

U T O P I A
C O M P U T
E R

The »New« in Architecture?

Nathalie Bredella, Chris Dähne,
Frederike Lausch (Eds.)

Forum Architekturwissenschaft
Band 6

Universitätsverlag
der TU Berlin

NETZWERK
ARCHITEKTUR
WISSENSCHAFT

UTOPIA COMPUTER
The "New" in Architecture?

Nathalie Bredella, Chris Dähne,
Frederike Lausch (Eds.)

The scientific series *Forum Architekturwissenschaft* is edited by the Netzwerk Architekturwissenschaft, represented by Sabine Ammon, Eva Maria Froschauer, Julia Gill and Christiane Salge.

The critical concern of the book “Utopia Computer” is the euphoria, expectation and hope inspired by the introduction of computers within architecture in the early digital age. With the advent of the personal computer and the launch of the Internet in the 1990s, utopian ideals found in architectural discourse from the 1960s were revisited and adjusted to the specific characteristics of digital media. Taking the 1990s discourse on computation as a starting point, the contributions of this book grapple with the utopian promises associated with topics such as participation, self-organization, and non-standard architecture. By placing these topics in a historical framework, the book offers perspectives for the future role computation might play within architecture and society.

NETZWERK
ARCHITEKTUR
WISSENSCHAFT

Forum Architekturwissenschaft, Volume 6

UTOPIA COMPUTER

The "New" in Architecture?

Nathalie Bredella, Chris Dähne,
Frederike Lausch (Eds.)

Universitätsverlag
der TU Berlin



- PAGE 9 NATHALIE BREDELLA, CHRIS DÄHNE AND
FREDERIKE LAUSCH
→ Introduction
- PAGE 21 HÉLÈNE FRICHOT
→ A Dirty Theory for a New
Materialism: From Gilles
Deleuze to Jennifer Bloomer
- PAGE 41 GRAYSON DANIEL BAILEY
→ Prerequisites for Self-
Organization: The Re-emergence
of Colin Ward
- PAGE 61 MARCUS BERNARDO
→ Unmanageable Utopias
- PAGE 81 JUAN ALMARZA ANWANDTER
→ About the Current (and
Future) Implications of the
Process of Digitalization in
Our Everyday Experience: A
Fourfold Critical Approach



- PAGE 103 JOSEPH L. CLARKE
→ The Art of Work:
Bürolandschaft and the
Aesthetics of Computation
- PAGE 123 ERIK HERRMANN
→ Houses of Ice: Raster
Utopias and Architecture's
Liquid Turn
- PAGE 143 KURD ALSLEBEN, ANTJE ESKE AND
CORINNA STUDIER
→ Extracts from an Interview
with Kurd Alsleben and Antje
Eske
- PAGE 157 FRIEDER NAKE AND ARIANNA BORRELLI,
NATHALIE BREDELLA, MADS FRANDSEN,
JULIUS WINCKLER
→ Extracts from an Interview
with Frieder Nake



- PAGE 173 CEZARA NICOLA
→ Virtual Artistic Spaces:
Roy Ascott's "LPDT2,"
Cybernetics and Beyond
- PAGE 191 PABLO MIRANDA CARRANZA
→ Making Sense with-
out Meaning: Christopher
Alexander and the Automation
of Design
- PAGE 213 GREGORY ELIAS CARTELLI
→ Machines, Fabrics,
and Models: ARTORGA and
Biology's Cybernetic Utopia
- PAGE 243 KAMAN LAM
→ C. H. Waddington's
Biological Science of Human
Settlements 1963-1978
- PAGE 275 NATHALIE KERSCHEN
→ Towards a New
Understanding of the Animal



PAGE 305

DONAL LALLY

→ All that Is Solid Melts
into the Cloud

PAGE 323

→ Authors



HÉLÈNE FRICHOT

A Dirty Theory for a New Materialism

From Gilles Deleuze to Jennifer Bloomer

This essay returns to the 1990s when architecture was about to launch into a period of experimentation with computational procedures and form-finding adventures. At the same historical juncture an architectural thinker-practitioner, whose work has maintained an undercurrent of influence amongst feminist architectural theorists and practitioners, was unsettling architecture's status quo. Cognizant of the digital turn, Jennifer Bloomer sought to disturb the allegorical house of architecture by venturing questions about disciplinary assumptions. A return to the work of Bloomer directs us toward the importance of critically assessing the material and socio-technical implications of computationally informed architectures. To reclaim this other story, I conclude by introducing a dirty theory for a new materialism.

“The last thing the hero wants to know is that his beautiful words and weapons will be worthless without a bag, a container, a net.”
Donna Haraway¹

In his anxious late-career essay “Postscript on Control Societies,” originally published in French in 1990, Gilles Deleuze introduces the aesthetic figures of the mole and the serpent in order to describe a shift from the shadowy containment of disciplinary societies to the bright slippery surveillance of societies of control.²

1 Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (Durham: Duke University Press, 2016), 118.

2 Gilles Deleuze, “Postscript on Control Societies,” in *Negotiations* (New York/NY: Columbia University Press, 1995), 177–182. See also Gilles Deleuze, “Control and Becoming,” in *Negotiations* (New York/NY: Columbia University Press, 1995), 169–176.



Contemporary societies of control are characterized primarily by the rapid development of information technologies and attendant processes of computation, the likes of which Deleuze could only have had the vaguest presentiment. This essay returns to the 1990s, a moment at which architecture was about to launch into a period of exhilarated experimentation with computational procedures and form-finding adventures, or what at the time was simply called “digital design.” At much the same historical juncture, an architectural thinker-practitioner whose work has maintained an undercurrent of influence among feminist architects and theorists was introducing another version of the mole figured as a devious female practitioner. The mole, or mole-ster, as described by architect and theorist Jennifer Bloomer, seeks to disturb the allegorical house of architecture and thereby architecture’s disciplinary status quo. Bloomer was one of the first architectural thinkers to introduce the work of Deleuze to an anglophone architectural audience in advance of the eager uptake by digital architects of Deleuze and Félix Guattari’s concepts, such as the fold, the virtual, and the diagram. Inspired by Deleuze and Guattari’s “minor literature,” Bloomer introduced a minor architecture as a means of resistance to oppressive forces in the discipline.³ What I argue is that a return to Bloomer’s work reveals an anticipation of what would come to be called “New Materialism” and more specifically, “Feminist New Materialism,” which alerts us to the importance of critically assessing the material and socio-technical implications of computationally-informed architectures. In the 1990s at least, it would appear that matter was taken too readily as secondary, as passive in relation to the wonders of digitally-imagined form. Bloomer’s work offers a valuable counter-narrative. To reclaim this other story, I introduce a dirty theory for a New (Feminist) Materialism, including a conceptual allegiance with the environmental humanities and intersections with the feminist post-humanities.⁴

3 Jennifer Bloomer, *Architecture and the Text: The (S)crypts of Joyce and Piranesi* (New Haven/CT: Yale University Press, 1993), 173–175.

4 See Cecilia Åsberg and Rosi Bradotti, eds., *A Feminist Companion to the Posthumanities* (Cham: Springer, 2018).



A dirty theory for a New Materialism will turn out to be somewhat at odds with the notion of “Utopia Computer” and ambitions for the “new” in architecture, the themes organizing the collection in which this essay is included. Utopia, by definition, is no-where and no-time, a non-place-time we might nevertheless be under the illusion we virtually inhabit today via our immersion in networked digital information technologies, amid environments ubiquitously organized by Big Data. In that we are nowhere and everywhere interconnected, and yet moving further apart—becoming morcellated “dividuals,” mere units of information—it could be argued that we inhabit the non-place and no-time that is Utopia, only perversely. As Bloomer, a central character in the story I present here, already commented in 1993 “despite the closure of space and time in the Modern world, there is no nearness.”⁵ Our technologies have enabled us to grow further apart. Utopia, in being no-where and no-time, is also that place toward which we endlessly approach, but never arrive. It is a temporal zone that is out of time in both senses: it has, arguably, run out of time as a useful or applicable concept, and it is out of time in that it is anachronistic, not of our present time. Utopia is a figure that first emerges in literature and philosophy as a parable. There is Thomas More’s island of Utopia in *Utopia* (1551), Samuel Butler’s *Erewhon* (1872), and William Morris’ *News from Nowhere* (1890), where wage slavery and marriage have been abolished, to name the best-known literary examples, making Utopia a fictional or imaginary construction, a location for make-believe (or even for making beliefs). The literary effects of “Utopia” often lean toward parody or are deployed for the purposes of critique. Yet the concept and promise of Utopia can also allow us to speculatively imagine other possible worlds. That Utopia is a fictional construction makes it no less powerful. As for “Computer,” it is that instrument we are daily plugged into, a device for computation, for the working out of problems at speeds and levels of

5 Jennifer Bloomer, *Architecture and the Text*, 186.



complexity that the meagre, fleshy, embodied human mind cannot manage. What does it mean to place these two terms in conjunction? What promise or what threat is promulgated? Is it parody, critique, or a speculative leap into a future being tested by the concept of “Utopia Computer”?

Rather than commencing with the emergence of cybernetics in the post-war period, which is one obvious place to begin when it comes to the promise or threat of “Utopia Computer,” this essay tucks itself into the voluptuous folds of the 1990s. I return to the concept of the “fold,”⁶ which was popularized at a moment when architectural students and designers were beginning to experiment with computational techniques and technologies. The fold, the promise of infinite folds upon folds, enabled through increasingly sophisticated computational procedures and permutations, with early inklings of the future of powerful parametric processes, was becoming all the rage in the 1990s. The fold, or folding in architecture, is usually attributed to the architect Greg Lynn, who edited a 1993 edition of *Architectural Design (AD)* called *Folding in Architecture*, which was so popular that it was re-released ten years later with a new contribution from Mario Carpo called “10 Years of Folding.”⁷ Between the first and second editions of *AD* Profile number 102, *Folding in Architecture* a convenient timeline can be mapped. Here I note parenthetically that Carpo has more recently edited an *AD* reader called *The Digital Turn 1992 to 2012*, with an introductory essay now called “20 Years of Digital Design,”⁸ for time has been inexorably passing. When we look at the contents page of *The Digital Turn*, Carpo notably does not include such thinkers as Claire Robinson, present in both editions of *Folding in Architecture*, in fact women—except for those grouped into studio formations such as FOA, or ShoP—are barely present at all. Greg Lynn does not manage much better in his 2014

6 Hélène Frichot, “Deleuze and the Story of the Superfold,” in *Deleuze and Architecture*, ed. Hélène Frichot and Stephen Loo (Edinburgh: Edinburgh University Press, 2012), 79–95.

7 Mario Carpo, “10 Years of Folding,” in *Folding in Architecture*, *AD* Design Profile 102, ed. Greg Lynn, revised edition (2004): 14–19.

8 Mario Carpo, “20 Years of Digital Design,” in *AD Reader, The Digital Turn 1992–2012* (London: Wiley and Sons, 2013), 8–14.



collection *Archaeology of the Digital* in which Peter Eisenman's name dominates.⁹ It's important to draw attention to these lacunae, to ask: who is represented, who is not? These omissions form something like folds of erasure that require unfolding so that other voices might be represented too.

In 2004, in the revised edition of *Folding in Architecture*, Carpo asserted that "Folding in Architecture is now a classic—not a timeless one, however, but time specific."¹⁰ Rendering it, perhaps inadvertently, an anachronistic classic, for a classic that is not timeless makes no temporal sense. *Folding in Architecture* expressed, in Carpo's words, the "quintessential architectural embodiment of the new digital technologies that were booming at the time." "Obviously," Carpo added, "the nineties started angular [i.e. the train wrecks of deconstructivist architecture] and ended curvilinear."¹¹ With this simple statement Carpo reveals the ways in which the convoluted dialogue between architectural practice and theory is prone to fads, to "new" ideas that are consumed and then discarded, from Derrida's deconstruction to Deleuze's compellingly fluid folds, to a flurry of interest today in the promise of overcoming carbon form.¹² What Carpo also draws attention to is a distinct emphasis on form over matter. Shards and subsequently folds are formally explored with little concern for their material substantiation. Instead, the articles collected in *Folding in Architecture* introduce a "topological" avant garde, advancing projectively to succeed the torturous collisions of Derridean-derived deconstructivist architectures, spearheaded by the ever-present paternal figure of Peter Eisenman tropologically turning from one tendency to the next.¹³ According to Carpo, Deleuze's theoretical influence would have gone unnoticed if it were not for Peter Eisenman, who in turn introduced the writings of Deleuze to his student

9 Greg Lynn, ed., *Archaeology of the Digital* (Montreal: CCA, 2013).

10 Carpo, "10 Years of Folding," 14.

11 Ibid.

12 See for instance *Log 47: Overcoming Carbon Form*.

13 See Bloomer's critique of the notion of the "cutting edge." Jennifer Bloomer, "The Matter of the Cutting Edge," *Assemblage*, no. 27 (August 1995): 106–111.



Greg Lynn.¹⁴ Carpo's reading habits, it would appear, are highly selective, and his gender bias means he overlooks the earlier work of such figures as Bloomer. Again, a blindness is at work here, coupled with a challenge to rewrite women and minorities back into architecture.

The fold, "le pli," concept and method, is signed by the French philosopher Gilles Deleuze, and derived from his small book *The Fold: Leibniz and the Baroque*, published in French in 1988 and translated into English in 1993, the same year in which the first edition of *Folding in Architecture* appears. Deleuze's *The Fold* introduces such concepts as the "objectile," attributed to the architect Bernard Cache, a former student whom Deleuze acknowledges. Cache's experimental digital projects, which often manifested in the convenient form of pavilions, can be found in the pages of the ANY (Architecture New York) series. The inflections of the processes of folding, unfolding, refolding, *implicating*, *explicating*, *complicating* persisted during the 1990s, discovered here and there in design projects, both speculative and realized, and in the pedagogical spaces of design studios. As theorists such as Rajchman explain early on, the fold in French is "le pli," and "le pli" lends itself to words such as "expliquer," "impliquer," "compliquer," likewise in English: *explicate*, *implicate*, *complicate*—actions of folding and unfolding. It is in the act that the fold becomes generative, things are complicated and they can be explicated. All the while, much of the milieu in which acts of folding are undertaken is implicated, things and relations get taken up in the dynamics of folding. A kind of infectious spread of folding takes place in the 1990s. Architectural projects resulting from the formal logics of the fold in this period, whether knowingly or not, engaged in the accompanying discourse and are the result of an image-based contagion. The formal characteristics of the fold catch on.

Suffice to say, as the "digital" is on the threshold of exploding into architectural experimental test-sites, so too is the name (a

14 Mario Carpo, *The Alphabet and the Algorithm* (Cambridge/MA: MIT Press, 2011), 6–8.



shibboleth of sorts) Deleuze, as well as Deleuze and Guattari. As architect Todd Gannon notes, we all had a “well-worn” copy of *A Thousand Plateaus: Capitalism and Schizophrenia* “lying around our studios,” back in the day, when we were under the “sway” of Deleuzianisms.¹⁵ Jason Payne, another architect-theorist, likewise makes light of “reading Deleuze, Georges Bataille, and the Marquis de Sade.”¹⁶ Through the late nineties and into the new millennium, citations of Deleuze’s name diminish, as though no longer required as a theoretical prop. In fact, his death in November 1995 sits right in the middle of the timeline I have described. Like his compatriot Derrida before him, and Foucault, and Barthes, and so on and so forth, Deleuze simply went out of fashion. As Greg Lynn remarks in his 2013 introduction to *Archaeology of the Digital*, “Following the very tight alignment of postmodern architects with theorists, there has been a schism between design and history/theory that roughly corresponds to the emergence and integration of digital media in the architectural field.”¹⁷ Lynn goes so far as to say that a theory vacuum emerged in the wake of Deleuze.

Often overlooked by architectural thinkers who do venture further into the discourse of the time is that the fold is also a concept discussed in Deleuze’s monograph on Michel Foucault. Simply entitled *Foucault*, the work appeared in French in 1986, a couple of years prior to the French edition of *The Fold, Le Pli*, and was then translated into English in 1988, therefore making it available earlier than Deleuze’s 1993 English edition of *The Fold*. In Deleuze’s *Foucault*, the fold relates to a problematic of power organized around the control of language, labour, and life.¹⁸ Moving sideways, during the same period that Deleuze’s *Foucault* was published and translated in the mid-1980s, power relations, in

15 Todd Gannon, Graham Harman, David Ruy and Tom Wiscombe, “The Object Turn: A Conversation,” *Log*, no. 33 (Winter 2015): 73.

Sakamoto, Michael Meredith and Albert Ferré (Barcelona: Actar, 2008), 219.

17 Lynn, *Archaeology of the Digital*, 11.

16 Jason Payne and Sanford Kwinter, “A Conversation Between Sanford Kwinter and Jason Payne,” in *From Control to Design: Parametric Algorithmic Architecture*, ed. Tomoko

18 Frichot, “Deleuze and the Story of the Superfold,” 79–95.



institutional settings as elsewhere, are what philosopher of science Donna Haraway would describe as “practices of domination and the unequal parts of privilege and oppression that make up all positions.”¹⁹ We need to hesitate here and think about the kinds of discourse that were circulating during the rise of the digital in the 1990s. What looms forward for those in the discipline of architecture, and what is pushed into the background? The history of the digital and the exhaustion of Deleuze (and other thinkers for architecture) very much depends on where you are looking, and which stories you choose to tell. In architecture, for instance, it is more convenient for the fold to be a tool through which formal explorations rather than relations of power are explored.

Now, to complicate this folded spatio-temporal architectural journey, because folds are composed of smaller folds, as well as larger macro folds (all the way to infinity, even), as promised I want to introduce another figure. When we remain on the shimmering surface of (architectural) discourse, especially during the long 1990s and into the new millennium, we might too readily assume (as does Carpo) that it was Greg Lynn and his mentor Peter Eisenman who introduced Deleuze to an architectural audience. And what a popular theme the fold must have been, to be featured in 1993 and then re-issued in that seductively high-gloss magazine *AD* ten years later. What I want to draw attention to is that in the early 1990s something else was afoot: a forceful undercurrent, a liberatory murmur from underground, a gesture of creative resistance.

In 1993, concurrent with the first edition of *Folding in Architecture*, Jennifer Bloomer’s *Architecture and the Text: The (S)cripts of Piranesi and Joyce* was published. *Architecture and the Text* is a highly complex and sophisticated, as well as humorous and joyful, work that took eleven years to accomplish and was punctuated by events including child-birth, folding clothes, general housekeeping, and all those reproductive labours we are

19 Donna Haraway, “Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective,” *Feminist Studies* 14, no. 3 (1988): 579.



not supposed to mention in proper academic discourse. In her work Bloomer often makes reference to the daily tasks of ironing sheets, making soup, making costumes for kids, because daily life is messy and it is dirty and we need to fold this consideration into our spatial and material architectonic considerations too.²⁰

In *Architecture and the Text* Bloomer not only wilfully reads Giovanni Battista Piranesi's etchings through the literary tactics and word-play of James Joyce's *Finnegan's Wake*, to astonishing effect, but introduces a complex assemblage of thinkers to architecture: Walter Benjamin, the two "Jacks": Jacques Derrida and Jacques Lacan, Gilles Deleuze and Félix Guattari, and Michel Serres. To this list feminist thinkers such as Luce Irigaray, Hélène Cixous, Alice Jardine and Donna Haraway can be added. In sly asides, Bloomer makes critical short shrift of Peter Eisenman and Mark Wigley. Greg Lynn is perhaps not yet on her critical radar.

Stating that Bloomer is an underground figure is of course misleading; she was a shining light of her time, burning bright, running intellectual circles around her peers with her profound intelligence and capacity to knit ideas together and make them *matter*. While her textual play produces delightful "mise en abyme," signifiers collapsing into other signifiers in an endless play of signification, the material weight and what matters for her remain ever present. As I argue in my recent book *Dirty Theory: Troubling Architecture*, Bloomer performs a material-semiotics. By material-semiotics, I mean the concept introduced by Donna Haraway, who in her work on situated knowledges explains that signification and material relations operate in entangled matrices and ought not be hewn apart. Haraway writes: "Feminist embodiment, then, is not about fixed location in a reified body, female or otherwise, but about nodes in fields, inflections in orientations, and responsibility for difference in material-semiotic fields of meaning."²¹ A material-semiotics is a powerful way of

20 Bloomer, *Architecture and the Text*. Bloomer, "The Matter of the Cutting Edge," 107.

21 Haraway, "Situated Knowledges," 588.



acknowledging that we make sense amid material and relational constraints. This alerts us to our socio-technical, material-environmental, architectural-relational ecologies, an acknowledgment of a New Materialism that challenges the predominance of form or idea over matter and material relations.

So now we have our timeline in place, the halcyon years of the 1990s book-ended by the two editions of Greg Lynn's *Folding in Architecture*, 1993, and 2004, and then an interference pattern, a "moiré" of sorts composed of two different patterns. Bloomer, I propose, is the pattern that disturbs and unsettles things, shifts appearances, produces a shimmering effect, and pre-empts a growing fascination in "vibrant matter" and "thing power"²² and (feminist) New Materialism. With witch-like presentiment Bloomer anticipates our contemporary turn toward environmental matters of concern, material matters, their flows and effects, and the ways in which we have made such a bloody mess of things.

It is by learning from Jennifer Bloomer that I will (when I get to the conclusion of this essay) sling-shot us (like a rocket) forward in time, near to where we are today, to argue that Bloomer's work pre-empts some contemporary theoretical and practical orientations including New Materialism and more broadly the domain of the environmental humanities in relation to architectural studies. My tactics will be dirty, close to the ground, groping blindly, sometimes like a mole, which means that by subterfuge I will also introduce to you my dirty theoretical orientations. What you can assume is that my methods are dirty, as my aim is to trouble the status quo in architectural theories at their intersection with practices.²³

But let's step back carefully, again, into the 1990s. As I have written elsewhere, a distinct shift in orientation can be discerned between the first and second edition of Greg Lynn's *Folding in Architecture*.²⁴ In 1993 the emphasis is clearly on the novelty of form. Specifically one can see a wilful shift being undertaken as

22 See Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press, 2009).

23 See Hélène Frichot, *Dirty Theory: Troubling Architecture* (Baunach: AADR, 2019).

24 See Frichot, "Deleuze and the Story of the Superfold," 79–95.



theoretical allegiances move from a formal interest in shattered, post-collision fragments to smooth curvilinearity and what came to be rather disparagingly described as “blobitecture.” As media and cultural studies theorist Luciana Parisi explains, “The new centrality of generative algorithms (but also cellular automata, L-systems, and parametricism) in digital design has led to the construction of various topological geometries and curvilinear shapes that have come to be known as blob architectures.”²⁵ Yet there is also a shift in the formal understanding of folding, from planar folds, such as those found in Peter Eisenman’s Rebstock Park project in Germany and his Alteka Office Building in Japan, with their distinctly planar, folded experiments, like paper planes made out of paper. Both projects are featured in *Folding in Architecture*. Such planar experiments are followed by a thickening of materials, heading toward voluptuous folds as of baker’s dough, fatly folded and refolded, much like Greg Lynn’s speculative “Embryological House,” emerging in fits and starts. Then, over the following ten years (enough time for the story to be reformulated), an early fascination in curvilinear and folded form gives way to other conceptual justifications.

Following the initial fascination with formal expression, by the 2004 edition of *Folding in Architecture*, the immaterial information recognized in the fold is divulged. Actually, Lynn informs us, it was really only ever about the calculus (not the form), and how the calculus delivers the opportunity for us (digital architects) to fold our way all the way to infinity.²⁶ Those messing with digital procedures in the day will remember some of the well-documented dilemmas of the moment, the problem of authorship: if the software is generating endless, equally adequate forms, who am I in the process? And in any case, I’m not the author of the software I am obliged to use. Then there is the “stopping problem” discussed by Brian Massumi: if the software is spewing out a

25 Luciana Parisi, *Contagious Architecture: Computation, Aesthetics and Space* (Cambridge/MA: MIT Press, 2013), 15.

26 Lynn, *Folding in Architecture*, 11.



seemingly unending list of possible forms, all equally valid, which do I choose?²⁷ What are my aesthetic criteria of judgement? All of which is to say that the fold as motif, as instruction, as concept, leads us from a supposedly innovative formal play to a recognition of the potential of calculus-based software in design processes, from the French curve to software and plug-ins named after insects and animals.

While it would be tempting to offer up at this interstice a long lesson on Deleuze's discussion of the fold, and how it was greedily taken up by architectural thinkers and practitioners in the 1990s, I will proceed instead directly to the distinctly less joyful essay by Deleuze, "Postscript on Control Societies," written in 1990 (very convenient for our folded chronology), where the worrisome concept of the "superfold" is introduced. Here too we see the fold as a material-semiotic construct, one side facing material manipulation, the other directed at the management of information or data, including the noopolitical management of populations as clusters of "dividuals." Well before architectural actors are over their digital enjoyments, before they have even half-way begun, Deleuze is already offering up his presentiment of the ominous controls wired into bright digital futures. So much for Utopia Computer. The superfold as concept organizes his vision, his presentiment, his speculation on what is to come (the places and times we now inhabit). As I have written in *Deleuze and Architecture*: "The story of the superfold is one that can be told in the wake of the exhaustion of the material and conceptual procedure of folding as a technique used in architecture."²⁸ Today, however, I would revise this statement to assert that the superfold describes a milieu that in fact anticipated our digital architectural design advances. For Deleuze, the superfold displaces a former classical sense of the infinite as that which raises relations all the way to infinity (here we are to imagine the interior spaces of a Baroque church), and in

27 Brian Massumi, "Strange Horizon: Buildings, Biograms and the Body Topologic," AD, *Hypersurface Architecture II* (1999): 12–19.

28 Frichot, "Deleuze and the Story of the Superfold," 131. See also Eugene Galloway, "Computers and the Superfold," *Deleuze Studies* 6, no. 4 (2012): 513–528.



its place introduces an unlimited finitude wherein “a finite number of components yields a practically unlimited diversity of combinations.”²⁹ This begins to sound very much like a parametric architecture: near endless, though not infinite, re-combinations of elements prescribed by parameters, combinatory play, a bit like word play.

To characterize his superfold, which attends to the transformation of disciplinary societies into control societies, Deleuze notes a crucial shift from the animal figure of the mole, blind underground creature of dark institutional corridors, to the serpent, slippery figure of the bright spaces of surveillance and control. Spatial infrastructures are allocated to each animal totem: where the mole moves through the disciplinary spaces of containment, or sites of confinement, the serpent offers the false promise of slippery, fluid freedom of movement, right up until the moment your digital pass-card (or passport) no longer allows you, the “dividual,” access to healthcare, schooling, housing, passage across the borders between nation-states, or the right of refuge from war and oppressive political systems.

Particular to this transformation, Deleuze observes that “it doesn’t depend on the barrier but on the computer that is making sure everyone is in a permissible place, and effecting a universal modulation.”³⁰ Now, even though “A snake’s coils are even more intricate than a mole’s burrows,”³¹ it is not as though the blind mole of disciplinary societies is better than the all-seeing serpent of control societies, that’s not the point. In fact, by the conclusion of the essay, Deleuze remarks: “It may be that older means of control, borrowed from old sovereign societies, will come back into play, adapted as necessary.”³² What Deleuze stresses in 1990 (the publication date of the original French edition) is that we are at the beginning of something new, and this new era is what many have subsequently called the new information age, or the age of Big Data, and its management on the scale of populations

29 Gilles Deleuze, *Foucault* (Minneapolis/MN: University of Minnesota Press, 1986), 131.

31 *Ibid.*

30 Deleuze, “Postscript on Control Societies,” 182.

32 *Ibid.*



and how they often unwittingly think together, producing devastating large-scale effects (think the proper names Trump, Brexit, Bezos, Zuckerberg). Such is the promise and the threat of Utopia Computer. What we will require are weapons, new and old, of critical reflexivity and creative resistance. What we need to deploy are feminist intersectional weapons, calling on the powers of a differentiated multitude that is critically attuned to the places where power relations are most oppressive, whether in politics, in the discipline of architecture, or in everyday life.

By felicitous coincidence the animalistic aesthetic figure of the blind underground mole crops up in Bloomer's *Architecture and the Text*, and on at least one occasion she features a serpent (she also incants the "one-eyed trouser snake"), as part of her bestiary of "Undesirable Beasts."³³ It's good to include relations with non-human others, they get us closer to environmentalities, opening different points of view onto environmental relations. Beast, Bloomer explains, is any animal except "man," which means it is a category that includes "women, blacks and other others."³⁴ In fact, she argues, this is a category that includes the majority of beings on the planet, after which she adds: "Writing the feminine is mole work, writing on the wall."³⁵ According to the approach of the mole, what architecture "looks like" hardly matters, it's about how it feels and what it does to subjects and how relations come to be forged as well as undone.

In *Deleuze and Architecture* we tactically open with an important essay by Australian architectural historian-theorist Karen Burns, who points to the crucial counter-narrative of another history of architectural and distinctly feminist thinkers introducing Deleuze to the discipline of architecture in advance of such players as Greg Lynn and Peter Eisenman. Burns writes: "I offer here a counter-history, retrieving a more diverse, architectural

33 Bloomer, *Architecture and the Text*, 182.

34 *Ibid.*

35 *Ibid.*, 198.



Deleuzianism from the archives as well as offering an account of how the plurality of the period has been gradually expunged.”³⁶ Her project is to restore the multiple gathered voices, especially the voices of women thinkers and practitioners who are marginalised again and again. Jennifer Bloomer looms large in Burn’s genealogy.

Bloomer, delightfully, does not pull punches when it comes to the pater familias architect Eisenman. Of his Carnegie Mellon Research Institute she says that less than being a successful project of deconstruction (as claimed) it remains “solidly within the tradition of architecture as metaphor.”³⁷ He misses the lesson that he himself is aiming to deliver, rather paternally, to us; he gets stuck in his own signifying loops forgetting to critically acknowledge the societal impacts of architecture. Contrariwise, Bloomer’s preferred emphasis, extremely Deleuzo-Guattarian in its orientation, pursues not a question of meaning but a matter of use: “It is about how it works. Not concerned with what it means or what it looks like but what it does.”³⁸ Bloomer has what she calls a “bone to pick” with the alliance of architecture with discourses of deterritorialization and dissemination that “all comes out as a style.” She proposes: “‘What does it look like?’ is not the same question as ‘How does it work?’ or ‘What is the itinerary?’ or ‘What constitutes the assemblage?’”³⁹

Across Bloomer’s work there is scattered a great many sly references to the uses (as distinct from the abuses) of a careful reading of Deleuze and Guattari. She is the first to reclaim their minor literature for a minor architecture, inspiring Jill Stoner’s 2012 book *Toward a Minor Architecture*. Bloomer spends time with material handicraft, specifically, the permutational patterns of the patchwork quilt. She speaks of the smooth and the striated, and of processes of becoming. Importantly, and as Burns

36 Karen Burns, “Architecture, Feminism, Deleuze – Before and After the Fold,” in *Deleuze and Architecture*, ed. H  l  ne Frichot and Stephen Loo (Edinburgh: Edinburgh University Press, 2012), 15.

38 Ibid.

39 Ibid., 32–33.

37 Bloomer, *Architecture and the Text*, 185.



has argued, she does not depend on Deleuze (and Deleuze and Guattari) as her sole authority, but populates her texts with a multiplicity, a true cacophony of voices and positions to tell her tales of the forgotten, undervalued, overlooked spaces and often-silenced subjects of architecture. She has worked, for instance, on women's shelters, she has dedicated herself to the challenges of the homeless, and of hospices for people with HIV/AIDS.⁴⁰

Furthermore, before we risk dispelling Bloomer as some kind of goody-two-shoes, big jugs luddite—certainly she complains about email, but who doesn't!⁴¹—we find many of the tropes that became popular with the so-called “digital turn,” a “trope” being that figure of speech that turns us from one sense and/or direction toward another. Bloomer draws on Reimannian spaces, on topology, on Klein-like tubes within tubes, in fact, this is how she figures the live human body and the fits and starts of embryonic development. She touches on Virtual Reality, she speaks, notably, of “codes [that] take the form of apparatuses, or machines, which contain within themselves the ghost of architecture.”⁴² In coding and decoding, we simultaneously code ourselves, she suggests. I would add, we render our “dividual” effects as so many complex, entangled intersecting codes, and these are not solely our constructions, but also composed by the way in which Big Data, social media, and platform technologies increasingly pre-empt our desires at a molecular level. Cautions might be issued: if you don't take care of the code, the code will take care of you, it will finish you off. Overcoded, our very thoughts determined in advance, what hope have we of thinking otherwise? The promise and the threat of Utopia Computer is that we no longer even know how to think for ourselves.

Here is where I will take up my slingshot and propel us toward times and places closer to our own. In conclusion, I want to argue for what a careful rereading of Bloomer, and many of her companion

40 See Jennifer Bloomer, “Abodes of Theory and Flesh: Tabbles of Bower,” *Assemblage*, no. 17 (1992): 6–29.

41 See Jennifer Bloomer, “Architecture and the Feminine: Mop-Up Work,” *ANY: Architecture New York*, no. 4 (January/February 1994): 8–11.

42 Bloomer, *Architecture and the Text*, 146.



thinkers and practitioners, offers us. Thinking with Bloomer, I propose, leads us toward the environmental humanities where it intersects with the (feminist) post-humanities, emerging research domains that engage in an intersectional thinking of environment, decolonization, difference *and* relationality, and human and non-human encounters. The environmental humanities proffer methodologies that are less about narrative per se than dedicated to storytelling, the story being that which is passed along, from one storyteller to the next, dog-eared and handled, a little grubby as it passes through busy hands. Accompanying the environmental humanities is “New Materialism” and also Feminist New Materialism, introduced by both the feminist philosopher Rosi Braidotti and by Manuel de Landa—another go-to thinker for digital architects in the day.⁴³ In the flurry of excitement to leap on the digital bandwagon, to achieve (deceptively) smooth surfaces and liquid forms, we left behind a great deal of important thinking, as though inadvertently deciding to allow our machines to do the thinking for us. Already in her 1985 “Cyborg manifesto,” Donna Haraway (who is neither a technophobe, nor a technophile) remarks that our machines are becoming disturbingly lively, while we are becoming frighteningly inert!⁴⁴ Can we slow the great machinic assemblage down, or have we gotten too caught up in its gears?

Bloomer’s work from the early 1990s demonstrates how storytelling must be anchored to relevant problems, ones that ground us. Her ethos is shared by the environmental humanities, which likewise stresses the importance of paying close attention to environmental problems, with the aim of telling and even performing stories that reveal the complex interrelationships to be found in our local environment-worlds. Bloomer’s ambivalent figure of the mole-ster follows the materials and thinks close to the ground, demanding that we feel our way with care. Here too, an attention

43 See Rick Dolphijn and Iris van der Tuin, eds., *New Materialism: Interviews and Cartographies* (Ann Arbor/MI: Open Humanities Press, 2012).

44 Donna Haraway, “A Cyborg Manifesto: Science, Technology and Socialist Feminism in the Late Twentieth Century,” in *Simians, Cyborgs, and Women: The Reinvention of Nature* (London: Free Association Books, 1991), 152.



to the liveliness of materials places her work in the company of (feminist) New Materialists. The digital snake, by contrast, takes us on a slippery ride, offering smooth passage, but for whom and at what cost? The mole-ster, meanwhile, works away in the dark, digging up the dirt, undertaking the unglamorous labour, because the answer is not always to reveal things to the brilliant light of day. A violence can be wrought in the stories we tell, and the stories we steal, and so ethical care must be taken. Still, we urgently need to “resist, reclaim, speculate”⁴⁵ by way of other stories, deploying counter-genealogies to frame other approaches to the promise or curse of Utopia Computer. Inspired by Bloomer, who is unafraid of mixing her thinking with the dirt and remaining open to productive if risky contaminations, the dirty tactics of “dirty theory”⁴⁶ throws dirt into the hegemonic machine of kingmakers, it offers up counter-narratives to disrupt the status quo, it seeks to introduce noise and grit into the system, to disrupt architecture, which must be troubled. A dirty theory for a (Feminist) New Materialism, situated in the midst of the burgeoning domains of the environmental humanities and the (feminist) post-humanities, offers a counter-narrative to what might end up being the empty promise of Utopia Computer.

Bibliography

- Åsberg, Cecilia, and Rosi Bradotti, eds. *A Feminist Companion to the Posthumanities*. Cham: Springer, 2018.
- Bennett, Jane. *Vibrant Matter: A Political Ecology of Things*. Durham: Duke University Press, 2009.
- Bloomer, Jennifer. “Big Jugs.” In *The Hysterical Male: New Feminist Theory*, edited by Arthur Kroker and Marielouise Kroker, 13–27. Montreal: New World Perspectives Series, 1991.
- . “Abodes of Theory and Flesh: Tabbles of Bower,” *Assemblage*, no. 17 (1992): 6–29.

45 See Isabelle Doucet and Hélène Frichot, “Resist, Reclaim, Speculate: Situated Perspectives on Architecture and the City,” *Architectural Theory Review* 22, no. 1 (2018): 1–8.

46 See Frichot, *Dirty Theory*.



- . *Architecture and the Text: The (S)crypts of Joyce and Piranesi*. New Haven/CT: Yale University Press, 1993.
- . “Architecture and the Feminine: Mop-Up Work,” *ANY: Architecture New York*, no. 4 (January/February 1994): 8–11.
- . “The Matter of the Cutting Edge.” *Assemblage*, no. 27 (August 1995): 106–111.
- Burns, Karen. “Architecture, Feminism, Deleuze – Before and After the Fold.” In *Deleuze and Architecture*, edited by Hélène Frichot and Stephen Loo, 15–39. Edinburgh: Edinburgh University Press, 2012.
- Carmo, Mario. “10 Years of Folding.” In *Folding in Architecture, AD Design Profile 102*, edited by Greg Lynn, 14–19. Revised edition (2004).
- . “20 Years of Digital Design.” In *AD Reader, The Digital Turn 1992–2012*, 8–14. London: Wiley and Sons, 2013.
- . *The Alphabet and the Algorithm*. Cambridge/MA: MIT Press, 2011.
- Deleuze, Gilles. *Foucault*. Minneapolis/MN: University of Minnesota Press, 1986.
- . “Postscript on Control Societies.” In *Negotiations*, 177–182. New York/NY: Columbia University Press, 1995.
- Dolphijn, Rick, and Iris van der Tuin, eds. *New Materialism: Interviews and Cartographies*. Ann Arbor/MI: Open Humanities Press, 2012.
- Doucet, Isabelle, and Hélène Frichot. “Resist, Reclaim, Speculate: Situated Perspectives on Architecture and the City.” *Architectural Theory Review* 22, no. 1 (2018): 1–8.
- Frichot, Hélène. “Stealing into Deleuze’s Baroque House.” In *Deleuze and Space*, 61–79. Edinburgh: Edinburgh University Press, 2006.
- Frichot, Hélène. “Deleuze and the Story of the Superfold.” In *Deleuze and Architecture*, 79–95. Edinburgh: Edinburgh University Press, 2012.
- . *Dirty Theory: Troubling Architecture*. Baunach: AADR, 2019.



- Galloway, Alexander. "Computers and the Superfold." *Deleuze Studies* 6, no. 4 (2012): 513–528.
- Gannon, Todd, Graham Harman, David Ruy and Tom Wiscombe. "The Object Turn: A Conversation," *Log*, no. 33 (Winter 2015): 73–94.
- Haraway, Donna. "Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective." *Feminist Studies* 14, no. 3 (1988): 575–599.
- . "A Cyborg Manifesto: Science, Technology and Socialist Feminism in the Late Twentieth Century." In *Simians, Cyborgs, and Women: The Reinvention of Nature*, 149–182. London: Free Association Books, 1991.
- . *Staying with the Trouble: Making Kin in the Chthulucene*. Durham: Duke University Press, 2016.
- Lynn, Greg, ed. *Folding in Architecture, Architectural Design Profile* 102 (1993).
- , ed. *Folding in Architecture, AD Design Profile* 102 (2004), revised edition.
- , ed. *Archaeology of the Digital*. Montreal: CCA, 2013.
- Massumi, Brian. *A User's Guide to Capitalism and Schizophrenia: Deviations from Deleuze and Guattari*. Cambridge/MA: MIT Press, 1992.
- . "Strange Horizon: Buildings, Biograms and the Body Topologic." *AD, Hypersurface Architecture* II (1999): 12–19.
- Parisi, Luciana. *Contagious Architecture: Computation, Aesthetics and Space*. Cambridge/MA: MIT Press, 2013.
- Payne, Jason, and Sanford Kwinter. "A Conversation Between Sanford Kwinter and Jason Payne." In *From Control to Design: Parametric Algorithmic Architecture*, edited by Tomoko Sakamoto, Michael Meredith and Albert Ferré, 219–239. Barcelona: Actar, 2008.



Bibliographic information published by the
Deutsche Nationalbibliothek

The German National Library lists this publication in the
Deutsche Nationalbibliografie; detailed bibliographic data are
available in the Internet at <http://dnb.dnb.de>.

Universitätsverlag der TU Berlin, 2023

<https://verlag.tu-berlin.de>
Fasanenstr. 88, 10623 Berlin
Tel.: +49 (0)30 314 76131
E-Mail: publikationen@ub.tu-berlin.de

This publication – except where otherwise noted – is licensed
under the Creative Commons License CC BY 4.0.
License agreement: Creative Commons 4.0 International
<https://creativecommons.org/licenses/by/4.0/>

Editing: Daniela Petrosino
Proofreading: Clara Dick
Translation: Ben Liebelt
Picture Editing: Jürgen Schreiter, Darmstadt
Layout: Stahl R, www.stahl-r.de
Typesetting: Julia Gill, Stahl R
Print: docupoint GmbH

ISBN 978-3-7983-3270-6 (print)
ISBN 978-3-7983-3271-3 (online)

ISSN 2566-9648 (print)
ISSN 2566-9656 (online)

Published online on the institutional repository of the
Technische Universität Berlin:
DOI [10.14279/depositonce-15964](https://doi.org/10.14279/depositonce-15964)
<http://dx.doi.org/10.14279/depositonce-15964>

The critical concern of the book “Utopia Computer” is the euphoria, expectation and hope inspired by the introduction of computers within architecture in the early digital age. With the advent of the personal computer and the launch of the Internet in the 1990s, utopian ideals found in architectural discourse from the 1960s were revisited and adjusted to the specific characteristics of digital media. Taking the 1990s discourse on computation as a starting point, the contributions of this book grapple with the utopian promises associated with topics such as participation, self-organization, and non-standard architecture. By placing these topics in a historical framework, the book offers perspectives for the future role computation might play within architecture and society.

Universitätsverlag der TU Berlin
ISBN 978-3-7983-3270-6 (print)
ISBN 978-3-7983-3271-3 (online)