rockin' Tonight: Sun Records and the Birth of Rock 'n' Roll*. (London: St. Martin's Press, 1991) 64.

³ Denise Scott Brown, 'Memphis: A Housing Strategy' in Venturi Scott Brown and Associates: *On Houses and Housing*. (London: Academy Editions, 1992) 123.

⁴ *ibid.*, 64.

⁵ Tania Branigan, 'Jeremy Deller Profile,' *The Guardian*. <http://www.guardian.co.uk/arts/turnerprize2004/story/0,15076,1365685,00.html>. Friday December 3, 2004.

SvS, David Serero: you have to capture and move on from there. And I think this links to maybe also a more general question of authorships. I mean when you are talking about scripting, you are talking about systems that are possibly self-generative, by setting up a very different set of rules and I think the question is how does the architect begin to interact with this set of rules, and how do we kind of link it to other fabrication systems, also material organization systems, and how does this kind of a scripting link back to the problem of the author as architect. And really we have a conflicting relationship with digital technology and especially the computer. I think our practice has

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decorates the mantelpieces above 'Real Flame' gas fires where coals glow but never burn. It is scattered over gardens where plastic flamingos gather around mini-ponds. Like the fairies at the bottom of an Edwardian garden, they may well be imaginary. But these are lucid dreams. Like William Blake's visions of golden Jerusalem as he walked through 18th century London, they feel mighty real.

Modernism's rejection of history meant that architecture and urban planning were abstract and without reference. In the hands of the state it produced a kind of bureaucratic planning-architecture. Guy Debord describes post-war French new towns as having a feeling that "nothing has ever happened, and nothing ever will."⁶

This description of town planning as a mixture of fate and ennui is echoed by a very different source. John Betjeman's poem, *Slough* begs: "Come friendly bombs and fall on Slough, It isn't fit for humans now." Neatly preside as "Swarm over, Death!" Here he describes the citizens of new towns: "It's not their fault they often go / To Maidenhead / And talk of sports and makes of cars / In various bogus Tudor bars."⁷ (Perhaps it's the same bars described by the character Tim in the BBC comedy *The Office*: "There's a sign in the toilet saying 'Don't get your Hampton Court.'")

When Betjeman identifies 'Tudor', he means Mock Tudor. This 'bogus'-ness, lack of authenticity

and proper history are just some of the ways Mock Tudor architecture has been described. But perhaps it might just be that Benjamin fails to recognize that the bogus applied fake history is actually a subversive intervention which tries to re-write *Slough*. Perhaps its even a Situationalist's tactic designed to destroy the sensation of nothingness that Debord identified. It may even be a physical manifestation of a collective Blakian urban dream that just happens to take the form of a pub. Despite its everyday appearance, the Pop Vernacular is seamed with grand narratives. The following is the (or a) story of Mock Tudor (or Half-timbering). It's a story that demonstrates the dense gravitational pull of the Pop Vernacular.

Half-timbering was a vernacular construction technique that evolved in Germanic Saxony. It came to Britain in the 5th century B.C. with the Saxons as a mercenary army for the failing Roman occupation. By the 6th century the Saxons and other Germanic tribes controlled most of the lowlands and were expanding to the north and west.

Half-timbering was already cutting loose from being a vernacular building technology and heading towards a role as a cultural symbol; it was removed geographically from its origins but related to a sense of identity.

Celtic tradition mixed with Saxon culture. Forests, which had been the home of Celtic Druids, possessed

⁶ Guy Debord, (trans. Donald Nicholson Smith). *Society of the Spectacle*. (Paris: Zone Books, 1995) 126.

⁷ John Betjeman, "Slough," *Continual Dew*. London: John Murray, 1937, as quoted in "Slough," http://www.poetryconnection.net/poets/John_Betjeman/7951, September 27, 2005.



From Roman Invasion to Lego Brick: A Half Timbering Image Timeline

SvS, David Serero: been trying to escape as much as possible software, computer-fabrication, to try to stay in an age where you cannot say hey, that was rendered in Maya, that was modeled in 3d Max, that was fabricated by using CNC milling which is why they're in New Jersey. We've been trying to challenge that mainly by creating hybrids, where digital models are really moving from one system to another one, where each of the steps re-questions--that's going back to a more conventional type of problem, which is really how one can start to judge the efficiency, the performance of a model. / Michael Speaks: It's a question I would want to ask Mark, but he said the last project you showed

2000 YEARS OF NON-STOP NOSTALGIA OR, HOW HALF-TIMBERING MADE ME WHOLE AGAIN

magical properties. The Anglo-Saxon poem "The Dream of the Rood" is a meditation on the crucifixion of Christ. In it, the tree speaks: "I was cut down, roots on end... I was raised up, as a rood... I was wet with blood."⁸ This personification of material suggests symbolism and identity were deep within the technology of building.

History continues...

The last Saxon King, Harold faced the Norman invasion at Hastings. William defeated Harold. He was crowned in London on Christmas Day, 1066.

England was now ruled by a French speaking king. The Norman Lords seized the assets of the Saxons. And so, Norman architecture began its transformation of England. The Tower of London was the first of a network of castle-strongholds. Twenty-one years later, one hundred had been built.

Saxon identity remained distinct throughout this era. Folk heroes like Robin Hood emerged as the scourge of Norman aristocrats. Like Robin Hood, the timber Saxon architecture was light, quick, and friendly in contrast to the cold heavy mass of the Norman stone-made military buildings. Oppressed Saxon culture gained mythology and so did its buildings. Half-timbering was the architecture of the people: the tavern and the home.

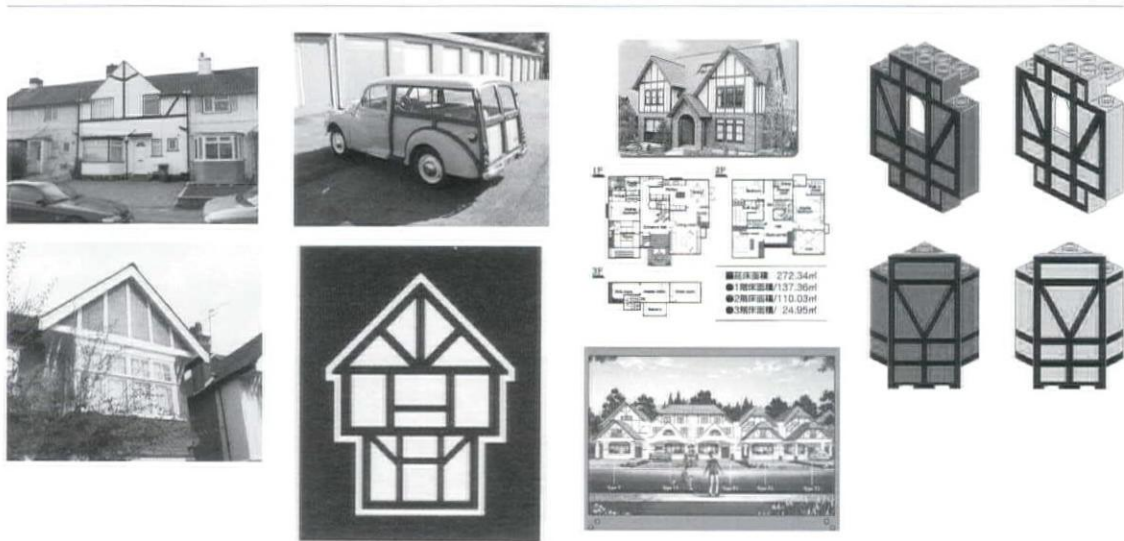
Time passed. Eventually, Henry Tudor seized the throne.

The Tudors forged a powerful new identity for England. Mythologized as one of the glorious eras of British history, it included exploration, colonization, victory in war, and growing world importance. It featured the split from the Roman Church, Shakespeare and Bacon, Drake and Raleigh. The rise of British sea power brought security, riches and glory.

Half-Timbered architecture became known as Tudor. It became more extravagant and decorative, its graphics intensified. Built with the very same skills that were providing England with her burgeoning sea power, these buildings celebrated the importance and skill of timber craftsmanship. Half-timbering was imbued with military technology.

Sir Walter Scott's novel *Ivanhoe*, published in 1791, was an embellishment of the Robin Hood story, big on Saxon/Norman fighting. It led to a fashion of reviving English vernaculars and re-mythologizing stories of King Arthur and Robin Hood. This historicism was later theorized by Pugin and Ruskin, and bled into the Arts and Crafts movement. Arising in response to the Industrial Revolution, its ambition was to revive craftsmanship in the Age of the Machine. Politically, it was nascent socialism with anarchist tendencies.

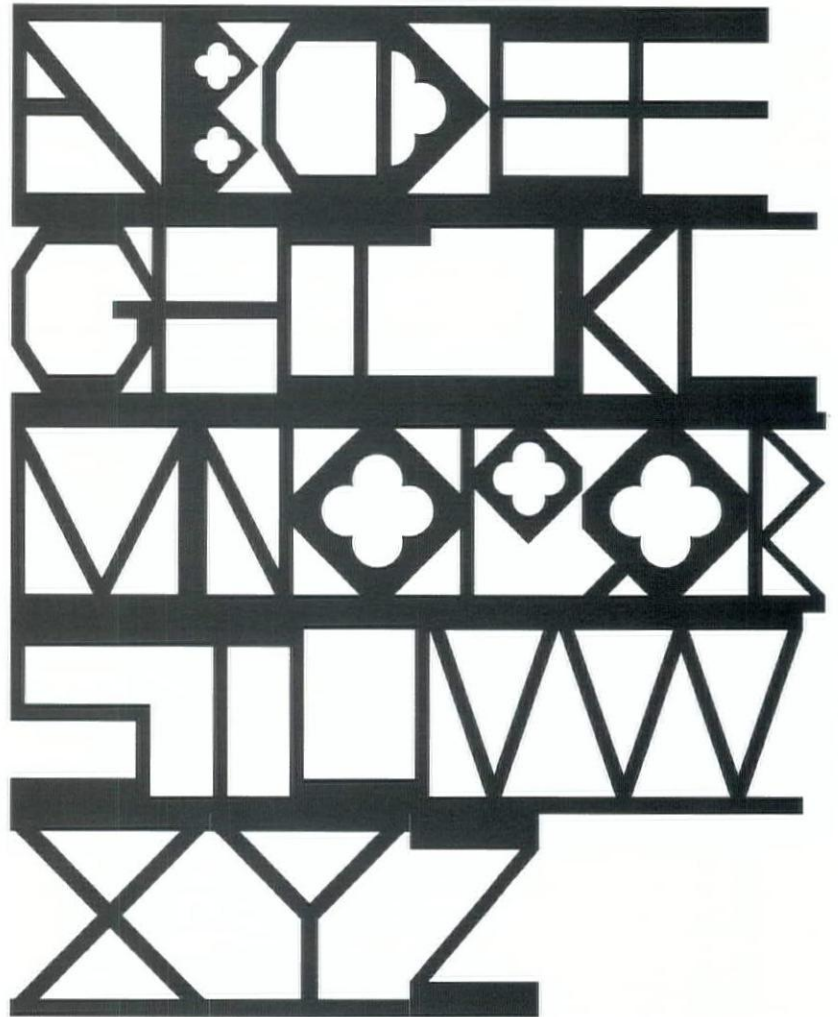
⁸ "Dream of the Rood" is an old-English verse authored by Anon (700AD) and reprinted in, Ed. George Philip Krapp, *The Vercelli Book*. (New York: Columbia University Press, 1932) 61-65.



svs, Michael Speaks: had at least 10 million potential iterations. And I guess one of the questions for design is when you stop it. But first, I want to ask, there's a way in which the cartooning that you talked about almost explicitly moves against something that Mark said earlier, which is where he was arguing really more for technology and against technique. And as I understood what you were saying, one of your real interests is in developing technique. And I have to say one of the curious things about an exhibition that Mark was involved with, and I think will re-host at MIT this year - the *Non-Standard* exhibition - was last year when one of the pieces was being put together at

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From Half-Timbering As Direct
Communication



Half-timbering was revived as an overtly historical style. It was used because it connected cultural myths supporting their political position. A band of men living in a forest away from civilization, robbing the rich to give to the poor, in opposition to the control of the state and on the side of the people mirrored William Morris' rural based company of pseudo-medieval craftsmen.

Half-timbering was now used as a badge of allegiance - a decorative political statement.

Arts and Crafts drifted from its Christian Socialist origins into mainstream fashion. It became a decorative symbol of status not politics. The country houses designed by Lutyens featured Half-timbering as part of their picturesque montaging of historical styles.

These large, Tudorbethan homes for the wealthy became the template for the inter-war building boom. Volume building interpreted the pre-war, expensive

Arts and Crafts villas. Building quick and cheap, and with a shortage of skilled labor led to a shift in Half-timbering from structure to appliqué. Thin timber panels were fixed to the exterior of the buildings as patterns not limited by the demands of holding buildings up.

These houses represented a way of life. These miniaturized manor houses symbolized safe European homes after the mechanized horror of the first World War. Half-timbering still retained some of the progressive sentiment of Ebenezer Howard's Garden Cities. It became a mixture of optimism and fear, built on a budget. These metroland homes were a mass market version of the pre-war progressive and bohemian lifestyle.

Mock Tudor was exported around the world. It was facilitated in part through England's still large Empire, but also through the pages of magazines like

SvS, Michael Speaks: SCI-Arc. What is amazing is literally this piece that is about to be this new digital/technological thing. I drove into the parking lot of Sci-Arc last summer and saw the final piece - I think it was Bill MacDonald's piece - being hand sanded by 25 of my students. It looked like a medieval workshop. It raises an interesting issue, because the project that Hernan showed, the installation at Sci-Arc, the Emotional Rescue project really gets to the heart of that project, because having used Maya and having really produced a remarkable set of surfaces and shapes and



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Country Life. Movie stars build Half-Timbered homes that lined Beverly Hills streets. Frank Lloyd Wright designed icing colored Half-timbering with giant sized roofs in Chicago's Oak Park.

By now any vestige of a traditional notion half-timbering as a vernacular building technique had been cast off. Liberated and globalized through media, it became an international style. Its connection was no longer with a tribe like the Saxons, a Royal Dynasty like the Tudors, a country, or an ideology.

In the same way, the stories that were once part of Half-timbering's myth were remade: Douglas Fairbanks was a black and white and silent Robin Hood, Errol Flynn was a Technicolor outlaw. Later, Disney cast a cartoon fox Robin Hood. Kevin Costner played a sullen PC romantic version and Sherwood Forest was stalked by denim clad, Fender strummin' minstrel Brian Adams. The folk story has less to do with Norman England and everything to do with Hollywood sensibilities. Like clouds of radioactive fallout, folk stories reach the jet stream and envelop the globe.

Half-timbering continues as a means of construction, but it also gains layers of meaning throughout the centuries. At each iteration it continues the story: tacked onto the outside of Moe's Bar in *The Simpsons*, painted pink in suburban London like a Jamie Ried collage, the framing of a Morris Traveller car, an

option offered by developers in Chinese gated communities.

Half-timbering is like light from a distant star: incredibly old yet as it falls on our retina, bright and new. Half-timbering has been made repeatedly new through its different incarnations. It bristles with meanings which continue to peel away from geographic place, race and circumstance.

Of course, pastiche is anathema to contemporary high architecture which is still wedded to the heroic modernist notion of the original. This wasn't always the case. The context of mock Tudor came out of a proto-revolutionary progressive socialism. It was used as a way to both revitalize the idea of craft and labor as well as serving as an icon for a different age, of alternative aspirations, of other ways of living. It used history polemically - as a way to invent a better future. Indeed, the origins of Mock Tudor are also those of modernism. If both were to trace their family trees back, they would find that they are both pale descendants of Pugin and Ruskin.

The Pop Vernacular is about identity. Like a mirror reflecting our own self image, it is a way we can look at the world and recognize ourselves. It assembles narrative, reflecting ways we create our own self identities: constructing stories and narratives of who we are, where we come from and where we want to be. Sartre puts it like this: "A man is always a teller of stories, he lives surrounded by his own stories

SvS, Michael Speaks: forms, well forms not shapes, in the end what it really came down to were a couple students and you inventing tools to make this thing that were not as techno sophisticated as some of the things that were generated or used to actually design them. So there's an interesting issue here about technique the production of sets of techniques that are highly technological, and some that aren't. So maybe you want to say something about that. / Hernan Diaz Alonso: I don't know if there was a question there. . . / Michael Speaks: It was an arithmetic question, not a calculus question. / Hernan Diaz Alonso: I think one of the issues is, if you want to go that pass between

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and those of other people, he sees everything that happens to him in terms of these stories and he tries to live his life as if he were recounting it."⁹ This is to say that we are defined by our own internal narrative, constituted from our own self fictionalization.

Barbara Kruger succinctly puts it with a picture of a baby at her mothers breast: "We are obliged to steal language."

Or as 18th century poet Edward Young puts it in *Conjectures on Original Composition*: "Born originals, how comes it to pass that we die copies?"¹⁰

Our internal narrative is not an accurate or realistic record, rather it is a way in which we can imagine ourselves engaging with the world around us. Modernism was obsessive about truth and honesty, and unforgiving in its pursuit of authenticity. The Pop Vernacular is about myth, not truth. Its lack of cohesion is its structure, compromise is its strength, and its dream-like image-logic is the way it connects to us.

The concept of the local and the vernacular in the face of globalization is changing. Implicit in Marshal McLuhan's famous phrase 'the Global Village' is a tension between the vernacular and international. In a world where communication is almost instantaneous, and capital can move with lightening quick speed, the

idea of proximity is changing. This means connections are made between places almost unimaginably distant: earth to mars, a cave in Afghanistan to the technological heart of capitalism. This also includes ideas – the potential proximity of ideas, images, genres, stories. All bundled down the same cables, carefully descrambled, split into data packets at one end, then reassembled at the other end. The possibility of distance is changed by the possibility of proximity. Just as near and far are no longer so far apart, the difference between high and low, left and right have also eroded.

Architects pursuit of the original, new, and different has ironically narrowed the possibilities of content within architecture because of its fascination with its own canon. Embracing cultures outside of its own offers myriad possibilities: Modernist architecture's pursuit of the authentic, truth and purity through materials and construction. This pursuit of singular truth might be both comforting and satisfying, but ignores the many other truths. Folk stories and myths have a convincing strength and power that academic history can't match. Maybe the right kind of ignorance can be a creative force.

⁹ Jean-Paul Sartre, *La Nausée*. (Paris: Gallimard Jeunesse, 2002).

¹⁰ Edward Young, *Conjectures on Original Composition* (London: A. Millar, 1759) as quoted in "Edward Young," <http://www.born-today.com/Today/d04-05.htm>, September 26, 2005.



PROBLEMS CONNECTED WITH HEGEMONIC REITERATION

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I would first like to challenge – at least in part – the thematic premise of *Perspecta 38*. If, by the editor's stipulation that you intend to have *Perspecta 38* "...confront the end of any ideological hegemony within the profession and specifically address the rise of heterogeneity," then why ask someone from "...the post-1968 generation of architects and theorists" what this current generation might accomplish that we/they did not? In any case, I am *not* a member of the post-1968 generation – although in fairness, my generation *did* have a particularly autocratic hegemonic tyranny. Even then, some of us thought that the concept of hegemonic authority needed to be challenged.

If, as I firmly believe, architecture is an act of bravery where architects are required to "...will their buildings into existence,"¹ then why in the world would you require any justification from of all people, the architects of an earlier generation who need do nothing more than "pass you the baton" for challenging any status quo, any time, any place – and *not* to (tacitly or otherwise) give you 'permission' to challenge them/us? In any case, too many architects are unwilling to pass the baton to a successor generation in the first place – fearing that such an act might surely be a sign that their time and/or authority is over.

I strongly believe that hegemonies have delimited architecture unnecessarily throughout history, and therefore – as you will see from my comments that follow – I am nonetheless in favor of any and every notion that will break apart hegemonic enforcement delimiting ideas, and replace them with a heterotopic, indeed heterogenic operation as a democratic proposition. Enough is enough!

My Yale educated generation (B. Arch., 1960; M. Arch., 1961) ground our tectonic teeth at a time when architectural theory had little if any place at the architectural education (seminar) table in any significant way that I can recall. In an epoch that was almost entirely positioned well within Mies van der Rohe's oft-repeated credo: "Build, don't talk," the Yale architecture school (then under the direction of the hard-core modernist Paul Marvin Rudolph) thoroughly supported the creation *and* the production of an architecture that was intrinsically derived from – and of – itself; an 'architecture for architecture's sake.' Pedagogically, this was the reification of an architecture that was, at least in part, informed by Louis Sullivan's well known dictum: "Form follows function." Although, there were more than a few of us for whom "form follows form" was sufficient.

I don't particularly remember if any of us even cracked a book on architectural history – let alone architectural theory or criticism – by way of rationalizing what we designed.² During my era at Yale, there was not a lot of speculation about design (other than within the highly focused area of design-qua-design) – we were trained to understand that to be either uncertain or ambivalent about architecture was not something that was worthy of our pursuit.

Now, I suppose that a case can be made that there was a kind of modernist architectural hegemony at work if not at Yale, then certainly in my own Miesian-dominated Chicago backyard.³ And while it wasn't necessarily theoretical in origin

¹ I refer here to an introduction of Mies van der Rohe made by John Dymock Entenza at a Chicago event honoring Mies. Mr. Entenza, the founder of the distinguished architectural journal *Arts and Architecture*, and later, second director of Chicago's Graham Foundation for Advanced Studies in the Fine Arts. Mr. Entenza proposed that in order to go against a status quo, Mies had to "will" his buildings into existence.

² Though in fairness, post-1968 theory/ideology did indeed come to somewhat of a conscious state at Yale's architecture school thanks to Charles Moore's and Robert Venturi's efforts; indeed they did in fact churn out a populist-based ideology – but that was virtually a decade after my time.

³ The Chicago of my era (mid-1950's prior to my attending Yale through the early 1960's upon my return to Chicago), was tightly held by a sycophantic Miesian contingent who were totally closed to revisionist thinking from any source whatsoever (see *Chicago Architecture* co-authored by Stuart Cohen and Stanley Tigerman, 1975, from an exhibition initially shown at New York's Cooper Union, and later in Chicago at the Time-Life Building).

SvS, Hernan Diaz Alonso: technique and technology, for me, in terms of what everybody at this table is formulating, there is something that is common—none of these people at the table are doing boxes. I think the technology also has to do with the intellectual frame of the problem. I think in that sense, technology is driving the discussion into a direction, but it has to do with certain common sensibilities, I would say; or what David was talking about how you evaluate, for me is a critical one. And I think for me that is really the intellectual problem, and I don't think really is a technological problem. I think how you start to make the link between techniques and technology for

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per se, in Chicago it was substantially grounded in a Hegelian dialectic that was exemplified by two adjacent books found on the shelf behind the desk in Mies van der Rohe's Chicago office – *The City of God*, by St. Augustine, and *Treatise on God and Treatise on Man*, by St. Thomas Aquinas; i.e., 'faith versus interpretation.'⁴

⁴ When Mies left Germany for the United States, and a permanent position as Director of the architecture school at the Armour Institute, he was allowed to take about 25 books from his otherwise substantial personal library. *The City of God* by St. Augustine, and *Treatise on God and Treatise on Man* by St. Thomas Aquinas were among those books.

I always felt that faith versus interpretation was somehow at the heart of Mies's architectural inquiry into dialectical issues confounding, even as this famous couplet informed, architecture. Dialectical reasoning was the basis of European education, which when extended into architecture, brought about two very different architectural education models, both of which exist right up until our own time representing the science of architecture versus the art of architecture. Certainly, I was attracted to the fascinating, if uneasy juxtaposition represented by those polar theological/philosophical positions – at least as I observed Mies contending with that dialectic through the vehicle of his own work (pre-1938 in Berlin and post-1938 in Chicago).

Thus, in the context of a city tightly held architecturally by a particular faction, I felt it necessary to challenge my own evolving architectural language by trying to define it theoretically in textual form. I sensed the need to do this because I've never believed that building per se was sufficient to fully express my feelings about what I was about in the context of this discipline. My theoretical approach began from the conceit of a particular position in the mid-1960's that was grounded in dialectical thought – albeit unresolved, non-Hegelian dialectics. Of course, unresolved dialectical thinking had little in common with what Robert Venturi (and later, Denise Scott-Brown) were positing at Yale (and elsewhere). It is, however, safe to say that while I began from a formal position far from what Venturi proposed during the Charles Moore (post 1968) era at Yale after Rudolph's epoch, over time the distance between our positions collapsed to some degree.

In Chicago, it seemed somehow important to me to challenge the Miesian acolytes who, by the 1970's had codified Mies's approach to architecture hege- monically as a formalist – if not always structural/ constructional – phenomenon, without particularly adding much to his (Mies's) vocabulary. On the one

hand, Mies himself was always free to innovate archi- tecturally because he was an 'original' (at least within his own reductivist *métier*). On the other hand, the Miesian descendants were, by definition, sycophantic copies and as such, were severely delimited in what was available to them for the purposes of expand- ing (even) their own, yet alone Mies's architectural palette.

When "The Chicago Seven" came into being (1974-1975), its purpose was, in part, informed by ex- ploiting revisionist history so as to enrich the course of what had become a Miesian (descendant) dogma. Of course, it was clear that we were also trying to elbow our own place at the table (since expectantly, the older generation had set none for us). Hegemonic determinism combined with an unwillingness to "pass the baton" always breeds acts of revolution (since, without support from one's elders, one can never meaningfully 'evolve').

The central point I wish to make in this essay is that, by definition, every successive generation feels it necessary to challenge its antecedent generation such that it can establish itself over and against its predecessor. Instead of 'passing the baton,' the predecessor generation stands in opposition to successor generations by resisting change, which in turn, encourages the successor generation to further agitate against precedent through the vehicle of negation. What the older generation never seems to understand is that it will expire (at least for a time) anyway, so it is just as easy to pass the knife (the baton) to the successors with the knife handle pointed toward one's self.

Architecturally, an elder generation generally tends to codify it's earlier (often romantically driven) response to its own antecedent generation through consensus by enlisting like-minded architects to its cause, unerringly ending up establishing a hegemony of its own, which in turn must necessarily be chal- lenged by subsequent practitioners so as to create a place for themselves. My view is that the reason for utilizing this tactic is grounded in insecurity. It takes courage to challenge precedent, thereby motivating architects to find like-minded self-similarly disposed others to join them in their adventurous spirit. This

SvS, Hernan Diaz Alonso: me is the key of the problem, but the key is not as an instrumental one but a conceptual one, and is how you define your world within that domain. In a specific case you were talking about the installation you were talking about, it was just a matter of budget, and everybody faces that kind of a problem. That's why I think all these arguments are rally valid and interesting ones, and not the one that interests me the most, because I think technology is catching up really very fast, so for me it's about how we start to incorporate that, and in that same thing, for me, the technique is the mechanism for how you control and interact --what David was talking

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new coalition finds ways to prove its case by reiterating what was originally a new concept, thus institutionalizing it. Therefore, like a 'circular narrative,' hegemonies are destined to be replaced, proving that not a great deal has been learned about evolution as it relates to succession throughout the history of architecture.

Like many of my colleagues, I have personally lived through – and participated (sometimes to my chagrin) in more than one hegemony that has come about in my professional lifetime (virtually the last half of the twentieth century) – some of which I probably could have done without; i.e. 1. The Miesian particularization of International Style Modernism; 2. Post – Modernism; 3. Contextualism; 4. (de)Constructivism; and 5. Blobism. Each one in turn initially came about as a romantically inverted response to its immediate antecedent, yet each, through mutual agreement, truncated its already short-lived time by means of consensus and codification, i.e., a romantic response transmuted into a classical condition.

While 'Rome burned,' (environmental irresponsibility, urban deterioration, a general disinterest in those marginalized by society, the growing schism between theory and practice, ethical amnesia, et al), architects' adherence to successive formalistically derived 'isms' increasingly suggested to a lay audience an irrelevancy (however unfairly) to our discipline at large. Since those at the cutting edge of architecture appeared to be somehow interested in making architectural theory ideologically arcane,⁵ it seemed as if architects were beside the point: not an unreasonable assumption if you stop to think about it. Instead of treating architecture as if it were a communicable disease needing to be shared by all, certain practitioners (together with an equal number of academics) held the discipline too tightly for too long, thus creating a stagnating ideological hegemony.

By the twenty-first century, one would think that we would be beyond the insecurity manifested in arcane jargon for an intelligentsia that nobody is particularly interested in. Apparently, that's just not true! Theory has become too detached from real – not imagined – need in much the same way that the academy has, in some ways, become severed from practice. The lack of dialogue between architectural

factions has been painfully apparent for some time. Academics shy away from practice, even while practitioners mock theoretically inclined faculties of architecture schools. Surely, this was never the intended result of earlier dialectical educational models.

In a more optimistic light, and as a by-product of the inevitable swing of the metronome, I perceive an architectural water shed in-the-process-of-becoming.⁶ My sense is that this newest generation of architects doesn't seem to be as overtly interested in codifying any number of design directions reified by theory that are on the table at the moment. If I'm correct in my assumptions, that response would be the healthiest thing to have come down the pike in memory.

I believe that the bravest – certainly not the most expedient – direction one can take was posited one hundred, fifty years ago by the Danish philosopher Søren Kierkegaard – albeit his philosophy was directed at religion, not architecture.⁷ Never mind – the Danish philosopher's theologically directed concept is readily transferable. Kierkegaard's extraordinarily difficult maxim was to challenge us as individuals to face up to our own divine being individually – not collectively, thus he makes a powerful case *against* organized religion. Of course, the direction that he suggests requires great courage, since it is an awesome task to avoid consensus, staying one's course, as it were, alone. Similarly, I would submit that, architecture as well as religion, *does* require some act of bravery to "...find the road less taken," and then to stick with that course, no matter what transpires to deflect its direction over time.

In other words, finding like-minded colleagues inevitably leads to yet another ideological hegemony delimiting architecture once again. Instead of perceiving new generations as a collective, it is far more productive (and curiously, not just a little unique) to treat the latest generation as individuals, letting the cards fall where they may. In my view, this strategy is considerably more productive, particularly in an epoch so obviously committed to multivalence.

In my own case, overarching formalist preconceptions began to pale for me when we in Chicago founded ARCHEWORKS.⁸ My fascination with formalist phenomenon waned as my architectural practice focused more on an architecture responding to circumstances delimited by a clientele in need of good

⁵ The recently deceased theory cult journal *ANY* (*Architecture New York*, edited by Cynthia Davidson) comes to mind. Increasingly, its text and graphics seemed to be directed at the same seventeen architectural theorists who reportedly said that they understood it. Another example of arcane architectural theory was represented by the MIT published journal *Assemblage*, (edited by Michael Hays).

⁶ My rationale for this optimism is based upon eleven years of experience at ARCHEWORKS – Chicago's alternative design school. Its applicants are increasingly, brighter, more dedicated – indeed more consumed by the need for an ethical architecture committed to environmental, societal and global responsibility.

⁷ Søren Kierkegaard, *Either, Or* (Princeton: Princeton University Press, 1988).

⁸ Eva Maddox and I (and subsequently Douglas Garofalo and Robert Somol), fabricated ARCHEWORKS out of whole cloth conceptually in early spring, 1993 (we actually opened it to students in the autumn semester, 1994). The nature of the ARCHEWORKS project has contaminated my thinking for more than a decade, such that the trajectory of my architectural practice has been skewed in a way that I could not have otherwise predicted.

SvS, Hernan Diaz Alonso: about the authorship. I don't think authorship will disappear, I think that authorship will start to get reconfigured. It will start to have a much more collaborative operational territory. But, not only between architects, but the way we share tools with car designers industrial designers, filmmakers. There is a whole territory they start to operate in where authorship becomes a partnership between you and the tools you use, between you and the people you choose to collaborate with, but mostly, and that may be the part I would advocate, is where you wish to position your work in relation to whom, in a kind of intellectual frame. And I want to make a

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⁹ Published in 1988, the investigation of (particularly) Jewish issues has led me in directions I could not have predicted, i.e., the intersection of Jewish mysticism (Kabbalah) as it relates to architecture ("Failed Attempts at Healing an Irreparable Wound").

design, and not always finding it available to them. In addition, and beginning with the publication of *The Architecture of Exile*,⁹ my writing has increasingly been directed towards theological and philosophical questions as they relate to architecture rather than on purely formalistic (or as some might put it) intrinsically architectural issues.

I don't particularly believe in concluding my writing generally, and certainly not in the context of this paper, since the thesis here is, by definition, subject to change, generation-to-generation. In any case, individual architects of every generation will, no matter what else, find their own points of departure in their support, or denial, of the existence of any ideological hegemony in architecture. In many ways, the argument is open-ended, since it is situated squarely between the individual and the collective, and like our nation's democratic approach to issues, changes from time to time – or as Bart Giamatti (Yale's former president *and* the former commissioner of Major League Baseball) liked to put it: "Everybody gets their innings."

My personal preference is towards an ethical architecture which precludes the subject of hegemonic determinism altogether: whether or not these concerns take root, is up to others.

SvS, Hernan Diaz Alonso: strong emphasis on that, in terms of again, all the people at this table are arguing for technologies, techniques and so on, but operate in a spectrum of the discussion. There are multiple balls in the air about where the discussion in architecture goes, I think the 5 of us represent, even if you want, extremes and centers of one package of the conversation. I don't think we are different groups and I think that's an important part. Because if not it just becomes just a problem of production methodologies, and I think that's one part of the problem, but I think at the end it's a conceptual problem. / Michael Speaks: Let me just say that my mentioning of the invention of those really primitive ways to make that thing, I think is not a critique of it. It's actually an invention of what I would call a form of design intelligence that is no less valuable than some of the kind of parametric modeling. It's just a different set of techniques in a way. / Gregg Pasquarelli: Absolutely. I think that using the computer to help model and invent form,



there are still points at which, like you said,

it's this question of authorship and it's this question of making a decision. What is the right piece? And, in the long run, you end up on intuition and you end up on your eye. The best software out there is Hand and Eye version 1.0. It's still better than any software out there. And that's fine. So, you can say, when you are working on the computer, there's still this point where you are the author, you are the architect, you are making the decisions. When you are out in the field, it's still about material and making, and about the process of assembling things and putting them together. / Winka Dubbeldam: And, gravity is still there. Gregg Pasquarelli: And gravity is still there, good point Winka. So I always laugh, especially when you go to AIA Conventions. / Hernan Diaz Alonso: You go to those? / Gregg Pasquarelli: The AIA will not get you work. But as an invited speaker go. And they say, you're one of those firms, you're SHoP, you press a button and the design comes out on the other end. And you start to laugh. That's the most ridiculous thing ever. You have to actually make more decisions to get the computer to do something than if you were relying on the conventions of parti, plan, elevation, composition, history, context, all these things. / Hernan Diaz Alonso: But, the compression of those processes for me is what is interesting. I mean decision is one of the things that he brings in that it compresses the moment of decision. Decision used to be spread, you always look at a calendar of a project 20 years ago, and they will be absolutely different than the way it operates now. Because structure, form, geometry, performance start to perform, in one way or another, together. I think the problem is when it comes to reality, and I think architecture in that sense is behind, for one because of scale, memory and desire of people, which makes a much more problematic one. So there is not that level of a completely automatic condition that many other disciplines have the luxury to produce. And I think all of us are fascinated by that. But for me, everywhere it is still is about how you negotiate between 19th century and 21st century. And for me the game is how to escape the 20th century. / Mark Goulthorpe: I'll pick up—you mentioned the exhibition of Non-Standard architecture at the Pompidou. It was curated by Frederic Migayrou and I think everybody thought it would be celebrating the arrival of digital technologies, and in a sense it is. But, what Migayrou's crucially done, I think is he's appended a kind of prehistory an iconography of 100 years of human imagining. And I think he's does it for two reasons: one is to remind everybody that the computer didn't come from nowhere, it came from a yearning, a kind of topological desire that you can see manifest throughout the 20th century,



and secondly I think he was about was trying to look back over 100 years and say what are the germinal that the architectural imagination has opened, and he produces 8 or 10

lineages. He'll illustrate someone like Poincaré the mathematician, tried to model 4-dimensional space, produced like 300 models, had an exhibition in Paris, that influenced these two artists, these two artists then went and taught in various architectural schools, and you see the opening of 4-dimensional space in architectural imagining, and he tracks that through to the present. And the whole exhibition is conceived like that; there are sort of 8 lines of thought, and he meticulously traces these through, politically technically everything. So his exhibition is not about the arrival of the digital simply, it's more posing the question "what is germinal now?" It's the lineage of germination of human thought. And it's certainly not an exhibition about good architecture. He's not interested in good architecture, he's interested in the what our conference at MIT will focus on what really is new here, given that 100 years ago we were filming bodies moving through space, or modeling 4-dimensional space. It strikes me that the question of the 10million variables is one aspect in which computation seems to offer something very new to us that infects our imagination. I'm much more intrigued by the infection, and the attempt to deal with that of than by the technical appropriation of these things to build buildings. If we're really going to talk about this technology, then what is germinal about this that is going to affect the field in the next 10-20 years? Now the good old stopping problem, which always makes me smile, sort of begs the question, how do you think about variability? How do you think about how to calculate 10 million variables for a project? The way I've begun to think about it is to look back to the great topological thinker Darwin who radicalized human thought, in 1840 or whenever, by suggesting nature wasn't ideal as we thought it was, it was based on the principle of variability. And it's a very simple system that modifies in a small amount, that produces variables, and these are then tested in their environment. Now that thought has been with us for 140 years, we architects just are sort of beginning to think how that applies to us. And the most disturbing thing about Darwin, he wasn't anti-god. He was simply explaining the facts for what they are. Probably the most disturbing thing is he demonstrated that nature is not teleological, it's not goal oriented. It's instigated by variability and the assessment of that within an environment. The kind of attempt to evaluate these things, it strikes me that the concern to be able to choose when we stop harks back to a pre-Darwinian kind of ideology. Really what's happening I think is the acceptance that we're dealing with machines that allow us to operate non-teleologically, and so we will. We will launch open-ended variable processes that we certainly have to judge, but not in the way that nature does. Nature kills monsters. Mutants never survive. It restrains; we don't have those limitations. The only constraints may be the links to the building industry, logistics of building industry, cost . . .

/ Michael Speaks: Time is a constraint as well, and stopping really is sort of much more pragmatic. Do we have questions from the audience? If you can just say who you are... Audience member: My name is Harry Allen and I'm from WBAI, and I'm working on architecture research for a book. A little



over 20 years ago, Apple introduced Macintosh, and with that, the advent of desktop publishing. And with that, the advent of what I've taken to call graphic design or advertising-flier porn; meaning that with the access to a lot of fonts, people would use all of them, in order to show the power of the computer. Twenty-five years later, in fact, this afternoon, I watched Lord of the Rings: Return of the King, which is to a great extent a computer simulation. And, to a great extent it uses the computer to simulate interaction of avatars,



of computer generated beings and creatures, to simulate, essentially, a 14th century Medieval battle. Somewhere between the two of these extremes, I think, is digital

architecture, kind of where it is right now. It seems that a lot of the structures- not necessarily ones we saw today, but-a lot of the structures that are being built are kind of being pushed in the sense of 'look what the computer can do' as opposed to 'what can the computer do for me?' How can the computer render an environment that more closely is customized to my interaction with that environment; and that more closely customizes the environment to the way I want to use it, as opposed to imposing the logic of the blob, if you will, upon me. And I was wondering what your thoughts were. / Winka Dubbeldam: Can I answer? I think that's a really interesting question because that's exactly why I did that installation. You know, normally when I give a more elaborate lecture (instead of five minutes), what I love to look at, or what inspires me, is things like the way, for example, a motorbike helmet is configured. If you look at a motorbike helmet, what's really interesting is that it's layered. It has a very hard shell which has specific functions, right?: against shock impact, the visor has maybe a solar screen, it can flip up, whatever. And then the more interesting layer, I think, is the in-between layer, the integral foam layer, which negotiates between the perfect hard shell which is the sphere, and the imperfect shape of our head. And by doing that it also has ventilation systems, speaker systems built in, whatever, a very clever layer. If we think about architecture, and I think Hernan mentioned that before, I think this table is a particular group of people who are not so interested in the blob as a formal device. I think we are (and especially let me say we, me and my office) more interested in what that integral foam layer can do. And if you created an architecture, exactly, for example, that hyper-intense relationship in the house, how that becomes that integral foam layer which negotiates to the hard shell, which is maybe then the building. So then there is a complete other layer from you to this thing, which maybe approximates hopefully the intelligence of a Nike sneaker, or of a motorbike helmet, you know. Because I think that for very long, we have made architecture, which is incredibly archaic. You know we make roofs out of little pieces of clay, which half-stick together, and we're still doing this for centuries and centuries, and at the same time we're flying to Mars. There is something really interesting there, where that kind of intelligence begins to impact on both the psychological relationship to these new environments (I like to call them environments more than shapes, because I think the shape is really not that crucial). I think what is really interesting is this kind of relationship which starts to shift . . . / Audience member: But the shape is crucial, using



the helmet metaphor you're using, that thing is very much shaped like the head, designed like the head, to slip through the wind. / Winka Dubbeldam: Absolutely. But you don't design it round because you like round, you design it round because the head is kind of approximating roundness, and wind is kind of helpful in that direction. That is exactly the shift, I think, that to me is very interesting. I think that the first generation of architects that worked with these programs like Maya were very much into the generative aspect of the program, but very much towards the form of it. They were very fascinated with the form of it. I think that now that kind of twist is over, and I think this is a much more interesting moment where we're starting to think: 'What does this actually mean? How does this impact us, how does it impact architecture versus the city? What does it mean if you fold a façade-basically as a person you're now suspended in the city partially, you're still in your domestic environment-how do these things start to change? What is the role of the facade, at that moment, which completely flips over? It becomes really something which you could say is a raincoat. You know, we have security devices which make us feel secure, the façade is completely changed-the way it's used. So there is a really interesting thing where I think many things are shifting, many things are changing. But you know, it's very slow. So the room to test is, I would think, it's going to be fascinating for the next 20 years, if we finally really start to test all these things. There's no end to it. / Michael Speaks: More questions? Any questions? / Audience Member: Hi, Anthony Dean from Parsons: I just want to ask a question for any of you. Do you feel it's easier to prototype work; to get pieces fabricated, tested, manufactured before you go out to actually build something large scale? / Gregg Pasquarelli: Absolutely. First of all, the aerospace and the automotive industry have already built the infrastructure. So it's there. We do not have to invent the infrastructure. Now the size difference in the typical kind of pieces that we need to make buildings, versus what you need to make airplanes or cars, is a little bit different. And the speed needs to get faster, but that's happening, and we see that doubling every few years, but it's already there. So the infrastructure is there, and it's just a matter of us now going to this whole industry, who are thrilled to work with us because it's a whole new client base, and it's there. So it's just a matter of us taking advantage of it. They're all over the place, though. We're building a house in Aspen, and parts are being made in Texas, parts are being made in Nebraska, parts are being made on Long Island, and parts are being made in Washington. And it's all being shipped via UPS, and assembled

on site. We were able to bid it out to 30



firms, instead of one contractor who could control the process. / Mark Goulthorpe: I would answer slightly differently. I mean, just from the experience of the Non-Standard show. Most of the architects, they really struggled to get their model built, we have to confess. So it's this image of, kind of, seamlessness, and an enormous difficulty still. And I think it's because those particular architects are constantly reinventing. They're seeing what these computers allow, and imaging material distributed in space, and dreaming of giant weaving machines, we saw one here. It's woven architecture. Issey Miyake has just announced he's going to move into furniture and architecture. He is going to weave them in three dimensions with computer controlled weaving machines. So I think we're in a very fascinating period, where the more you look at the computer, the more you move away from geometric manipulation, sort of baroque architectures, to the consideration of, I think, what the computer most naturally does, is describe millions of particles. And you begin almost to imagine architecture as the distribution of particles in space; and therefore the condensation of them, the weaving of threads, the whatever. That's what I love about this moment-is that we are imagining things that are almost unattainable, but you know they will be attainable. And I think that's the most fascinating thing. And that's this latency. / David Serero: I actually think I would extend the point by Mark by making certain fabrication techniques easier today, by increasing the communication possibility between remote fabricator or contractor. I think we're just shifting the problem to another level, where basically, I think the challenge becomes even greater integration of each others components. As soon as some kind of system, it's an emerging type of model, which is getting more and more present now and I think the question is really how do you corrupt the system, or how do you change, or how do you go beyond of the rule of this new system, which is getting established. Very much like Decon was; I mean it was a critique of postmodernism, which was a critique of modernism. There's a tradition there of escaping systems put in place. That's basically what happened when we started working

on this woven project for the Venice Biennale in 2002. We started to work in forms that were not only not producible with what we knew as digital fabrication techniques, but also they were not even interested. What's amazing in the woven system is this type of interaction between the strand and the structure. We're dealing with a system that is both structural and on the mantle. It's something extremely complicated to deal with, because each of the scales generates a different type of form. I mean, if you cut a strand of wood in a different thickness or different width, you have a different kind of formal behavior. So there is a complexity there which to me is challenging what we know as digital fabrication, and I think that's basically the next step, and that's where we're very interested in moving. / **Hernan Diaz Alonso:** To respond to what David and Mark are saying, I would say yes and no. Yes, in terms of we go only for the production aspect of it; No because as soon as you figure out the angles of something, you start to think about how you can screw it. I mean, it's in the nature of being an architect. And I think that for me is a fascinating problem. You assume that, again, if the discussion is just about the production, yes, how that starts to shape the way that you think, and you operate and design. No, because, you start to incorporate—there has already been 10 or 12 years of experimentation—so you start to figure out what's next. So I think it's always about this shift/balance. I mean the other part that we are not talking about is all the people involved here are people who teach, and teaching is a big part of it. So there is a relational operation all the time there. I mean, some of them have clients, some of us, we don't. But I think its part of the conversation. So I think yes, and the other thing is, ok, when you figure it out, how you're going to start to challenge it. I think that's part of it. And one of the issues that you both raise in the formulation of the conversation was the criticality of this, the critical part of this, and I think it has to do with that. How, when you know how to do it, how you start to be critical of it and how you start to push it. So I think that part of the balance is always present, or it should be. At the end you have to work with it. And the relationship with it still is that sometimes it happens, sometimes it doesn't. / **Mark Goulthorpe:** Southern California University of California, one of the universities, they just announced a house size 3D printer. And it's a hilarious image; you can go on the web and look for it, because they've got a traditional house with a pitched roof, underneath this thing—it's fantastic. At the Media Lab they've just been working on three-dimensional color printer. So you can start changing the colors. Bill Mitchell calls it an instant kitsch machine. And I think that comes back to your question. The moment you have a technology like that, that releases the possibility of kitsch, you deal with it. It fills your imagination. And McLuhan was the great prophet of technology. You can't shore it up, it exerts its influence and expands to fill our imagination, and you're simply left to deal with it. We're in this period of extraordinary expansion of imagination, of course there's going to be some awful kitsch stuff. But hopefully it finds its own kind of gravity at a certain point. / **Winka Dubbeldam:** But what's very interesting to that, Mark, is that I think what is going to be the biggest problem is the idea that now people cannot accept any flaw. Whereas in the old—what was kind of beautiful about wood, it would warp, it would be not exactly equal to the next piece; it would be whatever—and what I notice is, we were working on some development of products for manufacturers. For example, if you vacuum-form something, there are tiny little holes, because air needs to escape. I think



that's beautiful. So I was like, let's use the holes, let's make more holes. Interesting is that these people cannot think like that anymore. They think the holes are unforgivable. There can definitely not be a hole. I tend to think that failure or flaw makes something much more interesting,

because it tends to explain something about production, or where is the moment that we do not make something perfect any more. Where are your beautiful rings, right? Where is there a tiny thing that maybe breaks that perfect surface, and makes it actually more interesting? And I think that that is going to be a real strange problem—that we're trying to soon make houses or buildings, which have this perfect skin, and we're not allowing any flaw or any mistake in it anymore. It becomes like the perfect Porsche or the perfect car surface. And it's very strange, because I've only realized that very recently, that it is actually not the problem, I think, so much of the architect, but it's the problem of the person who is going to get this object, and who becomes obsessed with its perfection. And I think that's a really interesting kind of . . . / **Mark Goulthorpe:** New Modernism . . . / **Winka Dubbeldam:** Yeah, new modernism. And that's where your kitsch thing really is interesting, because I think that, for me, comes very close to kitsch, right? Where you cannot accept any kind of interesting failure anymore. / **Mark Goulthorpe:** The apartment that I showed was a catalog of failures, really. We would painstakingly model the computer forms, cut them to the micro-millimeter, give them to somebody to cast, and then any process that has got heat, any process that has got a liquid that dries, has tolerance. And those bronze pieces were coming in 5 cm off, by the time they're cast. And what was delightful, I found, about the process, was a mixture of 19th century craftsmen doing fibrous plaster, rescuing us, every time a piece of metal piece came in that was off. And it was the material knowledge of the people, combined with a kind of digital propensity to do a much more complex form than what we're used to that became the whole aesthetic of the project. And actually it was deeply frustrating to model something so carefully and see it sort of warp off, but also actually the joy of the project. It was the compulsion.

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