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PROTOTYPING PLATEAU GEHRY_CONNECTIVES

Reading Frank Gehry's experiments through Deleuze and Guattari

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PROTOTYPING PLATEAU GEHRY_CONNECTIVES

For Milena and Božena

PROTOTYPING PLATEAU GEHRY_CONNECTIVES

Reading Frank Gehry's experiments through Deleuze and Guattari

Pawel Szychalski



LUND UNIVERSITY

2020

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PROTOTYPING PLATEAU GEHRY_CONNECTIVES

Reading Frank Gehry's experiments through Deleuze and Guattari

Pawel Szychalski

Doctoral Dissertation

by due permission of the Faculty of Engineering, Lund University



To be defended

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It is not the elements or the sets, which define the multiplicity. What defines it is the AND, as something, which has its place between the elements or between the sets. AND, AND, AND – stammering.

Deleuze and Parnet (1987), *Dialogues*

Manual: hypertext and experiment

The PhD thesis PROTOTYPING PLATEAU GEHRY _CONNECTIVES involves, and is in part, comprised of an experiment. The central part of the thesis – Volume 2, PLATEAU GEHRY _CONNECTIVES – becomes an experiment itself in its attempt to combine the design practice of American architect Frank O. Gehry with the philosophical work of Gilles Deleuze and Félix Guattari. Conceived as an autonomous, website-based, interactive project with an existence outside of the current thesis context that continues after its defence, PLATEAU GEHRY _CONNECTIVES brings together Gehry's exploratory practice with concepts of Deleuze and Guattari and aims to create situations in which these two areas come together and affect each other. PLATEAU GEHRY _CONNECTIVES is an area where research experiments take place. It blueprints research-in-action in the way it is structured.

In addition to the experimental Volume 2, the thesis contains two additional parts that complement and contextualise the experimental, central part of the thesis. The first of these, Volume 1, entitled *Freeze-frame: INTRODUCTION*,⁰¹ precedes and introduces the central part; the second, Volume 3, entitled *After-image: OUTCOMES*, follows the central part and concludes the thesis. *Freeze-frame: INTRODUCTION* contains the aims, theoretical presentation and the methodology of the research, as well as the scope of the studied material, while *After-image: OUTCOMES* adds theoretical contextualization and discusses the content and outcomes of the central part. Both of the additional parts aim to define the significance of PLATEAU GEHRY _CONNECTIVES and position it within the theory and practice of contemporary architecture research, especially that discussed in the context of Deleuze and Guattari's philosophy. The three parts are submitted together in a printed book format as a PhD thesis in architecture theory.

Reading modes

While the reading sequence of the major parts is of a regular linear order, the mode of reading for the central part is of a different nature. A set of instructions is thus necessary for reading and carrying out particular operations in PLATEAU GEHRY _CONNECTIVES.

Borrowing structural ideas from the 'Introduction: Rhizome' of *A Thousand Plateaus* (Deleuze and Guattari 1987: 3-25), PLATEAU GEHRY _CONNECTIVES is devised as an ever-emerging, ever-expanding project in a planned website format.

01. In cinematography and television, freeze-frame denotes a motionless shot shown repeatedly. (Also freeze-frame *n.*, freeze-shot *n.*, frozen-frame Cf. freeze *v.* 4f.) From: 'freeze, *n.* 1.' *OED Online*, Oxford University Press, March 2019, www.oed.com/view/Entry/74440. Accessed 5 April 2019.

It is a collection of short pieces of text, called _CONNECTIVES,⁰² that function as micro-chapters. These textual “glimpses”⁰³ with multimedia content will be woven into an interactive network-map (*rhizome*).

The reading of Volume 2 is a reading of a non-linear narrative. Different to the non-linear narrative technique used in literature and film, the non-linearity of the PLATEAU GEHRY _CONNECTIVES will be facilitated more by hypertext.⁰⁴ Hence, using non-linear narratives, PLATEAU GEHRY _CONNECTIVES will open up the traditional way of reading to navigation.

PLATEAU GEHRY _CONNECTIVES derives the figure of the reader/navigator and her behaviour from the concept of smooth space in *A Thousand Plateaus* (Deleuze and Guattari 1987). There, as the philosopher and social theorist Brian Massumi explains in his ‘Translator’s Foreword: Pleasures of Philosophy’, the reader ‘can take a concept that is particularly

02. The work at hand borrows the name _CONNECTIVES from the referencing concept used in *The Deleuze Dictionary*, edited by Adrian Parr, with an introduction by Claire Colebrook, Edinburgh University Press, 2005.

03. Thank you Lars-Henrik Ståhl for inventing this apt term, which not only exactly describes the extent of _CONNECTIVES, but also the nature of the text as an event or as a postulate of a state of its perception by the reader.

04. The hypertext format is one of the underlying concepts of websites written in the Hypertext Markup Language (HTML), which incorporates a property of interconnectedness through hyperlinks. In his book *The Search for the Perfect Language*, Umberto Eco suggests that the polymath, natural philosopher and an Anglican clergyman John Wilkins (1614 - 1672) was a protagonist of the concept of the hypertext. According to Eco, Wilkins’ *Essay towards a Real Character, and a Philosophical Language* (1668) is ‘the most complete project for a universal and artificial philosophical language that the seventeenth century was ever to produce’ (Eco 1995: 238). Eco maintains that ‘Wilkins could be considered as a pioneer in the idea of a flexible and multiple organization of complex data, which will be developed in the following century and in those after. Yet, if such was his project,’ Eco argues, ‘then we can no longer speak of him in the context of the search for a perfect language; his was instead the search for ways to articulate all that natural languages permit us to say.’ See: ‘The Hypertext of Wilkins’ in Chapter 12: ‘John Wilkins’ of Eco, Umberto (1995) *The Search for the Perfect Language* (Oxford, England and Cambridge, Massachusetts: Blackwell Publishers): 258-259.

of [her] liking and jump,' or 'move from one plateau to the next at pleasure' (1987: xiv). As concepts, actions and events occur in non-chronological order in such narrative thoughts and do not adopt the cause-and-effect pattern of narration, from the usual PhD dissertation format standpoint PLATEAU GEHRY _CONNECTIVES contradicts some of the conventions and formal aspects of academic writing. Challenging the conventions of academic writing in the course of this research project became an important part of the experimental nature of the interactive possibilities of the PLATEAU GEHRY _CONNECTIVES.

Hypertext structure of the thesis

This thesis implements hypertext as discussed by critical theorists as an attempt to abandon conceptual systems founded upon ideas of a centre, margin, hierarchy, and linearity and replaces them with notions of multilinearity, nodes, links, and textual networks (Landow 1992: 2). Experimenting with an alternative, hypertext structure, PLATEAU GEHRY _CONNECTIVES tests the hypothesis of the hypertext theorists who claim that the structure of a linear text does not reflect the nonlinear structure of human thought (McEneaney1997: 2). Through the functionality of the hypertext structure, PLATEAU GEHRY _CONNECTIVES thus challenges traditional literacy in which reading is defined as the comprehension of written language, and shifts it toward the digital literacies where the 'what' of reading is a more dynamic composite that weaves together text, video, image, and sound (Larson 2009). Recognizing an expanded understanding of the hypertext and its relevance as a teaching and learning tool, PLATEAU GEHRY _CONNECTIVES proposes a new way of disseminating research and knowledge. It involves multiple combinations of readers' individual choices and multimedia make up of _CONNECTIVES, i.e. a photo-essay or video-clip. In this mode, reading becomes a composite act that weaves together

_CONNECTIVES, and here this act of navigation is furnished with a set of nodes/indicators, e.g. ► **C 0030**, ► **C 0032** or ► **C 0043**,⁰⁵ functioning as hypertext links, or hyperlinks.

This mode of reading/navigating submits to the domain of the Internet, which is the adequate format to render the structure of the content and functionality of PLATEAU GEHRY_CONNECTIVES. Furthermore, it reflects Deleuze and Guattari's concepts of the *rhizome* and the *shifting map* (1987: 3-25, 19), making PLATEAU GEHRY_CONNECTIVES forming and exploring a *rhizomatic* map. Disseminating research and knowledge in this way also reflects the concept and structure of *rhizome* and *multiplicity* of *A Thousand Plateaus* (Deleuze and Guattari 1987: 4-25, and passim), invented as engaging both the author as well as the reader. While the author of the PLATEAU GEHRY_CONNECTIVES becomes an explorer and weaver of a *shifting map* of Gehry's exploratory practice interthreaded with the concepts of Deleuze and Guattari, the reader becomes an activator of the *rhizomatic* connections, and simultaneously their ever-unique cartographer. In this way, PLATEAU GEHRY_CONNECTIVES attempts to prompt *rhizomatic* thinking, which, seen from a Deleuzian perspective by the scholar Verena Conley, sets out to undo limits, to collapse binaries and to create new spaces. As '[r]hizomatic thinking makes its way into the virtual spaces of computers and digital art' (Conley 2005: 259), it is taken into service here to challenge the textual format of a PhD thesis and the traditional notion of dissemination of knowledge embedded in academic research theses. PLATEAU GEHRY_CONNECTIVES tries to follow digital artists' experiments 'with connections between different species to create hybrids and becomings' (Conley 2005: 259). Thus, PLATEAU GEHRY_CONNECTIVES creates hybrids and

05. See below the section 'Printed version, blank pages, and a non-book quality' for a further explanation of nodes/indicators.

becomings of reading/viewing/navigating of ever-generated connections.⁰⁶

Experimental layout and numbering of connectives

As Deleuze and Guattari declare that the map has to do with performance (1987: 12), thus PLATEAU GEHRY _CONNECTIVES aims at implanting a performative aspect of the very act of experimentation into each act of reading/viewing/navigating/connecting. The PLATEAU GEHRY _CONNECTIVES project becomes the forces it describes through writings of Deleuze and Guattari from which it borrows. The reading/navigating capability inherent to the hypertext format, embedded in the electronic medium of the Internet, authorizes the reader to follow various ways of selecting _CONNECTIVES and reading them at random or according to any preference (including the options provided by internal hyperlinks planted within each _CONNECTIVES). This empowerment of the reader is defined by the assessment of reader-oriented hypertext qualities as ‘de-centred’ and ‘readerly,’ as opposed to the writer-dominated ‘centred’ and ‘writerly’ version features of traditional, printed text (McEneaney 1997: 5), even if this distinction is easily challenged by both ‘the observed centeredness of existing hypertext systems of the electronic medium and the “hypertextuality” of traditional linear print’⁰⁷ (1997: 5). The

-
06. There are tendencies of hybridised modes of reading/viewing/navigating in contemporary academic publications. For instance, *The Oxford Handbook of Virtuality* edited by Mark Grimshaw (2014) encourages the reader ‘to read the handbook in conjunction with viewing and listening to the media available on the website as examples available online are found throughout the text.’ *The Oxford Handbook of Virtuality* provides the reader access to a password-protected website where ‘material that cannot be made available in a book, such as music and videos, is also provided’ (Grimshaw 2014: xv).
07. For instance works in literature: *The Life and Opinions of Tristram Shandy, Gentleman* by Laurence Sterne, published in nine volumes between 1759 and 1767; *Ulysses* (1967) and *Finnegan’s Wake* (1961) by James Joyce; or *Fictions*, a

experimental, non-linear, reader-oriented, de-centred structure of PLATEAU GEHRY_CONNECTIVES affected the research methodology by suggesting a specific way of ordering _CONNECTIVES. This is elaborated upon in the chapter ‘Structure as/and Method’ in this volume. In addition, the experimental structure affects the numbering of _CONNECTIVES. The numbers have been generated and retrieved from the website random.org, and – as the administrators of the website claim – they are generated in a ‘true random’ manner that ‘comes from atmospheric noise, which for many purposes is better than the pseudo-random number algorithms typically used in computer programs.’⁰⁸

The printed version, blank pages, and a non-book quality

The printed thesis consists of three volumes bound separately and presented together in one slipcase.

As is apparent when turning the pages of Volume 2, the printed version of PLATEAU GEHRY_CONNECTIVES leaves a

collection of short stories by Argentine writer and poet Jorge Luis Borges originally written in Spanish between 1941 and 1956 as *Ficciones*; Delaney and Landow (1991: 18) refers to these works as ‘hypertextual’, whereas Landow (1992: 102) calls them experiments in ‘quasi-hypertextuality.’

08. RANDOM.ORG ‘offers *true* random numbers to anyone on the Internet. The randomness comes from atmospheric noise, which for many purposes is better than the pseudo-random number algorithms typically used in computer programs. People use RANDOM.ORG for holding drawings, lotteries and sweepstakes, to drive online games, for scientific applications and for art and music. The service has existed since 1998 and was built by Dr Mads Haahr of the School of Computer Science and Statistics at Trinity College, Dublin in Ireland. Today, RANDOM.ORG is operated by Randomness and Integrity Services Ltd.’ The authors and operators of RANDOM.ORG claim that ‘most random numbers used in computer programs are *pseudo-random*, which means they are generated in a predictable fashion using a mathematical formula. This is fine for many purposes, but it may not be random in the way you expect if you’re used to dice rolls and lottery drawings.’ Retrieved on May 17, 2019.

random number of blank pages between each of the PLATEAU GEHRY_CONNECTIVES. This disturbs the convention of the reading of the printed text and attempts to compensate for the absent but desired non-linearity of the type of reading/navigating mode built into the hypertext format of the website. The blank pages signal, or simulate, a set of nodes/indicators conceivably present and active in the website format, and should be treated as an equivalent, or a simulation, of the functionality of the hyperlinks, providing the reader of the printed version with the sense of an interactive, rhizomatic structure. Disruptions occurring while flipping through unprinted pages are thus intended here to substitute the choice of an alternative, non-linear (or even random) reading path of PLATEAU GEHRY_CONNECTIVES.

Consequently, in the current, printed prototype version of the PLATEAU GEHRY_CONNECTIVES project, the reader can simulate the interactivity of hypertext links of the website format in two ways. First, by following any of the nodes/indicators woven into the text of each _CONNECTIVE that distributes connections with other _CONNECTIVES, and second, by following numbers assigned to each of the _CONNECTIVES. As these numbers are randomly assigned, the reading of _CONNECTIVES following any numerical order also offers de-centred, non-linear reading/navigating. Indicators appearing in texts of _CONNECTIVES in Volume 2 consist of the uppercase letter C and four digits, e.g.:

» **C 0043**

» **C 0030**

» **C 0032**

They are typographically individualised marks of possible divergent, the non-linear text flows registering thematic connections with texts of other _CONNECTIVES. Indicators appearing in the texts of Volumes 1 and 3 consist of the same letter/digits combinations with the addition of the titles of individual _CONNECTIVE, e.g.:

» **C 0043** Breakthrough

» **C 0030** Klee's 'interworld'

» **C 0032** We detail on the curtain wall

referring to the text of the particular _CONNECTIVE. The colour coding marks three distinct phases of their development:

- temporally frozen activity » **C 0188** | edited text
- initially determined idea » **C 0350** | undeveloped text
- gathering of research findings » **C 0472** | unedited text.

Orange and violet thus designate drafts and suggestions of _CONNECTIVES that exist but have not been included in the current thesis. They are ideas for future developed subjects and areas of the PLATEAU GEHRY _CONNECTIVES project and indicate its frozen process. Hence, the title of this thesis denotes its prototyping character. While the content of the unedited and undeveloped _CONNECTIVES is not regarded as crucial for the thesis as a whole, their complete set is printed separately as loose, unbound documents to be presented at the thesis defence and eventually deposited in the archive for theses at the Department of Architecture and Built Environment, LTH, Lund University. Thus, to understand the specific openness important for the PROTOTYPING PLATEAU GEHRY _CONNECTIVES thesis, readers can inspect them and assess their particular qualities through this archival procedure.

Consequently, only _CONNECTIVES marked by light-blue colour, such as » **C 0043** Breakthrough, » **C 0188** Gehry's *factual design action*, or » **C 0658** Spontaneous crumples are finally edited texts, and therefore included in the current thesis as the central part: Volume 2, PLATEAU GEHRY _CONNECTIVES. All _CONNECTIVES that remain at the stage of gathering of research material with an unedited text marked by orange colour, such as » **C 0244** *Painting on the wall. Wall as a painting*, » **C 0550** *Gehry's brush strokes*, or » **C 0783** *Microscope and monuments*, as well as all _CONNECTIVES with initially determined idea and undeveloped text such as » **C 0230** *From actual into virtual*, » **C 0547** [1996] *Prague. Context, simulation, variation*, or » **C 0959** *Molto vivace* are not included in the three-volume book format.

In the printed version of Volume 2, all the colour coded indicators simulate hypertext links woven into the text of each _CONNECTIVE of the website version of the PLATEAU GEHRY_CONNECTIVES project. Unlike a book, they show multiple reading lines of navigation within the website and in that sense, the printed version of Volume 2, PLATEAU GEHRY_CONNECTIVES may be seen as a non-book.

Prologue

The PLATEAU GEHRY_CONNECTIVES project has its roots in personal experience during two formative experiences, both of which took place long before the conception of this thesis. The first was the act of drawing axonometry, and second was the reading of an interview with the architect Frank O. Gehry published in the first monograph on him, *Frank Gehry: Buildings and Projects* (1985), edited by Peter Arnell and Ted Bickford.

The drawing-moment relating to axonometry took place in old-school times, when ink on tracing paper was the foundation of architectural drawing technique and drawing an axonometric view was a matter of projecting vertical lines from a previously drawn plan. This simple, routine procedure became more complicated when the projected lines were supposed to represent the edges of tilted surfaces in the referred object. Whenever axonometric projection was produced without any prior consideration of vertical dimensions of drawn

volumes, the routine procedure would become even more distorted. Consequently, usually seen as merely a representative tool, the action of drawing a conventional axonometric projection mutated into the design decision-making procedure.

Projected lines become confusing in precisely such circumstances – unverifiable and spatially unmanageable. Now, the linear projections of tilted edges indicated by ink on tracing paper become spatially indefinable. Now, they cannot be associated with any specific location in space as in orderly orthogonal projections. Any tilted line becomes unlocalisable, and all of a sudden, a line occurs as mistakenly drawn, misrepresenting the intended projection. Before instinctively erasing the ink from such ‘mistakenly’ drawn lines, the quick realisation struck: the creative force of such a ‘mistake’ is stronger than in a ‘non-mistake.’ It is stronger than that of all the ‘correct-takes.’ Thus the first Deleuzian type *shock to thought*, of the uncharted territory of all possible mistakes – being incomparably bigger than that of all correctly rendered lines – exploded.⁰⁹ The observations gathered from this experience inspired my first-ever academic seminar, entitled ‘On Mistake.’ Indirectly, those observations connect with and motivate the current thesis.

The other formative experience crucial to this thesis was a reading-moment in Oslo, Norway, in the late autumn of 1988, only two years after I became an architect. On February 24, 1984, Frank Gehry had had a discussion with Peter Arnell and was asked to confirm that he was an architect and not an artist. In his final reply, Gehry decisively defined his occupation, saying, ‘I’m an architect.’¹⁰ The outpouring that followed really affected me:

09. This term is borrowed from the title of a collection of essays on Deleuze and Guattari’s philosophy of expression. Masumi, Brian (ed.) (2002) *A Shock to Thought: Expression after Deleuze and Guattari* (London and New York: Routledge).

10. In this conversation with Arnell, Gehry was obliged to repeat his statement twice.

I look at painting a lot... There's immediacy in paintings, you feel like the brush strokes were just made. I think about paintings all the time, so one part of architecture that I felt an interest in exploring was how to bring these ideas to buildings. The tradition of Mondrian's paintings affecting architecture is an old story. I wanted to see what else we can learn from paintings. In particular, how could a building be made to look like it's in process? And how can the expressive and compositional attitudes of painting be explored in a building? That's what led me to explore opening up the structure and using the raw wood techniques and developing buildings that look like they just happened. They look like in the normal building process somebody just stopped (Gehry 1985: xiii).

The reading-moment and the drawing-moment were equally formative. Learning that an architect could learn from paintings in this way – and in particular, that an architect could explore expressive potentials of buildings as if they were in the process – was a true revelation for me as a young architect. Moreover, learning that architects could interrogate the expressive and compositional attitudes of painting to be explored in a building was beyond any doubt another Deleuzian *shock to thought*.

Freeze-frame: INTRODUCTION



Background information

From the mid-1980s and for more than a decade, the architectural design production of the Canadian-born American architect Frank O. Gehry (b.1929) significantly influenced my architectural thinking, practice, and teaching. Recognised for his innovative sketching, use of physical models, computer-aided design, and digital fabrication, he is broadly recognised as one of the most eminent contemporary practicing architects. Many critics consider him a *signature architect* or a *starchitect* who authors iconic buildings.

Gehry's design methods encouraged my experimental teaching programmes for architecture students in the mid-1990s. As the exploratory phase of his practice in the late 1970s has been attributed to or rationalized through some concepts of critical theory and contemporary philosophy, the latter became complementary fields of my research interest, especially the critical theory of the French philosopher Jacques Derrida,

whose semiotic-influenced analysis and literary criticism, known as *Deconstruction*, was contextualised in the 1988 *Deconstructivist Architecture* exhibition¹¹ in New York, showing ▶ **1978** Gehry House (Santa Monica, California 1977-1978)¹² and ▶ **1978** Familian Residence (Los Angeles, California 1977-1978, unbuilt). Together with an essay by the architect and author Mark Wigley (1988) that refers to Derrida's theory that was published in the exhibition catalogue, the event brought concepts like deconstruction or critical art to contemporary culture (Lillyman, Moriarty and Neuman 1994). Thus began my journey into architecture theory.

-
11. *Deconstructivist Architecture* exhibition held at Museum of Modern Art from June 23 to August 30, 1988 was organised and curated by Philip Johnson, architect and former director of the Department of Architecture and Design, The Museum of Modern Art in association with Mark Wigley, architect and lecturer at Princeton University. The exhibition coordinator was Frederieke Taylor. Views of the exhibition are available online at: <https://www.moma.org/calendar/exhibitions/1813>.
 12. This typographic element: ▶ appears every time Gehry's work is cited. It is introduced to simulate their hypertext format in the future website format. References to Gehry's buildings and projects are formatted in a specific, typographically uniform way to emphasise their chronology and its importance for the current thesis. All analyses or comments on Gehry's works utilised are listed in the subchapter 'Works in architecture and industrial design' (pp. 70-72 f.).

1. Thesis Aims and Questions

While the significance of Frank O. Gehry's architectural practice reaches far beyond the interest of the architectural profession and holds almost iconic status in popular culture,¹³ it

13. In Gehry's biography, Paul Goldberger designates Guggenheim Museum Bilbao as 'the first radically different new building in a long time to have an impact on the popular culture. Gehry's powerful shapes seemed to capture the imagination of everyone, not just the architectural world; the museum was one of the few buildings in modern times to be hailed as a serious and important new work by architecture critics and historians, yet at the same time be embraced by a public whose taste in architecture often did not go beyond classical courthouses and redbrick Georgian houses and generally disdained anything that could be considered avant-garde. Its popularity marked an unusual development in any field, as if a novel by David Foster Wallace were to outsell those of John Grisham, or the music of Philip Glass were to top Lady Gaga on the charts. (...) [P]erhaps for the first time since Frank Lloyd Wright's spiralling structure on Fifth Avenue in New York for the same Guggenheim Museum in 1959, was a building that was at once a

appears to have not been explored extensively in architectural theory. And apart from rare exceptions, Gehry's legacy is mostly neglected in the architectural discourse exploring convergences and conjunctions of architecture with the philosophy of Gilles Deleuze and Félix Guattari. This thesis thus aims to answer the main question of why Deleuze (and Guattari) should assist us in thinking through Gehry's aesthetic, architectural gestures. Furthermore, what we can learn from a very intuitive designer, interested in a practice located close to art, in close collaboration with his team and dialogue with the world outside the office?

What initially motivated connecting Gehry's practice with Deleuze and Guattari is the historical concurrence of their two thought domains linked to creative aesthetic practices. Not only did the publication of Deleuze and Guattari's *Anti-Oedipus: Capitalism and Schizophrenia* mark the beginning of the impact of their concepts on architectural theory and practice (Livesey 2015: 1),¹⁴ but it also coincided with the beginning of the experimental phase of Gehry's practice, highlighted by the conversion of a 1920s bungalow in Santa Monica, California. The cultural and social criticism Deleuze and Guattari launch

cutting-edge work and the subject of public fascination, even excitement.' Paul Goldberger (2015) *Building Art: The Life and Work of Frank Gehry* (New York: Alfred A. Knopf): 7-8. In essential treatment of the subject of *Architecture: A Very Short Introduction*, Andrew Ballantyne 'very securely' positions Bilbao's building 'in the realm of global tourist culture. It is a building', Ballantyne reminds 'that has had importance in reviving the fortunes of a small city, by making it a place that people from all over the world want to visit. (...) By participating in the global culture of the international art world, the city is able to cut a dash on the international scene and attract visitors and investment, and the building is successfully assimilated in two cultures (of the artistic avant-garde and of tourism) which in this case work together to bring about that success.' Andrew Ballantyne (2002b) *Architecture: A Very Short Introduction*, (Oxford and New York: Oxford University Press): 104.

14. Originally published in French in 1972 as *L'Anti-Oedipe* by Les Editions de Minuit, the English translation copyright is dated 1977, the same year Gehry started designing his house. See the frontispiece of the 1984 English edition by The Athlone Press Ltd.

in *Anti-Oedipus* is recognizable in the architectural work of the ▶ **1978** Gehry House (Santa Monica, California 1977-1978). Both could have been studied together, but never were. The production of Gehry's most radical architectural works took place in the early 1990s. At the same time, the impact of Deleuze and Guattari's thought on the discipline and practice of architecture was particularly significant (Livesey 2015: 1). In this setting, it appears astonishing that none of the buildings like these ▶ **1993** Frederick R. Weisman Museum (Minneapolis, Minnesota 1990-1993), ▶ **1994** American Centre (Paris, France 1988-1994), ▶ **1996** Nationale-Nederlanden Building (Prague, Czech Republic 1992-1996) or the design of ▶ **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997) were analysed in connection with Deleuzian concepts or with the writings of Deleuze and Guattari. Symptomatically, architect and philosopher Hélène Frichot and architectural theorist Stephen Loo – the editors of the publication *Deleuze and Architecture*, who suggest that 'Deleuze was fervently consumed and endlessly cited in architectural discourse primarily from the 1980s through 1990s' (2013: 2) – do not include any study of Gehry's work from that period, even though a decade of inexorable experimentation on the project for the ▶ **1985** Lewis Residence (Lyndhurst, Ohio 1985-1995 unbuilt) corresponds precisely with the period of intense Deleuzian debate in the field of architecture.

The three major publications that explore the implications of Deleuze and Guattari's philosophy on space, architecture, and the built environment – namely *Deleuze and Space* (Buchanan and Lambert 2005), *Deleuze and Architecture* (Frichot and Loo 2013), and *Deleuze and Guattari on Architecture: Critical Assessment in Architecture* (Livesey 2015) – contain ninety-one separate texts. In the broad range of writings by architects, architectural- and cultural theorists, there is no one who individually studies Gehry's output in general or any of his projects.

Deleuze and Gehry: initial common ground

The book *Deleuze and Architecture* from the series *Deleuze Connections* starts by asking what made the legacy of Deleuze so long-lasting, and why its impact was so huge on both the practice and thinking of architecture. (Frichot and Loo 2013: 1). Positioning itself against conventional approaches to architecture and design (Livesey 2015: 18), Deleuze and Guattari's philosophy shares common ground with Gehry's ways of confronting modes and methods of architectural design production from the outset. Even if Deleuze and Guattari prefer to be involved in primitive structures built by nomads than in 'the formal architectures of urban cultures with its preoccupations on expressing power' (Livesey 2015: 18), their 'immensely open' philosophy provides an 'enormous scope for architects and urbanists' (Livesey 2015: 19). Hence, it should be applicable and efficient in the PLATEAU GEHRY _CONNECTIVES venture. Notably, speaking about Deleuze and Guattari, Livesey says that 'their ontology is not human-centric and [it is] non-hierarchical, thereby allowing for the inclusion of a wide range of bodies, structures and disciplines' (Livesey 2015: 18-19).

Filling the gap in the theoretical work on Gehry's practice related to Deleuzian thought, this thesis will operate on their common ground of positioning against conventional approaches to architecture and design. It aims to gain an understanding of the particularities of Gehry's distinctive design methods, modes of manoeuvre, properties and procedures of his actions; to study in detail specific spatio-temporal properties of design actions and their explicit transfer into actual buildings. Moreover, the thesis aims at mapping the evolution of Gehry's design actions to appropriately delineate their connections with Deleuzian concepts and see how features of his architecture, or processes therein, are methodical embodiments of these actions. Hence, the ambition of PLATEAU GEHRY _CONNECTIVES is to be a part of a proliferating range of works that conjoin Deleuze and architecture, where the reference to Gehry's architectural practice is central.

Omissions of the actual

There is an example of how omissions of Gehry's work may take place in Anthony Vidler's seminal book *Warped Space: Art, Architecture, and Anxiety in Modern Culture*,¹⁵ where the author overlooks the micro-level perspective of Gehry's design practice. Neglecting the manual aspects involved at this micro-level of design productions, Vidler identifies 'the hitherto unimaginable complexity' and 'the exuberant forms' of ► **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997) as 'the architectural results of digital manipulations' (Vidler 2000: 7). The monograph of the project, *Frank O. Gehry: Guggenheim Museum Bilbao*¹⁶ (van Bruggen 1997), demonstrates otherwise. In this book, Gehry's friend and collaborator Coosje van Bruggen documents in detail the non-digital character of the design process and reveals that during the design of the ► **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997) there

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15. Vidler, Anthony (2000) *Warped Space: Art, Architecture, and Anxiety in Modern Culture* (Cambridge, Massachusetts and London: MIT Press). Named one of The Art Book's Best Books of the Decade (March 2003); information about the award was retrieved on May 15, 2019 from: <https://mitpress.mit.edu/books/warped-space>.
 16. Gehry's friend and collaborator Coosje van Bruggen has written extensively on the design process for the Guggenheim Museum in Bilbao, from its earliest phases to the building's completion in 1997. A publisher's note points out that Gehry's 'method of envisioning a building through semiautomatic drawings and handmade models is little known, but provides an immediate entry into his creative process. This book celebrates the Guggenheim Museum Bilbao and details its design process, bringing to life one of Gehry's greatest achievements. Coosje van Bruggen, who has collaborated with Gehry on various architectural and art projects, documents the history of the Guggenheim Bilbao from conception through design and construction. With unique access to the architect and his studio, she uncovers scores of fascinating drawings and working photographs, published here for the first time.' Coosje van Bruggen (1997) *Frank O. Gehry: Guggenheim Museum Bilbao* (New York: The Solomon R. Guggenheim Foundation).

was a pioneering use of the 3D software CATIA,¹⁷ but merely to transfer the handmade model of the complex forms into a digital environment for the production of blueprints and the advancement of the construction part of the design. Apart from that, in her study ‘Practice *Nouveau*’, architectural theorist and critic Penelope Dean confirms that ‘Gehry and his collaborators continued to “design” in the traditional sense, relying on hand made physical models for the schematic design and design development’, and adds that ‘CATIA was introduced into the design process mid-way to translate form – the curved surfaces of the sculpture’s skin – into drawing’ (2009: 308). The transfer itself, which is manually derived 3D scanning, is documented in photographs.¹⁸ ▶ Figure [1] Moreover, citing Paolo Tombesi, Dean writes that 3D scanning may be seen as ‘[r]educing the physical models to geometric points and polar coordinates through a 3-D tracing’, while CATIA ‘representing Gehry’s form visually and mathematically,... [allows only!] further formal manipulation to take place onscreen’ (Tombesi 2002: 77).¹⁹

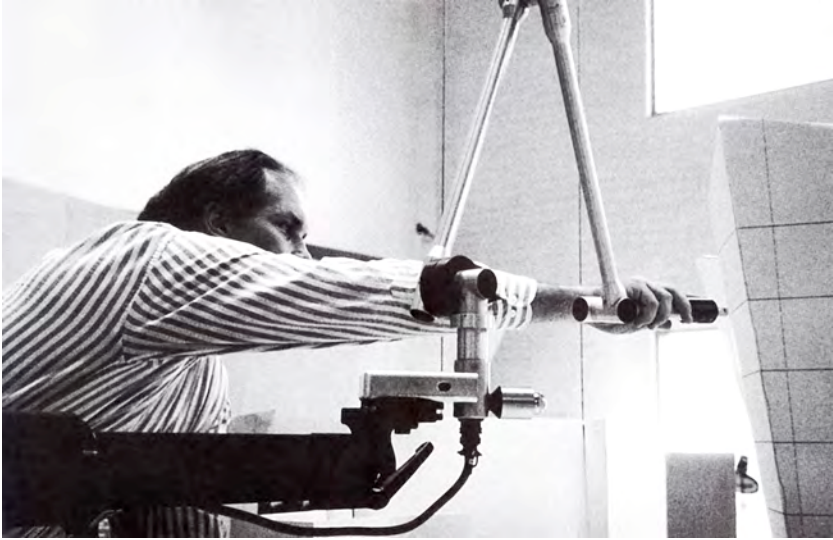
Thus, the unfathomable complexity was achieved not through digital manipulations, as described by Vidler, but

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17. At the time that the Guggenheim Museum Bilbao was designed, CATIA (Computer-Aided Three-dimensional Interactive Application), produced by French software company Dassault Systèmes®, was a 3D digital mock-up system for the aerospace industry. Frank O. Gehry and Associates adopted it for an inventive application in architectural design. Dassault Systèmes® is now a world leader in 3D design & engineering software, providing PLM and 3D modelling software, simulation applications, and industry solutions.
 18. According to Megan Meulemans of Gehry Partners, LLP, there is no known image of a Guggenheim model being scanned. The proposed photograph depicts the digital scanning of the Walt Disney Concert Hall model, the curvatures of which are similar to those of the Guggenheim design. It also shows the same procedure used in the design of the Guggenheim Bilbao building, as well as the same equipment.
 19. Cited in Penelope Dean (2009) ‘Practice *Nouveau*’, in: Crisman, Phoebe and Mark Gillem (eds) *The Value of Design: Design is at the core of what we teach and practice*, 97th ACSA Annual Meeting Proceedings held in Portland, Oregon (Washington: Association of Collegiate Schools of Architecture).

through sketch drawings (some of which are well known)²⁰ and successions of manual/analogue manipulations. Moreover, the senior associates and partners Randy Jefferson and Jim Glymph clearly define the role of the computer-aided design in Gehry's practice at that time (Zaera-Polo 1995b: 152; Friedman and Frank O. Gehry and Associates 1999: 16-18, 19-20, 50, 52; Dean 2009: 307, 309-310, 313). Bringing the computer into the office was a way of introducing it in a way that would not change Gehry's design process. The objective was to try to augment a process, which has evolved over the past 30 years. The computer had to relate to the three-dimensional models with which Frank was accustomed to working (Zaera-Polo: Ibid).

Together with design partners and assistants, Gehry builds a large number of scale models manually (not exclusively, however)²¹ in every design process.²² They are always certain recordings and documentation of various developments of the project. In the case of explorations of different design ideas and numerous aspects of the Bilbao project, they were especially important. It is through manually produced models that Gehry finds the relationship with the site, the volumetric configurations of the future built structures, the measurements, and even interior spaces (Gehry 2003a: 7). The digitalized phantom of the handmade forms affords 'descriptive information for consultants and fabricators and helps contain costs' (Davidsen 1992: 30).

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- 20. Roger Connah calls Gehry's concept sketch from 1992 'one of the most published scribbles of the last decade of the twentieth century' (2001: 88).
 - 21. Since the early use of digital tools in the design of the ► **1991** Fish Sculpture (Barcelona, Spain 1991) *El Peix*, Port Olímpic, at Gehry's office, other modes of production of models were used, including 3D printing.
 - 22. The number of models at Gehry Partners, LLP (and earlier at Frank O. Gehry & Associates) overwhelms visitors. See: Forster, Kurt W. (1998) 'Architectural Choreography' in: Dal Co, Francesco and Kurt W. Forster, *Frank O. Gehry: The Complete Works* (New York: Rizzoli International Publications), 9-10.



► Figure [1]

Model scanned with the digitizer equipment of CATIA system. © Frank O. Gehry.
Getty Research Institute, Los Angeles (2017.M.66), Frank Gehry Papers. Courtesy of
Gehry Partners, LLP.

The presence of a series of initial sketch- or study-models always predicates Gehry's forms, and CATIA is used 'not as a form giver but a form facilitator' (Dean 2009: 308-309). Conclusively, Vidler is right only in acknowledging that the design process is 'now digitally linked to that of the fabrication process,' and that it is going to 'revolutionize the mode of production itself' (Vidler 2001: 7). Furthermore, although Greg Lynn and Peter Eisenman are recognized as operating 'on the forefront of digital applications to architecture' (Livesey 2015: 7), the innovative use of digital tools at Gehry Partners (formerly FOGA: Frank O. Gehry and Associates) comprises one of the most influential legacies in the digital applications in the field.²³ This aspect of Gehry's practice is further analysed and re-contextualized in the concluding sections of Volume 3, *After-image: OUTCOMES*.

Consequently, one aim of this thesis is to show that Gehry's manipulations are not digital, but actual, manual alterations of physical properties of materials used in the design process, and that they have nothing to do with 'the effortless effects of keystroke manipulations' (Vidler 2000: 7). Although this research is not concerned with the question of why such an omission occurred or what its results were, briefly addressing this may help position the argument of PROTOTYPING PLATEAU GEHRY_CONNECTIVES within the Deleuzian

23. Several studies provide the in-depth account of this original use of digital technology: Penelope Dean (2009) 'Practice Nouveau', in: Crisman, Phoebe and Mark Gillem (eds) *The Value of Design: Design is at the core of what we teach and practice*, 307-317; Marie-Ange Brayer in her text 'Frank Gehry. The Interlacing of the Material and the Digital' in: Lemonier, Aurélien and Frédéric Migayrou (eds) (2015) *Frank Gehry* (Munich, London, New York: Prestel Verlag / Paris: Éditions du Centre Pompidou): 173-179; and, most informatively, Gehry's partners 'Information Technology at F.O.G & Associates', an interview with Randy Jefferson and Jim Glymph, the managers of the computer system discussing the computer interaction with the design process. Zaera-Polo, Alejandro (1995b) 'Information Technology at F.O.G. & Associates.' *El Croquis* 74/75 (1995): 152-156.

discourse in architecture. Firstly, it is worth noting that unlike e.g. Peter Eisenman or Rem Koolhaas, Frank Gehry does not theorize about his work or about architecture in general, and, with one exception, he does not write or publish texts on the subject.²⁴ Secondly, even he if sometimes mentions his interest in the “fold,” Gehry never refers to the philosophy of Deleuze (and Guattari).²⁵

Finally, it is possible to provide rationale for the omission of Gehry’s design practice from Deleuzian discourse on architecture drawing on my earlier research on Gehry’s practice dealing with manual operations on a micro-level (Szychalski 2007): it relates to the fact that theorists and critics generally overlook Gehry’s manual actions on the micro-level of the design process. Therefore, the initial hypothesis of the PROTOTYPING PLATEAU GEHRY_CONNECTIVES research project is that if analysed as single, manually performed units of

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24. The only exception found is Gehry’s very short foreword to the publication following the Vienna Architecture Conference, which took place at the MAK-Austrian Museum of Applied Arts on June 15, 1992. Frank Gehry, ‘Preface’ in: Noever, Peter (ed.) (1993) *The End of Architecture? Documents and Manifestos: Vienna Architecture Conference* (Munich: Prestel-Verlag and Vienna: MAK-Austrian Museum of Applied Arts), 11-13. The provocative title of the conference – *The End of Architecture?* – was meant to serve as a confrontation of diametrically opposing views, to establish the differing positions and various approaches (differing with regard both to point of departure and method) of the architects who participated in the conference, most of whom were called ‘Deconstructivists’ (Noever 1993: 11). The book consists of invited architects’ introductory statements and the subsequent videotaped roundtable discussion transcribed into fully illustrated ‘Documents and Manifestos’ and accompanied with photographic documentation of the conference.
 25. While *Frank Gehry: The City and Music* is referred to as a book written by Jeremy Gilbert-Rolfe with Frank O. Gehry (2001) that references Deleuze and Guattari, it may be seen as the opposite. However, Lahiji makes an interesting point in *Adventures with the Theory of the Baroque and French Philosophy*, claiming that the co-authorship or ‘collaboration’ of Gilbert-Rolfe’s with Gehry makes readers of the book was supposed to leave readers ‘in suspense as to whether the text is written by the critic or together with the architect, who, we are led to believe, is well versed in and knowledgeable of the complex “philosophical” concepts discussed in the book’ (Lahiji 2016: 164).

a design procedure (with particular regard to their spatio-temporal arrangements), Gehry's architectural design experiments are well described through Deleuze and Guattari's concepts.

Drawing from the Licentiate thesis findings

The PROTOTYPING PLATEAU GEHRY_CONNECTIVES project draws on findings from my Licentiate thesis *The Role of Gesture in the Architecture of Frank O. Gehry* (Szychalski 2007),²⁶ which redefines the concept of Gehry's gesture that exists in architectural theory and criticism.²⁷ The thesis argues that other than in the common understanding of gesture, descriptions of Gehry's *gesture* do not indicate any physically executed action by the architect. Instead, in their descriptions, critics refer – usually metaphorically – to some formal or compositional characteristics of built structures. What is more, under critical examination, Gehry's *gestures* not only show general attributes of gesture, but they also reveal generative properties that become means of architectural design. It was under such circumstances that the problem became evident: whether, in the context of Gehry's practice, the use of the term gesture is reasonable, and whether there are some unspecified, unanalysed actions that he performs in his practice that fall under the general definition of gesture. Further studies of the innate performativity of Gehry's gestures and their experimental character facilitated dissection of the new concept of *factual design action* and criteria in order to classify its properties.

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26. The Licentiate degree is an academic degree in Sweden and Finland that approximately corresponds to half a doctoral degree. It can both, the final degree, or serve as a voluntary “intermediate degree” for those who intend to later submit a doctoral dissertation.
27. The emphasis in italics distinguishes the specific meaning of the term gesture elaborated in the Licentiate from its general meaning.

These properties contrast with those that adhere to the metaphoric notion of gesture that has emerged in writings on Gehry's architecture. They define actually performed design actions. Furthermore, it is characteristic of these actions that kinetic phrases of their spatio-temporal configurations generate unique local coherences within the large compositional complexities Gehry produces in his designs. The Slavic term for sign language – *język migowy* – is a particularly apt description of such spatio-temporal kinetic phrases: *język* translates as *language*, and *migowy* is derived from the noun *miganie*, meaning *to flash*, *to whisk*, or *to flicker*: hence, the flashing language. The spatio-temporal, kinetic phrases are also noticeable in depictions of letters in visual-manual alphabets; the drawn phantoms of distinct phases of gesture with arrows indicating trajectories of the movements of the palm depict and graphically indicate their kinetic aspect. ▶ Figure [2] Here, all three drawings encapsulate spatio-temporal aspects of gestural performance well reflected in Polish *język migowy*. These depictions demonstrate that gesture is related to, depends on, and is produced by kinetic attributes of the human body, its limbs or other organs. This observation introduced kinetic and kinaesthetic elements into the study of Gehry's *gesture* as a means of nonverbal communication. The immediacy of the kinetic and kinaesthetic properties of Gehry's design actions will return in various investigations throughout PROTOTYPING PLATEAU GEHRY_CONNECTIVES. For instance, the notion of kinetic phrase, with its visual and compositional qualities, will be discussed in the context of local coherence conveyed in Gehry's sketching.

Findings from my earlier research indicated that such kinetic properties are explicitly transferred to the tectonics of architecture, causing interpretational vagueness of built structure and challenging the conventions of architectural representation.



► Figure [2]

Three sign depictions (J, Z and &) in the American manual alphabet that emphasize the spatio-temporal, kinetic aspects of sign language, graphically underlining with movements of the palm. Excerpts from ‘The American Manual Alphabet’ plate.

Consequently, deconstructing representational aspects of architectural drawings and models, the concept of *factual design action*, with its spatio-temporal, kinetic properties, became crucial to the Licentiate thesis and a very important constituent of the PROTOTYPING PLATEAU GEHRY _CONNECTIVES research project. It redefines the dependence of architectural design production on the architect's cognitive inclinations.

Analysis of *factual design action*

Often manifestations of his emotions, Gehry's *factual design actions* are involuntarily rendered within the context of the design procedures. The analysis of *factual design action* in the Licentiate thesis corresponds with Deleuze's interpretation of a 'graph' [*diagramme*]²⁸ in the artwork of the Irish-born British painter Francis Bacon (1909–1992). Deleuze observes that in Bacon's paintings, a graph or diagram reveals, or traces, the presence of actions of a certain kind of functionality – 'the operation of the diagram, its function, says Bacon, is to be "suggestive."' (Deleuze 2003: 101). Drawing upon this analysis, PLATEAU GEHRY _CONNECTIVES re-examines the functionality of Gehry's factual design actions. Moreover, specific placement of actions in the context of painting – and respectively, design procedures – is investigated. Before imagining things, before thinking about them, before their conceptualisation and before planning or designing them, Gehry makes things present. As a result of his actions – his *factual design actions* – things (or facts) become present. When performed, they even may not be meant as design actions;

28. The combination of words "graph" and [*diagramme*], copies the way it appears twice in Deleuze (2003: 184 n3 and 185 n6). In both cases, he inserts the word *diagramme* (French for diagram) in square brackets following the word *graph* when citing Bacon from David Sylvester, *The Brutality of Fact: Interviews with Francis Bacon 1962-1979* (London: Thames and Hudson, 1990). Most probably suggesting interpretation of Bacons use of the notion of graph.

however, their results may be accepted as such when incorporated into the design procedure, and this is the core characteristic of what Deleuze defines as Bacon's diagram. Gehry's actions function as Bacon's 'operative set of asignifying and nonrepresentative lines and zones, line-strokes and colour-patches' (Deleuze 2003: 101). Accordingly, one of the aims of the PLATEAU GEHRY_CONNECTIVES project is to explore the productive potential of Gehry's actions in connection with what Deleuze defines as 'operation of the diagram' (2003: 101).

Primacy of the actual

Thus, PLATEAU GEHRY_CONNECTIVES reveals the special role of handmade models in Gehry's design process, his engagement in everything that appears in physical reality, into the tangible, the perceptible, the concrete. It connects with what seems to manifest Deleuze's dedication to empiricists' primacy of the actual, to 'remain attentive to what appears, to what is, without invoking or imagining some condition outside experience' (Colebrook 2005a: 10). The relationship between the architect's practice and the philosopher's views produces an analytical research method of locating tangential points between the two areas and of fabricating the *rhizomatic* structure of PLATEAU GEHRY_CONNECTIVES. It is, in other words, not only an application of philosophical concepts to architecture, but also an attempt to co-read these domains as they take place in specifically generative action. At the same time, Gehry's idiosyncratic sketching technique seems to invoke, or imagine, conditions outside experience. Explored in this context, the imagined and unimagined emerging in advanced drawings does not restrict 'the potential and virtual according to already present actualities' (Colebrook 2005a: 10).

Deleuzian concepts engaging with architectural research

There is a contradiction between *Deleuze and Architecture's* probing of the lasting impact of Deleuze's philosophy on architectural practice and theory (Frichot and Loo 2013: 1) and the assertions by architectural theorist and cultural critic Nadir Lahiji about the missed opportunity of radical philosophy impacting architecture (Lahiji 2014). And yet the contradiction is fertile. It creates space for investigations. When Deleuze and Guattari answer the question 'what is philosophy?', responding that it is 'the art of forming, inventing and fabricating concepts' (1994: 2), it is already an architectural answer.²⁹ Moreover, Frichot and Loo remind us of 'the legacy and on-going influence of Deleuze in the discipline and practice of architecture, in the context of the open-ended conjunctive series fostered by Edinburgh University Press under the rubric 'Deleuze Connections' (2013: 1). What follows is a good definition of the reason for the PLATEAU GEHRY _CONNECTIVES project. The current thesis took as its motto the conjunction AND to signal the efforts to 'maintain exhaustive relations between philosophy and architecture.' (Frichot and Loo 2013: 1). Furthermore, following the intentions of the editors of *Deleuze and Guattari*, PLATEAU GEHRY _CONNECTIVES is founded on the idea that 'resonating between disciplinary constancy and variation,' is as useful and

29. In the introduction to *Deleuze and Architecture*, Hélène Frichot and Stephen Loo write that when asked 'what is philosophy?' Deleuze and Guattari responded 'always already architectural' (2013: 1). The author of this thesis used the same one-line citation of the philosophers' nine years earlier to open a series of seminars on 'Contemporary architectural design processes' for architecture students at the Department of Architecture and Built Environment, Lund University, Sweden. The seminars were offered from 2004 to 2011. By comparing contemporary philosophical and cultural theories with architectural design practices, the course accompanied an architectural design studio and aimed to encourage students to incorporate philosophical concepts into their architectural strategies and practices.

creative as Deleuze and Guattari's 'productive struggle between the constancy of *être* (to be) and variations promoted by the conjunction *et* (and) (1987: 98)' (Frichot and Loo 2013: 1). The overall claim of the PROTOTYPING PLATEAU GEHRY _CONNECTIVES thesis is that Deleuze and Guattari's concepts provide useful descriptions for Gehry's architectural design experiments, of his explorative and intuitive design practice. Therefore, the hypothesis question is whether Deleuzian concepts are still engaging with architectural research so that they can facilitate this thesis' research into the 'how' of Gehry's design methods, design production modes and design actions. To test this hypothesis, PLATEAU GEHRY _CONNECTIVES positions itself at the junction of architecture, art, and philosophy. By connecting with Deleuze and Guattari's thinking, the 'how' of Gehry's design procedures and actions will be exposed at this junction. Deleuze and Guattari's distinctively productive perception of philosophy, which directly intersects with and opens it to art (Deleuze 2003), cinema (Deleuze 1986; 1989) or literature (Deleuze 1972; Deleuze and Guattari 1986), also motivates this positioning. Furthermore, Gehry refers to the arts and collaborates extensively with artists (Gehry 1985: xii-xvi; Gehry 1995: 31-32; Gehry 1999b; Gehry 2002: ix-x; Gehry 2003a: 6-32; Gehry 2003b; this has been examined in depth in *Frank O. Gehry/Kurt W. Forster: Art and Architecture in Discussion*, 1999a). Positioning of the concept of *factual design action* at the junction of architecture, art, and philosophy proved productive in my Licentiate thesis, and the additional hypothesis is thus that further studies of Gehry's *factual design actions* contextualized through Deleuze and Guattari's concepts can help us understand qualities of general significance to explorative and intuitive design practices.

The virtual and philosophy in symbiosis with architecture

Following the Canadian philosopher and social theorist Brian Massumi's affirmation that architectural achievements have

often stood as exemplars for philosophy (1998: 22), PROTOTYPING PLATEAU GEHRY_CONNECTIVES asks whether a Deleuzian interpretation of Gehry's experimental practices can stand as a prototype on which something can be modelled or based; as a pattern according to which other practices can operate. Massumi invites the exploration of the notion of *virtual* in architecture beyond the notion of *virtual reality*. So much favoured in the architectural jargon the deteriorated version of a synonym for artificial or simulation, he recognizes its use as an antonym for 'reality' as decomposed into an oxymoron (1989: 16).

The particular conceptual overlap in Gehry's architectural practice illustrates the transition from the analogue production of architectural design to the digitally aided. Gehry's methodology combines atypical, unpredictable production modes and design actions of manual development of design procedures and should be seen as transgressing his presumed object-like-idiosyncratic-architecture. But Massumi's conviction that '[a]rchitecture and philosophy are drawn towards abstract-concrete symbiosis with each other' (1998: 22) helps to discern other potentials of understanding Gehry's exploratory practices. According to Massumi, in the interdependence of architecture and philosophy, it is not directly defined, which of these contributes more abstractly and which more concretely (1998: 22). The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis proposes retaining the *virtual* as a conceptual tool in the analysis of architectural design practices lost because of its misrepresentation as *virtual reality*. Massumi suggests that 'to re-join the virtual and take experience into account in the same move would mean for architecture aspiring to *build the insensible*.' He argues that '[i]f in any composition of useful forms, however rigid, an accident of attention can return experience to its confound, then it must be possible to make a project of building in just such accidents of attention.' Crucially, according to Massumi, 'built form could be designed to make the 'accidental' a necessary part of the experience of looking at it or dwelling in it' (1998: 22). Massumi's project of re-joining the virtual culminates in a claim

that resembles Gehry's design approach: 'The building would not be considered an end-form so much as a beginning of a new process' (Massumi 1998: 22). Gehry's statement that 'buildings under construction look nicer than buildings finished' (1985: xiii) is related to his long-term appreciation of the 'expressive potential of raw structures' (1985: xiii). When Mason Andrews for instance described the composition of the ► 1978 Wagner House (Malibu, California 1978, unbuilt) as 'open-ended... and unfinished' (1985: 122), the prospect of retaining of the *virtual* as a useful conceptual tool is further reinforced.

Borrowing from Deleuze and Guattari

Following the assessment of the American philosopher John Rajchman that Deleuze's philosophy is about connections (2000: 4), one of the goals of the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis is to demonstrate that Gehry's architectural design practice is comparable; it concerns and comprises connections, becoming an unlimited plane of active, continuous passage from one point to another, and then moves on to yet another. Guided by Deleuze's many statements about what philosophy is (Deleuze and Guattari 1994) and letting philosophy directly intersect with cinema (Deleuze 1986; 1989), literature (Deleuze 1972; Deleuze and Guattari 1986), art (Deleuze 2003), mathematics (Deleuze 1993), or politics (Deleuze and Guattari 1983), the current project is an attempt to forgo the writing standards of a thesis in architectural theory (or even general standards of rational argument). Instead, putting forth certain 'provocative claims that shattered the usual standards for theory and rational argument' (Deleuze and

Guattari 1983; 1987; Colebrook 2002: 5), the thesis follows the authors of the seminal *Capitalism and Schizophrenia*.³⁰

As suggested in the title PROTOTYPING PLATEAU GEHRY_CONNECTIVES, this thesis sets another aim related to the format and style of *Capitalism and Schizophrenia*, namely to prototype the PLATEAU GEHRY_CONNECTIVES project as a supplementary format for this doctoral thesis, proposing a new means of communicating complexities in knowledge. PLATEAU GEHRY_CONNECTIVES tries to test this via the interactive functionality described above in 'Manual: hypertext and experiment.' At the same time, as already charted in my earlier research, *The role of gesture in Frank O. Gehry's architecture* (Szychalski 2007), PROTOTYPING PLATEAU GEHRY_CONNECTIVES aims to re-contextualise the overlapping territories of art and architecture. The thesis seeks opportunities for the reconceptualisation of ineffable qualities of Gehry's specific, art-related design actions in the works of Deleuze and Guattari. Methods extracted from their works of could help us describe and understand the range of Gehry's design moves, and to grasp tacit, intuitive knowledge of his design practice.

After almost two decades of architectural practitioners and theorists calling for a post-critical approach to architecture (Speaks 2000 2002; Whiting and Somol 2002, 2005), or 'design intelligence' (Speaks 2002: 78), the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis aims to show that Deleuzian thoughts and concepts may still stimulate new research agendas for architectural design practice.

30. Published in French in 1980, the two-volume original work consisted of *Capitalisme et schizophrénie. L'Anti-Œdipe*, published in French in 1972 and *Capitalisme et schizophrénie. Mille plateaux*.

Radical approach to means of architectural production

Through readings of Deleuze and Guattari, the PROTOTYPING PLATEAU GEHRY _CONNECTIVES asks why Gehry's designs shatter architectural conventions and forms so often – at times resulting in others reading them as a 'vision of freedom and expression' seen as 'perverse, [or] even oppressive' (Foster 2001). In this undertaking, I will use outcomes from my analysis of Gehry's *gesture* (Szychalski 2007), revealing a specific separation of the architect's design action from its meaning. These outcomes resonate in two broad claims. Firstly, the architect and theorist Kate Nesbitt asserts that the long-term relationship of architecture and meaning, or architecture's dependence on meaning, has focused on issues such as origin, essence, and disciplinary limits, requisite qualities and proper construction techniques (1996: 18-19). Secondly, the architect and philosopher Hélène Frichot goes further and insists that it is no longer possible to maintain or defend this relationship at the beginning of the 21st century; 'the architect discovers that the stability of meaning has been rendered untenable' (Frichot 2005: 62).

The separation of architectural action from the meaning that occurs on the micro-level of Gehry's design processes implies that his practice accommodates this state of disjunction. This thesis seeks to address that general loss and to see how new meanings and new connections can be established. To facilitate this attempt, PROTOTYPING PLATEAU GEHRY _CONNECTIVES examines other micro-strategies and micro-procedures from the early phases of Gehry's design processes, his actions and their operational modes.

Most of Gehry's design production modes and design actions do not differ significantly from those of other architects, even if Gehry deviates in the creation of form language. This distinction may explain why instead of transgressing disciplinary boundaries, his architecture is often seen as firmly and traditionally within the discipline of architecture. Thus, PROTOTYPING PLATEAU GEHRY _CONNECTIVES seeks to designate and study the atypical design production modes and

actions, asking whether their implementations engage in any valid interdisciplinary or transdisciplinary discussions, or merely reveal tendencies to borrow or steal concepts into Gehry's design comfort zone. These production modes and the progressions of these design actions will be charted out to demonstrate their transfer into actual buildings. The aim is to present evidence for their significance in the critical indistinctness common for architectural and popular writings on Gehry's architecture. The most important task of the **PROTOTYPING PLATEAU GEHRY_CONNECTIVES** thesis is to expose those atypical, often unpredicted production modes and design actions and to appropriately delineate their connections with, or explanation through, Deleuze and Guattari's concepts. This way, borrowing generative forces from writings of Deleuze and Guattari, the project **PLATEAU GEHRY_CONNECTIVES** aims to address a wider architectural audience insisting on the conceptual productivity inherent in the work of the two French philosophers and its application in architectural design practice.

Main focus of the research

The research leading up to and forming the **_CONNECTIVES** was not centred upon architectural outcomes of design production. Instead, through the lens of Deleuze and Guattari, individual **_CONNECTIVES** as well as the **PROTOTYPING PLATEAU GEHRY_CONNECTIVES** thesis in its entirety examine two areas of Gehry's design practice that result in distinct architectural outcomes. The first area concerns minor design actions already introduced in this chapter, and the second, the architect's design strategies seen as processes emerging from Gehry's investigational and experimental approach to means of architectural design.

2. Scope of the Research

This chapter outlines the research scope of the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis, presenting resources, materials and issues on which their investigations focus. It primarily consists of two subchapters: ‘Gehry’s design practice’ and ‘Philosophy of Gilles Deleuze and Félix Guattari.’ These subchapters show how the limits and the coverage of the study within their fields differ. They describe how their scopes delineate the boundaries of the study differently in terms of the objectives; subjects, areas and materials, and how the two respective research fields have been approached.

The first subchapter thus describes actually available documentation, research fieldwork, and the relevant literature examined. It further explains how the research was derived in terms of the architectural design processes and design actions, emphasising the analysis of artefacts as a source. It provides information on the scope and facilities of the research on various modes of production of Gehry’s architectural drawings

and models. The chapter considers the scope of the research on a specific fusion of drawing and modelmaking.

The second subchapter focuses primarily on the scope and modes of the selection of the relevant literature by Deleuze and Guattari. It differentiates the delimitation of texts concerning the common ground, listing the secondary literature on the philosophy of Deleuze and Guattari that deals with or references Gehry's design practice, and the whole coverage of the study of Deleuze and Guattari's writings and the secondary literature on their œuvre, listing books and journals examined. Moreover, to help the reader identify the limitations or weaknesses of this study, this chapter includes a brief section entitled 'Theories and concepts not investigated.'

Chapter 2 describes several specific characteristics of the research scope that result from the experimental nature of PLATEAU GEHRY_CONNECTIVES. As the type of mapping it required involved Frank O. Gehry's drawings and models, but also theatrical performances, interviews, his references to art and architecture as well as literature, music, and beyond, this experimental nature revealed difficulties in defining limits or delineating coverage for this study. Weaving various activities and explorations of architectural design practice on one plane (or plateau), all _CONNECTIVES simultaneously connect the multiple plateaus (or a thousand plateaus) of various aspects of Deleuze and Guattari's philosophical project. Their aggregation corresponds with what Massumi describes in *A User's Guide to Capitalism and Schizophrenia* as 'levels on top of levels within levels, overlapping and interlocking' (1992: 54). Additionally, as some _CONNECTIVES borrow indirectly from third parties, making yet other new connections and conjunctions, describing the study's boundaries becomes more challenging still. As mentioned above in 'Manual: hypertext and experiment', PLATEAU GEHRY_CONNECTIVES, presented here in the printed version as Volume 2, is planned to grow from a website format with ever-expanding content. This printed version, composed as a collection of short pieces of text called _CONNECTIVES, forms a freeze-frame recording of the research process. At the same time, the scope of the

investigation remains a kind of snapshot of what is referenced in contemporary academic examination. However, the large volume of material has a dispersed and heterogeneous nature, and each moment of stopping the development and extension of the PLATEAU GEHRY_CONNECTIVES project, concludes in and remains the active field for yet another new rhizomatic map of connections (Deleuze and Guattari 1987: 12-15, 19-20). This inherent potential of the PLATEAU GEHRY_CONNECTIVES may conceivably always alter the scope and character of the research of this thesis. Furthermore, because the philosophy of Deleuze (and Guattari) and Gehry's design practice engage with or cross over various domains of knowledge, PLATEAU GEHRY_CONNECTIVES involves inquiries of diverse additional and frequently fluctuating scopes. Thus, streamlining becomes necessary to accurately outline the scope and diverse materials gathered for the PLATEAU GEHRY_CONNECTIVES thesis.

Although they were not separated from each other during the research process, the two primary areas of the current research – Gehry's design practice and the philosophy of Deleuze and Guattari – are described and discussed separately in the two subchapters below. As mentioned above, these two areas of the research differ in terms of their scope, sources and derived materials. The inevitable difference stems from the character of an architect's production and philosophical writings.

Gehry's design practice

The research described in this subchapter is multifaceted and derived from diverse sources including fieldwork studies, studies of artefacts, case studies of design actions and strategies as well as textual materials, e.g. literature, secondary literature on Gehry and his design practice, and video recordings or transcriptions of interviews with the architect. As mentioned above, this thesis is rooted in part in the research and findings

of the Licentiate thesis *The Role of Gesture in the Architecture of Frank O. Gehry* (Szychalski 2007), which indicated the importance of specific design actions executed by the architect. With regard to Gehry's design practice, this scope of this thesis was initially the same as that of the Licentiate thesis, but it expanded as the research progressed.

Architectural design process

The research at hand examines Gehry's architectural design process understood as an extended range of activities aiming at the production of various visual and textual materials, including the presentation of architectural design and a set of technical data that defines, illustrates and establishes the procedure and means of construction for the building. It is important to emphasise that Gehry's version of an architectural design process does not differ in essence from the commonly accepted and generally acknowledged procedures in terms of fulfilling all requirements related the site conditions and following laws and regulations as well as programmatic and functional demands. It should suffice to say that the structure of such a design process is customarily a quite complex process, usually with multiple lines of development.

Following the findings of the Licentiate thesis, the PLATEAU GEHRY_CONNECTIVES project focuses on the early phases of the architectural design process. Often defined as conceptual, these early phases are inseparable from the production of artefacts such as drawings and models; i.e. the means of visualisation of architectural ideas. These modes and means of visualisation may be seen as a conceptual ground for identifying the boundaries of the study in terms of the issues, subjects, and objectives on which the research into Gehry's architectural design processes is focused. Thus, the initial scope of mapping of Gehry's design practice may be charted into three overlapping and interconnected areas of design activities and design explorations, between and from which all internal

and external connections of the PLATEAU GEHRY_CONNECTIVES can propagate:

- a manner of drawing ranging from traditional modes of linear perspective and axonometric projections all the way to a curiously illegible freehand sketch or study drawing.
- specifically combined with the drawing activities, manual construction and manipulations of the physical sketch-, study-, or process-models.
- an individually treated combination of the two former areas of design activities is enabled by the application of originally adapted digital technology created for the aerospace industry.

It is hypothesised here that research into these three areas of design activities, referred to earlier as modes and means of visualisation, will cover the first-time-occurrence of individual design actions and originally applied strategies of Gehry's architectural design production, and furthermore, that they played a specifically unprecedented role in the development of design processes, affecting particular architectural works (built and unbuilt).³¹

Architectural design actions

As mentioned earlier, within the scope of the research on architectural design actions narrowed to those undertaken and executed by the architect within initial phases of the design process, the quality of various activities commonly defined as sketching, further limits their range. The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis identifies additional characteristics of the range of design actions above. The current argument separates external manifestations of specific

31. Built works are by no means privileged in this regard. The relevance and contribution of the unbuilt works, listed in the subchapter 'Works in architecture and industrial design', are equal to those that have been built.

elementary design actions such as drawing sketches or building and manipulating sketch-models from the conceptual input commonly recognised as the cause and driving force for these actions. The thesis identifies corporeal engagement as a critical factor of such external manifestation of the individual, personal character of these actions. One of the subjects of this research is bodily involvement, studied beyond conceptual input.

Moreover, the present argument also considers bodily engagement as an explanation for their vague definition; this is the case in most creative architectural design activities. As such however, these sketching actions do not exclude the possibility of becoming means of coactions, and Gehry's design actions and procedures are thus analysed here as symptoms or potentials of design collaboration. Consequently, this thesis identifies the critical exchange of design actions with associates, design assistants, or cooperative specialists as a relevant enhancement or extension of Gehry's design actions. Finally, it does not exclude the potential of the sketch-quality of the results of such actions to be directly transferred to the spatial/formal configurations of the future built structures.

Design actions and available documentation of them

To address the thesis' aims and questions, the appropriate documentation and the proper investigation of the sketching design actions would require filming or a step-by-step notation of their progressions.³² Not only are such recordings rarely available for critics or users of architecture, but also they are hardly ever made.³³ Moreover, the presence of recording

32. For instance, Gordon Matta-Clark, as well as critics of his work, has broadly discussed the importance of adequate techniques for recording his actions/performances.

33. While there are numerous documentaries on Gehry, the present research project requires a more cinematic approach to capturing and communicating design actions.

equipment in the architectural studio can make the procedures of the design process rather unnatural; an alternative could be putting an observer/critic in the role of a spectator while the architect performed his/her design actions. Two examples of inquiries of such a kind are worth mentioning here. The first is recounted in the essay 'Frank Gehry and the Art of Drawing' in *Gehry Draws* (Rappolt and Violette 2004: 11-28), where Horst Bredekamp convinced Gehry to draw a sample sketch in his presence and then examine its constitution in detail and further interpret it. The second one is a research study based on a two-year ethnographical observation conducted by the architectural theorist Albena Yaneva in Rem Koolhaas' Office for Metropolitan Architecture (OMA) in Rotterdam. Taking into account the method of ethnographic fieldwork that Yaneva applied and her interpretation of the architectural design process as 'the materialisation of successive operations' (2005: 869), the study provides a credible argument in support of the context of the aims and questions of this thesis. Crucially, her method of empirically gathering research material demonstrated optimal, as it addressed the area of actually performed architectural design actions.

Some fieldwork for this thesis was conducted on November 22nd, 2008,³⁴ at the office of Gehry Partners at 12541 Beatrice Str. in Los Angeles. It was there that I observed Gehry's design actions performed on one of the study-models for the ► **2006** Guggenheim Museum Abu Dhabi (Abu Dhabi, United Arab Emirates 2006, [in progress]). See the section 'Fieldwork' in this chapter.

34. The visit was made possible by kind arrangement of professor Jeffery Atik and the late professor Robert W. Benson of Loyola University Law School in Los Angeles.

Importance of the artefacts

Even though studies of the artefacts within this research take as an example Yaneva's method of ethnographic observations, they resort indirectly to developments that took place in the architect's studio observed, analysed, and described, by the architect or his design partners. The current research cross-examines these materials published in different formats and available through various means. Such inter-media cross-examinations, facilitate unfolding of design procedures from bundles of diverse materials that models constitute and interrogate design actions by unwrapping quantities of materials with their formations, deformations in a bound-up combination of elements architects joined. PLATEAU GEHRY_CONNECTIVES associates and presents film clips from the documentary *A Constructive Madness* (Kipnis 2003: Scene 15.12) in which Gehry and his design assistant Susan Desko describe when they introduced waxed felt as a material for model-building. Photographs of the study models produced with the waxed cloth were published in *El Croquis*, 74/75, Zaera-Polo (ed.) 1995: 222-223, 228-229; there are other examples in *Gehry Talks: Architecture + Process*, Friedman (ed.) and Frank O. Gehry and Associates 1999: 44, 136-137. Artefacts such as models and drawings are thus particularly important. As the current thesis focuses on architectural design processes and design actions, these artefacts serve as residuum, traces, or better still, recordings of Gehry's design actions or strategies. Here, they are seen as enacting and aggregating specific visual and spatial documentation of the spatio-temporal properties of design actions and of various sections of design processes.

In publications on Gehry's architecture, authors refer broadly to his descriptions of design processes. When Interviewing Gehry, authors expect him to provide knowledge about his design procedures, and they consequently include Gehry's descriptions of his design actions and actions performed by his collaborators. Some publications include Gehry's design assistants' descriptions of design actions (Friedman and Gehry 1999; Kipnis 2003). The PLATEAU

GEHRY_CONNECTIVES project utilises fragments bearing characteristics of procedural reports to identify Gehry's physically carried out design actions, in order to research and explore them in various _CONNECTIVES.

The present research also identifies and analyses particular design actions by examining images kindly made available from the digital archive of Gehry Partners. The Getty Research Institute acquired the archive and a large part of it has been made available for research purposes. Part of the Getty Research Institute Special Collections, the 'Frank O. Gehry Papers' archive comprises more than 1 000 sketches, approximately 120 000 working drawings, 280 partial and complete models, project documentation, correspondence, over 100 000 slides, and ephemera related to projects from the early years of Gehry's practice. The materials pertain to 283 projects designed between 1954 and 1988, including some that were initiated during this period but completed after 1988.³⁵ The part of the collection that is currently accessible is the Series I: 'Architectural Projects.'³⁶

The combined analysis of filmed or transcribed interviews and photographic documentation thus comprises the main scope of the material studied. Determined by the spatio-temporal nature of Gehry's design actions, the format of the research outcomes of PLATEAU GEHRY_CONNECTIVES concentrates on the visual/textual combination. All major monographs on Gehry meet these requirements: they all include visual documentation of his projects, including completed buildings, buildings under construction, and images that document artefacts, e.g. reproductions of drawings (from freehand sketches to blueprints) and photographs of various types of models (sketch-, study-, or process-models and presentation-models). Interviews and monographs are reviewed

35. Information accessed from the Getty Research Institute website at:
https://www.getty.edu/research/special_collections/notable/gehry.html.

36. Unavailable elsewhere until recently, it is now accessible at:
<https://primo.getty.edu/primo-explore>.

and studied further in the subsections ‘Monographs’ and ‘Interviews as fieldwork’. The subsection ‘Interviews as fieldwork’ explains that the interview is seen as a specific means of and material for research, that this thesis seeks to utilise practically and effectively.

PROTOTYPING PLATEAU GEHRY_CONNECTIVES distinguishes two major areas of the scope of artefacts produced as part of Gehry’s design processes: drawings and models. Outlined as belonging to the early, sketching phase of the design processes, it initially indicated the focus of the current study. However, the study of Gehry’s practice in my Licentiate thesis registered far more complex characteristics for both types of artefacts. Accordingly, more detailed descriptions are necessary to inform the reader about how the current study delimits their scope and the issues on which the research is focused.

Drawings

Drawing is an essential design tool for Gehry. All significant publications on Gehry’s architectural design practice include visual material that reproduces various types of his drawings, from freehand sketches to blueprints. Additionally, Gehry’s drawings became the subject of a separate monograph: edited by Mark Rappolt and Robert Violette, *Gehry Draws* (2004) features the essay by Horst Bredekamp mentioned earlier, ‘Frank Gehry and the Art of Drawing’; Rene Daalder, ‘Frank Gehry: Foreshadowing the Twenty-first Century’; and Mark Rappolt, ‘Detectives, Jigsaw Puzzles, and DNA.’ The publication refers to 29 projects, and includes commentaries by Frank Gehry and his partners, Edwin Chan and Craig Webb.

As its best explanation, the accurate definition of Gehry’s drawing technique needs to define its attribute of immediacy with the directness of an action and its effect. Two conditions particularize properties of such causal immediacy:

- an absence of physical distance between the tool (or the bare hand) and the material altered by the executed action, or on which it leaves the trace, and
- simultaneity of the action performed and the material alteration or trace being left on it, which takes place only when any movement of the hand (with or without a tool) is simultaneous with and inseparable from the production of its traces or its other physical remains.

Logically, these conditions also imply the bodily engagement of Gehry's architectural design actions indicated above, particularly *factual design actions*, which are presented and analysed in Chapter 1, 'Thesis Aims and Questions.' In a simple act of drawing, immediacy is in a trace left by a pencil, or by any other drawing tool held by a draughtsperson that leaves a mark. Ultimately, the drawn mark is a gauge of the mutual dependence and immediacy of the action and its effect; the drawn mark is a visual display of information.

As these characteristics of immediacy are perceptibly comparable with those Gehry uses to describe the immediacy in painting mentioned above in the 'Prologue,' this research covers the relationship between the architect's drawing technique and techniques of painting. Moreover, the study focuses on expressive and compositional ways of thinking derived from painting as potentially explored in the architectural design process.

Scribbling

Independent scholar and writer Roger Connah once described one of Gehry's concept sketches from 1992 as 'unlikely scribbles'. According to the properties of immediacy described above, Gehry's advanced sketching drawing technique indeed falls into the category of scribbling. According to Connah, the concept sketch was 'Frank Gehry's point-of-departure scribble for The Bilbao Guggenheim Museum' and 'one of the most published scribbles of the last decade of the twentieth century'

(Connah 2001: 88). It would be inappropriate not to address the direct correlation between Connah's commentary and definitions of distinct phases of production of Surrealists' Automatic Drawing in this current research. As the artist, writer and scholar Roger Cardinal points out in his essay 'André Masson and Automatic Drawing,' the initial phase of this technique is brief. He borrows Masson's description 'mere scribbling' (Cardinal 1996: 84). Drawing on findings from the Licentiate thesis, *PROTOTYPING PLATEAU GEHRY _CONNECTIVES* positions Gehry's drawing technique in the context of the Surrealists' Automatic Drawing. As both procedures involve moments in which unexpected events occur – the outcomes of which are integrated into the further processes of conceptualisation – the scope of this thesis identifies and studies events, revealing a similar power to impact the subsequent development of the architectural design procedures. Rigorously defined properties of immediacy will be analysed in that context, emphasising how the unexpected occurrences induce their immediate consequences.

Each of the architectural sketches conveys information, and the same is true of Gehry's specific mode of scribbling. Gehry's scribbles have also often been called undecipherable doodling; such ambiguity is closely related to an 'organic' idiom of Surrealists' Automatic Drawing or Jackson Pollock's Action Painting, which is 'beyond conventional distinctions between figurative and non-figurative' (Cardinal 1996: 92 n19).³⁷ Therefore, to properly analyse Gehry's specific drawing mode, this study will include the analysis and interpretations of the Automatic Drawing and Action Painting techniques. In addition to its strong reliance on movement, scribbling combines rapid performance with the act of cognition of the architecturally potential information. This research attempts to establish the critical difference between architectural and non-architectural information generated in the scribbling.

37. Cardinal quotes David Maclagan, 'Solitude and Communication: Beyond the Doodle', *Raw Vision* 3 (Summer 1990): 39.

Drawing as public performance

The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis addresses another type of Gehry's drawing capable of generating compounds of architectural and non-architectural information; this particular type of drawing was also an element of a combined architectural and theatrical project for the 1985 Venice Biennale created by the sculptor Claes Oldenburg, the writer and curator Coosje Van Bruggen, and Gehry.³⁸ The present research derives information about this mode of drawing from the publication *Il corso del coltello / The Course Of The Knife: Claes Oldenburg, Coosje Van Bruggen, Frank O. Gehry*, edited by the Italian curator, art historian and critic Germano Celant³⁹ (1986). Staged at Fondamenta degli Arsenallotti, the second section of the multimedia performance *Il corso del coltello* – called The Lecture – included Gehry appearing as the fictional character *Frankie P. Toronto*.⁴⁰ According to the script, Toronto was 'a barber from Venice, California, on a perpetual lecture tour presenting his theory of "disorganized order" in architecture.' The architect, 'dressed up in a camel-coloured suit of protruding architectural fragments' (Celant 1987: 108) lectured from behind the overhead projector while simultaneously drawing on film onto which architectural engravings by Andrea Palladio had been photocopied.

In this mode of drawing, the characteristics of the immediacy of Gehry's scribbling outlined above take on another sense. Matching properties of Automatic Drawing, it

38. There were three performances in Venice – on September 6th, 7th and 8th – for an audience of 1 500 people in total.

39. An art historian and critic, Germano Celant is known for coining the term *arte povera*. In his writings on Gehry's architecture of the 1970s, he referred to it as an architectural version of *arte povera*. The publication is an extensive documentation of the Venice performance and the preparation for it, and it also refers to descriptions of the performance that Kurt W. Forster published in his essay, 'Architectural Choreography' as part of the monograph *Frank O. Gehry: The Complete Works* by Francesco Dal Co and Kurt W. Forster (1998).

40. The P. stands for 'Palladio' (Celant 1987: 26).

was at once also a live performance in front of an audience. Forster underlines both features, calling the drawing-performance ‘stenographic’. Foster’s descriptions of Gehry’s performance suggest another property: he indicates that when Gehry ‘sketched directly on the façades of nearby Venetian buildings, they began to quiver and mutate under a palimpsest of stenographic drawing’ (Forster 1998: 11). This projection on building façades renders the action of drawing cinematic. Forster captures it poetically, intimating that Gehry ‘let his pen dance in its beam of light’ (1998: 11).

Nevertheless, what makes them explicit examples of Gehry’s drawing modes capable of generating compounds of architectural and non-architectural information is the addition of new information to already existing architectural representations. Indeed, these drawings introduce non-architectural elements to historical engravings by Palladio. For Celant, ‘the slides projected during his lecture depicted fish and snakes inserted like skyscrapers within cityscapes of Padua and Venice’ (1987: 28). With this act of insertion, the performance of drawing mirrored the application of techniques of modern art, collage or *objet trouvé*. ▶ Figure [3] It is the moment when representations of creatures and objects foreign to architecture undeniably become elements of the architectural environment depicted in Palladio’s engravings. There is an obvious similarity to Duchamp’s assimilations of found objects into unrelated environments. Images drawn hastily onto Palladio’s prints recall Duchamp’s ready-mades inserted into the dignified environment of an art gallery.

Interestingly, according to Forster, the ‘travesty of classical vocabularies’ (1998: 11) enacted by Gehry’s performance at Venice Biennale, of which these over-drawings were part, provoked a negative reaction by critics that was not unlike the reaction to Duchamp’s early exhibits of *objet trouvé*. This case of Gehry’s drawing mode exposes difficulties in classifying the range of architectural drawing and the scope of the research upon this means of his design processes. The importance of Automatic Drawing’s specific kinetic values make it closely related to the sketch. The critical significance of

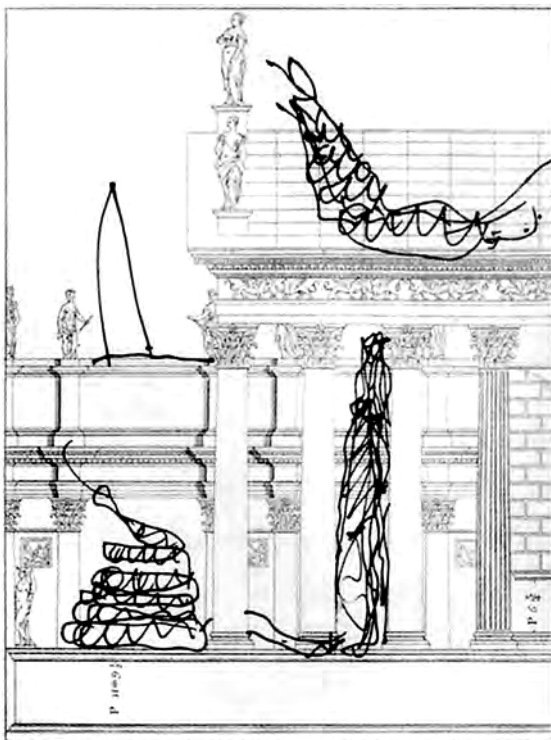
its dependence on movement or the speed of its execution distinguishes this narrower conception of drawing and becomes a vital feature delimiting the scope of this research.

The notion of sketch

In general, a sketch is a rough drawing or a delineation of something; in a sketch, the outlines or prominent features are provided without the detail. Frequently a sketch is intended to serve as the basis for a more finished picture or to address its composition.⁴¹ In the visual arts, the sketch is a quick drawing that loosely captures the appearance or action of a place or situation. A drawn sketch in architecture is often referred to as a study. Another relevant notion is that of the *hurrygraph*, which the *Oxford English Dictionary* defines as a hurried sketch. Etymologically, the first part of the word *hurrygraph*, *hurry*-,⁴² describes kinetic properties or the rapid motion of the mode of a speedy drawing procedure.

41. 'Sketch': entry in the *Oxford English Dictionary*, 2nd ed. (1989). Accessed online at: <http://dictionary.oed.com>. Retrieved on March 7th, 2015.

42. '*Hurry* noun and verb, with the exception of a doubtful Middle English instance of the latter, are known only from end of 16th cent.; it is uncertain which of them has priority etymologically, and the order of sense-development is not clear. In the earliest cited instances the noun is identical in sense with *hurly* *n.*¹; so *hurry-burry* with *hurly-burly*. With these compare also modern Dutch *herrie*, *hurrie*, agitation, bustle, disorder, tumult. The earliest cited instances of the verb, on the other hand, go with branch II of the noun, and point to more immediate onomatopoeic origin, the element *hurr* being naturally used in various languages to express the sound of rapid vibration, and the rapid motion which it accompanies. Thus Middle High German and German *hurren* to whirl, Swedish and Norwegian dialect *hurra* to whirl, whizz, whirl round, Danish *hurre* to whirl, Icelandic *hurr* hurly-burly, noise.' In: '*hurry*': entry in the *Oxford English Dictionary*, 2nd ed. (1989). Accessed online at: <http://dictionary.oed.com>. Retrieved on March 7th, 2015.



► Figure [3]

Frank O. Gehry with Claes Oldenburg, Coosje van Bruggen and Germano Celant,
The Course of the Knife. Drawings superimposed on Palladian façades in Venice for *Il
 corso del coltello*, Venice 1985.

All the above definitions underscore the swiftness of execution. Again, the emphasis on speed foregrounds an important feature of drawing mode and is helpful for properly delimiting this study.

Gehry is recognized for his innovative use of sketching, and delimiting the study by properly defining this aspect of his design production is crucial. The importance of this consideration becomes clear when confronted with Gehry's confusing use of the notions of drawing and sketching when describing his design processes. The above qualities of sketching – its roughness, and the speed denoted by a *hurrygraph* – may help explain Gehry's puzzling use of the notion of the *different kind of drawing*.

Different kind of drawing

Talking to Peter Arnell in 1984, Gehry declared:

I do a different kind of drawing now. They are a searching in the paper. It's almost like I'm grinding into the paper, trying to find the building. It's like a sculptor cutting into the stone or the marble, looking for the image. (...) I never think of the drawings as a finished product—they're a process to get to an idea. If you watch me draw—actually draw—you'll see it's a frantic kind of searching (Gehry 1985: xv).

Gehry's emphasis on the final product of architect's job – the building, not the drawings – became one of his major architectural claims and his most used design strategy. His acknowledgement that a full range of architectural drawings (from sketches to blueprints) functions only as a tool of mediation between the design process and the construction of a building laid the ground for his explorations of the agency of drawings and determined the scope of the current discussion.

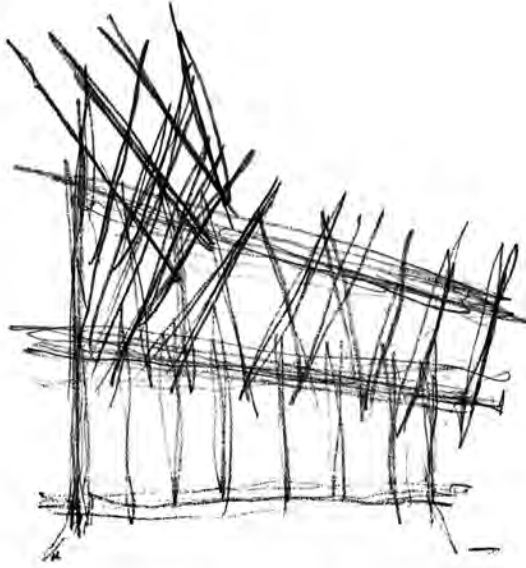
While corresponding with the properties of immediacy and the aspects of scribbling defined above, Gehry's description

of the *different kind of drawing* also matches elementary features of sketching in terms of its swiftness. Furthermore, the *different kind of drawing* even resembles kinetic attributes of the accelerated drawing mode of a *hurrygraph*. In this context, unusual characteristics of Gehry's *different kind of drawing* expose the limitations or weakness of this study that were beyond the control of the researcher. The complex and rather inexplicit concept of the *different kind of drawing* sets the extended – or more accurately, augmented – notion of drawing that encompasses properties of the sketch drawing applied in arts and architecture, as well as the properties of scribbling or the *hurrygraph*. Therefore, throughout the text of PROTOTYPING PLATEAU GEHRY_CONNECTIVES, the concept of the drawing includes the concepts of sketching and scribbling. The terms drawing and sketching are thus used synonymously and both denote Gehry's activity of 'a frantic kind of searching' (1985: xv). Both notions of the *different kind of drawing* and the advanced sketching technique denote the same drawing activity.

In situ produced working drawings

A further delimitation of the notion of drawing is necessary. Findings from the Licentiate research project devoted to Gehry's design processes revealed the way he developed drawing into *in situ* procedure mutually dependent with the construction process.

Between 1974 and 1976, Gehry produced a series of enigmatic drawings of pergola for the ► 1976 Norton Simon Gallery and Guest House (Malibu, California 1976) that defines the boundaries of this study in terms of the functionality of Gehry's drawing recalling the design procedure and comparing it to sketches and photographs made the drawing's functionality apparent. ► Figure [4]



► Figure [4]

Gehry's sketch of the pergola for *Norton Simon Gallery and Guest House*, Malibu, California 1974-76. © Frank O. Gehry. Getty Research Institute, Los Angeles (2017.M.66), Frank Gehry Papers.

Although the Gehry's drawing series prefigured the built structure – as all conventional architectural sketches do – they did so differently. As attempts to visualise the unusual composition of the elements of the pergola, these sketches became specific working drawings that assisted the progression of individual stages of the construction procedure, solving the spatial compositional issues *in situ*.

As the above example shows, drawing is a versatile design tool for Gehry. Together with what he calls the *different kind of drawing*, it also illustrates drawing as an action, or process, that is equally, or even more important than its result; i.e., than the artefact of drawing. Due to limitations mentioned earlier, a reliable, direct study of the act of drawing would be a problematic venture.

Abstraction

In the context of the boundaries of the study outlined above, an additional aspect of Gehry's drawing that emerges from findings of the Licentiate research should be added. The notion of abstraction challenges our perception of abstract works of art, as well as in confrontation with Gehry's scribbles, different kinds of drawings, and *in situ* working drawings. As, for the general public, abstract art is often difficult to accept because of its non-representational nature, it is possible to assume that the properties of Gehry's advanced drawing techniques described above operate within the realm of abstract art. Their visual content relates to and becomes the abstract, the non-representational form of art.

There is however a fundamental difference between abstract drawing (or painting) by an artist and abstract drawing (or painting) by an architect. Neither abstract drawing nor an abstract painting by an architect are accepted as the final product of their profession; any drawing or painting in a literal sense can merely be a means of architectural representation;

i.e., not the work of architecture: the representations are not constructed buildings.

Models

Correspondingly, any architectural model made by an architect can be merely a means of architectural representation of the final product. Furthermore, another type of abstraction is discernible in architectural models. Architects and critics agree that an architectural model is an abstract form that expresses only certain aspects of the future building, or only its concept. For instance, in his manual for architecture students, architect and academic Alexander Schilling favours architectural models as the primary method of conveying ideas and depicting spaces. He argues that they were used already in the early Renaissance, and ‘ever since then, architects, engineers, and clients have used models to represent *designed* buildings’ (2007: 8).⁴³ Following Schilling’s lead, this study focuses on representational attributes of the artefacts produced by Gehry. However, Gehry’s perception of representational properties of architectural models (and drawings) extends beyond the agency of the ‘designed building’ to the not-yet-designed one. This extension is not only an indication that Gehry produces sketch-models (or sketch-drawings) with all tentative properties of sketching, but more importantly, that he changes their representational context from implying what they represent via models (and drawings) to questioning what they represent.

This trait is defining for PROTOTYPING PLATEAU GEHRY_CONNECTIVES. Nonetheless, the basic classification of models produced at Gehry Partners is vital to accurately informing the reader about the scope of the study within this subject.

43. Schilling’s emphasis.

At Gehry Partners, models fall into two primary categories: process models and finished, presentation models. Furthermore, with regards to the phase of the design process during which the models are produced, there is a subdivision into two subcategories from an overall category of the process model:

- a) the early concept model, and
- b) the process model that closely informs the final design.⁴⁴

The diverse models produced at Gehry Partners include section- or fractional models on a variety of scales. Seen as design tools, all of them are highly relevant for the present research. Moreover, this diversity includes numerous mock-ups in the scale 1:1 for testing detail solutions of the building construction. The *PROTOTYPING PLATEAU GEHRY _CONNECTIVES* refers to a series of monographs on Gehry's architectural practice and focuses on photographic documentation cross-examined with the architect's verbal descriptions of their production to research these artefacts. The digital archive of Gehry Partners was a particularly valuable resource for photographic material. The archive could be accessed directly via the company server or by submitting specific requests to the Gehry Partners archivists. These two channels enabled the discovery of unpublished or otherwise unavailable photographs that documented design processes and building constructions. The investigation mode and the study of models in *PROTOTYPING PLATEAU GEHRY _CONNECTIVES* consists of case study narratives based on interviews with Gehry, study trips, and the unique research on various types of architectural models (and other artefacts). There were opportunities during which to inspect them personally, e.g. the exhibition '*Arkitekturens værksteder: Frank O. Gehry/The Architect's Studio: Frank O. Gehry*' at Louisiana Museum of Modern Art in Humlebæk, Denmark, November 14th 1998

44. Information acquired through email exchange with Megan Meulemans, the archivist at Gehry Partners, LLP.

– February 7th 1999, or the visit to Gehry Partners’ studio in California in 2008. In Denmark, there were numerous models of various types and scales on exhibit, while the visit to the Los Angeles office allowed an inspection of a large number of sketch-, study- and presentation models.

Model-building as a creative process

Although Schilling claims in his manual on the subject that architectural model-building is a creative process, his assertion that ‘the finished architectural model must be an aesthetic object that impresses people with its content and design’ (Schilling 2007: 21) appears to contradict that earlier claim. Moreover, Schilling associates model-building with perfectionism, exact workmanship, and precise execution. It remains in contrast with Gehry’s understanding of model-building. The majority of the models produced within each single design process at Gehry Partners possess yet other qualities. Defined in the above initial classification as the concept-, and, the process-models informing the final design, these qualities denote total integration of model-building with the core of design procedures, model-building becomes design production. Although Schilling’s model-building manual indicates that design ideas can be depicted in the model without extensive craftsmanship and precision, the author does not acknowledge the architectural model or model-building as an efficient means of design exploration or creative process. This contrast indicates the focus of the current research as placed on the latter understanding of the architectural model’s role.

Here, the parallel with Gehry’s descriptions of his explorative mode of the *different kind of drawing* is remarkably explicit. Writing about the nature of such design explorations in his essay ‘Reflections on Frank Gehry’, Germano Celant resorted to a surgical metaphor to describe how the architect ‘probes and carves its way to the heart of spatial phenomena’ (1985: 5-6). As stated in the previous subchapter on the role of

drawing, the above examples show that for Gehry, the physical model is an valuable and versatile design tool; this shows that model-building as a process is more important than the artefact it produces. The architecture and design historian Karen Moon talks about architects who recognized the risk associated with the ambiguous role of the architectural model. Interestingly, she turns to the fifteenth-century Italian architect Leon Battista Alberti, juxtaposing the author of the classical treatise *On the Art of Building in Ten Books* with Gehry. Alberti asserted that the importance of limiting the attractiveness of architectural models, which should be ‘plain and simple, so that they demonstrate the ingenuity of him who conceived the idea, and not the skill of the one who fabricated the model’ (Moon 2005: 34).⁴⁵ The declaration is remarkably close to Gehry’s approach. Both architects share the awareness of an irrevocable difference between the *attraction* of the architectural model and *attraction* of a building, with the former not automatically transmitted to the latter. This thesis addresses this conception of an architectural model, which Gehry embraces as its functionality.

In Gehry’s design practice however, the functionalities of models and model-building are similar connections to works of modern art as his drawings, as described in the previous subchapter. The architectural and non-architectural qualities Gehry merges in his models are examples of compounds of art- and non-art components of modern art techniques such as Picasso’s collage, Duchamp’s *objet trouvé* or Rauschenberg’s combines – works that Gehry references himself. The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis addresses the similarities between Gehry’s model-building and the variety of techniques and strategies of modern art and beyond, e.g. with those of contemporary art. This thesis positions itself at these junctions by connecting the ‘how’ of Gehry’s actions and model-building procedures, focusing on the

45. Moon quotes the English translation of Leon Battista Alberti, *De Re Aedificatoria* (1452) by Joseph Rykwert, Neil Leach and Robert Tavernor (1988) *On the Art of Building in Ten Books*.

texts and sources in which Gehry has spoken about the arts and collaborations with artists. The materials utilised are listed in the subchapters 'Monographs' and 'Interviews.' A particularly informative publication entirely devoted to the topic is *Frank O. Gehry/Kurt W. Forster: Art and Architecture in Discussion* (1999).

This study cross-examines textual materials with photographs of the models or, less frequently, their direct inspection; this is in keeping with case study methods used for the Licentiate thesis. For instance, cross-examining textual and visual materials revealed that by placing an object unrelated to architecture in the environment of an architectural model, Gehry equates the value of architectural and non-architectural elements of architectural models. The nature and characteristics of such an *action of placing in* directly resemble techniques of collage and strategies of *objet trouvé*. The scope of the current study includes instances of comparable re-contextualisation, which open the content of architectural models to new perceptions and interpretations. Furthermore, generally speaking, any actions and strategies that can lead to potential re-interpretation of what initially appeared as non-architectural fall within the scope of this thesis.

This may indicate that the susceptibility of the architectural models' content to re-contextualisation depends on the models' specific attributes, such as their abstract form expressing only certain aspects of the building, or only its basic concept. Logically, this understanding leaves some aspects of the future building unexpressed or not yet represented in the models. PROTOTYPING PLATEAU GEHRY_CONNECTIVES maps those of Gehry's architectural models that leave broad margins around their representational content and assumes that the models, like Gehry's drawings, are used as an investigative tool for 'trying to find the building' (Gehry 1985: xv), and that he sees them as abstract art forms used as a means for re-interpreting their visual/spatial content and the sources for the new architectural meanings.

Fusion of drawing and model-making

As mentioned in the subchapter ‘Drawings’, Gehry’s sketching –or scribbling – appears to be able to generate compounds of architectural and non-architectural information; this is also true of the production of concept- or sketch models. The similarity of Gehry’s architectural models with their ample interpretational vagueness to the results of his specific drawing technique is evident. Gehry’s margins of abstraction in drawing and models open up for other ways of interpretation and discoveries of purpose. They become a means of specific interaction that e.g. Coosje van Bruggen traces as the process by which design information is exchanged between Gehry’s many drawn sketches and handmade models that leads to the final model being 3D scanned (van Bruggen 1997).

The similar condition of mutual exchange of design information between Gehry’s drawn sketches and in situ construction process described in the subchapter ‘Drawings’ and detailed in ‘*In situ* produced working drawings’, Gehry’s design method enables a shifting back and forth from a non-architectural idea to a constructed entity. This is done by specific intersections of the flatness of drawing with the spatiality of the in situ construction process of the pergola elements for the ► **1976** Norton Simon Gallery and Guest House (Malibu, California 1976). ► Figure [5] The correspondence of the construction process with architectural model-building is apparent. Both are spatial operation. Drawing on this direct correspondence, the above example of the construction of the spatial arrangement of pergola directs the present research towards interconnections of Gehry’s practices of drawing with modes of model-building.

As findings from the Licentiate thesis show, Gehry developed a further correlation of drawing and model-making into another procedure.



► Figure [5]

Frank O. Gehry, pergola elements of the *Norton Simon Gallery and Guest House*, Malibu, California 1974-76. © Frank O. Gehry. Getty Research Institute, Los Angeles (2017.M.66), Frank Gehry Papers. Courtesy of Gehry Partners, LLP.

The procedure involves changing the scale of multiple models, which are built and altered simultaneously, effectively stimulating the progression of the design process. Moon observes that by working on models in two or three scales at the same time, Gehry seeks to avoid their power. She refers to his observation that ‘if you focus on one scale, you become enamoured of the object in front of you, and [the model] becomes an end instead of a process’ (Moon 2005: 18).⁴⁶ This tendency is similar to Gehry’s *different kind of drawing* and shows the architect’s understanding of the visual preconceptions embedded in representational aspects of architectural models and drawings.

Findings from the Licentiate thesis show that Gehry attempts to deconstruct the representational aspects of architectural drawings or models no matter how provisional, abstract, or vague they are. He does this by using cognitive gaps and redefining the dependence of these means of architectural design practice on an architect’s inclinations. He combines drawing and model-building into a close, cognitive exchange. Observed and tested by Gehry and his design partners as generative, this exchange provides new information and stimulates architectural re-interpretation. Therefore, this thesis traces Gehry’s merging of different means of representation and interprets them as explicit design actions or strategies that can potentially cause ambiguity in the perception of his work due to their specific procedures and their embodiment into buildings.

Available documentation

Gehry’s design actions are most frequently documented using photography. Conceivably, photographs register Gehry’s

46. Moon quotes from Judith Davidsen’s essay ‘Light-Hearted Models for Serious Results,’ *Architectural Record* 180 (July 1992): 31.

architectural notations such as drawings or models bearing various traces of Gehry's *factual design actions*. Documentation of this kind is difficult to access; of Gehry's many projects and innumerable sketches and models, only a limited number are available for study outside Gehry Partners' archive.⁴⁷ It is therefore especially challenging to determine whether the accessible models and drawings can be considered representative. I observed that the problem of a representative selection of the case studies does not only apply to possible recordings of architect's actions, but to the evident links that can be established between the traces of Gehry's actions discernible in models, drawings and constructed buildings. Finding that I could substantiate such links, I decided to take advantage of this specification and use it as a standard for representative cases to study.

There are however several indications that the drawings and models by Gehry that have been documented were important and/or representative. Firstly, his architecture is generally speaking difficult to describe, and therefore photographs, plans of buildings and other means of documentation were utilised. Reproductions of Gehry's many sketches and models are used extensively in publications. The predominantly visual book *Frank Gehry*, published by Carlton Books and aimed at a popular audience, is especially interesting.⁴⁸ Fourteen of its 80 pages contain loosely laid out text; the rest of the book consists of images with neither comments nor captions. The final six pages include 'thumbnails' of all of the book's double-page spreads with one-line descriptions of what they depict. Secondly, Gehry's own descriptions of his design methods have been used extensively in the major publications on his works. Interviews with the architect form the bulk of the published descriptions of his

47. As mentioned earlier however, the Getty Research Institute's website 'Frank O. Gehry papers. Series I. Architectural projects,' has significantly increased the amount of material accessible.

48. See Naomi Stungo (2000) *Frank Gehry* (London: Carlton Books Limited).

architecture, and they are also the main sources used by those writing about the same. As these refer to model-making and drawing procedures, images of models and reproductions of drawings are part of the publications.

A survey of writings on Gehry's architecture shows that critics with difficulties describing his architecture often replace direct descriptions of his works with indirect descriptions of his design actions. In the preface to *Frank O. Gehry Guggenheim Museum Bilbao*, Thomas Krens claims that the book reveals a little known 'method of envisioning a building through semiautomatic drawings and handmade models' (van Bruggen 1997: 10). Krens emphasizes that understanding these methods grants direct access into the architect's creative process.

Works in architecture and industrial design

The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis refers to, surveys, and studies selected works of Frank O. Gehry designed between 1968 and 2014 and includes buildings and never built projects. The following is a chronological list of all of the works analysed or referenced in this research. The projects are ordered according to when they were completed, in part because of the difficulty of establishing when individual design processes were initiated. Forster mentions the inefficient record keeping of design works at Gehry's office, citing 'numerous sketchbooks and spiral-bound sketchpads (...) held in Gehry's office archive without numbering or other identification. For this reason, only circumstantial evidence or personal recollections allow the individual sketches to be dated' (Forster 1998: 36 n6).

- ▶ **1968** O'Neill Hay Barn (San Juan Capistrano, California 1968)
- ▶ **1972** Davis Studio and Residence (Malibu, California 1968-1972)
- ▶ **1976** Norton Simon Gallery and Guest House (Malibu, California 1976)

- ▶ **1978** Familian Residence (Los Angeles, California 1977-1978, project)
- ▶ **1978** Gunther Residence (Encinal Bluffs, California 1978, project)
- ▶ **1978** Wagner Residence (Malibu, California 1978, project)
- ▶ **1978** Gehry Residence (Santa Monica, California 1977-1978)
- ▶ **1980** Spiller Residence (Venice, California 1979-1980)
- ▶ **1980** In the Presence of the Past: Strada Novissima Corderia of the Arsenale (Venice, Italy 1980)
- ▶ **1980** World Savings and Loan Association (North Hollywood, California 1980)
- ▶ **1981** *Collaborations: Artists and Architects*, Architectural League of New York [with Richard Serra] (New York, New York 1981, project)
- ▶ **1981** Lafayette Street Lofts (New York, New York 1981, project)
- ▶ **1981** Binder House (Los Angeles, California 1981, project)
- ▶ **1981** Central Business District (Kalamazoo, Michigan 1981, project)
- ▶ **1983** *Folly: The Prison Project* (1983, project)
- ▶ **1983** *Fish and Snake Lamps* (1983-1986)
- ▶ **1984** Benson House (Calabasas, California 1981-1984)
- ▶ **1984** California Aerospace Museum (Los Angeles, California 1982-1984)
- ▶ **1985** *GFT Fish*, exhibition installation (Turin and Florence, Italy 1985-86)
- ▶ **1985** Lewis Residence (Lyndhurst, Ohio 1985-1995 project)
- ▶ **1986** Chiat Residence (Sagaponack, New York 1986, project)
- ▶ **1987** Fishdance Restaurant (Kobe, Japan 1986-1987)
- ▶ **1987** *The Architecture of Frank O. Gehry*, exhibition at Walker Art Centre (Minneapolis, Minnesota 1986-1987)
- ▶ **1988** Chiat\Day Temporary Offices (Venice, California 1986-1988)

- ▶ **1989** Schnabel Residence (Brentwood, California 1986-1989)
- ▶ **1989** Herman Miller, Inc. Western Regional Manufacturing and Distribution Facility (Rocklin, California 1987-1989)
- ▶ **1989** Vitra International Furniture Manufacturing Facility and Design Museum (Weil am Rhein, Germany 1987-1989)
- ▶ **1991** Chiat\Day Building (Venice, California 1985-1991)
- ▶ **1991** *Fish Sculpture, El Peix*, Port Olímpic (Barcelona, Catalonia 1991)
- ▶ **1993** Frederick R. Weisman Museum (Minneapolis, Minnesota 1990-1993)
- ▶ **1994** American Centre (Paris, France 1988-1994)
- ▶ **1995** EMR Communication and Technology Centre (Bad Oeynhausen, Germany 1991-1995)
- ▶ **1995** Telluride Residence (Telluride, Colorado 1995-1998, project)
- ▶ **1996** Nationale-Nederlanden Building (Prague, Czech Republic 1992-1996)
- ▶ **1997** Samsung Museum of Modern Art (Seoul, South Korea 1997, project)
- ▶ **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997)
- ▶ **1999** Der Neue Zollhof (Düsseldorf, Germany 1994-99)
- ▶ **2000** Experience Music Project (Seattle, Washington 1995-2000)
- ▶ **2000** DG Bank at Pariser Platz 3 (Berlin, Germany 1995-2001)
- ▶ **2003** Walt Disney Concert Hall (Los Angeles, California 1989-2003)
- ▶ **2004** Ray and Maria Stata Centre for Computer, Information and Intelligence Sciences (Cambridge, Massachusetts 1998-2004)
- ▶ **2004** Jay Pritzker Pavilion at the Millennium Park (Chicago, Illinois 1999-2004)

- ▶ **2004** The BP Bridge at the Millennium Park (Chicago, Illinois 1999-2004)
- ▶ **2006** Hotel at Marqués de Riscal (Elciego, Álava, Spain 1999-2006)
- ▶ **2006** Guggenheim Museum Abu Dhabi (Abu Dhabi, United Arab Emirates 2006)
- ▶ **2006** Atlantis Sentosa (Sentosa Island, Singapore 2006, project)
- ▶ **2007** National Art Museum of Andorra (Andorra la Vella, Andorra 2007, project)
- ▶ **2010** Cleveland Clinic Lou Ruvo Centre for Brain Health (Las Vegas, Nevada 2005-2010)
- ▶ **2010** Sønderborg Kunsthalle (Sønderborg, Denmark 2010-)
- ▶ **2014** Biomuseo Panama (Panama City, Panama 2000-2014)
- ▶ **2014** Foundation Louis Vuitton (Paris, France 2005-2014)
- ▶ **2014** Dr Chau Chak Wing Building, University of Technology (Sydney, Australia 2009-2014)

Monographs

The first retrospective monograph on Gehry's practice, *Frank Gehry: Buildings and Projects* (Arnell and Bickford 1985), had a formative power that shaped the author's way of looking at architecture and still resonates today.

Essential research material for PROTOTYPING PLATEAU GEHRY_CONNECTIVES was also gathered from four other monographs: *Frank O. Gehry: The Complete Works* (Dal Co and Forster 1998); *Gehry Talks: Architecture + Process* (Friedman and Frank O. Gehry and Associates 1999); *Frank Gehry: Since 1997* (Celant 2009); and *Frank Gehry* (Lemonier and Migayrou 2015). They include critical essays by art and architecture historians, architects and theorists, and – with the exception of *Frank Gehry: Since 1997* – interviews with the architect. Together with extensive photographic material, all offer an opportunity

to observe and study elements of the design process through visual material and reports on the process. Photographic documentation allows comparisons with the buildings that resulted from those processes.

Monographic issues of architectural magazines were equally valuable resources for theoretical and visual mappings of Gehry's work. Edited by Fernando Cecilia Marquez, *El Croquis* 45 (1990), 74/75 (1995) and 117 (2003) is a collection of essays and interviews with the architect; these are referenced in _CONNECTIVES. Japanese *Global Architecture* issued special editions of 'GA Architect Series' *Frank O. Gehry*, GA Architect Series, vol. 10, (Futugawa 1993) and of 'GA Document,' *Frank O. Gehry 13 Projects after Bilbao*, GA Document 68 (Futugawa 2002). All were a rich source of visual material and interviews with Gehry that has been crucial for this research.

The PLATEAU GEHRY_CONNECTIVES project is rooted in literature on Gehry's œuvre, which most often places it between architecture and art. The present research thus focuses on the study of art and art-related subjects. Gehry's connections with art and artists are manifold; this is evident from his professional biography and his repeated statement of just that. The artist-clients, artist-collaborators, artist-co-authors, artist-inspirations, and artworks referenced or directly used in his design methodology or design actions are innumerable (Goldberger 2015: 6-7, 10-11, 28, 33-4, 51, 65, 107, 130-6, 142, 146, 148-9, 156-7, 168, 190, 196, 204, 226, 237, 241, 258, 329, 374-5, 378). Names from Los Angeles artistic circles, a carry-over from the early days of his art-biased shift in the late 1970s, appear in relation to his career, architectural concepts, projects and buildings: 'No, I'm an architect' (Gehry and Arnell 1985: xiii-xvi), *Frank O. Gehry: Guggenheim Museum Bilbao* (van Bruggen 1997), *Art and Architecture in Discussion: Frank O. Gehry/Kurt W. Forster* (Bechtler 1999), 'Architectural Choreography' (Forster 1998), 'A Portrait of the Architect as the Artist' (Daab 2008), *What is Contemporary Art?* (Smith 2009), *The Art-Architecture Complex* (Foster 2011), *Building Art: The Life and Work of Frank Gehry* (Goldberger 2015).

Types of materials searched

Various types and categories of research material were referenced in the PLATEAU GEHRY_CONNECTIVES research project, including different physical categories of writings on Gehry and his architecture. These range from newspapers, magazines, and other periodicals to exhibition catalogues, books, microfilms and different printed material, to websites, TV-programmes and films released in different media formats, including on VHS and DVD. Besides the extensive photographic documentation available in most publications, material categories such as websites, video recordings, TV documentaries or films enabled the study of otherwise inaccessible buildings. Moreover, Gehry Partners maintains a comprehensive digital list of articles and books that refer to their work. It does not include a clipping service, and some articles are thus not included. Gehry Partners keeps hard copies of articles and books in an off-site record storage facility.

Fieldwork

Specific fieldwork procedures undertaken within the scope of this thesis have been a counterpart to the archival material collected from the abovementioned media documentation and literature. The fieldwork comprises a one-day observational visit to Gehry's office that included observations of the architect at work and of the office environments, as well as site visits during which buildings were visited and explored. Additionally, to identify, select and analyse information about the subject of the current thesis, it was necessary to classify interviews with the architect and his collaborators as a type of fieldwork.

The architect at work

On November 22nd, 2008, I sat in Gehry Partners office in Los Angeles, watching Gehry manipulating physical study models for the ► **2006** Guggenheim Museum Abu Dhabi (Abu Dhabi, United Arab Emirates 2006, [in progress]). On the same occasion, I was able to study works-in-process on exhibit in the studio, and I also interviewed Frank O. Gehry, his design partners and assistants on details of the design process relevant for the research topics. The studies of work and artefacts undertaken on that one-day visit to Gehry's office were similar in nature to Yaneva's much lengthier ethnographical observations of architects at work. However, the opportunity to watch Gehry performing his design actions in the studio while unaware of being watched made these observations unique and thus advantageous for the research explorations of the PLATEAU GEHRY_CONNECTIVES project. Surrounded by countless sketch-, study- and presentation-models produced and gathered in the studio – many of them were kept on display and could be inspected more closely – the architect was engaged in careful observation and manual adjustments of a study-model for the ► **2006** Guggenheim Museum Abu Dhabi (Abu Dhabi, United Arab Emirates [in progress]). Typical for early afternoon on a Saturday, the studio was rather empty and silent. There was a discernible sense of work *flowing*; a particular state of suspension of an architect in action was noticeable. Gehry was, in the words of those who worked at the office, 'rolling' – he had reached a specific state of mind, of creative productivity and flow.

Interviews as fieldwork

Much of the material for this research has been gathered from interviews with Gehry in books, magazines, exhibition catalogues and mass media. Here, they are accounted for as content in the oral history of architecture. As in contemporary art, and with artists who were active after 1950, the artist interview has become an increasingly important source of information for scholars. Such interviews are generally

available in transcription and as recordings. The growing list of transcribed and published material includes Katharine Kuh's *The Artist's Voice: Talks With Seventeen Modern Artists* (1960); Patricia Norvell's *Recording Conceptual Art: Early Interviews with Barry, Huebler, Kaltenbach, LeWitt, Morris, Oppenheim, Siegelau, Smithson, and Weiner* (2001); Kersten Mey's *Sculpsit: Contemporary Artists on Sculpture and Beyond (Transcript)* (2001); Sandy Nairne's *Art Now: Interviews with Modern Artists* (2002), and Judith Olch Richards' *Inside the Studio: Two Decades of Talks with Artists in New York* (2004). There is also an increasing number of archives with original recordings, compiled through the important work done in recent decades by organisations such as 'Audio Arts' (est. 1973) and the 'Artists' Lives' project (est. 1990) at the National Sound Archive.

Critical assessment of the complexities of the architect interview in terms of status and function addresses one or other of the following areas of enquiry: 'the architect interview as an emerging critical genre and the historiography of this format, the "authenticity" of the architect's voice and the character and directness of the spoken word, the role, position and expertise of the interviewer, and the dialogic relationship between interviewer and interviewee, the architect interview not only as primary source, but also as a work of art in its own right, inseparable from architectural practice.'⁴⁹ Gehry's design actions are generally documented in photographs – rarely on film. Photographs can be understood as a fragmentary registration of Gehry's architectural notations such as drawings or models, which bear traces of Gehry's actually performed actions.

As the study of the specific spatio-temporal properties of design actions and their minute details is at the core of the

49. The problem was discussed in the conference session 'The Artist Interview: Contents and contentions in oral history/art history' chaired by Jon Wood (Henry Moore Institute), Rob Perks (National Sound Archive) and Bill Furlong (Audio Arts). *Art and Art History: Contents, Discontents, Malcontents* 32nd AAH Annual Conference 5-7 April 2006, Leeds University.

PLATEAU GEHRY_CONNECTIVES research project however, film footage is the most useful and revealing kind of documentation; it is however rather difficult to access. Of Gehry Partners' projects and countless sketches and sketch-, study- and process-models, only a limited number are available for study, and there is only film footage of a few. It is thus particularly challenging to determine whether the available formats are sufficiently informative and representative. In my experience, the problem of representative selection of the case studies not only applies to available recordings of the architects' actions (including design partners and assistants), but also to the evident connections one can establish between traces of those actions left in models and drawings and specific features of constructed buildings. Each finding of the evidence of such connections becomes an indicator of representative and informative nature of the case to examine in PLATEAU GEHRY_CONNECTIVES.

Some critical analyses of writings on Gehry and his work include the architect himself as the co-author. Characteristically however, only very few publications include Gehry's writings. 'Preface by Frank O. Gehry' (1992) published in Noever, Peter (ed.) (1993) *The End of Architecture? Documents and Manifestos: Vienna Architecture Conference* (Münich: Prestel-Verlag and Vienna: MAK-Austrian Museum of Applied Arts), 11-13, and Gehry's 'Foreword' in Jeremy Gilbert-Rolfe with Frank Gehry (2002) *Frank Gehry: The City and Music* (London and New York: Routledge), ix-x, are the only texts written by Gehry encountered.⁵⁰ Interviews with Gehry are thus especially important for the PROTOTYPING PLATEAU GEHRY_CONNECTIVES explorations: they allow for a clear distinction between other authors' perceptions of Gehry's work and offer information about the architect's actually performed actions. Many of these publications, including the monographs on

50. There is a series of publications for which Frank O. Gehry is listed as co-author; these appear however to be transcripts of interviews, discussions and/or talks with the architect.

Gehry mentioned above, are based on extensive interviews with the architect, e.g.: by Barbaralee Diamonstein (1980), Peter Arnell (1985), and conversations with Alejandro Zaera-Polo (1995); Coosje van Bruggen (1997); Beatriz Colomina (2003); Ernest Fleischmann (2006); Aurélien Lemonier and Frédéric Migayrou (2015). Additionally, 'Conversation between Frank O. Gehry and Kurt W. Forster with Cristina Bechtler' is the only Gehry's interview published as a separate book. Edited by Cristina Bechtler and released as *Art and Architecture in Discussion: Frank O. Gehry/Kurt W. Forster* (1999), the book is part of Kunsthaus Bregenz' series 'Kunst und Architektur im Gespräch.' An even more extensive publication is the collection of interviews with Barbara Isenberg *Conversations with Frank Gehry* (2009). An exceptional case in this range of publications is the original, full script of the documentary film *A Constructive Madness* by Jeffrey Kipnis (2003), which includes filmed interviews.⁵¹

Three interviews are of particular importance here: a publication consisting of interviews conducted by architecture and design curator and editor, Mildred Friedman; Beatriz Colomina's conversation with Gehry in *El Croquis*; and an interview conducted via e-mail with Keith Mendenhall of Gehry Partners. A brief introduction of each follows.

Mildred Friedman

Gehry Talks: Process + Architecture (1999) edited by Mildred Friedman has a special place in the current survey of the types of interviews. It was the first major publication of its kind, devoted to the design process and including descriptions by the architect and his collaborators. Constructed as a review of 34 selected works by the architect, readers are guided through by Gehry's own explanations and commentaries. These are

51. The digital version of the film script was kindly made available by Jeffrey Kipnis.

supplemented by and combined with insights by architect's associates and assistants that were drawn from the series of interviews.

A variety of aspects of many different design processes are commented on in the work: Rachel Allen talks about ▶ **1995** Telluride Residence (Telluride, Colorado 1995-1998, project), Edwin Chan speaks about the addition to ▶ **1989** Vitra International Furniture Manufacturing Facility and Design Museum (Weil am Rhein, Germany 1998-2003), and ▶ **1995** Telluride Residence (Telluride, Colorado 1995-1998, project), Randy Jefferson about ▶ **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997), ▶ Der Neue Zollhof, (Düsseldorf, Germany 1994-99), Craig Webb talks about Experience Music Project, (Seattle, Washington 1995-2000). Reviews of works are introduced by Gehry's commentaries, which the editor has grouped by topic: 'Then and Now,' 'Materials and Methods,' 'Sculpture and Architecture,' 'The New Office,' 'Project Designers,' 'Women in the Office,' 'Contractor and Architectural Practice,' 'Clients,' 'Changing our House.'

Beatriz Colomina

Beatriz Colomina's interrogation of Gehry's design processes in 'A Conversation with Frank Gehry' in the monographic issue of *El Croquis* 117 is an incisive critical attempt to reveal concrete methodologies and mechanisms behind the architect's endeavours. The conversation is arranged in two parts: I. 'The Design Process' (2003: 6-16), and II. 'Gehry from A to Z' (2003: 18-32), and it delivers knowledge that is often difficult to apprehend in other publications, despite their visual richness. Colomina skilfully demonstrates Gehry's intuitive approach to his work. The architect's answers to her penetrating questions generate opportunities and impetuses for new tangential lines of the PLATEAU GEHRY_CONNECTIVES. The conversation reveals the importance of the teamwork that renders the process/study models connected with Gehry's sketch drawings

a generative circulation of new concepts. The monograph issue of *El Croquis* is extensive, informative and well documented with drawings, photographs of realized work, and most importantly, models and sketches documenting Gehry Partners' design processes.

Interview via e-mail

I had e-mail exchanges with Keith Mendenhall of Gehry Partners between March 11, 2004 and December 6, 2005.⁵² Mendenhall's direct connection to Gehry made it possible for me to ask the architect questions – albeit indirectly – that were valuable for the research. Mendenhall, who is responsible for Gehry Partners' archives, delivered comprehensive, insightful and detailed research-related information that was otherwise unavailable from other sources. Although the research was initially aimed at facilitating the Licentiate thesis, the scope and often unique character of this empirical material made it relevant also for the PROTOTYPING PLATEAU GEHRY _CONNECTIVES thesis.

The e-mail exchanges supplied valuable additional research material, for instance, details of Gehry's design actions and procedures and comprehensive, first-hand information on modes of working and tools used at modelmaking for Gehry Residence. According to Mendenhall, the work on his house deviated slightly from Gehry's normal working process. Although Gehry unquestionably sketched and produced models during the design process, to a certain extent, a number of the design decisions were made on-site while the work was ongoing. Moreover, Mendenhall provided details about Gehry's favourite production procedure for sketch models, part of which, for example, include tearing sheets of paper. Utilising

52. The e-mail exchanges/interviews have continued with Gehry Partners' archivists Laura Stella and Megan Meulemans.

mostly paper, the architect is ripping, bending, folding or otherwise shaping it and placing on the model. Mendenhall confirmed that other members of the design team do the majority of the work on the models.

The exchange also included extensive information on the first appearances of the fish in Gehry's design schemes. Some would likely see the fish form appearing earlier in his work, informed Mendenhall, but it wasn't until around 1980 that he actively began to think about the fish as the basis for implying a sense of movement to his work. Mendenhall recalls the early appearances of fish in his work as naturalistic images of fish drawn with heads and tails, which later became abstract representations, with the removed heads and tails. And, even more abstract, to the point at which the movement may be there, but the fish is not.

Mendenhall also confirmed that Gehry rarely describes his work in detail, aside from published interviews, and there were few transcripts or other records of lectures or public events that included Gehry speeches. According to Mendenhall, Gehry certainly did not write in advance his 'Keynote Address' at the symposium 'Postmodernism and Beyond: Architecture as the Critical Art of Contemporary Culture' at the University of California, Irvine, October 26-28, 1989,⁵³ but 'spoke from the top of his head and his comments were recorded and then transcribed.'

In addition to the e-mail exchange, access was provided to an unpublished list in digital format maintained by Gehry Partners. It is a comprehensive list of articles, books, and other publications that include references to Gehry Partners' work. Most of the texts on Gehry and his works were published in the *Los Angeles Times*. Some of the entries are annotated by

53. The illustrated transcript of the speech was published in: William J. Lillyman, Marilyn F. Moriarty and David J. Neuman (eds) (1994) *Critical Architecture and Contemporary Culture* (New York, Oxford: Oxford University Press): 165-186.

references to specific works, names of authors, or other related publications.⁵⁴

Building site visits

I visited a total of sixteen sites of Frank O. Gehry Partners' buildings in Chicago, Minneapolis and the Los Angeles area, as well as in Prague and Berlin. Chronologically ordered after the date of the visit, these were:

June 30th, 2002, in Prague, Czech Republic:

- ▶ **1996** Nationale-Nederlanden Building
(Prague, Czech Republic 1992-1996)

January 26th, 2002 and July 22nd, 2005, in Berlin, Germany:

- ▶ **2001** DG Bank at Pariser Platz 3
(Berlin, Germany 1995-2001)

October 22-23rd, 2006, in Bilbao, Spain:

- ▶ **1997** Guggenheim Museum Bilbao
(Bilbao, Spain 1991-1997)

September 27th, 2008, in Chicago, Illinois:

- ▶ **2004** Jay Pritzker Pavilion at the Millennium Park (Chicago, Illinois 1999-2004).
- ▶ **2004** The BP Bridge at the Millennium Park (Chicago, Illinois 1999-2004)

September 28th, 2008, in Minneapolis, Minnesota:

- ▶ **1993** Frederick R. Weisman Museum
(Minneapolis, Minnesota 1990-1993)

November 19th, 2008 in the Los Angeles area:

- ▶ **1988** Edgemar Development
(Santa Monica, California 1984-1988)
- ▶ **1991** Chiat/Day Building (Main Street Headquarters) (Venice, California 1985-1991)

54. The majority of the publications use indirect or metaphor-heavy language, indicating the difficulty involved in describing Gehry's designs.

November 20th, 2008 in the Los Angeles area:

- ▶ **1965** Danziger Studio and Residence
(Hollywood, California 1965)
- ▶ **1979** Gemini G.E.L.
(Los Angeles, California 1976-1979)
- ▶ **1984** California Aerospace Museum
(Los Angeles, California 1982-1984)
- ▶ **1986** Frances Howard Goldwyn Hollywood
Regional Branch Library (Hollywood,
California 1982-1986)
- ▶ **1995** Loyola University Law School
(Los Angeles, California 1978-1995)

November 23rd, 2008 in the Los Angeles area:

- ▶ **1978** Gehry House
(Santa Monica, California 1977-1978)
- ▶ **1984** Norton House
(Venice, California 1982-1984)
- ▶ **2003** Walt Disney Concert Hall
(Los Angeles, California 1989-2003)⁵⁵

The Philosophy of Gilles Deleuze and Félix Guattari

Mapping modes of production of architectural design with Deleuze's philosophical œuvre, the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis positions itself at the interface between architecture and philosophy. This subchapter consists of the study of writings by Deleuze and Guattari, secondary works on their philosophy, and the study of related themes and issues discussed in the PLATEAU GEHRY_CONNECTIVES. An invaluable resource has been *Deleuze and Guattari on Architecture: Critical Assessment in Architecture*, an elaborate three-volume work edited by Graham Livesey (2015) that investigates the impact of

55. While there, I also attended a classical music concert at the Walt Disney Concert Hall and experienced the building's high-quality acoustics first-hand.

the philosophers' writings on architectural discourse in the past two decades.⁵⁶ Although this collection of texts published earlier elsewhere indicates the importance of the Deleuze and Guattari's impact on theory and practice of architecture – particularly in the realm of digital design and fabrication – this thesis also explores other areas of interest than those addressed in the work edited by Livesey. In addition to well established concepts such as the fold, rhizomatics, or striated and smooth space, which have been discussed and explored by many architectural and cultural theorists, the implications of Deleuze and Guattari's theories on the built environment are presented through the subject-focused selection of their previously published text.

Livesey's *Deleuze and Guattari on Architecture* may seem to provide historical material related to Deleuze's impact on architecture; readings of later volumes of the Edinburgh University Press series 'Deleuze Connections' offer a more contemporary perspective. Edited by the Australian philosopher and cultural theorist Ian Buchanan, the series actively crosses boundaries and continually links Deleuze's thought to feminist theory, geophilosophy, music, space, geography, queer theory, history, performance, new technology, postcolonial studies, contemporary art, ethics, sex, film, as well as architecture, design and the city. In 2019, the number of topics had reached thirty. The series 'Deleuze Connections' further reinforced the concept of connectivity in the PLATEAU GEHRY_CONNECTIVES project. Two volumes of the series – *Deleuze and Space*, edited by Buchanan and the American philosopher and literary theorist Gregg Lambert (2005), and *Deleuze and Architecture*, edited by Hélène Frichot and Stephen Loo (2013) – became valuable references and directly positioned the explorations of the PLATEAU GEHRY

56. The publication presents 63 texts on architecture and urbanism and eight excerpts from Deleuze and Guattari's writings in 15 sections. Livesey, Graham (ed.) (2015) *Deleuze and Guattari on Architecture: Critical Assessment in Architecture*, Volumes I-III (London and New York: Routledge).

_CONNECTIVES within the area of interest of the abovementioned essay collections. The interdisciplinary character of both *Deleuze and Space* and *Deleuze and Architecture* that contextualises architecture and politics of space with Deleuzian thought resonates with the main aims and questions of this thesis while at the same time giving rise to difficulties when delimiting the scope of the research.

The current research draws on Deleuze's philosophy, which has provided radical agendas that have excited architectural thinking and unsettled architectural practice for decades. This thesis thus primarily addresses the literature in the field of Deleuze and Guattari's philosophy, which reflects such connections and conjunctions with architectural theory and practice. PROTOTYPING PLATEAU GEHRY _CONNECTIVES does not, however, refer to the limited amount of text Deleuze and Guattari devote directly to permanent forms of architecture when they show their interest in built structures of tents, shantytowns, or burrows.

The common ground

The PROTOTYPING PLATEAU GEHRY _CONNECTIVES thesis positions itself as relating to the areas of interest of numerous essays published in *Deleuze and Space* (Buchanan and Lambert 2005), *Deleuze and Architecture* (Frichot and Loo 2013) and *Deleuze and Guattari on Architecture* (Livesey 2015) where scholars directly contextualize architecture with Deleuzian thought. However, drawing upon the fact that Deleuze's philosophy provides radical agendas that have influenced the field of architecture for several decades, this research is focused on the intersection and overlap with the architectural design practice of Frank O. Gehry. The subject of the PROTOTYPING PLATEAU GEHRY _CONNECTIVES thesis, the philosophy of Deleuze and Guattari intersecting or overlapping with Gehry's practice, appears fragmentarily in several scattered publications. Declared by the editor as depicting Deleuze and Guattari's 'immense impact on architectural discourse during the last two decades' (Livesey 2015: 1), *Deleuze and Guattari on Architecture*

includes seven texts, which mention Gehry's works. Some of them, contextualise Gehry's production with Deleuze and Guattari's philosophy in general terms, others refer to Deleuze while studying Gehry's practice together with practices of other architects. None of the texts, however, addresses Gehry's output separately, especially his explicitly manual fabrication of architectural concepts/forms or sign/forms, read in connection to Deleuzian thought. The list of other texts on, or featuring, Gehry that deals with or references Deleuze is limited and consists of:

Books:

- Jameson, Fredric (1991) *Postmodernism or, The Cultural Logic of Late Capitalism* (Durham, NC: Duke University Press).
- Vidler, Anthony (2000) *Warped Space: Art, Architecture, and Anxiety in Modern Culture* (Cambridge, Massachusetts and London: MIT Press)
- Connah, Roger (2001) *How Architecture Got its Hump* (Cambridge, Massachusetts and London: The MIT Press)
- Gilbert-Rolfe, Jeremy with Frank Gehry (2001) *Frank Gehry: The City and Music* (London and New York: Routledge)
- Lahiji, Nadir (2016) *Adventures with the Theory of the Baroque and French Philosophy* (London and New York: Bloomsbury)

Articles:

- Kipnis, Jeffrey (1993) 'Towards a New Architecture', *Architectural Design*, vol. 63 (3-4): 56-65.
- Lynn, Greg (1993) 'Architectural Curvilinearity: The folded, the pliant and the supple', *Architectural Design*, vol. 63 (3-4): 8-15.
- Burns, Karen 'Becomings: Architecture, Feminism, Deleuze, before and after the Fold' in: Frichot, Hélène and Stephen Loo (eds) (2013) *Deleuze and Architecture* (London: Edinburgh University Press): 15-39.
- Somol, Robert E. (1999) 'Dummy Text, or the Diagrammatic Basis of Contemporary Architecture', in: Eisenman, Peter (ed.) *Diagram Diaries* (New York: Universe), 6-25.
- Ábalos, Iñaki (2001) 'Huts Parasites and Nomads: The deconstruction of the house', in: *The Good Life: A Guide to the Houses of Modernity* (Barcelona: Editorial Gustavo Gili): 139-63.

- Speaks, Michael (2002) 'Design Intelligence: Part 1, Introduction,' *A + U*, vol. 12 (387): 10-18.
- Harris, Paul A. (2005) 'To see with the mind and think through the eye: Deleuze, folding architecture, and Simon Rodia's Watts Towers' in: Ian Buchanan and Gregg Lambert (eds), *Deleuze and Space* (London: Edinburgh University Press), 36-60.
- Reiser, Jesse and Nanako Umemoto (2006) 'Geometry', in: *Atlas of Novel Tectonics* (New York: Princeton Architectural Press): 36-69.

Deleuze Studies

The interdisciplinarity of Deleuze and Guattari's work is one of the most important aspects explored in the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis. It has also created difficulties related to self-imposed and constructive constraints of the present research, and there is never enough of the secondary literature on Deleuze to survey, especially when the initial plan of the project PLATEAU GEHRY_CONNECTIVES is an ever-growing map of connections with Deleuze's thoughts and concepts. The number of publications concerning his philosophy and its impact on such diverse areas as geography, politics, society, science, art, and life in general, supports the above claim on the importance of his œuvre today and open countless avenues for the present research. Alongside the ever-expanding series 'Deleuze Connections,' mentioned earlier, the academic journal *Deleuze Studies* is a forum for new work on Deleuze's writings that offers an up-to-date perspective on his impact on the contemporary world and opens for new connections. It has been published quarterly since 2007 by Edinburgh University Press with the support of the Centre for Critical and Cultural Theory at Cardiff University. According to its editors, the journal aims to challenge orthodoxies, encourage debate, invite controversy, seek new applications, propose new interpretations, and above all make new connections between scholars and ideas in the field. A number

of other Deleuze and Guattari texts, as well as studies of their work, were examined in other journals.

Journals:

October (published since 1976 by MIT Press)

Log (published since 2003 by Anyone Corporation)

Assemblage (published 1986 to 2000 by MIT Press)

Additionally, collections of miscellaneous texts by Deleuze were published in a monographic series of publications. Especially valuable among them are two volumes published by Semiotext(e), active since 1974, a monographic series publisher known for introducing French theory to American readers: *Desert islands and other texts, 1953-1974* (2004) and *Two regimes of madness: texts and interviews 1975-1995* (2006).

Theory of the Baroque and Lahiji's critique

With the exception of several references to Deleuze in *Frank Gehry: The City and Music* by Jeremy Gilbert-Rolfe with Frank Gehry (2001), Nadir Lahiji's (2016) work in the theory of the baroque and French philosophy is alone in explicitly addressing Gehry's practice in a Deleuzian thought context. In the chapter 'The Draped Neobaroque: is it possible not to love Frank Gehry?' Lahiji launches a critique of Gehry's atypical architecture as an example of 'digital Neobaroque' (2016: 156). Reading complex forms of 'drapery in Gehry's architecture' (Lahiji 2016: 164) he sees them as 'functional *useless* clothing', in which the architect's ego is veiled (2016: 161).

Interestingly, Lahiji's is at once also a critique of architectural critique. He takes the case of *Frank Gehry: The City and Music* – the only monograph on Gehry's practice that situates it in the context of Deleuze and Guattari's writings. Lahiji accused the book of being 'idolatrous "propaganda"' (Lahiji 2016: 163) and Gilbert-Rolfe of engaging in 'the amateurish philosophical exercises that have, by now, become *de rigueur* in the so-called "high philosophical" genre of criticism fashionable in today's affirmative and purely aestheticized

architectural discourse’ (Lahiji 2016: 164). PROTOTYPING PLATEAU GEHRY_CONNECTIVES discusses both of Lahiji’s critical accounts – that of Gilbert-Rolfe’s criticism and that of Gehry’s architecture.

Lahiji’s criticism is difficult to fully apprehend, and respond to, one reason being its use of value-laden terms without specified definitions; e.g. *kitsch*. Arguing against such criticism would require opposing it with vague terms. As an opponent of Gehry’s architectural practice, Lahiji puts it in the context of Baroque. Yet, by applying faulty contextualisation, his arguments become inconsistent. For instance, comparing Gehry’s treatment of building with the Jesuit idea of redefining the concept of architectural/urban functionality of the Catholic Church, he accuses Gehry at the same time of not relating to his era.

However, other critics of Gehry’s practice who bring in, e.g. the negative argument of his buildings as being billboards indicate the contrary. Indeed, in the design of the ▶ **2004** Jay Pritzker Pavilion at the Millennium Park (Chicago, Illinois 1999-2004) or the ▶ **2006** Hotel at Marqués de Riscal, (Elciego, Álava, Spain 1999-2006), Gehry reveals functional as well as structural features resembling the billboard – a construction of a large outdoor structure, with a board to which posters, advertisements, etc., are affixed. Gehry developed these affixing or attaching design gestures much earlier in his design practice. In the design of the ▶ **1984** California Aerospace Museum (Los Angeles, California 1982-1984) Gehry literally attaches objects to the wall as if doing it exactly for advertising purposes. ▶ Figure [6] And, at the initial stage of the design of the ▶ **1991** Chiat/Day Building (Main Street Headquarters) (Venice, California 1985-1991) an architectural *objet trouvé* was attached to the model.

Gehry as Frichot's architect-pickpocket

Reading Hélène Frichot's 'Stealing into Gilles Deleuze's Baroque House' (Buchanan and Lambert 2005: 61-79) in the context of the PLATEAU GEHRY_CONNECTIVES, there is an inescapable impression that the conceptual persona of the architect-pickpocket Frichot constructs and describes is none other than Frank O. Gehry.⁵⁷ Although she refers to various architects and their practices, e.g. Greg Lynn, Peter Eisenman or the duo Ben van Berkel and Caroline Bos, her story seems to be clearly that of Gehry. The fact that the carefully constructed conceptual persona of 'pickpocket' is 'deliberately setting aside those personae with which we are more familiar— architect as demiurge' makes an impression. This 'guise' designed by Frichot is befitting for Gehry's general approach to the production of architecture; 'we see the architect as someone who in their professional practice "borrows" creatively from other sources, which prompts the question: Have his pockets been picked?' (Buchanan and Lambert 2005: 7-8).

Frichot's explorations facilitate a major task of the PROTOTYPING PLATEAU GEHRY_CONNECTIVES: to describe Gehry's experiment through Deleuze. Addressing the architect's borrowings from Deleuze's concepts, Frichot reconceptualises their connections with the architectural discourse: she uses the concept of the fold and the example of the Baroque house, extrapolated from Leibniz, to argue that Deleuze has attempted to conceive a philosophy of the event.

57. 'Conceptual Personae' is the chapter of Deleuze and Guattari's last co-written work, *What Is Philosophy?* (1994: 61-83). Introducing Frichot's construct of the persona of the architect-pickpocket, Buchanan and Lambert deliberately set aside those personae we are more familiar with – architect as a demiurge, engineer, and so on. In his discussion concerning the philosopher and his or her conceptual personae, 'Who are Deleuze's Conceptual Personae?' Lambert recalls Heidegger's small essay written in 1954, 'Who is Nietzsche's Zarathustra?' These essays should remain in the background of the current discussion concerning the philosopher and his or her conceptual personae.



► Figure [6]

Frank O. Gehry, *California Aerospace Museum*, Los Angeles, California 1982-1984.
Lockheed aircraft being attached to façade. Unknown copyright holder.

She develops it into the idea of the surface effects produced by the circulation of events creating material forms of expression, redirecting architectural emulation of the fold and folding from the bending shapes of the materials, towards the convergence of thought and matter (Buchanan and Lambert 2005: 8).

Deleuze and Guattari's writings

The major works by Deleuze and Guattari consulted and utilised in the above studies were the starting point for addressing the intersections of architecture and philosophy. Two of the most important of these works are *Anti-Oedipus: Capitalism and Schizophrenia* (1983, translated by Robert Hurley, Mark Seem, and Helen R. Lane) and *A Thousand Plateaus* (1987, translated by Brian Massumi); these are perhaps the most frequently referenced works in architectural theory and practice. Other important works are *The Fold: Leibniz and the Baroque*, (1993, translated by Tom Conley) – arguably the work by Deleuze most frequently read by architects – and *What is Philosophy?*, written with Guattari (1994, translated by Hugh Tomlinson and Graham Burchell). The most important work for the research of this thesis was *Francis Bacon: The Logic of Sensation* (2003, translated by Daniel W. Smith).

To contextualise Gehry's architectural design experiments, **PROTOTYPING PLATEAU GEHRY _CONNECTIVES** also uses other relevant works by Deleuze alone, co-authored with Guattari, or co-written with other authors. These are: *Dialogues: Gilles Deleuze and Claire Parnet* (1987, translated by Hugh Tomlinson and Barbara Habberjam) written with Claire Parnet; two volumes on cinema: *Cinema 1: The movement-image* (1986, translated by Hugh Tomlinson and Barbara Habberjam) and *Cinema 2: The time-image* (1989, translated by Hugh Tomlinson and Robert Galeta). Three other books were used to a lesser degree: *Difference and Repetition* (1994); *Bergsonism* (1991), and *Negotiations: 1972-1990* (1997).

Works in the following list supplemented the scope of Deleuze's writings used in the current studies.

Books:

- Deleuze, Gilles and Félix Guattari (1986) *Kafka: Toward a Minor Literature* (Minneapolis: University of Minnesota Press)
- Deleuze, Gilles (1991) *Empiricism and Subjectivity: An Essay on Hume's Theory of Human Nature* (New York: Columbia University Press)
- (1972) *Proust and Signs* (New York: Braziller)
- (1988) *Foucault* (Minneapolis: University of Minnesota Press)
- (1990) *The Logic of Sense* (New York: Columbia University Press)
- (1992) *Expressionism in Philosophy: Spinoza* (New York: Zone Books)

Architectural interpretations of Deleuze and Guattari's concepts in three issues of the magazine Architectural Design were valuable for studies and explorations of PROTOTYPING PLATEAU GEHRY_CONNECTIVES:

Magazines:

- AD Profile No 102: *Folding in Architecture* issue (Vol. 63 No ¾ March/ April 1993, guest-edited by Greg Lynn, republished 2004)
- AD Profile No 132: *Tracing Architecture* issue (Vol. 68, No ¾ March/ April 1998, edited by Maggie Toy)
- AD Profile No 133: *Hypersurface Architecture* issue (Vol. 68, No 5/6 May-June 1998, edited by Maggie Toy)

Theories and concepts not investigated

Albena Yaneva's theoretical and methodological approach to social Actor-Network Theory (ANT) is apparent in her ethnographical observation-based research at the Office for Metropolitan Architecture. Although this thesis references Yaneva's research study 'Scaling Up and Down: Extraction

Trials in Architectural Design' (2005), and despite her strong interest in ANT, apparent e.g. in her study 'Making the Social Hold: Towards an Actor-Network Theory of Design' (2009), ANT is not within the scope of this thesis. Nonetheless, some traits of constantly shifting relational networks recognised in Gehry's design processes may indicate affiliations with a theory's general methodological approach and with the potentials of an ANT perspective to design.

However, including the assumption that many relations are both material and semiotic, Deleuze's versions of material-semiotics connected with Actor-Network theory quite accurately describe Gehry's design actions and procedures. Furthermore, it quite precisely overlays mappings of relationships that are simultaneously material – between things – and semiotic – between concepts – with mappings undertaken within the PLATEAU GEHRY_CONNECTIVES project and may well indicate possibilities for further studies.

Design studies

At the risk of appearing inappropriate or unprofessional, this thesis does not use the academic discipline of design studies as its framework. Acknowledging at the outset the obvious ties to or correspondence with the course of a critical understanding of the design and its effects through analytical and practical modes of inquiry which the design studies pursue, I will only indicate below some points at which it adjoins with this thesis. Yet, taking into account the aims of the PLATEAU GEHRY_CONNECTIVES thesis, which connects architectural design processes with the work of particular philosophers, the present investigations merely position the thesis adjacent to the field of design studies.

For instance, the nature of Gehry's design practice matches a series of accounts Yaneva juxtaposes in her study on the architectural design process. For instance, the French architect and urbanist Philippe Boudon's assertion that 'architectural design is not a gradual step-by-step transfer from

one scale to another, developing towards a ratio of 1:1' (Boudon 1972),⁵⁸ or that the main figures of architectural design are 'discontinuity and versatility' (Schatz and Fiszer 1999).⁵⁹ Yaneva adds that 'it relies on surges, breaks, sudden "jumps" and meticulous inspections, repetitions and returns; it sets into play simultaneously different sized actors and several scales, many of which persist throughout all the stages of the project, regardless of their precision' (2005: 870 and 889 n9). She indicates that to some extent, even recent studies on engineering design follow such a narrative of discontinuity. For example, sociologist and art critic Kathryn Henderson declares that it is 'a messy non-linear process, full of unforeseen pitfalls and unpredicted actions' (Henderson 1999).⁶⁰ Or, as Louis Bucciarelli, an engineer and scholar, puts it, the engineering design process is 'a maze, or complex multidimensional web of interconnections, moving toward a final well-designed product' (Bucciarelli 1994).⁶¹ It thus confirms close ties of the productivity Gehry's discontinuity, or a non-linear nature, of design productions with the recent critical understanding of the design and practical modes of inquiry of the current design studies.

Social studies of technology and science

Social studies of technology and science, related to design studies and Actor Network Theory, are not discussed in the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis, although several aspects of this growing field of studies overlap

58. In: Yaneva, Albena, Scaling Up and Down: Extraction Trials in Architectural Design' in: *Social Studies of Science* 35/6, December 2005, SSS and SAGE Publications (London, Thousand Oaks CA, New Delhi), p. 870 and note 9, p. 889.

59. Ibid.

60. Ibid.

61. Ibid.

with its research. For instance, in current social studies of technology and science, sociologist John Law reveals rich new meaning in concepts such as interference, oscillation, and rhizomatic networks. The methodology and insights of Law's *Aircraft Stories* reflect his assertion that knowledge, subjects, and particularly objects are 'fractionally coherent', that 'they are drawn together without necessarily being centred' (Law 2002). As PLATEAU GEHRY_CONNECTIVES adopts Deleuze and Guattari's idea of producing 'a fabric of intensive states between which any number of connecting routes could exist' (Massumi 1992: 7), it offers an understanding of Gehry's decentred design activities related to Law's idea of posing an extensive number of questions on design, technology, science, and more. However, PLATEAU GEHRY_CONNECTIVES goes beyond Law's example portrait in six different essays and makes an effort to produce a growing multiplicity of textual 'glimpses', a multiplicity, which in itself would reveal heterogeneity and the active state of creation/production of objects being studied. Following Law's view on technoscience in terms of intensification and alteration, the present work attempts to work on conceptions of architectural design. It bears some similarities to the treatment of interactions between human and nonhuman actors, which Law's study indicates as a paradigm of design studies, complementing the discourses on perception in design practice or in critical studies of design.

Law's study reflects the nature of the main findings of _CONNECTIVES' explorations of Gehry's design methodologies. His production of *rhizomatically* decentred architectural language and formations generate alterations of a fixed identity of design objects at various levels and phases of the design process (or intertwine the whole process). PLATEAU GEHRY_CONNECTIVES suggests that it is difficult to distinguish Gehry's specific design practice from artistic actions. Recent studies of design methods discuss the nature of design actions, or design ontology and design aesthetics more generally (Vermaas, Kroes, Light and Moore 2008; Vermaas and Vial 2018), raising fundamental questions about the understanding of design as the transformation of social environments as well as

traditional concepts of product design. It is discussed in a variety of contexts in the emerging fields of design studies and philosophy of design (Vermaas and Vial 2018). The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis may certainly position Gehry's practice within this discourse. It reveals Gehry's methodical alterations of means of architectural design, of aspects of geometry and modes of projections, resulting in new spatial relations and an expansion of the realm of possibilities of fragmented, centre-less, and open for a range of other content and contexts, design processes.

Critical theory and critical architecture

The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis does not investigate Gehry as an architect theorising about architecture; in the words of the American art and architecture critic Aaron Betsky: 'There is little theory in his work' (1990: 47). Indeed, compared with contemporary architects such as Robert Venturi, Peter Eisenman, or John Hejduk et al., Gehry has never regarded architecture as a theoretical endeavour. This subchapter will attempt to describe how Gehry's design practice became part of an architectural theoretical discourse to delimit the research scope of this thesis.

Already in 1989, Gehry's architectural practice had gained academic recognition, and Gehry was considered a practitioner of 'critical architecture.' The Getty Research Institute indicates that he has been featured in four major museum retrospectives and many smaller exhibitions, and 'the subject of considerable scholarly attention' and innumerable publications.⁶² Furthermore, he was invited to give a speech ('Keynote Address') at the symposium 'Postmodernism and Beyond: Architecture as the Critical Art of Contemporary

62. Information accessed from the Getty Research Institute website at: https://www.getty.edu/research/special_collections/notable/gehry.html.

Culture.’⁶³ The University of California at Irvine symposium situated his practice in the realm of architectural theory. Although sometimes referred to as a scientific paper presentation, his ‘Keynote Address’ was never presented or published as such. Gehry’s speech was transcribed and then published in *Critical architecture and contemporary culture* (Lillyman, Moriarty and Neuman 1994: 165-186). The published version of Gehry’s speech was attributed to the topic ‘After Postmodernism’ the latest development of architectural theory at the time.

In 1988 – ten years after the ► **1978** Gehry House (Santa Monica, California 1977-1978) was completed – Gehry was among seven architects featured in the *Deconstructivist Architecture* exhibition curated by Philip Johnston and Mark Wigley. Even though exhibited works of architecture were not selected as applications of the theory of deconstruction but rather as emerging from the architectural tradition and only ‘happen to exhibit some deconstructive qualities’ (Wigley 1988: 11), the concept of the exhibition may be set within the context of the Derridean theory of *deconstruction*. Furthermore, even though one can question whether this way Gehry’s works, with works of other exhibited architects, can be located within the theory of *deconstruction*, Derrida’s writings on architecture and his collaboration with architects cannot remove them from the context. Thereby Gehry’s early experimental practice – exhibited projects from 1977-1978⁶⁴ – position in the context of French critical theory.

Writing about architecture, Derrida challenges the notion that architecture can ever be a radical practice. Although ‘destabilization, deconstruction, dehiscence and, first of all, dissociation, disjunction, disruption, [or] difference’ are

63. The symposium ‘Postmodernism and Beyond: Architecture as the Critical Art of Contemporary Culture’ was held at the University of California at Irvine, October 26-28, 1989.

64. ► **1978** Familian House (Los Angeles, California 1977-1978, project)
 ► **1978** Gehry House (Santa Monica, California 1977-1978)

all attributes of deconstruction in architecture, and although '[a]n architecture of heterogeneity, interruption, non-coincidence' is decisive for Derrida, he also raises questions such as 'who would ever have built in this manner, [or] would have counted on only the energies in *dis-* or *de-*?' And he concludes that '[n]o work results from a simple displacement or dislocation' (1986: 314). Confronted with Wigley's criterion of 'the ability to disturb our thinking about form', which makes exhibited projects deconstructive (Wigley 1988: 10), it shows that Gehry's practice had a central position in Derrida's theoretical consideration of architecture, of Derridean renewing and reinscribing architecture (1986: 328). Furthermore, it defines the 'anarchitectural semanticism,' from which Derrida derives *four points* of invariance of the habituated notion of architecture. At the centre of this notion, Derrida locates adherence to art with the pursuit of beauty, harmony and completeness, which makes the role of form in architecture fundamental. Without it, architecture's attachment to the pursuit of beauty, harmony and completeness, is impossible. Derrida articulates conditions of the radical approach to architecture, outlining four main points for architecture, each of which must be disturbed in any deconstructive architecture – in other words, so much supposed deconstruction in architecture is ineffective as deconstruction unless it confronts these assumed foundations of architecture. As architecture *is* intrinsically becoming a form, as adherence to art, to the pursuit of beauty, harmony and completeness invoked by Derrida confirms, it is a good definition of the ground on which Gehry's constant relationship of his practice with art is founded. It marks the beginning of the process of the ongoing change and redefinition of his architectural design practice along with ongoing changes in the field of art.

Although Wigley's linking of Derridean deconstruction with Gehry's architecture may be questioned and the reference to Derrida's theory seen as incidental, the American literary critic and Marxist political theorist Fredric Jameson's discussion of Gehry's work in the seminal *Postmodernism, or, The Cultural Logic of Late Capitalism* (1991) cannot. Addressing theory,

architecture, film, video, and economics with insightfulness, the work is widely recognized and influential in discussions of postmodernism. Notably, in the chapter ‘Spatial Equivalents in the World System’, which deals with architecture, his discussion turns specifically to ► **1978** Gehry House (Santa Monica, California 1977-1978). Thus, drawing strong links to cultural changes to life that a new phase of economic history brought about, Jameson was a catalyst for Gehry’s architectural design practice becoming a consideration in the context of Kant, Gadamer and Rorty. Such aspects are however only occasionally discussed in the present research.

Architecture as political activism

While accepting Gehry’s view of architecture as an expression of the system of democracy, and although this view regards architecture as strongly linked with politics (Isenberg 2009: 268; Gehry in Kipnis 2003: 1h07’30”), **PROTOTYPING PLATEAU GEHRY_CONNECTIVES** does not aim to explore this aspect to determine its nature. Nor does it explicitly follow up on Deleuze’s call for architecture as a mode of political activism. Nevertheless, this does not exclude the possibility of interpreting Gehry’s architecture, his design processes, or his design production as political activism. This question is thus open for further investigation in the future. It could perhaps include such striking statements as that by the former American secretary of state Hillary Clinton, who in an address to the Council on Foreign Relations declared: ‘We need a new architecture for this new world, more Frank Gehry than formal Greek’ (Bratton 2015: 3).⁶⁵

65. Excerpt from Benjamin H. Bratton’s book *The Stack The Stack: On Software and Sovereignty*, published in *Log* 35, Fall 2015, which explores the consequences and possibilities of planetary-scale computation and the new geopolitical architecture it represents, as well as a review of the book by Jeffrey Kipnis.

Phenomenology

The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis does not address or discuss phenomenology as a theory in its full, complex spectrum. Nonetheless, occasional references are made to the work of the French philosopher, Maurice Merleau-Ponty. These are limited to carefully selected aspects of Merleau-Ponty's writings, such as perception in art, or in particular, the similarity of his conceptual framework of the eye-hand relationship with used by Deleuze in his study of Francis Bacon (Chapter 17, 'The Eye and the Hand' 2003: 154-161 and passim) and Juhani Pallasmaa's image of the "thinking hand" conceptualised and discussed in his study *The Thinking Hand: Existential and Embodied Wisdom in Architecture* (2009).

3. Structure and Methodology

In this chapter, the research methodology of the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis is explained, presenting how specific modes and techniques are used to analyse, discuss and question information concerning the subject, for achieving the research aims. It describes the research methods determined by the structure and specific functionality of the PLATEAU GEHRY_CONNECTIVES project submitted as Volume 2. It shows how and why this particular approach defined the ways of surveying all media documentation outlined in Chapter 2. It also demonstrates how, and why, the survey of diverse materials detailing Gehry's design productions and ways of analysis of relevant works of Deleuze and Guattari reengage into fluctuating and oscillating patterns of connections, previously developed in the PLATEAU GEHRY_CONNECTIVES.

Incorporating theoretical and methodological references to works in architectural theory, philosophy and

other fields located outside of the Gehry/Deleuze bond created in the PLATEAU GEHRY_CONNECTIVES, this PhD thesis captures its similarly constructed, rhizomatic development at some point in time. The methodology, structure and the functioning of the thesis will thus re-reference and reengage the central part of the work, Volume 2: PLATEAU GEHRY_CONNECTIVES, with the theoretical background of the analysis and critical survey of Deleuze and Guattari's works, to position there again, the knowledge that the PLATEAU GEHRY_CONNECTIVES produced.

While such a return or re-referencing of the central part of the thesis is in keeping with the typical conventions for a PhD thesis, the recursive return to the experimental content of the PLATEAU GEHRY_CONNECTIVES of this thesis is related to the reworking of the Deleuzian, rhizomatic mechanism. A typical PhD thesis analyses its case studies through insightful discussion to discover ways, in which they relate to the theory and methods discussed previously. In PLATEAU GEHRY_CONNECTIVES, the re-referencing mode itself attributed a prototype function with an interactive, continually re-mapped format adopted from the workings of Deleuzian rhizomatic patterns.

The structure becomes a method

This thesis is thus an interim report of sorts, reporting on an investigation into the design and the current stage of production workflow that generates the self-reliant nature of PLATEAU GEHRY_CONNECTIVES. This chapter describes the construction and research methods of the PLATEAU GEHRY_CONNECTIVES project, which has been planned as an autonomous vehicle for thinking through Gehry's architectural design production with the assistance of Deleuze and Guattari's philosophy. By doing so, it explains why the PROTOTYPING PLATEAU GEHRY_CONNECTIVES attempts to reintroduce the structure and the functionality that generates the self-reliant

character of the PLATEAU GEHRY_CONNECTIVES project as determining for its structure and methodology, or its structure as its methodology. Volume 3, *After-image*: OUTCOMES combines and further contextualises the research results of experiments of PLATEAU GEHRY_CONNECTIVES into an academic format, attempting to preserve the characteristics of the dispersed and heterogeneous material together with the inherent potential of the PLATEAU GEHRY_CONNECTIVES project. Thus, the analysis and discussion in Volume 3 undertake certain re-mapping of the content and connectivity of the outcomes of the PLATEAU GEHRY_CONNECTIVES in order to systematise and re-contextualise it.

Following Rajchman's analysis of Deleuzian connectivity, the workflow generating the PLATEAU GEHRY_CONNECTIVES is meant to document not only how Gehry holds the multiple, dispersed elements of design production together by "disjunctive syntheses," but also, to reveal how doing it, he prioritizes logical conjunctions over predication or identification (2000: 4). In other words, how Gehry's design production catches on the Deleuzian principle of selection or affirmation. Rajchman translates it from *A Thousand Plateaus* as: '*Only retain... what augments the number of connections.*'⁶⁶ PLATEAU GEHRY_CONNECTIVES not only borrows the structure built by the augmentation of connections assembled in 'series' or 'plateaus' from Deleuze and Guattari's *A Thousand Plateaus*, but also from what 'Introduction: *Rhizome*' (1987: 3-25) makes known as their writing instruction. Divorced from linear argument, this particular type of philosophical writing 'discourages any unified plan of organization or development in favour of an unlimited plane, in which one is always passing from one singular point to another, then connecting it to yet something else', in Rajchman's words (2000: 4). Thus, connecting and weaving together Gehry and

66. Rajchman's quote in italics is his translation from French original, *Mille Plateaux*, Minuit, 1980: 634. In: John Rajchman (2000) *The Deleuze Connections* (Cambridge, MA and London: MIT Press), 4.

Deleuze became the way to build the structure of PLATEAU GEHRY_CONNECTIVES as well as the research method for the project.

Gehry and Deleuze were connected and interwoven at many stages. The first idea came from Rajchman's *The Deleuze Connections* (2000) and *Architecture from the Outside* by the Australian philosopher and feminist theorist Elizabeth Grosz (2001). Grosz located her essays at the junction of philosophy and architecture, and the idea of connecting Deleuze and Gehry came from that junction – and more importantly, from the fact that these essays exemplify the way the two disciplines co-operate while remaining distinct from each other. Furthermore, Grosz's notions about the implications of Deleuze's philosophy for art, architecture, social and cultural thought have benefitted formation of the structural character of the PLATEAU GEHRY_CONNECTIVES project. Grosz asks, 'how can we understand space differently?' and argues that Deleuze is a philosopher of the outside, who 'evacuates' the inside so that architecture can engage its exteriority (Livesey 2015: 8).

Another work that provided guidance for structural and editorial concepts was Adrian Parr's *The Deleuze Dictionary* (2005). The dictionary's short, dense, scholarly texts (with their inter-referencing) were relevant for the connection and composition of short writings in PLATEAU GEHRY_CONNECTIVES. The length and interconnectivity of Parr's dictionary entries influenced the length and connectivity of all of the _CONNECTIVES; each is approximately 800–1500 words, which led to the conception of textual "glimpses" written as first drafts for the present work. Moreover, Parr's dictionary entries were written by leading Deleuzian scholars, and they define and explore Deleuze's concepts and their effects on contemporary cultural studies, feminism, philosophy, geography, cinema studies, and much more. The dictionary has been referenced frequently for PLATEAU GEHRY_CONNECTIVES.

Tangents

PLATEAU GEHRY_CONNECTIVES draws tangential lines between Gehry's design practices and Deleuze and Guattari's thought. The network of those lines and tangent points devises the scope and the content of current work. Determined to produce alterations in the development of the architectural conceptualisation, the early phase of the architectural design process is the crucial circumstance for selection of aspects and elements of Gehry's productions to investigate in each _CONNECTIVE. All investigations of characteristics of buildings, or the events taking place at the building sites, are only consequences of those selected aspects and elements of the design procedures. They are all analysed as lines tangential to Deleuze and Guattari's concepts.

In geometry, *tangent* relates to one line or surface in relation to another (curved) line or surface, touching or being in contact; i.e., meeting at a point and (ordinarily) not intersecting.⁶⁷ The tangential nature of PLATEAU GEHRY_CONNECTIVES however relates more to the force behind each point of touching, to the tangential velocity of each _CONNECTIVE. Thus, the nature of PLATEAU GEHRY_CONNECTIVES is less about the possibility of drawing tangents that touch upon the areas discussed and more about bringing forth the potentials of completely different lines of thought, or actions, encapsulated in tangential connections. The nature of PLATEAU GEHRY_CONNECTIVES is that of an increase in tangential velocity, thrusting lines that fly off each tangent point; of becoming divergent, or even erratic deviation – as the adjective *tangential* suggests: it differs from or is not directly connected to what is being discussed or done. Thus, ideally, the PLATEAU GEHRY_CONNECTIVES project should

67. "tangent, *adj.* and *n.*", *Oxford English Dictionary Online*, Oxford University Press. Accessed at: <http://www.oed.com>. Retrieved on March 17, 2017. 'A surface may also be tangent to another surface along a *line* (e.g. a plane in contact with a cylinder). In quot. 1869, "Taking place along a tangent."' Ibid.

provide the springboard for or become the mechanism that activates Deleuzian nomad thought. Deviating from Deleuze and Guattari,⁶⁸ Brian Massumi describes nomad thought thus: ‘it does not lodge itself in the edifice of an ordered interiority but moves freely in an element of exteriority, as not reposing on identity but riding difference’ (1992: 5).

PLATEAU GEHRY_CONNECTIVES thus contemplates Deleuzian concepts and explores their potentials to disrupt existing readings of Gehry’s design conceptualizations and fabrications. Although a number of Deleuzian concepts – such as ‘smooth and striated space’, ‘becoming’, ‘machinic assemblage’, or ‘the Body without Organs (BwO)’ were less influential than others popularised in the early 1990s, e.g. ‘the fold’, the distinction between ‘the virtual’ and ‘the actual’, or ‘the diagram’ (Frichot and Loo 2013: 4-5), PLATEAU GEHRY_CONNECTIVES acknowledges and employs them as capable of generating new lines departing from any possible tangential point they may form with Gehry’s concepts and procedures. They are all considered relevant for novel thought in architectural theory and practice. In order to absorb them into novel thinking of architectural design production, thinking through the last three concepts re-renders meaning of Gehry’s drawing techniques, the actions of breaking, and placing in, studied in earlier research (Szychalski 2007).

Tangential modes of operation of the PLATEAU GEHRY_CONNECTIVES propose and facilitate numerous reconceptualisations of Gehry’s tools, techniques and means of architectural design productions. These tangential modes of operation draw their capacities from various fields of knowledge and areas of expertise that Deleuze and Guattari adopt, as well as from methods extracted from their works. All _CONNECTIVES thus become experiments. Their modes of

68. Here, I am using vocabulary from the subtitle of Brian Massumi’s book, *User’s Guide to Capitalism and Schizophrenia: Deviations from Deleuze and Guattari* (1992), which gives a good description of the character of Massumi’s writings and is itself a reflection of the nature of nomad thought.

operation are the equivalent of those used to perform scientific experiments in a laboratory, testing connectivity at the tangential points. The results of these experiments determine whether Deleuzian philosophy describes and reconceptualises elements of Gehry's design processes at the selected tangential point. Thus, the whole PLATEAU GEHRY_CONNECTIVES project is the performance of deriving and testing research material according to designated tangential points.

Rhizome and structure

PLATEAU GEHRY_CONNECTIVES is thus an attempt to re-fabricate the structure of *A Thousand Plateaus* in a re-scaled and re-sized format. Instead of the *rhizome* of many plateaus of Deleuze and Guattari's work however, it is intended as a single plateau that applies the *rhizomatic* structure and connectivity of the original. As if the PLATEAU GEHRY_CONNECTIVES might one day be added as another chapter to Deleuze and Guattari's seminal text.

The structure of *A Thousand Plateaus* stimulated the very mode of production and the style of the central volume of this thesis: it shaped an array (or network-map) of experimental, interconnected, short pieces of text. Volume 2, PLATEAU GEHRY_CONNECTIVES, consists of dispersed, yet at the same time, combinatory, combining, and combined _CONNECTIVES. My detailed consideration of *A Thousand Plateaus* was prompted both by its composition – namely, 'plateaus' replace chapters and use different styles, voices, and discuss different disciplines – and more importantly, its interweaving combination that forms a 'rhizome' of productive connections with no centre or foundation, where 'any point of a rhizome can be connected to anything other, and must be' (Deleuze and Guattari 1987: 7). Structurally, PLATEAU GEHRY_CONNECTIVES is conceived and designed as an expandable *rhizome*, an ever-increasing number of _CONNECTIVES with a multiplicity of hypertext connections

between them. It can be noted that the combining form *rhizo*-⁶⁹ with the sense of, or relating to a root (or roots), does not accurately reflect the structure that Deleuze and Guattari describe as the *rhizome*. They reject arborescent structures,⁷⁰ for unlike in the tree or root structure, ‘which plots a point, fixes an order, (...) any point of a rhizome can be connected to anything other, and must be’ (Deleuze and Guattari 1987: 7). This characteristic of the *rhizome* became the azimuth of the structural development of the PLATEAU GEHRY _CONNECTIVES and its most challenging conceptual and technical aspects. Through writings on Deleuze by Australian cultural theorist, Claire Colebrook, the concept of PLATEAU GEHRY _CONNECTIVES gained attributes of an operational device, which facilitates the system of interactions of Deleuze and Guattari’s concepts with aspects and elements of Gehry’s complex and challenging design practices. Deleuzian discourse is rapidly expanding and being related to architecture (Frichot and Loo 2013), space (Buchanan and Lambert 2005), city

69. “rhizo-, *comb. form*”. *Oxford English Dictionary Online*. Oxford University Press. Accessed at: <http://www.oed.com/view/Entry/165254?redirectedFrom=rhizo>. Retrieved on March 16, 2017. ‘The rhizo-, *comb. form*. Earliest in borrowings and adaptations of Greek or (more commonly) Latin words; for early examples see *rhizotomist n.*, *Rhizophora n.* A small number of independent formations within English are found from the early 19th cent. (apparently earliest in *rhizomorphous adj.*). Compare French *rhizo-* (formations in which are found from the early 19th cent., e.g. *Rhizopodes* (see *Rhizopoda n.*), *rhizotaxie rhizotaxis n.*).’ The structure of the current work is not drawing upon multiple etymological origins of combining form of *rhizo-*, which is partly a borrowing from Latin *rhizo-* and partly a borrowing from Greek *ρίζο-*, *ρίζα*, and is rooted in post-classical Latin and scientific Latin *rhizo-* (18th cent. in e.g. *rhizophora Rhizophora n.*) and its etymon ancient Greek *ρίζο-*, combining form (in e.g. *ρίζοτομός* : see *rhizotomist n.*) of *ρίζα* root; chiefly used botany and medicine. compare -o- *connective*.’

70. ‘Ordered lineages of bodies and ideas that trace their originary and individual bases are considered as forms of ‘arborescent thought’, and this metaphor of a tree-like structure that orders epistemologies and forms historical frames and homogeneous schemata, is invoked by Deleuze and Guattari to describe everything that rhizomatic thought is not.’ In Colman, Felicity J., RHIZOME entry in: *The Deleuze Dictionary* p. 231.

(Frichot, Gabrielsson and Metzger 2016), contemporary art (Zepke and O’Sullivan 2010), new technology (Savat and Poster 2009) and design (Marenko and Brassett 2015), it adds applicable methods to generate the content of PLATEAU GEHRY_CONNECTIVES and its *rhizomatic* structure.

Rhizomatic research process

The *rhizome* structure of PLATEAU GEHRY_CONNECTIVES mirrors the *rhizomatic* fashion in which the research material for this project was gathered. Readings of interview transcripts and secondary literature on Gehry intertwine with readings of Deleuze and Guattari and secondary literature on their philosophy. Ideas of connections are derived from the readings and gathered as a dispersed map of possible _CONNECTIVES. The method of nurturing rhizomatic connections followed the mode of Deleuzian writing, ‘which discourages any unified plan of organization or development’ (Rajchman 2000: 4). Along with further readings, films viewed, visits to sites and analyses of visual materials, such as drawings and photographs of models, buildings or design activities in the office, a quantity of material is added without a pre-set plan to already existing tangential points of _CONNECTIVES. At certain later decisive moments of deriving new textual or visual material, some _CONNECTIVES require only final editing. Revised and edited textual glimpses of _CONNECTIVES may appear more similar to the themed topic chapters of a traditional PhD thesis.

The collection of research material concerned tangential points identified, and each of the _CONNECTIVES created on such points grows into an extensive, if provisional arrangement. The subsequent organisation and editing of collected material of each of the _CONNECTIVES often modifies their content into an active repository of unexpected extractions of the new tangential points of possible _CONNECTIVES. Such extractions take place at various points in the textual content, follow a variety of directions and

resemble constantly evolving biological entities. In this way, PLATEAU GEHRY_CONNECTIVES borrows from the botanical origins of Deleuze and Guattari's *rhizome* concept and refers back to a series of botanical examples and descriptions of rhizomes they provide: the subterranean stems, which differ from roots and radicles, bulbs and tubers, potato, couch-grass, or the weed (1987: 6-7). Inseparable from the production of each _CONNECTIVE, the method of deriving research has shown predispositions of a rhizome plant, of constantly producing axillary buds. As such buds, deriving research has potentials of constantly producing new _CONNECTIVE; as if a newly acquired piece of research becomes embryonic shoot with a potential of new growth and forming of yet another new shoots (Bell and Bryan 2008: 306).

And, as a rhizome plant, it also deteriorates in a specific way. It languishes and degenerates at some areas, forming just beside a set of new shoots. As the research material was gathered around each of the _CONNECTIVES ideas, during the editing process some content “withered,” and parts of the *rhizome* never grew into _CONNECTIVES. However, as in plant development, ‘new buds may also form from the older parts of shoot or root (...), these buds, termed *adventitious*, do not conform to the general plan,’ (Heslop-Harrison 2017).⁷¹ Some _CONNECTIVES disappear, forming yet another set of “new shoots,” of new _CONNECTIVES.

In their raw state, _CONNECTIVES maintain their potential to generate multiplicity of Deleuzian *lines of flight*, even from ‘withered’ research material. The present research revealed however that the most vivid and essential glimpses of text emerged from the atrophy of the raw content of _CONNECTIVES.

Connecting procedures of architectural fabrication with the intricate philosophical œuvre of Deleuze (and Guattari), the rhizomatic idea of the PLATEAU GEHRY_CONNECTIVES project is by no means motivated by the possibility of tracing

71. My emphasis in italics.

the history of the impact of the latter on Frank O. Gehry's architecture or his design processes. To an extent, it becomes work in the history of architectural design along with its unique conditions of being merged with digital technologies. This thesis shows how PLATEAU GEHRY_CONNECTIVES proposes an historical archive of Gehry's practice that can be gathered as marked, identified and characterized by Deleuzian interpretations, much like the anthology *Deleuze and Architecture* aims 'to locate and collect the strata of the historical Deleuzian archive as it has incrementally gathered in architecture' (Frichot and Loo 2013: 7). Here, the material of each _CONNECTIVE is driven by and consists of investigations of Gehry's design processes during the same period when Deleuze and Guattari's thought impacted architectural theory and practice. Thus, PLATEAU GEHRY_CONNECTIVES locates and collects the strata of both formulation and versatile advancements of Gehry's design practice along with the legacy of the influence of Deleuze and Guattari in the discipline and practice of architecture. The legacy begins with the early readings and borrowings from *Anti-Oedipus* and adds Gehry's designs from the period from 1978 to 2014 referenced in PLATEAU GEHRY_CONNECTIVES. Thus, _CONNECTIVES are actuated by contemporaneous, concurrent, and analogous phenomena that belong to the same socio-psychological conditions of the period and can be connected. Hence, the long history of a close relationship of architecture and philosophy lasting 'from Plato's city of the republic to Augustine's city of god to Leibniz's monad-house to Heidegger's house of being to Virilio's bunkers' (Massumi 1998: 22) is not the reason for the current project; it leans instead toward 'a certain, fundamental friendship that exists between philosophy and architecture' (Frichot and Loo 2013: 1).

Secondary readings of Deleuze and connectivity

PLATEAU GEHRY_CONNECTIVES fabricates its *rhizomatic* structure of _CONNECTIVES and PLATEAU GEHRY _CONNECTIVES reports on it, contextualising the fabrication and *rhizomatic* mode of gathering research. In this undertaking, Claire Colebrook's lucid introduction to Deleuze's work gave decisive and formative impulses. On the first page, she asks *Why Deleuze?* (2002: 1). Her answer to the question convinced me that Deleuze's philosophy was appropriate for the argument of this thesis, and it also provided guidelines for navigating the body of Deleuzian thought.

Colebrook's book helped to situate the study of various minor elements of Gehry's architectural design production in line with her recognition of 'organisms, cells, machines, or sound waves' as 'responses to the complication, or "problematizing" force of life' (2000: 1). It thus questions of architecture to be posed alongside questions of philosophy, art and science, which Colebrook argues are 'extensions of the *questioning power of life*, a power that is also expressed in smaller organisms and their tendency to evolve, mutate and *become*' (2000: 1). Consequently, Deleuze's emphasis on *becoming* profiles the rhizomatic type of research behind all the _CONNECTIVES and positions the present thesis within the post-structuralist tendencies of the late twentieth-century, which were seen as reactions to structuralism and phenomenology. Furthermore, the study of Colebrook's readings of Deleuze propelled the PLATEAU GEHRY_CONNECTIVES project into its decisive phase and reinforced the structural concept of the structure of the present work. The finesse of her logical connections of engaging and challenging philosophical concepts of Deleuze with an infinite diversity of branches of knowledge sanctioned the formation of dispersed, yet combinatory, combining, and combined _CONNECTIVES.

The energy of Deleuzian ideas emerging from Colebrook's comprehensible reading of conceptual devices of *Gilles Deleuze* (2002) invigorated productions of _CONNECTIVES. It empowered redefining of the mechanisms

of Gehry's design procedures. Through this reading, PLATEAU GEHRY_CONNECTIVES also recognized the Deleuzian power of events capable of overturning our régime of visual signs and follows Colebrook's call to think differently and create new concepts. Hence, for instance, via Gehry's early-declared interest in painting (1985: xiii), the concept of *factual design action* is placed in the context of Deleuze's challenging analysis of the Francis Bacon's paintings – particularly the interpretation of Bacon's diagram (2003: 99-110 and passim) mentioned in Chapter 1. Further on, as the operative set of asignifying and nonrepresentative elements of a painting, Deleuze's definition of Bacon's diagram is set against the major aspect of the concept of Gehry's *factual design action*. Consequently, through unusual functionalities of the painterly diagram of Bacon, Gehry's design actions and strategies gained new aspects to study. Deleuze's reading of the diagram introducing "possibilities of fact" and breaking with figuration, reinvented probing of Gehry's design actions and strategies as simulations, or re-creations, of actions and strategies of a painter. Offering at the same time, re-rendering of specific *factuality* of Gehry's design actions. Finally, the PROTOTYPING PLATEAU GEHRY_CONNECTIVES seeks to discover the meaningfulness Bacon's urge to *record the fact* (Deleuze 2003: 35) for the analysis of Gehry's design practice, or to explain the specific *factuality* of Gehry's design actions through Bacon's traits and colour-patches, which are not sufficient in themselves but must be 'utilized' (Deleuze 2003: 101).

The PROTOTYPING PLATEAU GEHRY_CONNECTIVES recognizes this kind of testing and weaving of Gehry's actions and procedures into the network of Deleuze and Guattari's concepts as a potentially stimulating power of thinking. This kind of potential is adopted from Colebrook's analysis of the event in cinema, which she defines as capable of abolishing our régime of visual signs and forcing us to think differently and create new concepts. In such case, she argues, 'thinking would not be governed by a preceding system, but would be violated by the shock or encounter with life, a life that emits signs well beyond those of the system of signification'

(Colebrook 2005a: 249). The impact of Colebrook's book on this thesis demonstrates that it, in the words of Ian Buchanan, 'actually does what it is supposed to do: it shows you how to use Deleuze's thought to do new things.'⁷²

The methodology of PROTOTYPING PLATEAU GEHRY_CONNECTIVES draws upon methods from case studies undertaken in the Licentiate thesis, used to make elements of Gehry's explorative and intuitive design practice communicable in through language, but more importantly, it relies on methods extracted from the works of Deleuze and Guattari. Therefore, this thesis attempts to capture and analyse their creative potentials and, following one of the objectives of editors of the *Deleuze and Architecture*, aims to propose the content of PLATEAU GEHRY_CONNECTIVES so it can generate 'further permutations and novel combinations of Deleuzian concepts to emerge, in which architecture can creatively and critically invest in the potentiality of spaces yet to come' (Frichot and Loo 2013: 3). Frichot's examination of the condition of contemporary theory and practice of architecture in her essay 'Stealing into Gilles Deleuze's Baroque House' (Buchanan and Lambert 2005: 61-79) contextualizes and enhances this thesis with the range of arguments. Frichot's account engages a matter dealt with in all of the _CONNECTIVES. Her overview of the relationship of architecture with Deleuzian thought demystifies the gravity of architectural design processes and in doing so becomes a metanarrative for all of the _CONNECTIVES.

72. Ian Buchanan on the blurb of *Gilles Deleuze* by Claire Colebrook, (London and New York: Routledge, 2002).

Mapping gaps of knowledge as sites of connections

There are various inaccuracies in analyses of Gehry's works. For instance, important issues of Gehry's particular collaboration with the sculptor Richard Serra⁷³ have been overlooked or misinterpreted. Serra and Gehry both took part in the project ▶ **1981** *Collaborations: Artists and Architects*, Architectural League of New York [with Richard Serra] (New York, New York 1981, project) commissioned by the Architectural League of New York and exhibited in New York in 1981. The collaboration resulted in the design of a bridge with two pylons; Gehry and Serra each designed one. Writing about this design, Forster stated, 'the project never progressed beyond the photomontage (Forster 1998: 11); in fact however, a collage-like image consisting of drawings and photographs pasted along the line representing the aerial element of the bridge was only a part of the exhibit. Forster disregarded other works designed and manufactured for the exhibition; these are crucial for the PLATEAU GEHRY_CONNECTIVES analysis and expose a much higher level of architectural conceptualisation and a greater level of detailing. Evidence of this can be found further in the same publication: there is a photograph included that shows a range of works conventionally included in an architectural project presentation (Forster 1998: 223) and includes a model of 'fish' pylon and two additional large drawings. One of these is reprinted separately in the book alongside the photograph and shows the top part of the Chrysler Building penetrated by the newly designed steel aerial bridge structure.

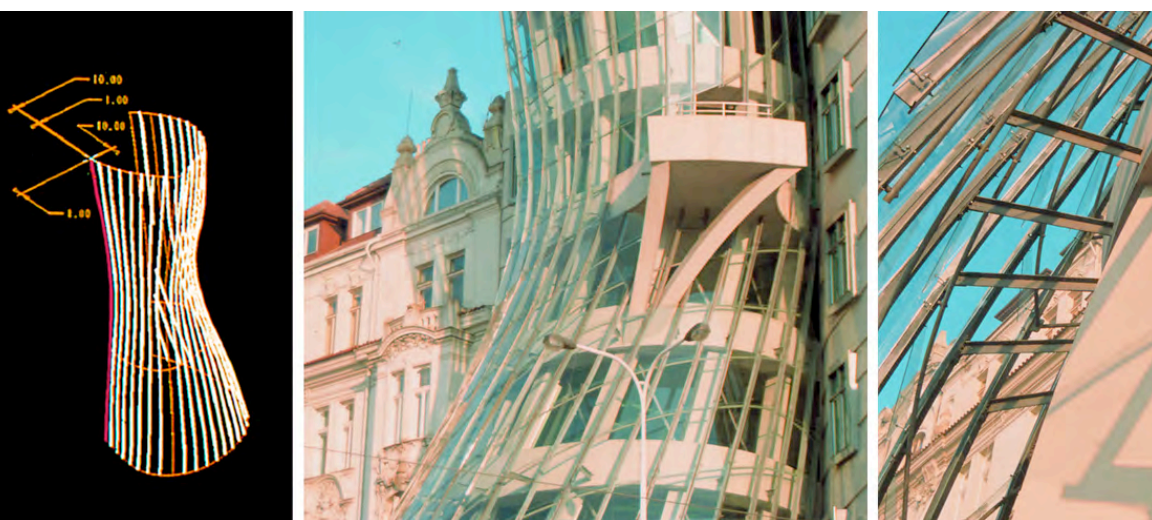
Most importantly, Forster omitted the model of a sample of a glazing system: a skin-wall of the fish pylon, which shows the extent of an ambiguous and imprecise consideration

73. In her bibliography, Sara S. Richardson included the separate section 'Articles on Frank O. Gehry and Richard Serra (Collaboration).' See Sara S. Richardson (1987) *Frank O. Gehry: A Bibliography*. Architecture Series: Bibliography #A 1735 (Monticello: Vance Bibliographies, January 1987), 11.

of an architectural project.⁷⁴ It is easily observable in the model glazing system, which represents a solution that returned in many of Gehry's buildings. If we look carefully at the glazing system developed for ▶ **1996** Nationale-Nederlanden Building (Prague, Czech Republic 1992-1996) ▶ Figure [7], or the interior glazing used in the atrium of ▶ **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997). ▶ Figure [8] It is easy to find a conceptual and architectural relationship between the concept of the fish-scale-like wall, proposed in the model exhibited in 1981, and the fish figure that later became a recurring element of Gehry's work; a fish-becoming-building.

This example may suggest that the art historian, in this particular case, is less able to analyse the architectural design systems in detail. Carefully scrutinising such details, PLATEAU GEHRY_CONNECTIVES offers an analysis that differs from Forster's evaluations; i.e., minute details of design procedures, which in Gehry's practice may – and very often do – undergo further elaborations and development into built structures. Drawing from studies on Gehry's *factual design actions* (Szychalski 2007), an initial hypothesis is that such details of his design procedures demonstrate potentials of re-defining architectural qualities. The project ▶ **1981** *Collaborations: Artists and Architects*, Architectural League of New York [with Richard Serra] (New York, New York 1981, project) provides evidence of Gehry's inclusive explorations of any potentially architectural concept or subject. One of the characteristics of such explorations is the fact that they are always oriented toward their use in building; this exemplifies qualities and properties of the research aims of the PLATEAU GEHRY_CONNECTIVES.

74. Here, the term 'project' cannot be understood as a project of a building, but refers instead to what is often called a proposal in architectural contexts.



► Figure [7]

Frank O. Gehry Architects, *Nationale-Nederlanden Building*, Prague, Czech Republic
1992-96. External glazing system used as façade cladding. Computer image Courtesy
of Gehry Partners, LLP. Author's photographs.



► Figure [8]

Frank O. Gehry Architects, *Guggenheim Museum Bilbao*, Bilbao, Spain 1991-97.
Glazing system in the main atrium. Author's photograph.

Two criteria of qualities and properties of Gehry's design actions were considered when mapping potential sites of their connections with concepts of Deleuze and Guattari:

- each of the chosen design actions are identifiably linked with design process of an individual work of architecture by Gehry, or of another of his individual designs.
- each of the chosen design actions has an identifiable causal link with a specific feature (or features) of an individual physical, (spatial or material) aspect of an individual piece of architecture, spatial arrangement, designed object, or any of its individual elements.

Modus operandi of *nomad thought* and style

The PLATEAU GEHRY_CONNECTIVES project borrows its method of deriving research material from the Deleuzian modus operandi of *nomad thought*, which is an affirmation even when its apparent object is negative (Massumi 1992: 5). Ideally, the force of such derivation should be *tangential*, arriving from outside at the highest tangential velocity to break constraints and to open up avenues for possible future thoughts and actions. Like the space of *nomad thought*, the space of the PLATEAU GEHRY_CONNECTIVES is intended and designed to be “smooth” and open-ended.⁷⁵ It means that due to occurring rhizome indicators, reading/navigating of the text should be open to the possibility of transversal multi-directionality. One can rise up at any point, and move to any other. Paraphrasing Massumi, ‘[i]ts mode of distribution is the *nomos*: arraying oneself in an open space [as in surfing the website], as opposed to the *logos* of entrenching oneself in a closed space [as in holding the printed book]’ (1992: 6).⁷⁶ All _CONNECTIVES

75. My emphasis in italics.

76. Massumi, Brian (1992) *A User's Guide to Capitalism and Schizophrenia: Deviations from Deleuze and Guattari*, (Cambridge, Massachusetts and London: MIT Press),

map and register mechanisms of deviations from architectural design preconceptions and intentionality.

Reading across the multi-media explorations of Gehry's means of architectural production with a focus on the *factual design action*, the thesis investigates the aesthetics of design thinking and acting. Guided by Deleuze and Guattari, the trans-disciplinary mode of PLATEAU GEHRY_CONNECTIVES formulates investigations of Gehry's experiments in the aesthetic and affective strategies of his production modes. The style of PLATEAU GEHRY_CONNECTIVES is intended to utilize the functionality of such continuous passing and connecting. The _CONNECTIVES themselves are thus intended to emulate the specific linguistic function of a connective, of a word or a particle. Consequently, the language of _CONNECTIVES ventures away from the traditionally accepted academic style toward that of creative writing or art criticism, where critical examination of the subject may often be outweighed by affirmative narrations.

Massumi defines the style of Deleuze and Guattari's writing through their conceptualisation of PLATEAU. He argues that for the authors of *Anti-Oedipus*, 'a plateau is reached when circumstances combine to bring an activity to a pitch of intensity that is not automatically dissipated in a climax leading to a state of rest', but sustained and capable of 'creating a fabric of intensive states between which any number of connecting routes could exist' (Massumi 1992: 7). The mechanism of their writing is based on combinations of conceptual elements to compose such an intensive state in thought. The idea of the 'glimpses of text in _CONNECTIVES is to generate an intense energy like that of Deleuze and Guattari, which in their case 'is sustained long enough to leave a kind of afterimage of its dynamism that can be reactivated or injected into other activities' (Massumi 1992: 7). _CONNECTIVES should thus

6. Examples in brackets were exchanged: '(hold the street)' for '(surf the website)', and '(hold the fort)' for '(hold the printed book)'. My emphasis in italics of both *nomos* and *logos*.

mirror personal sensations of and responses to Deleuze and Guattari's heightened energy of their combinations, and hence the production of new connections as if expanding their plateaus with + one. Their combinations provide examples of 'what they call "consistency" — not in the sense of a homogeneity, but as a holding together of disparate elements (also known as a "style")' (Massumi 1992: 7).⁷⁷

The PLATEAU GEHRY_CONNECTIVES does not use meta-language. All _CONNECTIVES are written as if from within or from close up to the objects/actions/relations described. As _CONNECTIVES are supposed to form immediacy of textual glimpses, neither objectivizing withdrawal nor meta-narratives are privileged. The language of _CONNECTIVES merges passages that are straightforward and explanatory in tone with idiosyncratic ones. It corresponds to how Massumi defines the language of his deviations from Deleuze and Guattari in *A User's Guide to Capitalism and Schizophrenia*, where he declares that '[t]he idiosyncratic passages ought to be enough to destroy any misguided trust the reader may place in the authority of the explanatory passages' (1992: 9). The scholarly apparatus has been concentrated in Volumes 1 and 3 and in the notes in all three volumes.

As Deleuze and Guattari intersperse explanatory passages together with idiosyncratic passages, following an example of their language would entail a risk of failure, a danger of disappointing the rigour of academic writing. For some critics, 'Deleuze's use of language is highly unreliable' (Hughes 2008: 79) and 'incoherent because, while a relatively stable structure persists (...), the technical terms used to describe that structure change' (Hughes 2008: 155). On the other hand, one should see the use of language or "style" — which for the authors of *Capitalism and Schizophrenia* is a consistency that holds together disparate elements — as a matter of experiment. Then, and not only then, '[t]he idiosyncratic

77. See Deleuze's account on STYLE in literature in *Proust and Signs* (1972), 142-50, suggested by Massumi.

passages ought to be enough to destroy any misguided trust the reader may place in the authority of the explanatory passages' (Massumi 1992: 6).

Purpose and audience

Although the PROTOTYPING PLATEAU GEHRY _CONNECTIVES thesis emphasises the role of the variously engendered spontaneity of Gehry's design processes, it also reveals the collaborative character of the design processes at Gehry Partners. Moreover, emphasising the important and perhaps decisive character of its intuitive spontaneity, this thesis underlines its limited role in the whole of the necessity of an architectural design endeavour, with all its customary logistics, budget, regulations, clients' needs, etc. Connecting Deleuzian thoughts and Gehry's practice, PROTOTYPING PLATEAU GEHRY _CONNECTIVES should help architects and students of architecture in understanding what is often imperceptible or overlooked when something intuitive is happening. Connections with Deleuze, and with Deleuze and Guattari, aim to expose the minute actions or the micro-procedures of design processes – which very often remain the 'black box' of design.

PROTOTYPING PLATEAU GEHRY_CONNECTIVES

For Milena and Božena

PROTOTYPING PLATEAU GEHRY_CONNECTIVES

Reading Frank Gehry's experiments through Deleuze and Guattari

Pawel Szychalski



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Volume 2. PLATEAU GEHRY_CONNECTIVES

» 0004

Drawing architecture

Kalisz, September 30, 2015 ⇨⇨ Lund, May 9, 2016

Translation from drawing to building

In a discussion with Frank O. Gehry in 1984, Peter Arnell pointed at the similarity of Gehry's sketches with those of two other architects: Robert Venturi, and Aldo Rossi, observing that the sketches of all three are closely related to the buildings in which they result. Leaving inherent qualities of drawings by the three architects unanalysed, Arnell touched upon the problem of two fundamental notions that define the nature of architectural drawings: the problem of translation from drawing to building, and the problem of representation. Exploring the role of drawing in architectural design, Robin Evans specified the nature of the former by reminding that 'to translate is to convey' (1997: 154) Indeed, the Latin *translatio*, meaning to remove or carry from one place to another, may suggest that the purpose of translation is to move something without altering it. However, Evans claims that as in a translation between languages, the sense of words 'does not appear to have the requisite evenness and continuity; things can get bent, broken or lost on the way.' » **C 0983** » **C 0429** Evans argues:

The assumption that there is a uniform space through which meaning may glide without modulation is more than just a naïve delusion, however. Only by assuming its pure and unconditional existence in the first place can any

precise knowledge of the pattern of deviations from this imaginary condition be gained (1997: 154).

Evans later draws a parallel with what happens in architecture between the drawing and the building, stressing that ‘a similar suspension of critical disbelief is necessary to enable architects to perform their task at all’ (1997: 154).

The representation problem

The comparative analysis of two paintings – *The Origin of Painting*, by David Allan from 1773 and *The Origin of Painting*, by Karl F. Schinkel from 1830 – provided Robin Evans with insight into the unique condition of representation in architecture. Suggesting an initial distinction between the object of drawing as practised in architecture and painting (or drawing) as practised traditionally in Western art, he points out that although agreeable, generalisation upon ties between subject and its representation in painting ‘may have suffered vast idealization, distortion, or transmogrification, but [in architecture] the subject, or something like it, is held to exist prior to its representation’ (Evans 1997: 163). The phenomenon of architectural representation attempted through the technique of drawing then sets up a radically different condition. The subject of an architectural drawing, which is the building (or any other spatial arrangement or its fragment), ‘will exist *after* the drawing, not before it,’ says Evans and continues:

Drawing in architecture is not done after nature, but prior to construction; it is not so much produced by reflection on the reality outside the drawing, as productive of a reality that will end up outside the drawing (1997: 165).

This complicates the very conceptualization of the *modus operandi* of an architectural drawing, and thus Arnell’s initial reflection on the similarities between the sketches of three different architects requires re-examination in light of Evans’ argument.

Potentials of architectural sketch

As a hand-drawn sketch is commonly interpreted as an early externalization of an architect's idea, Evans' interrogation of the imaginary condition of a perfect, unmodified translation of its content or meaning into building seems logical. A uniform space through which their meaning and content may glide without modulation does not exist. Thus, the variety of the degree and amount of deviations of translation from sketch drawing to building can be used to re-evaluate the relationship of sketches to buildings Arnell mentioned when interviewing Gehry in 1984. Already then, the differences between Gehry's sketches and those produced by Venturi and Rossi were observable. Functioning universally as visualisation tools, Venturi and Rossi's sketches seem to underestimate or limit their potential as tools for experimentation. Conversely, Gehry's drawings explore the tradition of sketching to deviate from its specific condition of architectural representation. Although they exemplify features typical of any sketch; i.e., of quick, inaccurate, vague or careless drawings, Gehry's statement about their mode of production frames these features differently:

I do a different kind of drawing now. They are a searching in the paper. It's almost like I'm grinding into the paper, trying to find the building. It's like a sculptor cutting into the stone or the marble, looking for the image. [► **C 0660**] At least it feels like it to me. I never think of the drawings as a finished product — they're a process to get to an idea. If you watch me draw — actually draw — you'll see it's a frantic kind of searching. I let that lead, and then make models of the idea scratched out of the paper, and then go back to the drawing, and so on (Gehry 1985: xv).

By making his drawing technique the searching tool, Gehry substantiates conditions of Evans' analysis. Gehry's drawings are certainly not produced by reflection on the reality outside

the drawing, but they produce a reality that will end up outside the drawing.

This mode of production questions the representational aspect of the architectural sketch, merging the architect's vision into the vagueness of the drawing. Or rather, it generates a kind of representation of the architect's vision with its inherent vagueness, where any architectural image that the architect searches for is difficult or impossible to discern. Furthermore, it only appears contradictory with Gehry's grinding into the paper, for his 'grinding' is actually the act of producing linear marks (or whole areas filled with them), which Deleuze identifies in Francis Bacon's paintings as a quality of 'indiscernibility' or 'undecidability': 'What Bacon's painting constitutes is a *zone of indiscernibility or undecidability* between man and animal' (Deleuze 2003: 21).

This connection with Deleuze's analysis is not a matter of identifying rules or devising formal arrangements for the future architectural object. It is used here to show that zones of indiscernibility or undecidability operate beyond formal correspondences between animal forms and forms of the human body. As Deleuze writes, '[i]t is never a combination of forms, but rather the common fact: the common fact of man and animal' (2003: 20). This has nothing to do with a formal correspondence, but with the ambiguity Gehry and Bacon produce. For instance, Bacon's techniques of rubbing and brushing cause the human face to lose its form, they disorganize it, and the head of an animal emerges in its place (Deleuze 2003: 20).

What Gehry produces by his technique of grinding into the paper are the compounds of lines, marks or traits of *architecturality* that do not denote architectural forms; in the same way, Bacon's marks or traits of animality are not animal forms. Gehry's searching in the paper, trying to find the building, or cutting into the stone or the marble, looking for the image are like Bacon's techniques of local scrubbing and asignifying traits. Gehry's drawings act to habituate the architectural meanings, individualizing and qualifying the architectural object without any reference to façade, plan or any other two- or three-

dimensional projection. This is in tune with operating patterns of Bacon's techniques. Deleuze's examples facilitate understanding of their potentials:

Sometimes the human head is replaced by an animal; but it is not the animal as a form, but rather the animal as a *trait* - for example, the quivering trait of a bird spiralling over the scrubbed area, while the simulacra of portrait-faces on either side of it act as "attendants" (as in the 1976 *Triptych*). Sometimes an animal, for example a real dog, is treated as the shadow of its master, or conversely, the man's shadow itself assumes an autonomous and indeterminate animal existence. The shadow escapes from the body like an animal we had been sheltering. (Deleuze 2003: 20).

Gehry's combinations of vision and vagueness in the drawing have a much more complex character than formal correspondences. The zones of indiscernibility or undecidability they produce are performative in their character rather than the end-result of the act of drawing. They are the states of a continual exchange of one estimation to an opposite one, yet they do not exclude any quality ranging between architecturally meaningful and architecturally meaningless, between formal and informal, between form and formless. » C 0477 » C 0943 » C 0508 Referring to the operational capacity of Bacon's diagram, Deleuze juxtaposes the painterly zone of indiscernibility with a relative zone of indistinction:

(...) the diagram forms not a relative zone of indistinction that is still optical, but an absolute zone of indiscernibility or objective indetermination that is opposed to the optical, and that forces the eye to confront this manual power as if it were a foreign power (Deleuze 2003: 137). » C 0660 » C 0049

The performative power of Gehry's drawn zones of indiscernibility or indetermination is driven precisely by forcing the eye to confront the drawing's manual power. » C 0260 » C 0061 Acting as an architectural draughtsman, Gehry forces his eye to confront his own manual power as if it were a foreign

power. For Gehry, drawing architecture is maintaining this power, accelerating ‘a frantic kind of searching,’ and ‘let[ting] that lead and make models of the idea scratched out of the paper, and then go[ing] back to the drawing, and so on’ (1985: xv).

Rhizome:

» C 0000

- » C 0049** Chaos and potentials of painting
- » C 0061** Optical versus manual

» C 0200

- » C 0260** Zones of indiscernibility
- » C 0255** Ambiguous lines

» C 0400

- » C 0477** Imagined and unimagined

» C 0500

- » C 0508** Augmenting lines

» C 0600

- » C 0660** Diagram

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» 0043

Breakthrough

Kalisz, November 21, 2015 »» Kalisz, November 6, 2017

Generating new information

I approach architecture somewhat scientifically – there are going to be *breakthroughs* and they're going to create new information (Gehry 1980: 41).⁰¹

It is clear from the above statement that the scientific-like search for a *breakthrough* is about generative forces to which Gehry attributes his architectural design processes, however, the actual circumstances that enable or activate the creation of new information remain unclear. In this sense, the unexpected developments of Gehry's action of breaking the Color-Core® laminate sample » **C 0429** disclose the kind of operational capabilities generating new information. A broken piece of Color-Core® material transforms Gehry's thinking; what makes a *breakthrough* operational is thus an unforeseen, abrupt alteration, something from outside of his conventional design thinking, something un-thought. » **C 0423** What follows the violent act of breaking is not something the architect intend to

01. Citing this interview by Barbaralee Diamonstein, Celant emphasized the word *breakthrough*. In Germano Celant, 'Reflections on Frank Gehry' in: Peter Arnell and Ted Bickford (eds.) *Frank Gehry: Buildings and Projects* (New York: Rizzoli International Publications, 1985), 7.

do or presupposed doing. What is more, before he even thinks of or conceptualises the effects of breaking the laminate material, there is a kind of response – ‘I broke the ColorCore® and then I loved it’ (Gehry 1985: xvi). This is exactly what Claire Colebrook defines as Deleuzian affect, ‘*intensive* rather than *extensive* affect’ (2002: 38).

As extension organises a world spatially, into distributed blocks, Colebrook argues, with objects mapped on to a common space, everyday vision takes this extensive form. It maps or synthesises the world in terms of presupposed purposes and intentions: ‘I “see” the world *as* a world of distinct functions, continuous through time’ (2002: 38-39). The action of breaking proves that Gehry’s design activities are capable of traversing such habitual synthesising process. His architectural design thinking and methods reveal inclinations toward different characteristics (or types of behaviour) than presupposed purposes and intentions. ► **C 0429**

Intensive affect

Affect is intensive to the extent that it is capable of reorganizing our perception of the world and literally ‘disjoins the usual sequence of images – our usually ordered world with its expected flow of events – and allows us to perceive affects without their standard order and meaning’ (Colebrook 2002: 39). ► **C 0188** ► **C 0423** ► **C 0888** This is also what Deleuze sees in cinema, which is capable of presenting affects and intensities re-composing images through time. ► **C 0543** ► **C 0923** ► **C 0576** ► **C 0102** ► **C 0965** What makes Gehry’s *breakthrough* operational in the case of the action of breaking is its intensity. The intensity of something un-thought and unforeseen, the intensity of abrupt alteration presenting affects the way that it capacitates the re-composition of images in time. ► **C 0049** ► **C 0423** ► **C 0429** ► **C 0389** ► **C 0983** ► **C 0474** ► **C 0472** ► **C 0005** ► **C 0771**

Colebrook exemplifies various kinds of affect that operate on us in different ways. '[T]he light that causes our eye to flinch, the sound that makes us start, the image of violence, which raises our body temperature' (Colebrook 2002: 39), and breaking the ColorCore® laminate in frustration causes change and produces an irresistibly captivating image.⁰² » **C 0188** » **C 0423** » **C 0888** In Gehry's reporting, affect can be observed becoming operational at precisely this moment:

I broke the ColorCore® and then I loved it. It was just so beautiful when it shattered – it looked like flints. I started layering it and we made a fish (Gehry 1985: xvi).

Colebrook argues that for Deleuze, 'affect is intensive because it happens to us, across us', and that 'it is not objectifiable and quantifiable as a thing that we then perceive or of which we are conscious' (2002: 39). Essential is thus the moment of change, before the captivating image is perceived. In such situations, Deleuze refers to *intensities* of affects. The intensity of the affect of the action of breaking and the material alteration it produces is not objectifiable or quantifiable. Through its intensity, affect capacitates *breakthrough*. It hijacks the attention of the architect while simultaneously creating new information.

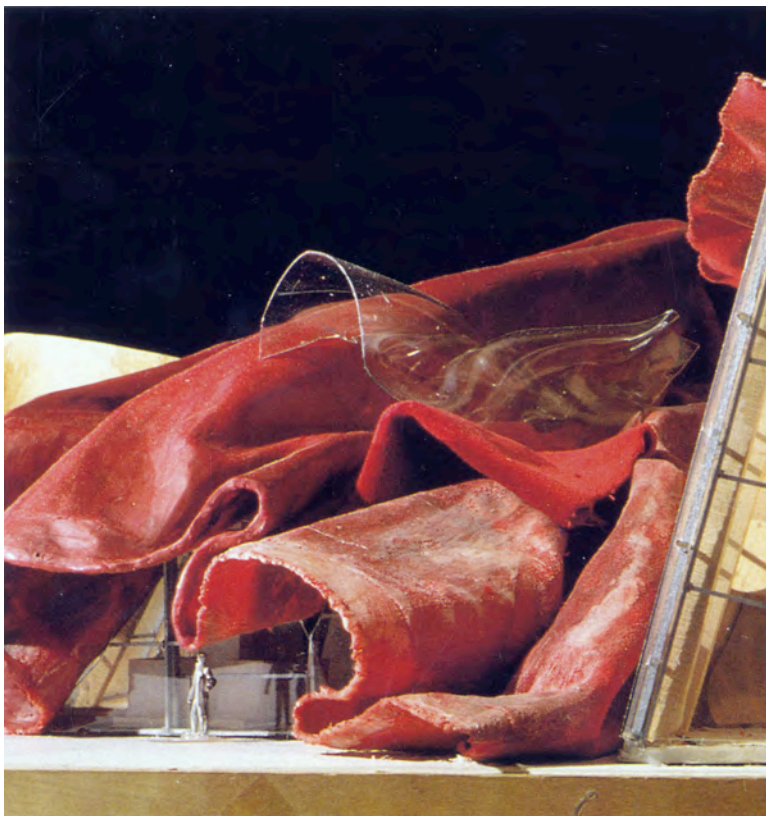
A dynamic threshold

Gehry's prevailing intuition of *breakthrough* falls into Deleuze and Guattari's affirmation of zones of indetermination. They declare that 'living beings whirl around, and only art can reach and penetrate them in its enterprise of co-creation', where 'art itself lives on these zones' and capacitates 'the moment that the

02. "I went through all the traditional stuff of cabinets. (...) And so in frustration, I broke the ColorCore® and then I loved it." In "No, I'm an architect." Frank Gehry and Peter Arnell: A Conversation,' in: Arnell, Bickford (eds.), *Buildings and Projects*, xvi.

material passes into sensation' (Deleuze and Guattari 1994: 173-174). One such moment of co-creation, of art reaching and penetrating living beings and whirling around at Gehry's office, is recalled in Jeffrey Kipnis' documentary *A Constructive Madness*: 'Everybody knew it was a breakthrough', says Gehry's assistant Susan Desko. She recalls Gehry putting his hand on his heart, saying: 'This is everything I've ever wanted to do!' ► **C 0764** Desko adds that at that very moment, 'there was just a sense of calm about him (...). And it was just so dead serious.' (Kipnis 2003: Scene 15.13).

In this enterprise of co-creation, potentials of red felt soaked in liquid wax are *architecturalised*. But the *architecturalisation* takes place through intensive affect, which happens to architects involved, across them, and the unbuilt becomes a zone of indiscernibility, an ultimate zone of undecidability, not objectifiable and quantifiable as a thing that we then perceive, or of which we are conscious when it congeals and becomes art itself that lives on these zones, taking form and augmenting an architectural model. ► Figure [1] The *breakthrough's* intensity gives the material the capacity to pass into sensation. Constantin V. Boundas finds in Deleuze that 'intensity is a singularity capable of generating actual cases, none of which will ever come to resemble it' (Boundas 2005: 131). Every deflection, concave or convex, every fold of the fluid surface of the red, waxed felt differs from the initial intensity of the affect. Temporal fluidity makes each deflection and every fold a virtual, yet real event 'whose mode of existence is to actualise themselves in states of affairs' (Boundas 2005: 131) again and again, in its formlessness, in the formless distribution of forces incommensurable as Deleuzian intensities. When positioned between the virtual and the actual, which Boundas defines as the two sides of the Deleuzian ontology, 'intensities catalyse the actualisation of the virtual, generating extension, linear, successive time, extended bodies and their qualities' (Boundas 2005: 132).



► Figure [1]

Frank O. Gehry, *Lewis Residence*, study model with red waxed velvet
Lyndhurst, Ohio, 1985-1995 (unbuilt), Image Courtesy of Gehry Partners, LLP.

Gehry's *breakthroughs* are of a pendulous, oscillatory nature. They are Deleuzian intensities continually fluctuating between the virtual and the actual, they catalyse the actualisation of the virtual as it generates new information Gehry requires. Kipnis places the generative variables of red, waxed velvet in two contexts of art history. According to Kipnis, in 'a desperate moment, [in which] the designer tossed a piece of red fabric over the working model in the studio, and began to manipulate it' there is a recollection 'of the very principle of action painting,' » C 0502 » C 0474 whereas the folding in which Gehry actualised the generative variables of fluid velvet 'strangely echoed the ubiquitous presence of red drapery as an organizing force in the history of art' (Kipnis 2003: Scene 15.12). But most importantly, describing the manoeuvrings with the waxed velvet, Kipnis touches upon the very nature of Gehry's *breakthrough*, which is always embedded in the material, or becoming materiality.

The moment of tossing and manipulating maintains the Deleuzian intensity in an unusual kind of equilibrium between the virtual and the actual. It makes palpable what Hélène Frichot describes in the context of architecture as 'the dynamic threshold between the virtual and the actual' (2005: 71). She refers to Bergsonian sources of the notion and points out that 'actualization is a process in which we can participate' (2005: 71). It takes place precisely until the wax makes the temporary flexibility of the velvet capable of becoming a solid surface, a physical representation of an architectural enclosure. As an ideally malleable material passes into the ideally architectural properties of the surface, it explains Deleuze's assertion borrowed from Bergson that 'actualisation is creation' (Bergson 1991: 98). » C 0764 » C 0907 » C 0730 » C 0049 » C 0905 » C 0559

Gehry's *breakthrough* balances between the virtual and actual 'confronting us with effects that are less causal in their structure and rather like after-images, or effects of light that appear and disappear in a flash' (Frichot, 2005: 71). » C 0477 » C 0350 » C 0905 In its extreme, the architect 'substitutes

sensation for form, intensity is what is given priority' (Boundas 2005: 132). Recognizing and appreciating its generative value, Gehry aims for sensation, searches for it. As Boundas finds it in Deleuze's aesthetics:

Sensation is intimately related to the intensity of the forces that it does not represent. Sensation is the affect, which is neither subjective nor objective; rather it is both at once: we become in sensation and at the same time something happens because of it (Boundas 2005: 132).

Rhizome:

» C 0000

- » C 0005 A throw of woodcuttings
- » C 0049 Chaos and potentials of painting

» C 0100

- » C 0102 Cinematic language constructing its own 'objects'
- » C 0188 Gehry's *factual design action*

» C 0300

- » C 0350 After the event effect
- » C 0389 Action of wrapping

» C 0400

- » C 0423 Disruptive actions, disruptive affects
- » C 0429 *Action of breaking*
- » C 0472 *Action of cutting*
- » C 0474 *Action/painting*

- » **C 0477** Imagined and unimagined

 - » **C 0500**
 - » **C 0502** Pollock
 - » **C 0526** [non] Sense
 - » **C 0543** Cinematic *viewing-sections-model*
 - » **C 0559** Malleability
 - » **C 0576** Cinematic framings and irrational breaks

 - » **C 0700**
 - » **C 0730** Distribution of formless forces
 - » **C 0764** [1993] Unbuilt
 - » **C 0771** *Action of placing in*

 - » **C 0800**
 - » **C 0888** Gesture and the concept of *plain action*

 - » **C 0900**
 - » **C 0905** Immediacy and kinetic properties
 - » **C 0907** Dust: The impossible of architecture
 - » **C 0923** Cinema of scaling
 - » **C 0730** Distribution of formless forces
 - » **C 0965** Cinematic *sections/frames*
 - » **C 0983** *Action of bending*
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» **0104**

Waterfall

Lund, March 18, 2018 ►► Lund, March 21, 2018

Deformation: waterfall

Deformation is a change. » C 0188 » C 0888 Deformation makes form different. Active tectonics instigate change, move and crash, generate deformations. » C 0943 Talking about the design of the ▶ 1997 Samsung Museum of Modern Art (Seoul, South Korea 1997, unbuilt), Gehry refers to a sense of movement he attempted to emulate and declares this project is the furthest advance in achieving it. ‘It’s water’, he immediately adds, ‘I was trying to make it water. I was trying to make a waterfall in Korea...’ (Gehry 1999b: 50) » C 0321 » C 0559 » C 0764 » C 0663 The architecturally impossible mission of ‘making water’ shows the level of Gehry’s determination to capture the sense of movement in built spatial enclosures. In this task, Gehry tries to reformat the sense of movement of the cascading flow of a body of water into active tectonics of his study models, tectonics that generate change and instigate deformations. He recalls the ups and downs of the process:

There are a few places there where it works. I was getting close in a material way. In real life it would have started to be water, (...). But it’s another sense of movement. It’s liquid. (Gehry 1999b: 50) » C 0559 » C 0663 » C 0125

What Gehry is seeking here is to recreate such properties of a liquid substance ‘in which its particles move freely over each

other so that its masses have no determinate shape.’⁰¹ He is looking to compose spatial enclosures as if their makeup were fluid mechanics turned tectonics.

Fluid mechanics

The waterfall is a continually deforming flux of increasing velocity. The robust, sloping flows interweave chaotically. The waterfall is ever-changing fluid turbulence.

The richness of fluid mechanics is due in large part to a term in the basic equation of the motion of fluids, which is nonlinear — *i.e.*, one that involves the fluid velocity twice over. It is characteristic of systems described by nonlinear equations that under certain conditions they become unstable and begin behaving in ways that seem at first sight to be totally chaotic. In the case of fluids, chaotic behaviour is very common and is called turbulence.⁰²

In the waterfall, Gehry intuits the potential of the nonlinear motion of turbulence at its molecular level and tackles the very nature of liquid deformations, of chaotic flows. ▶ C 0049 ▶ C 0005 ▶ C 0559 ▶ C 0943 He experiments with turning deformations of turbulent flows into the *de*-formative energy of active tectonics of his study models, animated by plummeting patches of deformed cardboard and paper strips. ▶ Figure [1] Gehry handles the project of making the ▶ 1997 Samsung Museum of Modern Art (Seoul, South Korea 1997, unbuilt) water by inventing forces of indeterminacy and rendering them in the transient, fleeting architectural model. For Gehry, it

01. ‘liquid, *adj.* and *n.*’ *OED Online*, Oxford University Press, published January 2018. Accessed online at: www.oed.com/view/Entry/108914. Retrieved on March 18th, 2018.

02. Thomas E. Faber, ‘Fluid mechanics’, *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., Published on October 25, 2016. Accessed at: <https://www.britannica.com/science/fluid-mechanics/Hydrodynamics>. Retrieved on March 17th, 2018.

becomes evident when he moves to the design of the ► **1995** Telluride Residence (Telluride, Colorado, 1995-1998-unbuilt) project. Gehry interprets indeterminacy thus:

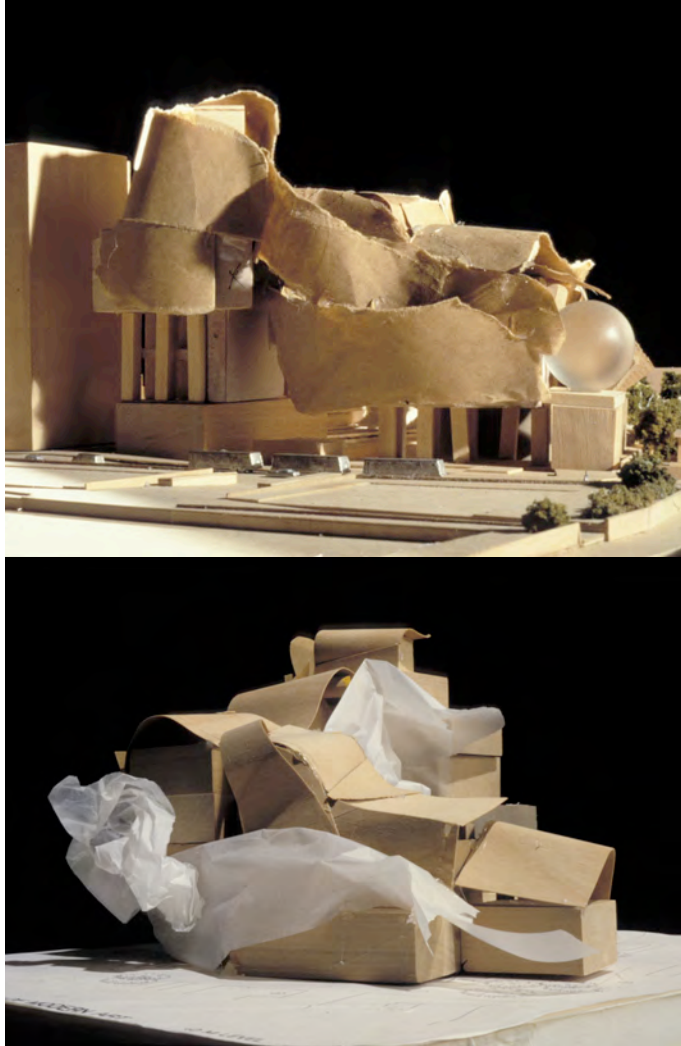
Chiat's Telluride house goes the next step, which is indeterminacy – you don't know what the forms are. [► **C 0943**] In other words, every time you look at it, it's going to be different. The models are ephemeral, [► **C 0663**] and it's like ripping a piece of paper. The ripped edge can be beautiful. But you can't make architecture do that. I think I'm starting to explore that seriously in Jay's house. That indeterminacy that you get when you're not certain what it is. (1999b: 49-50).

Indeterminacy of turbulent flow

In fluid mechanics, a turbulent flow is the constant state of deformations. ► **C 0943** ► **C 0559** ► **C 0764** Fluids undergo irregular fluctuation, particles move freely over each other, flows mix and their speed changes continuously, both in magnitude and direction.⁰³ What we learn from fluid mechanics is how indeterminacy embodies itself in physical matter. In turbulent flow, masses of liquid substance have no determinate shape⁰⁴ and speed is unevenly distributed, because in turbulence:

03. The Editors of Encyclopaedia Britannica, 'Turbulent flow', *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., published on January 28, 2016. Accessed online at: <https://www.britannica.com/science/turbulent-flow>. Retrieved on March 16th, 2018.

04. 'liquid, *adj.* and *n.*' *OED Online*, Oxford University Press.



► Figure [1]

Frank O. Gehry, *Samsung Museum of Modern Art*, study models
Seoul, South Korea, 1997 (unbuilt). Images Courtesy of Gehry Partners, LLP.

perturbations grow parasitically, where two different modes of motion may exchange energy, so that one grows in amplitude at the expense of the other, until the flow pattern is so grossly disturbed that it is no longer useful to define a fluid velocity for each point in space (...).⁰⁵ ➤ C 0536

Attempting the materialisation of indeterminacy, Gehry combines the problem of capturing forces with what Deleuze calls ‘the decomposition and recomposition of effects’. (2003: 57). For instance, referring to the history of painting, Deleuze recognizes ‘the decomposition and recomposition of depth in the Renaissance, the decomposition and recomposition of colours in impressionism, [or] the decomposition and recomposition of movement in cubism’ (2003: 57-58). Furthermore, Gehry’s interest in the movement of the turbulent flow reflects a complexity of movement Deleuze calls ‘an effect that refers both to a unique force that produces it, and to a multiplicity of decomposable and recomposable elements beneath this force’ (2003: 58). Similarly to Bacon’s bodies in motion, Gehry sees in the waterfall superimposed appearances of increasingly disturbed fluidity, the surface twisting and crushing in undetermined undulations, ‘one on top of the other, in ways different from those vouchsafed to us in life’ (Deleuze 2003: 58 n1).⁰⁶ ➤ Figure [2] ➤ C 0328 ➤ C 0740 ➤ C 0032 ➤ C 0155 ➤ C 0125 ➤ C 0536 ➤ C 0906 There, he appropriates turbulent flows and the non-linear, chaotic behaviour of fluids and produces multiple, irregular fluctuations of strips of thin,

05. Thomas E. Faber, ‘Turbulence’, *Encyclopædia Britannica*, Encyclopædia Britannica, Inc. Published: October 25, 2016. Accessed online at: <https://www.britannica.com/science/fluid-mechanics/Hydrodynamics>. Retrieved on March 19th, 2018.

06. See Russell, *Francis Bacon* (Chapter 5, note 5), p. 123: Duchamp ‘was interested in process as a subject for painting, and in the way in which a human body makes a coherent structure when it walks downstairs, even if that structure is never revealed completely at any one moment in time. Bacon’s object is not to show successive appearance, but to superimpose appearances, one on top of the other, in ways different from those vouchsafed to us in life. Henrietta Moraes in the *Three Studies* of 1963 is not moving from left to right or from right to left.’

bent and twisted material. The model-materials respond to forces and render their visual in the waterfall of flakes of tiny spatial enclosures. » C 0663

Gehry relentlessly questions the rules that govern the dependence of an architectural design on geometrical organization. » C 0316 » C 0371 In a waterfall, in its turbulent flows, its irregular fluctuations and its speed variations to both direction and magnitude, Gehry turns to a type of geometrical organization that Brian Massumi calls 'the topological turn'. It entails, Massumi argues, 'a shift in the very object of the architectural design. Traditionally, form was thought of as both the raw material and end product of architecture, its origin and telos. Form bracketed design.' Approached topologically, the architect's raw material is no longer form, but *deformation*. (Massumi 1998: 16).

Geometry passes into fluid complexity of *non-geometry* of study models of the ► 1995 Telluride Residence (Telluride, Colorado, US 1995-1998-unbuilt) project, resulting in topological deformations tested in the Korean project. It passes into non-Euclidian geometry that Deleuze calls 'quite different geometry, a sort of Archimedean geometry, a geometry of 'problems', and not of 'theorems' like Euclid's' (Deleuze and Parnet 1987: 141); a geometry of indeterminacy of the torrents of water pouring over rocks that through Gehry's manual deformations become *non-geometry* of scraps of thin, black cardboard continuously swirling or being broken, mixed with strips of crumpled tracing paper. All twisted and mashed into a falling down, never reaching a plunge pool, body of conjured flicking rapids. » C 0559 » C 0764 ► C 0125



► Figure [2]

Frank O. Gehry, *Telluride Residence*, study model Telluride, Colorado, US 1995-1998 (unbuilt). Image Courtesy of Gehry Partners, LLP.

Rhizome:

» C 0000

- » C 0005 A throw of woodcuttings
- » C 0032 We detail on the curtain wall
- » C 0049 Chaos and potentials of painting

» C 0100

- » C 0188 Gehry's *factual design action*
- » C 0125 Surface
- » C 0155 Chain-link

» C 0300

- » C 0316 [1978] Wagner Residence
- » C 0321 Movement (part II)
- » C 0328 [1957-1989] *Pli selon pli*
- » C 0371 [1974] Norton Simon Gallery

» C 0500

- » C 0536 Multiplicity of actions
- » C 0559 Malleability

» C 0600

- » C 0663 Irritability

» C 0700

- » C 0740 Layering
- » C 0764 [1993] Red waxed felt

» C 0800

- » C 0888 Gesture and the concept of *plain action*

» C 0900

» C 0906 Vibrating tectonics

» C 0943 Deformations

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» 0188

Gehry's factual design action

Kalisz, December 20, 2016 ⇨⇨ Lund, March 30, 2018

Subordination of the hand

As Deleuze sees it, the classical relationship of the eye and the hand in painting and the values through which this relation passes are ‘infinitely richer, passing through dynamic tensions, logical reversals, and organic exchanges and substitutions’ (Deleuze 2003: 154). ► **C 0201** ► **C 0550** Deleuze maps the relationship to distinguish several states of subordination of the hand to the eye and aspects of the values of the hand: the digital, the tactile, the manual proper, and the haptic (2003: 154). ► **C 0308**

Deleuze sees the relationship of the hand to the eye as ranging from the maximum subordination classified through the *digital* value of the hand – where vision is internalized and the hand intervenes only to choose the units that correspond to pure visual forms – to relaxed subordination (2003: 154). He observes that along with the increase of the subordination of the hand to the eye, ‘the sight develops an “ideal” optical space, and tends to grasp its forms through an optical code’ (Deleuze 2003: 155). Grasping its forms through an optical code, this ideal optical space presents at the same time ‘manual referents’ that connect with it. Deleuze calls depth, contour, relief, etc. *tactile* referents (2003: 155). ► **C 0308**

Naturally, Deleuze's analysis of the eye and hand relationship applies to the operational modes of drawing. It may also apply to the manual production of architectural models. As they may disturb the sight developing and maintaining an 'ideal' optical space and grasping its forms through an optical code which is at the core of cognizable functions of means of design, manual referents occurring in architectural sketches, or sketch-models, are rather routinely overlooked, or discarded from the design process. In contrast, Gehry's manual *modus operandi* takes model-making and sketching technique into the area of what Deleuze identifies as 'relaxed subordination' of the hand to the eye.

Moreover, Deleuze notes that 'relaxed subordination' can in turn pave the way for veritable insubordination of the hand – which he calls the *manual* (2003: 155). This broadens by definition the range of elements and aspects of the design purposes, by the habitually overlooked or classified as unacceptable. » **C 0308** In Deleuze's analysis of painting, *veritable insubordination* of the hand permits particular actions. Even if the painting remains a visual reality,

what is imposed on sight is a space without form and a movement without rest, which the eye can barely follow, and which dismantles the optical (Deleuze 2003: 155).

» **C 0888** » **C 0004**. » **C 0255** » **C 0550** » **C 0005** » **C 0049** » **C 0764** » **C 0771** » **C 0476** » **C 0371** » **C 0423** » **C 0474** » **C 0477**.

Factual design action

Analysis of Gehry's architectural design practice discloses design actions that are fundamentally different from all of those, which Deleuze identifies as resulting from the subordination of the hand to the eye. They do not support the sight in developing and maintaining an optical space, within which the externalization of spatial ideas takes place, within which architectural ideas take shape through an optical code. » **C**

0476 » **C 0316** » **C 0771** » **C 0472** Moreover, they break away from already evolved individual design processes. » **C 0043** » **C 0429** » **C 0755** They are specific involuntary actions that he calls ‘a kind of gesture’; they are a matter of ‘an automatic reaction to some of the existing urban topographies, an inspiration from something that [he has] seen...’ (Gehry 1995: 30-31). » **C 0888**

To understand such action without direct expression or explanation, one may return to the Latin roots of gesture: to *gestūra* (noun of action derived from *gerĕre*, to carry).⁰¹ Bodily movements execute actions with remarkable immediacy. Gehry introduces such actions directly into his production modes as if it were a matter of throwing facts into the material environment of design procedures, into the materiality of hand-made early concept models or sketch drawings. » **C 0660** » **C 0005** » **C 0049** » **C 0004** » **C 0755** » **C 0658** Not imagined but actually occurring, they are rather *factual design actions*.⁰² » **C 0477** Rather than common gestures, they are simple actions with the distinctive absence of any physical distance between the tool utilised (or the bare hand) and the material altered in the course of action (or on which their traits are left). » **C 0888** They are characteristically synchronous with and inseparable from the production of their results, their physical residues. They differ from architects’ *conceptual design actions* understood as ideas or concepts concerning formal manipulations that are imagined or named as actions but never take place in physical reality. The latter are introduced merely to narratives about building to communicate – somewhat metaphorically – about specific

01. ‘gesture *n*,’ Oxford English Dictionary, *OED Online*. Oxford University Press, published January 2018. Retrieved on March 26th, 2018.

02. The concept of *factual design action* was conceived and developed by the author in: Paweł Szychalski, *The Role of Gesture in Frank O. Gehry’s Architecture* (Lund: Lund University, 2007) independently of both Deleuze’s analysis of Francis Bacon’s paintings in *Francis Bacon: The Logic of Sensation* and Bacon’s own descriptions of the graph [*diagramme*] as ‘only a “possibility of fact”’ in David Sylvester, *The Brutality of Fact: Interviews with Francis Bacon 1962-1979* (London: Thames and Hudson, 1990).

architectural qualities or properties, as if resulting from actually performed actions.⁰³

As design actions, *factual design actions* are productive only after being performed, only when their traits physically exist and demonstrate the potential to shift directions or change the development of the design process or to create new concepts. » C 0888 » C 0429 » C 0771 » C 0472 » C 0043 » C 0005 » C 0049 » C 0755 » C 0658 » C 0901 » C 0350 » C 0951 These characteristics of *factual design actions* correspond with Deleuze's analysis of manually produced asignifying traits in Francis Bacon's painting. The painter describes them as random marks (lines-traits); scrubs, sweeps, or wipes off the canvas performed to clear out locales or zones (colour-patches); or throws off the paint, from various angles and at various speeds (Deleuze 2003: 99-100). » C 0660 Bacon's manual graph, identified by Deleuze as 'insubordinate colour-patches and traits' (Deleuze 2003: 156), resembles conditions of immediacy in painting; Gehry perceives these as the brush strokes appearing as if they 'were just made' (Gehry 1985: xiii). » C 0831 » C 0201.

Gehry's *factual design actions* function by manual insubordination of the hand defined by Deleuze. Resulting from these often violently performed actions, movement without rest is imposed on sight, » C 0429 'a space without form' occurs: » C 0658 » C 0764 the eye can barely follow them and 'the optical becomes dismantled' (Deleuze 2003: 155). » C 0429 » C 0771 » C 0472 Despite this however, *factual design actions* propel design processes through precisely such violence

03. 'For instance, despite the general awareness that architecture cannot and does not embody any action of opening (so much as some sort of conceptualized spatial organization) interpretation of glazed fragment of the building as "opening in the wall" is generally accepted as justified element of architectural terminology. This terminology is used not only by architectural theorists or critics but often absorbed and adapted by building's common users and viewers, even though they all know that an architect did not opened [sic] any fragment of the wall.' In: Pawel Szychalski, *The Role of Gesture in Frank O. Gehry's Architecture* (Lund: Lund University, 2007), 87.

and manual insubordination. » **C 0651** » **C 0755** » **C 0658**
 » **C 0005** » **C 0049** » **C 0043** » **C 0764** » **C 0690** » **C 0688**
 » **C 0663** Gehry's *factual design actions* deliver design qualities; Bacon achieves this through involuntary marks valued as 'much more deeply suggestive than others' (Bacon in Sylvester: 1990: 56). Bacon benefits from them because, as he says, they create 'the moments when you feel that anything can happen' (1990: 56). What is important is that he feel these potentials not while producing those marks, but when they are already present; when, as he explains, 'the marks are made, and you survey the thing like you would a sort of graph [*diagramme*]. And you see within this graph the possibilities of all types of fact being planted' (1990: 56). According to Deleuze, 'it is all the more important for the traits and colour-patches to break with figuration. This is why they are not sufficient in themselves, but must be "utilised"' (Deleuze 2003: 101-102).

Possibilities of fact

Like Bacon's manual graph, *factual design actions* disrupt tactile-optical space and its figurative consequences. This disruption is exactly what within Gehry's architectural design schemes actions of breaking, » **C 0429** of cutting, » **C 0472** of placing in, » **C 0771** of crumpling, » **C 0658** bending, or folding, » **C 0225** generate. In this scheme, they break with conventional architectural figurations. Through this disruption, they break with conventional architectural figurations. They distort amassed early in the design process wooden blocks, through which Gehry 'can understand the visual impact of the program on the site' (Gehry 2003a: 7). » **C 0967** » **C 0389** » **C 0005** » **C 0049** » **C 0303**

Gehry's tactics of deploying *factual design actions* are equal in value and function with what Deleuze finds in Bacon's graph. It manifests as a passage, which 'whether abrupt or gradual, is the great moment in the act of painting' (2003: 160). In his act of architectural design, Gehry defines the equivalent

of such a great moment as a scientific-like breakthrough, anticipating and assigning it ‘to create new information’ (Gehry in Diamonstein 1980: 41). » **C 0043** Similarly to the operation of Bacon’s graph, each *factual design action*’s function is to be ‘suggestive’, as the painter claims. Or, more rigorously, as Wittgenstein would describe it, it is to introduce ‘possibilities of fact’ (Deleuze 2003: 101). In *factual design actions*, architecture parallels the painting’s capability of discovering, ‘deep in itself and in its own manner, the problem of a pure logic: how to pass from the possibility of fact to the fact itself?’ (Deleuze 2003: 160).⁰⁴

Rhizome:

» **C 0000**

- » **C 0005** A throw of woodcuttings
- » **C 0049** Chaos and potentials of painting
- » **C 0004** Drawing architecture
- » **C 0005** A throw of woodcuttings
- » **C 0043** Breakthrough
- » **C 0049** Chaos and potentials of painting

» **C 0100**

- » **C 0102** Cinematic language constructing its own ‘objects’
 - » **C 0188** Gehry’s *factual design action*
-

04. In note 11, Chapter 17: ‘The Eye and the Hand’, Deleuze refers to Sylvester, *Interviews*, 56: ‘the diagram as ‘only a “possibility of fact.” A logic of painting here meets up with notions analogous to those of Wittgenstein.’

- » **C 0200**
- » **C 0201** Painting
- » **C 0225** Action of folding
- » **C 0550** Gehry's brush strokes
- » **C 0255** Ambiguous lines

- » **C 0300**
- » **C 0303** Model-making and repetition
- » **C 0308** The manual and the haptic
- » **C 0316** [1978] Wagner Residence
- » **C 0350** After the event effect
- » **C 0371** [1974] Norton Simon Gallery. Movement (part I)
- » **C 0389** Action of wrapping

- » **C 0400**
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0429** Action of breaking
- » **C 0472** Action of cutting
- » **C 0474** Action/painting
- » **C 0476** Poetry of scale
- » **C 0477** Imagined and unimagined

- » **C 0500**
- » **C 0550** Gehry's brush strokes

- » **C 0600**
- » **C 0651** Catastrophe
- » **C 0658** Spontaneous crumples
- » **C 0660** Diagram
- » **C 0663** Irritability
- » **C 0688** Gehry's combines
- » **C 0690** Deforming the skin

- » **C 0700**
- » **C 0755** Battlefield of Gehry's
- » **C 0764** [1993] Red waxed velvet
- » **C 0771** Action of placing in
- » **C 0472** Action of cutting

» **C 0800**

» **C 0831** Immediacy

» **C 0888** Gesture and the concept of *plain action*

» **C 0900**

» **C 0901** Daily objects into architecture

» **C 0951** Architectural drawing as cognitive tool

» **C 0967** Wrapping

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» 0201

Painting

Kalisz, September 30, 2015 »» Kalisz, November 22, 2015

Potentials of painting

The very creation of architecture (as well as an architectural profession and education) is generally seen as a confluence of scientific (technical) and artistic activity. To situate architecture between perception and scientific thinking seems fundamental for a comprehensive understanding of architecture; ► **C 0476** not only from the viewpoint of a common user but perhaps more importantly, from the viewpoint of an architect – a person responsible for its conceptualisation. Maurice Merleau-Ponty differentiates scientific thinking; in his phenomenological account of perception, all things in the world are viewed with an objectifying appraisal. He claims that scientific thinking neglects the lived world as the site through which the body perceives and associates itself with others and its surroundings, of which – as we know and experience – architecture symptomatically constitutes a major part. Merleau-Ponty argues that because consciousness extends itself and is affected through the body, perception becomes the means through which consciousness establishes itself as an integral part of the world (Merleau-Ponty 1964).

In his ‘Eye and Mind’ essay, Merleau-Ponty examines how painting exposes the act of perception as ultimately open and immersed in the continuum of existence to the extent that

it is not a channel that simply filters incoming information from a separate environment; it is rather a kind of interconnectedness that allows for a specific simultaneity. » C 0049 » C 0965 » C 0543 » C 0102 » C 0912 » C 0923 » C 0023 » C 0962 One perceives the world through observation and interaction, and experiences the world revealing itself through its very essence.

Vision vs. tactility in Merleau-Ponty

Merleau-Ponty claims that in order to manifest the world in painting, a painter must offer his body into and through the world with his eyes and hands. ‘Painting awakens and carries to its highest pitch a delirium, which is vision itself, for to see is *to have at a distance*; painting spreads this strange possession to all aspects of Being, which must in some fashion become visible in order to enter into the work of art’ (Merleau-Ponty 2001: 291). » C 0938 » C 0906 Referring to the assumed evocation of tactile values of painting, Merleau-Ponty makes a clear point: ‘painting evokes nothing, least of all the tactile. What it does is much different, almost the inverse’ (2001: 291). » C 0260 » C 0474 » C 0536

Merleau-Ponty describes this vision as a movement that both extends the body through the act of looking and opens the body to the world through this extension. The body sees and is seen. It is within this merging of the perceiver and observer that distinctions dissolve between the subject and the object, the real and the imagined, enclosure/encapsulation and space. » C 0260 The painter, endowed with a clairvoyant-like vision, unveils the object, while at the same time the object makes itself known to her. The invisible is manifested through the painter’s enactment of her vision and the object’s revelation of itself to the painter (Wilson 2003).

Although Merleau-Ponty critically defined limitations of painter’s domain as nothing but the visible world, which makes a ‘world almost demented because it is complete when it

is yet only partial,' he elevates vision beyond the 'visual givens' (Merleau-Ponty 2001: 291). He suggests that it opens upon a texture of Being, of which discrete sensorial messages are only the punctuations or the caesurae. » C 0049 » C 0660 » C 0755 » C 0005 Through anthropomorphization of a painter's eye and an architectural metaphor of the eye living in this texture as a man living in his house, Merleau-Ponty makes another statement about the visible in the narrow and prosaic sense.

The painter, whatever he is, *while he is painting* practices a magical theory of vision. He is obliged to admit that objects before him pass into him or else that, according to Malebranche's sarcastic dilemma, the mind goes out through the eyes to wander among objects; for the painter never ceases adjusting his clairvoyance to them. (Merleau-Ponty 2001: 291)

What happens, however, when there are no objects before the painter and the mind has no objects among which to wander? What happens when the painted objects are purely abstract – objects, which have never existed in the perceived world and are products of pure conceptualization? » C 0260 » C 0049 » C 0105

Pollock's painting and the rhizome

Jackson Pollock's *Out of the Web: Number 7* is a map. It does not consist of lines, but trajectories. It is by no means an effect of tracing; it does not copy anything. It is an amassment, an accumulation, or a recording of the painter's actions. » C 0049 » C 0502

Watching Pollock paint his *Number 32*, recorded in photographs by Hans Namuth from the 1950s, ► Figure [1] one can easily discern a motion-dominated process. Distinguishing it from tracing, Deleuze and Guattari declare in their specification of the map, 'it is entirely oriented toward an experimentation in contact with the real. And so, the map has

to do with performance' (1987: 12). Pollock's dripping and pouring paintings can be challenged from any place or area, either by the viewer/spectator or, as it were, by the painter himself. » C 0049 » C 0502 *Out of the Web: Number 7* from 1949, for instance, was the most notorious instance of substantive reworking after a picture was 'complete' (Varnedoe 1998: n128 51). » Figure [2] There are a number of photographs of this painting in the studio before sections were cut out of it. » C 0049

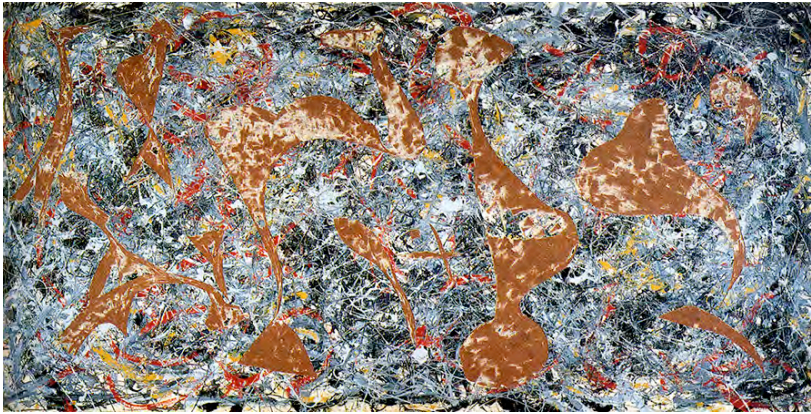
Such treatment cannot stand apart from specific attributes exposed by the painterly content of abstract expressions Pollock produced between 1947 and 1950. Pollock rarely named his paintings, and the title of the painting *Out of the Web: Number 7* exposes the correlation between the specific quality of this content and Pollock's treatment. The web described in the title has a very specific organization; there is no hierarchy – as non-figurative mash, it has no perspective view or focal point. These visually complex abstractions even appear free of figure ground relationships. » C 0474 » C 0049 In such circumstances, various unusual actions such as throwing, dripping, and pouring, and/or spattering paint included an action of cutting *Out of the Web*. Removing parts of it at does not destroy the painting, but rather regenerates painterly content. » C 0472 » C 0792 » C 0049 Pollock's cutting out parts of painterly content from his canvases can be seen as a reversal or reinvention of the collage procedure. In collage, unrelated elements and/or objects are added, resulting in an unexpected interaction and juxtapositions of the visual content; it is a method of fabricating messages and/or feelings. Pollock achieved the same result by removing from the canvas or amputating its parts. » C 0472

Collage fabricated by pasting together heterogeneous materials is often considered different to or the opposite of painting, where visual content is built up and composed. In collage, bits and fragments of materials are attached to the surface, forming an assemblage of ready-mades. » C 0049 » C 0122



► Figure [1]

Jackson Pollock painting *Number 32*. Two photographs by Hans Namuth, 1950.



► Figure [2]

Jackson Pollock, *Out of the Web: Number 7*, 1949. Mixed media on canvas, 244 x 121.5 cm, Staatsgalerie Stuttgart, Stuttgart, Germany.

Pollock does not produce heterogeneity of the painterly content by pasting together, but by removal and amputation of any given part of it, by physically ripping the painting open at any place. Deleuze and Guattari point at the same circumstance when defining a principle of asignifying rupture of a rhizome. They declare that rhizome ‘may be broken, shattered at a given spot, but it will start up again on one of its old lines, or on new lines’ (1987: 9).

Pollock’s notorious and substantive reworking of paintings after they had already been accepted as ‘complete’ parallels another form of rhizome formed by ants. It ‘can rebound time and again after most of it has been destroyed’ (Deleuze and Guattari 1987: 9). As maps, Pollock’s paintings have neither a beginning nor an end; development of these

where one layer was allowed to dry (and the picture may have been moved from floor to wall for study) before subsequent layers were added. (...) Canvases done in wet-on-wet dripping technique in one session seem to have been reworked. (...) Conservation study of Pollock’s paintings points to the frequency with which Pollock reworked—sometimes by new campaigns of pouring, sometimes by detailed “fine tuning”—not only canvases that had dried, but canvases that had been stretched. (...) It is also clear that some of the first poured abstractions, notably *Galaxy* (1947), were created by working over already “finished” paintings (Varnedoe 1998: 51). ► C

0191 ► C 0614 ► C 0049

A centred makeup of Pollock’s maps allowed a sudden, subjective chance to cut through their intensifications, increases, and augmentations. As there is no preconceived entrance or exit in the map, it ‘is open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification. It can be torn, reversed, adapted to any kind of mounting, reworked by an individual, group, or social formation. It can be drawn on a wall, conceived of as a work of art, constructed as a political action or as a meditation’ (Deleuze and Guattari 1987: 12) As Deleuze and Guattari underline, the map is a part of the rhizome and ‘perhaps one of

the most important characteristics of the rhizome is that it always has multiple entryways (...), as opposed to the tracing, which always comes back “to the same” (1987: 12).

Rhizome:

» C 0000

- » C 0005 A throw of woodcuttings
- » C 0023 Arrhythmic scaling
- » C 0049 Chaos and potentials of painting

» C 0100

- » C 0102 Cinematic language constructing its own ‘objects’
- » C 0105 Projection and representation
- » C 0122 Attachments: architectural *objet trouvé*
- » C 0191 Gehry's painting is not the end in itself

» C 0200

- » C 0260 Zones of indiscernibility

» C 0400

- » C 0472 *Action of cutting*
- » C 0474 *Action/painting*
- » C 0476 Poetry of scale

» C 0500

- » C 0502 Pollock
- » C 0536 Multiplicity of actions

- » **C 0543** *Cinematic viewing-sections-model*

 - » **C 0600**
 - » **C 0614** *The unfinished*
 - » **C 0660** *Diagram*

 - » **C 0700**
 - » **C 0755** *Battlefield of Gehry's canvas*
 - » **C 0792** *From figurative to abstract*

 - » **C 0900**
 - » **C 0906** *Vibrating tectonics*
 - » **C 0912** *Architecture from painting to the cinema*
 - » **C 0923** *Cinema of scaling*
 - » **C 0938** *Spasms*
 - » **C 0962** *Drawing movement*
 - » **C 0965** *Cinematic sections/frames*
-

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» 0287

Dialogues, raptures, accelerations

Lund, May 20, 2017 ➡➡ Kalisz, June 4, 2017

Dialogues

Gehry always puts the whole design process in a state of motion, repeatedly simulating a throw of woodcuttings in the initial model. ▶ Figure [1] In his essay ‘Architectural Choreography’, Kurt W. Forster notes that ‘[Gehry] beg[ins] to shape buildings from mobile parts’ (1998: 29). Rather than stabilized states of the project, all consecutive models – especially all unfinished or incomplete, fractional ones – become components of activity in spatiotemporal intervals of *design-motion*. One model provokes, necessitates, and entails another model, or a series of models. As Gehry describes it, they are a matter of dialogue. In conversation with Beatriz Colomina, Gehry explains what activates such dialogue:

Gehry:

(...) I do my sketches, and then those sketches are given to Anand [Devarajan] and Craig [Webb] and Edwin [Chan].

Colomina:

Your associates.

Gehry:

Yeah. That’s how I talk to them.



► Figure [1]

Frank O. Gehry, *Telluride Residence* (Telluride, Colorado, 1995-1998, unbuilt).
Process model with a set of wooden blocks placed on an initial site-model. Wood,
cardboard, Jan 29, 1997. Image Courtesy of Gehry Partners, LLP.

Colomina:

With the sketches? [» C 0004]

Gehry:

Yeah. And then they start making models that are evocative of that. [» C 0903 » C 0303 » C 0745] (...) They are off to the races, fast, and it is getting there. I guess they can explain better what happens. But it's a discussion, a dialogue' (Gehry in Colomina 2003a: 7).

What Gehry describes as dialogue is an interchange and a fusion of drawing and model-making. Considering his declaration that his sketching technique is not about the finished product but rather a tool for 'a frantic kind of searching' (Gehry 1985: xv), his sketches become atectonic. This is how Esther da Costa Meyers defines the architect's approach to what appears in his sketches (2008: 43). 'Only rarely,' she claims, '[do] the sketches give us an intimation of Gehry's manner of disarticulating traditional architecture, slicing through the interior and exposing the resultant shards and fractured spaces' (2008: 42). Therefore, they may easily flow into a vague and fluid instance of the sketch- and process-models.⁰¹ » C 0023 » C 0005 C 0903 » C 0303 » C 0745 As Gehry depicts it:

I let that lead, and then make models of the idea scratched out of the paper, and then go back to the drawing, and so on (Gehry 1985: xv).

Raptures and accelerations

As drawn sketches and sketch-models are rather vague architectural articulations, they open up a multiplicity of

01. Kurt W. Forster observes that: 'Over the years, Gehry has cultivated a highly personal studio practice of working with models, because it permits impossibly cantilevered parts and vertiginous piles of volumes in fluid transformation' (Forster 1998: 29).

connections for Gehry and his design partners; they activate an interchange and instigate the shifting of scales. Each change of scale is a purposeful operation to destabilise the state of the design process. Coosje van Bruggen, who witnessed the design of the ► **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997), observes that ‘by breaking down the scale of the elements and adding new sculptural objects or basic, simple structures’, Gehry ‘enters into different visual relationships’ (1997: 77). She confirms that ‘[i]t takes time to figure them out; they are never obvious but rather unfold by themselves (...)’ (Ibid). Yaneva classifies such changes of scales of architectural models within the design process as providing ‘two different presentational states of a building’ that ‘are maintained simultaneously’ (2005: 870). Apart from the specific data obtained through scaling, she distinguishes two different modes of these presentational states: the smaller scale model is ‘a little-known, abstract and fuzzy object’, while the larger scale model is ‘a well-known, concrete and precise object’ (Ibid). While maintaining that ‘[p]aradoxically, what results is that architects do not convert indeterminate, complex and incoherent information into determinate and coherent objects’ (Ibid), Yaneva indicates some critical characteristics of Gehry’s dialogues with design partners. However, Gehry adds another approach to two different presentational states of a building maintained simultaneously.

In a filmed conversation with Sydney Pollack, Gehry declares that he ‘always work[s] on two or three scales at once’ and changing the scale ‘keeps [him] real’ (Pollack 2006: 19’19”). Replying to a question by Pollack, he confirms that the shifting scales are a deliberate operation to destabilise the state of the design process.

Pollack:

- By changing scale, why does that keep you real?

Gehry:

- Because in my head it keeps me thinking of a real building. I don’t get enamoured with the objects – these things. [pointing at the model]. (...) It could become jewellery. This could become the object of desire [pointing

at the model again], which I don't want it to be. (Pollack 2006: 19'23"-19'42).

When shifting scale, Gehry imposes the state of 'knowing less' in the specifically aesthetic sense, regardless of the direction of a continuum through which the scaling venture takes place. Working on two or three scales simultaneously, Gehry demystifies the representational qualities of an architectural model. As the shifts in scale with which Gehry operates are motivated by his mistrust of the architectural skill of seeing through the mind's eye, he uses them to escape from the deceptive impact of representational qualities of models and the persuasively misleading images they produce. The goal is to *reset* and accelerate the design process. By these shifts, Gehry focuses on the building instead of its representations; by these shifts, he re-ignites the cognitive process. » C 0023 » C 0043 » C 0188. » C 0049 » C 0951 » C 0061 » C 0061 » C 0201 » C 0502 » C 0526 » C 0543 » C 0576 As Gehry emphasises, 'there's a required sense of insecurity that's very positive to the process. It fuels the creative engine and leads you to new places' (Isenberg 2009: 257). » C 0888 » C 0536 » C 0043 » C 0423 » C 0429 C 0472 » C 0389 » C 0983 It makes Gehry's scale shift into Deleuze and Guattari's raptures and accelerations, where, in the results of these shifts, 'there are lines of articulation or segmentarity, strata, and territories' (1987: 3).

Breaking the envelope of a potential

Gehry shifts the scale whenever the sketch-, study-, or process-model starts to replace the building in the process of design cognition, before it deludes the architect by overcoding representation, before it imposes a misleading belief upon a building and its spatial enclosures by the imagery it generates. As each model in the new scale fails to provide an accurate amount of information, it unavoidably brings about another scale shift. Each model fails when it is over-interpreted; it fails

when it becomes signs. ‘Signs, [which] are qualities,’ ‘[a]nd qualities are much more than simply logical properties or sense perceptions. They envelope a potential – the capacity to be affected, or submit to a force (...), and the capacity to affect, or to release a force (...)’ (Massumi 1992: 10). » **C 0188** » **C 0888**
Each scale shift ‘is simultaneously an indicator of a future potential and a symptom of a past’ (Ibid). » **C 0188** » **C 0888**
» **C 0983**

Rhizome:

» **C 0000**

- » **C 0004** Drawing architecture
- » **C 0005** A throw of woodcuttings
- » **C 0023** Arrhythmic scaling
- » **C 0043** Breakthrough
- » **C 0049** Chaos and potentials of painting
- » **C 0061** Optical versus manual

» **C 0100**

- » **C 0179** Process
- » **C 0188** Gehry's *factual design action*

» **C 0200**

- » **C 0201** Painting

» **C 0300**

- » **C 0303** Model-making and repetition

- » **C 0389** Action of wrapping

 - » **C 0400**
 - » **C 0423** Disruptive actions, disruptive affects
 - » **C 0429** *Action of breaking*
 - » **C 0472** *Action of cutting*
 - » **C 0476** Poetry of scaling

 - » **C 0500**
 - » **C 0502** Pollock
 - » **C 0526** [non] Sense
 - » **C 0536** Multiplicity of actions
 - » **C 0543** Cinematic *viewing-sections-model*
 - » **C 0576** Cinematic framings and irrational breaks

 - » **C 0700**
 - » **C 0745** Model: difference, repetition, and variation
 - » **C 0771** *Action of placing in*

 - » **C 0800**
 - » **C 0888** Gesture and the concept of *plain action*

 - » **C 0900**
 - » **C 0903** Solitude and collaboration
 - » **C 0923** Cinema of scaling
 - » **C 0951** Architectural drawing as cognitive tool
 - » **C 0983** *Action of bending*
-

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» 0308

The manual and the haptic

Lund, April 1, 2017 »» Kalisz, October 28, 2017

The eye and the hand

Diagrams by both the architect Frank O. Gehry and the painter Francis Bacon are manual. » C 0660 According to Deleuze, Bacon operates within tactile-optical space in his paintings, bringing the question of the relationship of the eye and the hand. » C 0061 As it is ‘passing through dynamic tensions, logical reversals, and organic exchanges and substitutions, (...) it is obviously not enough to say that the eye judges and the hands execute’ (Deleuze 2003: 154). Deleuze distinguishes *the visual* definition of painting ‘by line and colour’ and *the manual* ‘by the trait and the colour-patch’ (2003: 154). Listing four different modes: the digital, the tactile, the manual proper, and the haptic, Deleuze captures subtleties of gradations and vectors of subordination of the hand to the eye. The *digital* mode defines the highest level of subordination:

[t]he more the hand is subordinated in this way, the more sight develops an “ideal” optical space, and tends to grasp its forms through an optical code (Deleuze 2003: 155).

Deleuze defines the manual mode as ‘insubordination’ of the hand to the eye » C 0550 » C 0888 » C 0188 » C 0166 in which the painting remains a visual reality, but what is imposed on sight is a space without form and a movement without rest, which the eye can barely follow, and which dismantles the

optical (2003: 155). » C 0888 » C 0188 » C 0049 The *manual* mode is then a reversed relationship between the eye and the hand. » C 0061

Deleuze also distinguishes the *haptic* mode,⁰¹ which lacks ‘a strict subordination in either direction, either a relaxed subordination or a virtual connection’ (Deleuze 2003: 155). In this mode, Deleuze sees the new function of sight, which is ‘a specific function of touch that is uniquely its own, distinct from its optical function,’ and which, he adds, ‘can also be recreated in the “modern” eye, through violence and manual insubordination’ (Ibid). » C 0005 » C 0049 » C 0888 » C 0188

The *manual* of Gehry’s *factual design action*

When an architect cuts a hole in cardboard to represent the window in an architectural model, architectural design action has an operational purpose. The rationale of any architectural design action requires giving architectural meaning to its results before its performance. In this context, irrespective of the external similarities of their kinetics or spatial configurations, Gehry’s *factual design action* can be determined as another kind of action.⁰² » C 0188 Even if bound to some operational purpose, it always reveals specific property; it is invariably *manual* in Deleuze’s understanding, revealing the insubordination of the hand to the eye. Thus, the action of cutting becomes the *factual design action* only when the hole in the cardboard gains its

01. In Note 2, Deleuze discusses the origins of the word *haptic*: ‘The word *haptisch* was coined by Riegl in response to certain criticisms. It did not appear in the first edition of *Spätromische Kunstindustrie* (1901), which was content with the word *taktische*.’ Chapter 17: ‘The Eye and the Hand’ in: Gilles Deleuze, *Francis Bacon: The Logic of Sensation* (London, New York: Continuum, 2003), 155.

02. The following analysis of architectural design action in the context of Gehry’s design processes refers to or is a rewritten version of excerpts from: Pawel Szychalski, *The Role of Gesture in Frank O. Gehry’s Architecture* (Lund: Lund University, 2007), 153 and *passim*.

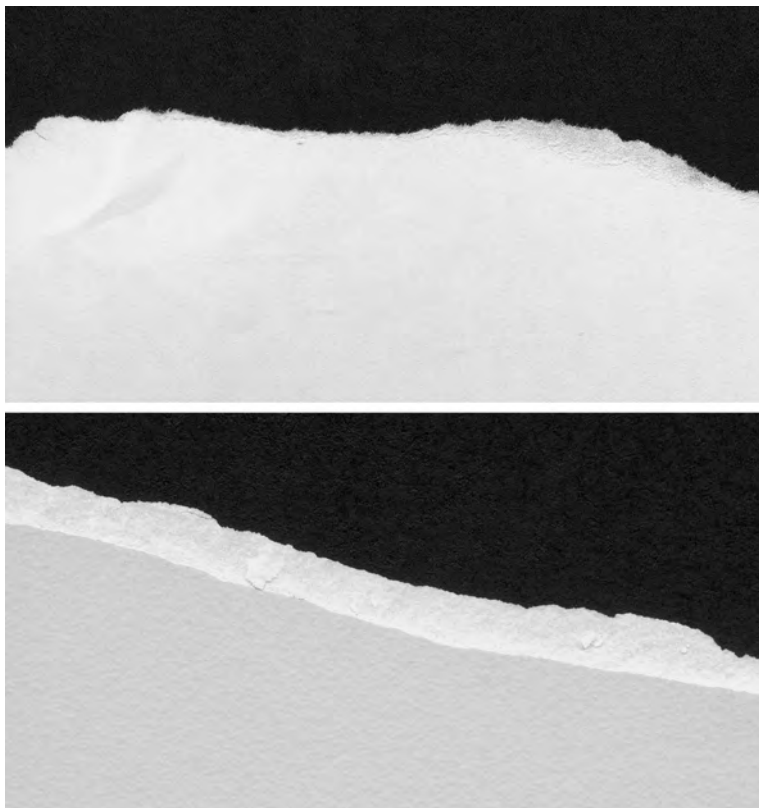
meaning of representation of a window in an architectural model, without its earlier given meaning. Thus, the action of cutting becomes the *factual design action* only when the hole in the cardboard gains its meaning of representing a window in an architectural model, after its performance.

But *factual design action* reveals other potentials. As it is invariably *manual* in the Deleuzian sense, and manually performed in the ordinary sense – be it any manner of drawing or any smallest adjustment in the moulding of a model – it always affords for less restricted dependence on its operational purpose. The *manual* character of *factual design action* allows something to be seen that was previously concealed; that is, the possibilities of insubordination of the hand to the eye that Deleuze defines as the *manual* mode of the hand/eye relationship. » C 0550 » C 0888 » C 0188 » C 0166 Gehry's actions of breaking, » C 0429 of bending » C 0983 or crumpling, » C 0658 are all cases of such insubordination. Like Bacon's paintings, Gehry's drawings and models remain visual realities. *Factual design actions* discharge violent forces on these realities, capable of imposing 'space without form and a movement without rest, which the eye can barely follow, and which dismantles the optical' (Deleuze 2003: 155). » C 0201 » C 0888 » C 0188 » C 0166

Dismantling the optical

The *manual* of Gehry's *factual design action* shatters the traditional relationship of the architect's eye to the hand. Ripping a piece of paper in an interview, Gehry asks:

how do you build that edge? I've been looking at that, the transfer from a soft material to hard material. I mean it's a logical kind of place to try to go because there's a lot of feeling... (Gehry in Kipnis 2003b: Scene 15.15).



► Figure [1]

Top: Digitally scanned image of the edge of ripped paper; bottom: digitally scanned image of the edge and broken ColorCore® sample. Author's archive.

The edge of the ripped paper and the broken ColorCore® sample exhibit straightforward resemblance of visual, textural properties that led to an emotionally-driven *breakthrough* in one of Gehry's design processes. ► **C 0429** ► **C 0043**. ► Figure [1]

In an equally unexpected manner, both actions unfold the inner makeup of materials that produce similarly compelling visual aesthetics that elicit a range of possible associations. It is the same functionality Bacon calls 'to be "suggestive"' or 'to introduce "possibilities of fact"' (Deleuze 2003: 101).⁰³ Like the 'assignifying and nonrepresentative lines and zones, line-strokes and colour-patches' (2003: 101) of Bacon's paintings, the results of Gehry's *factual design actions*, of insubordination of Gehry's hand to his eye, dismantle the optical. They make space without form and a movement without rest (Deleuze 2003: 155). ► **C 0061** ► **C 0651** ► **C 0755**

Rhizome:

► **C 0000**

► **C 0005** A throw of woodcuttings

► **C 0043** Breakthrough

03. Deleuze suggests that using language similar to that of Austrian-British philosopher Ludwig Wittgenstein, possibilities of fact can be described more rigorously. Referring to Bacon's description of 'the possibilities of all types of fact being planted,' which he sees within his graph [*diagramme*] (Bacon in Sylvester 1990: 56), he indicates that 'Wittgenstein invoked a diagrammatic form in order to express "possibilities of fact" in logic' (2003: 185 n6), or that '[a] logic of painting here meets up with notions analogous to those of Wittgenstein' (2003: 196 n11).

- » **C 0049** Chaos and potentials of painting
 - » **C 0061** Optical versus manual

 - » **C 0100**
 - » **C 0166** Fact or actuality
 - » **C 0188** Gehry's *factual design action*

 - » **C 0200**
 - » **C 0201** Painting

 - » **C 0400**
 - » **C 0429** *Action of breaking*

 - » **C 0500**
 - » **C 0550** Gehry's brush strokes

 - » **C 0600**
 - » **C 0651** Catastrophe
 - » **C 0658** Spontaneous crumples
 - » **C 0660** Diagram

 - » **C 0700**
 - » **C 0755** Battlefield of Gehry's canvas

 - » **C 0800**
 - » **C 0888** Gesture and the concept of *plain action*

 - » **C 0900**
 - » **C 0983** *Action of bending*
-

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» 0316

[1978] Wagner Residence

Kalisz, December 13, 2015 » Lund, April 27, 2017

Disregarding convention

In Gehry's design productions, projective systems of geometry do not play an impassive, representational role. They become active design operators, linking drawing, imagining and constructing. In this sense, the never-constructed ▶ **1978** Wagner Residence (Malibu, California, 1978, unbuilt) remains revolutionary. Gehry explores and exploits the axonometric projection and creates an architectural vision. ▶ **C 0658** Disregarding the conventions behind the tool, he makes the ambiguity itself an architectural concept. Literarily taking in an encoded, visual distortion of a two-dimensional representation of the spatial objects, Gehry accordingly distorts the designed object.

The axonometric drawings of ▶ **1978** Wagner Residence (Malibu, California, 1978, unbuilt) were not made by Gehry. To avoid the mannerism of 'presentation' or 'glib drawings' (Gehry 1985: xv), he asked an engineer to produce them.⁰¹ At just that time, the architect had started drawing a

01. The engineer also produced other project drawings in this period, i.e.: ▶ **1978** Gunther Residence (Encinal Bluffs, California, US 1978, unbuilt) or ▶ **1978** Gehry Residence (Santa Monica, California, US 1977-1978).

different kind of drawings – drawings that served other purposes than presentation or representation.⁰² ►► **C 0004** The drawings were never meant to be finished products, but rather tools for searching, processes rather than conclusions, verbs rather than nouns. ►► **C 0004** In the ► **1978** Wagner Residence (Malibu, California, 1978, unbuilt), Gehry explored the very nature of axonometric projection.

Axonometric projection gives the viewer a sense of seeing objects from above, without any fixed vanishing point. In the design of ► **1978** Wagner Residence (Malibu, California, 1978, unbuilt), Gehry uses the sloping site to liberate his design from the regime of vanishing points, as if, in the ‘Chinese perspective’⁰³ ‘every scene of the scroll painting would be seen individually and a vanishing point that lies outside the viewpoint creates a disoriented view of the scene’ (Riemersma 2011).⁰⁴ The disoriented view of the scene Gehry creates

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02. In 1984, Gehry stated: ‘I do a different kind of drawing now. They are a searching in the paper. It’s almost like I’m grinding into the paper, trying to find the building. It’s like a sculptor cutting into the stone or the marble, looking for the image. At least it feels like it to me. I never think of the drawings as a finished product – they’re a process to get to an idea. If you watch me draw – actually draw – you’ll see it’s a frantic kind of searching.’ In: “‘No, I’m an architect” Frank Gehry and Peter Arnell: A Conversation’ in Peter Arnell and Ted Bickford (eds.), *Frank Gehry. Buildings and Projects* (1985) (New York: Rizzoli International Publications), xv.
03. ‘Another perspective had developed in oriental art: the “Chinese perspective” was an intrinsic part of the classical scroll painting (actually, “Chinese perspective” is a bit of a misnomer because the same perspective was also used in Japanese art and that of other oriental countries). A typical Chinese scroll painting had a size of approximately 40 centimetres high by several meters wide. One views the painting by unrolling it (from right to left) on a table in segments of about 60 centimetres wide. The Chinese scroll paintings show a development in time – a form of “narrative art”, in contrast to the paintings that were made in Europe at the time, which show a “situation” rather than a development.’ In: Thiadmer Riemersma (2011) ‘Axonometric projections - a technical overview,’ (Bussum, Netherlands: CompuPhase), without pagination. Accessed at www.compuphase.com. Retrieved on February 11, 2016.
04. ‘The Chinese painters solved the problem by drawing the lines along the z-axis as parallel lines in the scroll painting. This has the effect of placing the

augments and combines numerous geometrical projections. Greg Walsh, one of Gehry partners, recalls:

It was an unusual kind of perspective. Frank always used to trot out a Chinese painting with the kind of perspective that the Asians used, to see into a building (Friedman, 2009: 143-144).⁰⁵

Architectural semiotics theorist Bernhard Schneider claims that perspective refers to the viewer, whereas axonometry to the object projected (Schneider 1981) confirms that axonometric projections fail to communicate information about the configuration of the object, as we perceive it in reality. We can never see the real object in an axonometric view; it goes beyond our natural capabilities and becomes mathematically-driven visual code (Riemersma 2011).⁰⁶ As a drawing technique based on Cartesian coordinates, it takes the orthogonal x , y , and z -axes and turns them into non-orthogonal axes on a drawing's surface.

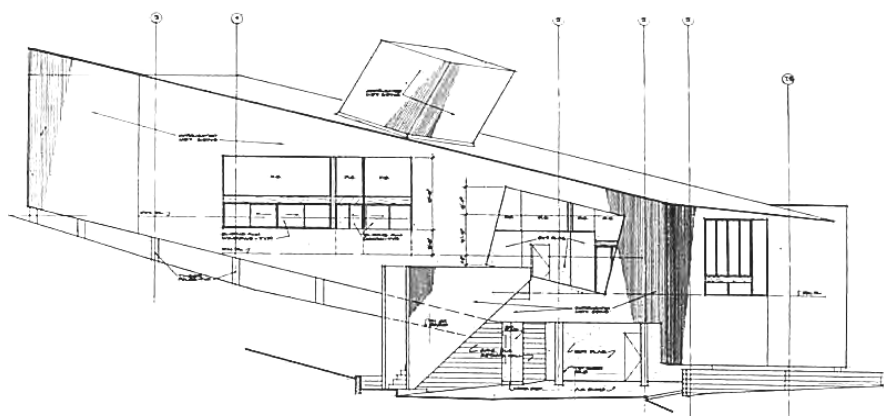
Non-orthogonal skews of space

The non-orthogonal skew of space in axonometric projection is crucial for Gehry's explorations. '[T]he y -axis usually remains

horizon at an imaginary line, infinitely high above the painting. The axonometric projection is a technical term for a class of perspectives to which the Chinese parallel perspective also belongs. These perspectives are not only lacking a vanishing point, they also have a few other, mostly useful, characteristics.' Ibid.

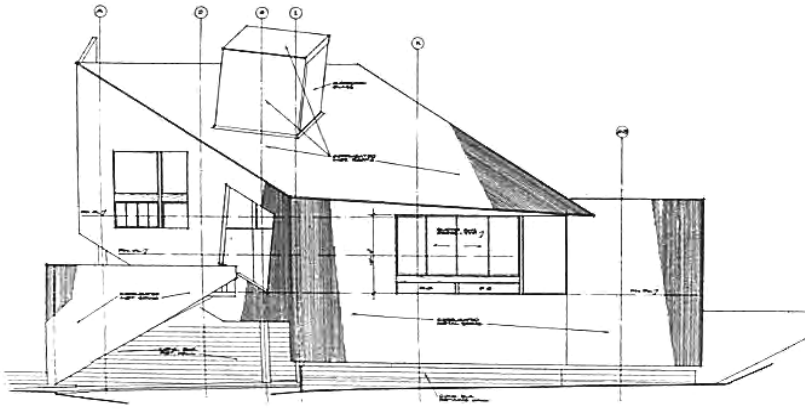
05. In the first monograph on Gehry, a Chinese painting features alongside the presentation of the 'Wagner House, Malibu, California 1978.' The painting shows a scene at a dining table, where table and stools are projected in 'Chinese axonometry.'
06. 'It provides us with fixed relation between sizes of real objects in space and those projected in axonometric view: knowing the scale of the drawing and the properties of the projection, one can measure the size of an object of an axonometric drawing and know how big the real object is.'

the vertical axis, the z -axis is skewed and the x -axis may either be horizontal or be skewed as well' (Riemersma 2011). Gehry seems to start here, with the dimetric model in which one of the three axes has a different scale than the other two. In practice, the z -axis is the scaled axis and hence, a cube drawn in a dimetric projection is not a symmetrical figure (as in the isometric projection) (Ibid.). For Gehry, what appears to be a rectangular figure skewed according to this convention becomes a rhomboid plan of the building. As the combinations of angular distortions of axonometric projection are endless, each geometrical element in Gehry's arrangement becomes something else than what it appears to be. Consequently, in a series of drawings of the never-built single-family residence, each drawn line and each geometrical figure flows from one projection to another. ▶ Figure [1] ▶ Figure [2] Within the coordinates of these projections, Gehry fabricates ordinarily static architectural elements such as walls, roofs, windows, or skylights, in such a way that they move within or between layers of various projections, conflating in impossible views, the canvas of an actual, spatial arrangement of the building. ▶ C 0625 ▶ C 0688 ▶ C 0543 There is a constant and simultaneous flow of all architectural elements from one potential viewpoint to another, characterised by different angular deformations of isometric or 'military' axonometry. Gehry handles the visual apparatus of axonometric projections with unusual skill and rare dexterity. He reverses, repositions, and de-forms space into multiple folds of various projections. ▶ C 0943 The whole set of drawings challenges the habitual interpretative tendency pre-set in this form of architectural representation. It echoes Deleuze's criticism of representation, which 'privileges identity, analogy, opposition and similarity over pure differences and repetition' (Williams 2003: 120-121). ▶ C 0105



► Figure [1]

Frank O. Gehry, *Wagner Residence*, Malibu, California 1978 (unbuilt). West elevation. Working drawing. © Frank O. Gehry. Getty Research Institute, Los Angeles (2017.M.66), Frank Gehry Papers.



► Figure[2]

Frank O. Gehry, *Wagner Residence*, Malibu, California 1978 (unbuilt). Southwest elevation, Working drawing. © Frank O. Gehry. Getty Research Institute, Los Angeles (2017.M.66), Frank Gehry Papers.

Trained as an architect and mathematician, an American academic and former director of research at Gehry Technologies⁰⁷ Andrew Witt sees ‘restless exploration of projective geometry’ in Gehry’s design of early houses, i.e. ▶ **1972** Davis Studio and Residence (Malibu, California, 1968-1972), ▶ **1977** Familian Residence (Los Angeles, California, US 1977-1978, unbuilt), and the ▶ **1978** Wagner Residence (Malibu, California, US 1978, unbuilt) as ‘a reservoir of geometric intuition honed by tumbling and turning forms’ (Witt 2015: 170), it rather goes beyond tumbling and turning forms; it enables folds of illusory space innate to the specific tool of axonometric representation to become real physical space probed in the physical model. ▶ Figure[2]

Cinematic eye of axonometric projection

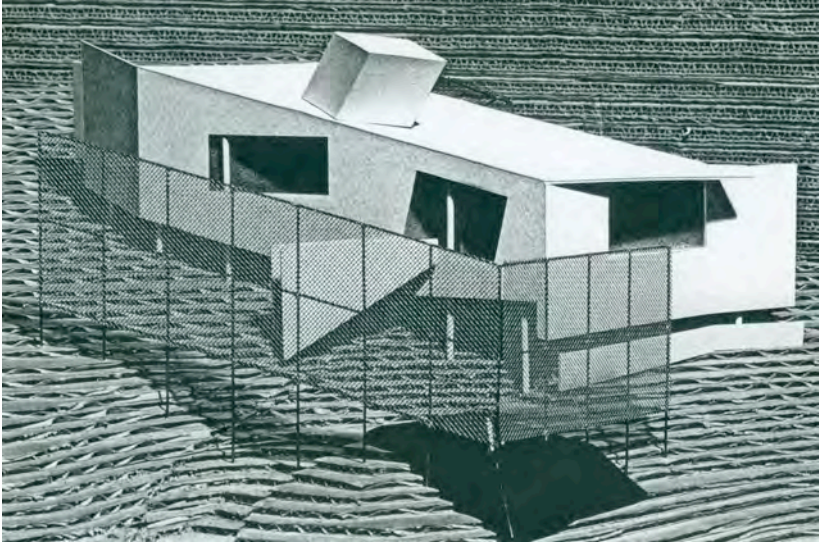
Deleuze finds unusual powers in cinema, and Gehry finds them in architectural modes of representation, making impossible views through the inhuman eye of axonometric projection identical to the inhuman eye of a cinematic camera. Gehry does not see axonometric projection as simply a technique or just another way of measuring along the axis.⁰⁸ He uses

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07. As a director at Gehry Technologies office in Paris, France Andrew Witt solved complex geometric challenges for clients including Gehry Partners, Ateliers Jean Nouvel, UN Studio, and Coop Himmelb(l)au for projects such as the *Fondation Louis Vuitton*, *Louvre Abu Dhabi*, and *Qatar National Museum*. He also developed prototypes for new software design tools such as GTeam (now Trimble Connect, acquired by Trimble in 2014). Accessed at: <https://www.gsd.harvard.edu/person/andrew-witt/>. Retrieved on November 17th, 2019.
08. ‘axometry, *n.*’, *OED Online*, Oxford University Press, published March 2017. ‘Measurement of axes, (Greek Etymology: *ἄξων*- (*ἄξων*) axis + *μετρία* measurement’. Accessed online at: <http://www.oed.com/view/Entry/14072?redirectedFrom=axometry&>. Retrieved on April 24th, 2017. The suffix ‘-metry’ has the general sense of ‘action, process, or art of measuring [something which is specified by the initial

axonometry to create narratives exclusively specific to the inherent properties of the tool and makes different ways of thinking and imagining architecture possible. Similarly, Deleuze does not see cinema as ‘just another way of presenting stories and information; the very mode of cinematic form altered the possibilities for thinking and imagining’ (Colebrook 2002: 29). As Deleuze ‘uses cinema to theorise time, movement, and life as a whole’ (Ibid.), Gehry uses axonometry to theorise architecture, architectural practice, architectural vision and their relation with a human body, inhabitation, and life by producing the impossible view and its protrusion into the possible environment. Although Colebrook argues that ‘only with cinema can we think of a mode of ‘seeing’ that is not attached to the human eye,’ this mode of ‘seeing’ is also imbedded in axonometry. It thus, like cinema, ‘offers something like a “percept”: a reception of data that is not located in a subject’ (2002: 29).

For Deleuze, cinema ‘allows a reconsideration of time and movement,’ showing the power to affect ‘the problem of life as a whole’ (Colebrook 2002: 29-30). Gehry’s penetration of the imaging of objects in space offers a reconsideration of what architecture is, and how it is dominated using projection or visualization. Through an inhuman construct of axonometry, Gehry explicitly reveals the capacity of architecture with its spatial enclosures to go beyond; he does this in the same manner as Deleuze in *Cinema 1* and *Cinema 2* when he discusses ‘the capacity of life to go beyond its human, recognisable and already given forms’ (Colebrook 2002: 30) through the inhuman eye of the cinematic camera, ‘through the imagination of time’ (Ibid.).

element]. Oxford English Dictionary, *OED Online*. Oxford University Press, published March 2017. Accessed online at: <http://www.oed.com/view/Entry/117723>. Retrieved on April 24, 2017.



► Figure[3]

Frank O. Gehry, *Wagner Residence*, Malibu, California 1978 (unbuilt). Model, west elevation. © Frank O. Gehry. Getty Research Institute, Los Angeles (2017.M.66), Frank Gehry Papers.

For Deleuze, cinema ‘offers an image of time itself’ (Colebrook 2002: 30). Gehry uses radical possibilities of axonometric projection to explore and rethink an image of space itself visualised by penetrations of architectural enclosures. Gehry’s presentation of space in the ▶ **1978** Wagner Residence (Malibu, California, 1978, unbuilt) forces the viewer to transform thought. ▶ **C 0105** ▶ **C 0571** ▶ **C 0923**. ▶ **C 0661** ▶ **C 0576** ▶ **C 0102** ▶ **C 0543** ▶ **C 0894** ▶ **C 0992**

Rhizome:

- ▶ **C 0000**
- ▶ **C 0004** Drawing architecture
- ▶ **C 0100**
- ▶ **C 0102** Cinematic language constructing its own ‘objects’
- ▶ **C 0105** Projection and representation
- ▶ **C 0500**
- ▶ **C 0543** Cinematic *viewing-sections-model*
- ▶ **C 0571** Distorting perspective
- ▶ **C 0576** Cinematic framings and irrational breaks
- ▶ **C 0600**
- ▶ **C 0625** Flux of images and ‘time-image’
- ▶ **C 0658** Spontaneous crumples
- ▶ **C 0661** Shifting scale, expanding rhizome

- » **C 0683** [1972] Ron Davis House
 - » **C 0688** Gehry's combines

 - » **C 0700**
 - » **C 0783** Microscope and monuments

 - » **C 0800**
 - » **C 0894** Body in motion. Boccioni and Duchamp

 - » **C 0900**
 - » **C 0903** Solitude and collaboration
 - » **C 0923** Cinema of scaling
 - » **C 0943** Deformations
 - » **C 0992** Defining architecture
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Frank Gehry: Buildings and Projects. New York: Rizzoli International Publications, 1985, xii-xvi.

Riemersma, Thiadmer, 'Axonometric projections - a technical overview,' Bussum, Netherlands: CompuPhase, 2011, unpaginated. Accessed at: www.compuphase.com. Retrieved on February 11th, 2016.

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▶▶ **0348**

[2004] Wing on Wing

Kalisz, September 13, 2015 ►► Lund, April 29, 2017

Assembling wings

As most of Gehry's buildings, ▶ **2003** Walt Disney Concert Hall (Los Angeles, California, 1989-2003) is a result of mappings. Along the process of such mappings, which consist of production cycles of his sketch-drawings and sketch-models – or dialogues between sketches and models, as Beatriz Colomina calls them – a number of conceptual binding sites are created (2003: 10). ▶ **C 0287** ▶ **C 0903** They result from conceptual gaps or conceptual tensions created by the metaphors invested and entangled in the complex web of design actions. ▶ **C 0903** ▶ **C 0588**

Innate to the process of Gehry's mappings, these binding sites open sketch-drawings and sketch-models as counter options, different narratives and/or other depictions. ▶ **C 0588** Gehry renders them a matter of 'talking' (2003a: 7), a matter of an ineffable exchange of information with design partners and 'a conversation with [him]self' (2003a: 8). ▶ **C 0287** ▶ **C 0903** They shape an elastic connective tissue of architectural design, which through its amorphous matrix provides it with a rhizomatic structure. ▶ **C 0588** It enables and maintains its nonlinear development, leading to experimentation, to another drawing and another model, 'sketches *and* models *and* sketches *and* models...' (Gehry 2003a:

8).⁰¹ ► **C 0287** A building's physical entity also carries those binding sites. ► **C 0025** As assemblages in a common industrial and logistic sense, they are also Deleuzian assemblages: they are open to draw up more assemblages. ► **C 0349** ► **C 0025**

Sculptural constellation

Although the reference to the building was suggested to the composer (the Los Angeles Philharmonic Orchestra commissioned the work on the occasion of the opening of their new home), Esa-Pekka Salonen composed his *Wing on Wing*⁰² from such a binding site: the wing-on-wing sailing technique became an image of ► **2003** Walt Disney Concert Hall (Los Angeles, California, US 1989-2003). The workings of the binding site of the wing-on-wing sails can be traced to another artist's rendering: Georgia O'Keeffe's painting *Brown Sail, Wing on Wing, Nassau* from 1940. ► Figure [1] O'Keeffe's image, with sails in a dark-brown arrangement, appears monumental if not architectural, yet at the same time, an organic 'almost dorsal fin-like shape is in keeping with O'Keeffe's signature style of drawing emphasis to and exaggerating natural forms' as in 'her iconic close-up views of flowers.'⁰³ ► **C 0476** ► **C 0727** ► **C 0319** ► **C 0230** ► **C 0783** What connects O'Keeffe's and Gehry's renderings is not only the subject matter, or the taking full

01. Emphasis added.

02. *Wing on Wing*, 2004 (27 minutes), composed for soloist(s) & orchestra. *Wing on Wing* is dedicated to Frank Gehry, Yasuhiso Toyota, and Deborah Borda. The score was published by Chester Music Limited. In: Esa-Pekka Salonen, *Wing on Wing*. Last modified April 24, 2004. Accessed online at: <http://www.esapekkasalonen.com/compositions/wing-on-wing>. Retrieved on November 20th, 2015.

03. Painting description at the 'emuseum.toledomuseum.org' of the Toledo Museum of Art's, Toledo, Ohio, US. Accessed online at: <http://emuseum.toledomuseum.org/objects/54821/brown-sail-wing-and-wing-nassau>. Retrieved on August 2nd, 2019.

advantage of every square inch of the sails to increase the speed of sailing. ► **C 0450** What connects the images is the transfer from actual into virtual. O’Keeffe and Gehry render what Deleuze argues should be possible to render from any actual term. As actuality is *unfolded* from potentiality, ‘from any actual or unfolded term it should be possible (and, for Deleuze, desirable) to intuit the richer potentiality from which it has emerged’ (Colebrook 2010a: 10). From an already actualised entity of the wing-on-wing arrangement, which in sailing terminology is achieved by pushing the mainsail and the jib out to opposite sides of the boat, O’Keeffe and Gehry discern its broader potentiality, as does Salonen. In what results, in opening both the foresail and the mainsail to 180-degrees, he intuits ‘the beautiful sculptural constellation.’ Moreover, knowing Gehry’s connection to the specific binding site of ► **2003** Walt Disney Concert Hall (Los Angeles, California, 1989-2003), which reveals the opening of the foresail and the mainsail in the building’s view from the corner of Grand Avenue and First Street, Salonen echoes the twin sails of the title/image of the *Wing on Wing*, including two solo sopranos in the performing apparatus – two sisters selected for the premiere performance (Salonen 2004).⁰⁴ As the declared empiricist Deleuze, Salonen, O’Keeffe and Gehry seem ‘to be committed to the primacy of the actual,’ they ‘remain attentive to what appears, to what is, without invoking or imagining some condition outside experience’ (Colebrook 2010a: 10). Through their abilities to discern and express (or extract) something beyond its already actualised forms, they *see* an idea of wing-on-wing disposition. They intuit its virtuality.

04. The world premiere of *Wing on Wing* was performed by the Los Angeles Philharmonic Orchestra, conducted by Esa-Pekka Salonen at the opening of the Walt Disney Concert Hall in Los Angeles on 5th June 2004.



► Figure [1]

Georgia O'Keeffe, *Brown Sail, Wing on Wing, Nassau*, 1940. Oil on canvas, 96.6 x 76.4 cm (38 x 30 1/6 in), Toledo Museum of Arts, Ohio, USA.

Therefore, the potential or power of the opened mainsail and jib is actualised in any of their single renderings of the twin sails: in bending forms of a building, » C 0983 in flower-like or dorsal fin-like painted image, » C 0727 or in the symmetry of the two solo sopranos singing.

Colebrook argues that '[w]e can only fully understand and appreciate the actual if we intuit its virtual condition, which is also a real condition' (2010a: 10). Artists seem to deal with these obligations naturally; for them, 'real conditions are not those which must be presupposed by the actual' (Colebrook 2010a: 10). But Deleuze completely reverses the situation, claiming that 'real conditions are the potentials of life, from which conditions such as the brain, subjectivity, or mind emerge' (Ibid.).

Another map, another assemblage

Although Salonen indicates that his 'composition *Wing on Wing* is not an attempt to translate architecture into music, which would be an impossible task anyway' (Salonen 2004), the nature of Gehry's design creates another account of this relationship. Gehry's work acts as Deleuze and Guattari's design of their book *A Thousand Plateaus*. As a professor of philosophy, Tamsin Lorraine implies, *A Thousand Plateaus* is deliberately designed 'to foster lines of flight in thinking – thought-movements that would creatively evolve in connection with the lines of flight of other thought-movements, producing new ways of thinking' (2005a: 148). Connections of Salonen's composition with Gehry's design show that it acts as a map, which, as Deleuze and Guattari's book, 'pursue connections or lines of flight not readily perceptible to the majoritarian subjects of dominant reality' (Lorraine 2005a: 148). Thus, following Lorraine's argument that 'Deleuze and Guattari wrote their book as such a map, hoping to elicit further maps, rather than

interpretations, from their readers' (Ibid.), arising from Gehry's design, Salonen's composition appears as a map rather than interpretation. Lorraine adds, that other than maps, '[i]nterpretations, according to Deleuze and Guattari, trace already established patterns of meaning' (Ibid.).

Salonen's composition *Wing on Wing* is about 25-minutes-long and evolves in connection with the lines of flight of thought-movements imbedded in Gehry's work. In *Wing on Wing*, musical thought-movement produces other lines of thought, producing new ways of thinking drawn forth from architectural thought-movement. It extracts the new type of map, rather than interpretation. Instead of interpreting Gehry's building through a metaphor of two sails shaping 'the beautiful sculptural constellation,' the composer activates a new thought-movement, a new way of thinking developed into a fusion of musical juxtapositions of sonic metaphors and ideas, of colours and textures related to water and wind, creating 'ever-divergent ends, creating more and more series or 'lines' of becoming' (Colebrook 2002: 57). ► **C 0043**

'*Wing on Wing* is neither a fanfare nor an overture. It cannot be easily assigned to any other established category of orchestral music either. The instrumentation is very peculiar' (Oramo 2007: 45). For instance, Salonen uses 'the weird sound of a fish from the local waters of Southern California, the Plainfin Midshipman as an instrument, two coloratura sopranos join the orchestra sometimes as soloists, sometimes as instruments among others. Sopranos are paired with the lowest-sounding woodwind instruments, the contrabassoon and the contrabass clarinet, creating a new kind of hybrid instrument, a sci-fi fantasy of a union between humans and machines' (Ibid.). The connections are many. Salonen takes Gehry's voice, and by sampling and modifying it makes it into other Deleuzian map where 'sometimes we can discern words, key words in his work and life, sometimes words become musical sounds, and they lose their intelligibility wholly or partially' (Salonen 2004). Salonen's description of the musical form of *Wing on Wing* forms another map. As a text, it cannot trace the music, it cannot

trace already established patterns of meaning described by Deleuze and Guattari's convention of *interpretation*.

- 1) Introduction. A chorale and a song of the two sopranos alternate, always in slightly different guises. Faster music starts to grow underneath.
- 2) Nervous figurations in the strings and woodwinds. The movement congeals into triplets and develops into a metaphor of a strong wind. A storm develops, dissolves, and disappears into nothingness.
- 3) A new beginning. Another gust of wind develops, but soon calms down to a tranquil section, where the woodwinds play melodies originally introduced by the sopranos. The layering of these melodies becomes very dense. The strings recede, and the woodwinds unite gradually into a chorale.
- 4) The sopranos return, now out in the hall. An explosion of glittering, metallic sounds. Again the music calms down, this time to a *mysterioso* section with tremolos in the strings and fragmentary phrases in the oboes and the sopranos.
- 5) Plainfin Midshipman enters. These fish sing an *e natural*.
- 6) Fast movement again. Sandpaper blocks and strings spin ornaments.
- 7) Scherzando section. The sopranos are back, now in the normal solo position on stage. Light virtuosos textures, which gradually become another gust of wind (a memory of an earlier moment).
- 8) The wind solidifies into a triplet pulse. A kind of dance develops.
- 9) The dance doubles its speed. Joy and energy. Culmination in two huge chords. The music slows down.
- 10) Epilogue. At the very end we hear Frank Gehry, the Midshipman, and the sopranos for a last time (Salonen 2004).

Instead, it becomes an assemblage produced of various effects in their engagement with other assemblages of purely musical, sonorous nature.

Rhizome:

- » **C 0000**
- » **C 0025** [2008] Perspective-less. Viewing of WDCH
- » **C 0043** Breakthrough

- » **C 0200**
- » **C 0230** From actual into virtual
- » **C 0287** Dialogues, raptures, accelerations

- » **C 0300**
- » **C 0319** [1983] Exaggeration, embellishment, ornament
- » **C 0349** Assemblages

- » **C 0400**
- » **C 0450** Cinematic cathedral of sensation
- » **C 0476** Poetry of scale

- » **C 0500**
- » **C 0588** Gehry's sketching and the rhizome

- » **C 0700**
- » **C 0727** Flowers and canyons
- » **C 0783** Microscope and monuments

- » **C 0900**
- » **C 0903** Solitude and collaboration
- » **C 0905** Immediacy and kinetic properties
- » **C 0983** *Action of bending*

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» 0423

Disruptive actions, disruptive affects

Lund, April 13, 2018 ►► Lund, April 22, 2018

Cinematic cuts

The acts of breaking the Color-Core® laminate, » C 0429 placing a metal box with a pincushion inside an architectural model, » C 0771 crumpling sheets of paper, » C 0658 or throwing woodcuttings » C 0005 » C 0049 are cinematic cuts; they are shifts in the course of action, which, in a visual sense, imply cinematic montage. They interrupt an activity or a process. » C 0888 They violently enact an event, causing a disturbance or a problem. » C 0188 » C 0350 They cut short. Their radical immediacy generates bypasses, » C 0831 » C 0905 while their micro-procedures switch narratives. » C 0450 » C 0576 » C 0102 » C 0543

Disruptive actions, disruptive affect, new concepts

Art is capable of producing disruptive affect, and Gehry's actions have the disruptive power *of breaking, of placing in, of crumpling, of bending, of wrapping, or of throwing woodcuttings.* » C 0429 » C 0771 » C 0658 » C 0983 » C 0389 » C 0005 All of these actions are material productions displaying the quality of change. Since all of these actions are inseparable from

instantaneous material alterations, the habitual coding (or organization) of incoming sensual stimuli that actuates particular responses is disturbed. For a very short time, their perception is disorganised. Their disruptive powers thus differentiate habitual experience of intensities from ‘an organising point of view that imposes a common order’ (Colebrook 2002: 39). Similar to powers of cinema identified by Deleuze, Gehry’s disruptive actions are capable of producing disruptive affects. These actions allow us ‘to think intensities, to think the powers of becoming from which our ordered and composed world emerges’ (Ibid).

In those brief moments, in their cinematic micro-procedures, acts of breaking, placing in, crumpling or throwing constrain Gehry — the performer and the viewer — to think differently. ▶ **C 0429** ▶ **C 0771** ▶ **C 0658** ▶ **C 0005** ▶ **C 0049** They are capable of transforming thinking in the same manner as the technical possibilities of the cinematic camera (Colebrook 2002: 38). With their mechanically-driven generative forces that produce unpredictable change, they are capable of stimulating the brain to create narratives differently than through the everyday perception of reality. ▶ **C 0476** ▶ **C 0102** ▶ **C 0106** ▶ **C 0651** ▶ **C 0660** ▶ **C 0122** ▶ **C 0230** ▶ **C 0543** ▶ **C 0576** Additionally, the heightened intensity of Gehry’s disruptive actions render them Deleuzian microperceptions. Micro-durations of their visual perception are no longer a matter of viewing ‘a simplified world of extended objects’ (Colebrook 2002: 40). Following Deleuzian cinematically modified perception, one can think of Gehry’s eye as ‘disengaged from unified action’ and ‘presented with images that prompt affective, rather than cognitive responses’ (Ibid.).

Like cinema in Deleuze’s analysis, each of Gehry’s disruptive actions ‘frees affect or the power of images from a world of coherent bodies differing only in degree, and opens up divergent lines of movement to differences in kind’ (Colebrook 2002: 39-40). Gehry’s acts of breaking, placing in, throwing, and crumpling ‘short-circuit (...) the sensory-motor schema that governs our perception’ (Colebrook 2002: 40). As in cinema, where events appear through the mechanized technique of a

cinematographer, Gehry's disruptions are mechanically stimulated affects; they are compounds of immaterial forces and unexpected material results of their releases, they become sets of new information. » C 0043 » C 0476 Because of their disruptive qualities, they are no longer unified actions, and, like in cinema, they produce 'images that prompt affective rather than cognitive responses.' (Colebrook 2002: 40). Through disruptive powers of breaking, placing in, and throwing or crumpling absorbed into design procedures however, Gehry mixes affective and cognitive responses, combining them into new concepts.

Micro-procedures and disorganised perceptions

Drawing on Deleuzian concepts of affect and disorganised perception, Colebrook writes that we, *as bodies*, respond, and we desire forms; we desire certain affects. (2002: 40). Our bodies respond positively to affective forces, such as the sensible intensities of Gehry's disruptive actions loaded with what Colebrook calls 'pre-personal investments' (Ibid). In these micro-procedures, *experimentation* intertwines with *experience*.⁰¹ Through exploration and discovery, Gehry applies Deleuze and Guattari's radical version of experimentation analysed by Bruce Baugh (2005: 91-92). Seeking new actions, techniques, and combinations 'without aim or end' (Baugh 2005: 91), presuming that, as he says, 'there are going to be *breakthroughs* and they're going to create new information' (Diamonstein, 1980: 41, Celant 1985: 7), the architect attains his desire to approach an architectural design scientifically. » C 0043 » C 0188 Gehry experiments with 'desires, forces, powers, and their combinations, not only to "see what happens," but to

01. In Gilles Deleuze's native French, *experiment* and *experience* are expressed by the same word: *expérience*. (The same is true in the author's native Polish: *doświadczenie*).

determine what different entities (...) are capable of' (2005: 91), just as Baugh reads into Deleuze's sense of experimentation.

The architect's experimentation extends to Deleuze's declaration that 'existence itself is a kind of test', just 'like that whereby workmen test the quality of some material' (Deleuze 1992: 317). » **C 0429** » **C 0771** » **C 0658** » **C 0983** » **C 0389** » **C 0005** » **C 0049** » **C 0043** » **C 0188** Through the ever reinvented, renewed, reapplied, re-executed tests in disruption, Gehry confronts the productive power of affect, which in turn augments his micro-procedures with cinematic faculty. As if to face what Deleuze introduces as

the 'microperceptions' that make up who we are – not just the perceptions of the eye that sees and judges, but the disorganised perceptions of the life that pulses through our bodies (Colebrook 2002: 40).

Rhizome:

» **C 0000**

» **C 0005** A throw of woodcuttings

» **C 0043** Breakthrough

» **C 0049** Chaos and potentials of painting

» **C 0100**

» **C 0102** Cinematic language constructing its own 'objects'

» **C 0106** Language, code, *ostranienie*

» **C 0122** Attachments: architectural *objet trouvé*

» **C 0188** Gehry's *factual design action*

» C 0200

» C 0230 From actual into virtual

» C 0300

» C 0350 After the event effect

» C 0389 Action of wrapping

» C 0400

» C 0429 *Action of breaking*

» C 0450 Cinematic cathedral of sensation

» C 0476 Poetry of scale

» C 0500

» C 0543 *Cinematic viewing-sections-model*

» C 0576 Cinematic framings and irrational breaks

» C 0600

» C 0651 *Catastrophe*

» C 0658 Spontaneous crumples

» C 0660 Diagram

» C 0700

» C 0771 *Action of placing in*

» C 0800

» C 0831 *Immediacy*

» C 0888 Gesture and the concept of *plain action*

» C 0900

» C 0905 Immediacy and kinetic properties

» C 0983 *Action of bending*

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» **0429**

Action of breaking

Kalisz, December 13, 2015 » Lund, April 14, 2018

To break

break, *verb* (DAMAGE)

to (cause something to) separate suddenly or violently into two or more pieces, or to (cause something to) stop working by being damaged.⁰¹ ► C 0423 ► C 0188
► C 0888.

In 1983, Gehry worked on a rather loosely defined task of experimentation given by the Formica Corporation (Lewin Grant 1991: 149-150).⁰² To promote their new product, a

01. 'break, v.' *Cambridge English Dictionary*, Cambridge University Press. Retrieved on April 8th, 2018.

02. Susan Lewin Grant details the experimental character of the commission: 'This interdisciplinary group created conceptual objects that are often cited as emblematic of the 1980s. When the exhibit opened in 1983 at Neocon, the design trade exposition at Chicago's Merchandise Mart, in a space designed by Michael Donovan of Donovan & Greene (Formica Corporation's ad agency at that time), it gradually became apparent why the ten invited entrants had been chosen. It was important that the show demonstrate the pluralism within American design. It was also important to tap designers noted for exploration of materials – designers such as Frank O. Gehry, James Wines, and Alison Sky of SITE. Following the Modernist tradition were

synthetic laminate material called ColorCore®, the company had invited leading architects and designers from across the United States to participate.

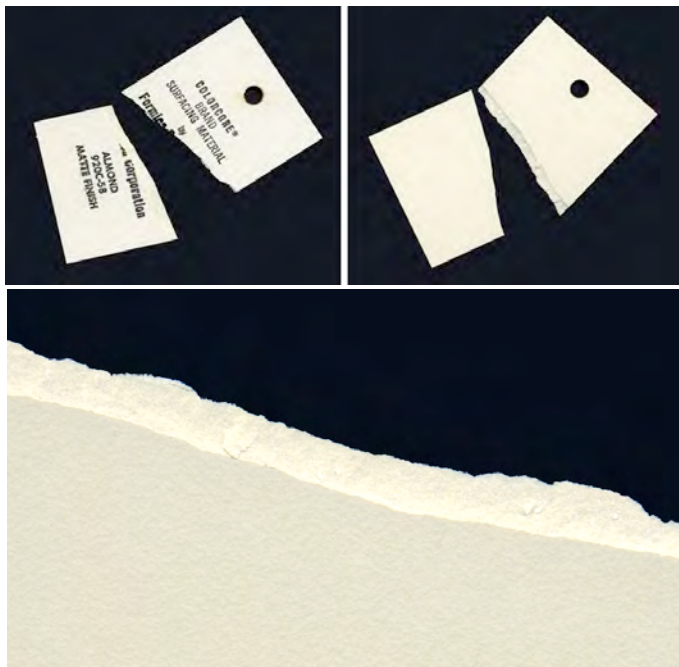
Deleuze and Guattari's radical version of experimentation, 'to try new actions, methods, techniques and combinations, "without aim or end"' (Baugh 2005: 91), seems almost to describe what actually took place in Gehry's studio.

» C 0423 » C 0188 » C 0888 » C 0905 In the architect's words:

I went through all the traditional stuff of cabinets. (...) And so in frustration, I broke the ColorCore® and then I loved it. It was just so beautiful when it shattered – it looked like flints. I started layering it and we made a fish (Gehry 1985: xvi). » C 0314

Gehry's seems to be communicating that coming up with the idea for ► 1983 Fish and Snake Lamps (1983-1986) merely required the breaking of the sample of material. However, utilizing the results of an unexpected progression of micro-events, of the *action of breaking*, in a design process required exceptional qualities and conditions that affected and went beyond commonly accepted design procedures. » C 0423 » C 0188 » C 0888 » C 0389 » C 0472 » C 0474 » C 0477 » C 0576 » C 0771 » C 0730 » C 0923 » C 0965 » C 0905 The broken slice of the laminate material eventually offered insight into its depth, ► Figure [1] into the makeup of the material, and with its inner texture revealed, with its surface fractured into irregular bits; the *action of breaking* made the material's resemblance to a fish scale conceivable. » C 0314 » C 0350

Helmut Jahn, Emilio Ambasz, Leila and Massimo Vignelli, and Milton Glaser.'



► Figure [1]

Sample of the ColorCore® laminate material Gehry used in his *Fish Lamp* (1983-86); industrial design commissioned by Formica Corporation. Pieces broken by the author (top) and detail of the edge and inner makeup of the broken piece (bottom). Sample of ColorCore® courtesy of Formica Corporation.

Extreme experimentation

Gehry's *action of breaking* is an extreme version of experimentation. It is an unexpected effusion of emotion expanded in a violent act of breaking. It is an example of a Deleuzian trial of new actions, methods, techniques and combinations, without knowing what the result will be and having no preconceptions about what the result should be (Baugh 2005: 91). » C 0423 » C 0188 » C 0888 Even a brief examination of the ▶ 1983 Fish and Snake Lamps (1983-1986) ▶ Figure [2] makes it evident that by involving the *action of breaking*, Gehry's design revealed other qualities of the material than those, for which laminates are commonly known and used, and that his design concept comes precisely from his radical exploration of material.

A sudden application of force that violently separates a piece of material into two or more pieces goes far beyond 'hands-on' design procedures; it is an interruption, it produces an abrupt change of the physical properties of broken material. » C 0423 » C 0188 » C 0888 » C 0771 » C 0658 » C 0983 » C 0389 » C 0005 Highlighting Gehry's admiration for a scientific discovery, it renders an ideal example of experiment, 'like that whereby workmen test the quality of some material' (Deleuze 1992: 317). It is a condensed and almost explosive manifestation of 'an open-ended process that explores what's new and what's coming into being rather than something already experienced and known', » C 0450 » C 0576 » C 0102 » C 0543 and it demonstrates that 'experimentation is inseparable from innovation and discovery' (Baugh 2005: 91). » C 0423 » C 0905



► Figure [2]

Frank, O. Gehry, *Fish Lamp* (1983-86); industrial design commissioned by Formica Corporation. Image Courtesy of Gehry Design, LLC.

Only a produced resemblance

If a broken sliver of a material reveals the inner structure hidden under its surface, then the action of breaking it undeniably creates new information about it.⁰³ Thus, Gehry's *action of breaking* reveals the generative quality of providing information, of communicating something new, which in Gehry's sense of *breakthrough* makes the material difference flip into sensation. ▶ C 0043 ▶ C 0771 ▶ C 0658 ▶ C 0983 ▶ C 0389 ▶ C 0005 Suddenly unveiled forms of fractured material are shaped by patterns of molecular bonds of the inner structure of high-pressure, high-density artificial veneer consisting of layers of paper impregnated with thermosetting synthetic resins.⁰⁴ While fractured pieces of laminate became shapes of pectoral, ventral, dorsal- and tail fins later in the development of the architect's initial visual association, their organic patterns originally suggested fish scales. ▶ C 0660 Forceful fracturing of Formica laminate is like Bacon's diagram; its function is to be 'suggestive' (Deleuze 2003: 101). Broken artificial veneer is like in Bacon's paintings, operating as a 'set of asignifying and nonrepresentative lines and zones, line-strokes and colour-

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03. 'The product, a plastic laminate with colour integral through its depth (conventional laminates have only a thin surface layer of colour), eliminates the visible seams, which make laminate coverings so clearly identifiable as veneers. Most commissioned designs exploited the product's potential to appear as part of a sculpted solid.' Mason Andrews, "Fish and Snake Lamps" in Peter Arnell and Ted Bickford (eds.), *Frank Gehry. Buildings and Projects* (New York: Rizzoli International Publications, 1985), 266.
04. About ColorCore®: 'High pressure laminates are artificial veneers of high density consisting of layers of specially selected papers, impregnated with thermosetting synthetic resins, fused together under heat and very high pressure and impregnated with melamine-based resins. The core layers are impregnated with phenolic-based resins for strength and flexibility'. Description retrieved from: 'Formica® Products Fabrication Advice 2012' available online at: www.formica.com/uk/. Retrieved on April 14th, 2018.

patches,' which are 'not sufficient in themselves, but must be "utilized"' (Ibid.). » **C 0660**

But this is not the transformation of one entity into the other, of a sliver of laminate material into a fish scale. Gehry's *action of breaking* produces a condition of something passing from one to the other; Deleuze and Guattari describe this as

neither an imitation nor an experienced sympathy, nor even an imaginary identification. It is not resemblance, although there is resemblance. But it is only a produced resemblance. Rather, [as] becoming [it] is an extreme contiguity within a coupling of two sensations without resemblance... (1994: 173). » **C 0450** » **C 0727** » **C 0104**
» **C 0314** » **C 0348**.

Rhizome:

» **C 0000**

» **C 0043** Breakthrough

» **C 0100**

» **C 0188** Gehry's *factual design action*

» **C 0300**

» **C 0314** [1981] Fish

» **C 0350** After the event effect

» **C 0389** Action of wrapping

» **C 0400**

- » **C 0423** Disruptive actions, disruptive affects
 - » **C 0450** Cinematic cathedral of sensation
 - » **C 0472** *Action of cutting*
 - » **C 0474** *Action/painting*
 - » **C 0477** Imagined and unimagined

 - » **C 0500**
 - » **C 0576** Cinematic framings and irrational breaks

 - » **C 0600**
 - » **C 0660** Diagram

 - » **C 0700**
 - » **C 0730** Distribution of formless forces
 - » **C 0771** *Action of placing in*

 - » **C 0800**
 - » **C 0888** Gesture and the concept of *plain action*

 - » **C 0900**
 - » **C 0905** Immediacy and kinetic properties
 - » **C 0923** Cinema of scaling
 - » **C 0965** Cinematic *sections/frames*
 - » **C 0983** *Action of bending*
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» **0450**

Cinematic cathedral of sensation

Lund, March 27, 2017 ➡➡ Kalisz, October 19, 2017

Deterritorialisation

None of Gehry's buildings will ever become a pair of sails forming a *wing-on-wing* or any other position.► **C 0348** However, deterritorialising a concept of building, the architect alternates its possibility of being *only* a building, or a building as we know it. In the ► **2003** Walt Disney Concert Hall (Los Angeles, California, 1989-2003) Gehry did not just imitate the shapes of sails; rather he forces the very nature of sailing into relation with the built enclosures in a way that transformed the territory of the building and the sailing itself.► **C 0348** In the design of ► **2003** Walt Disney Concert Hall, the easily recognizable shapes and behaviour of flexible sheets of canvases invented to be spread on spars in order to utilize the power of the wind are substantially changed the moment Gehry connected these elements with architectural imaging, planning, and structure.

Making an event or sensation of sails formations entangled into a built form Gehry frees the building from its territory, from 'the fixed relations that contain a body all the while exposing it to new organisations' (Parr 2005a: 67). Consequently, the building is no longer only a building; it is neither a *wing-on-wing* nor any other arrangement of sails.

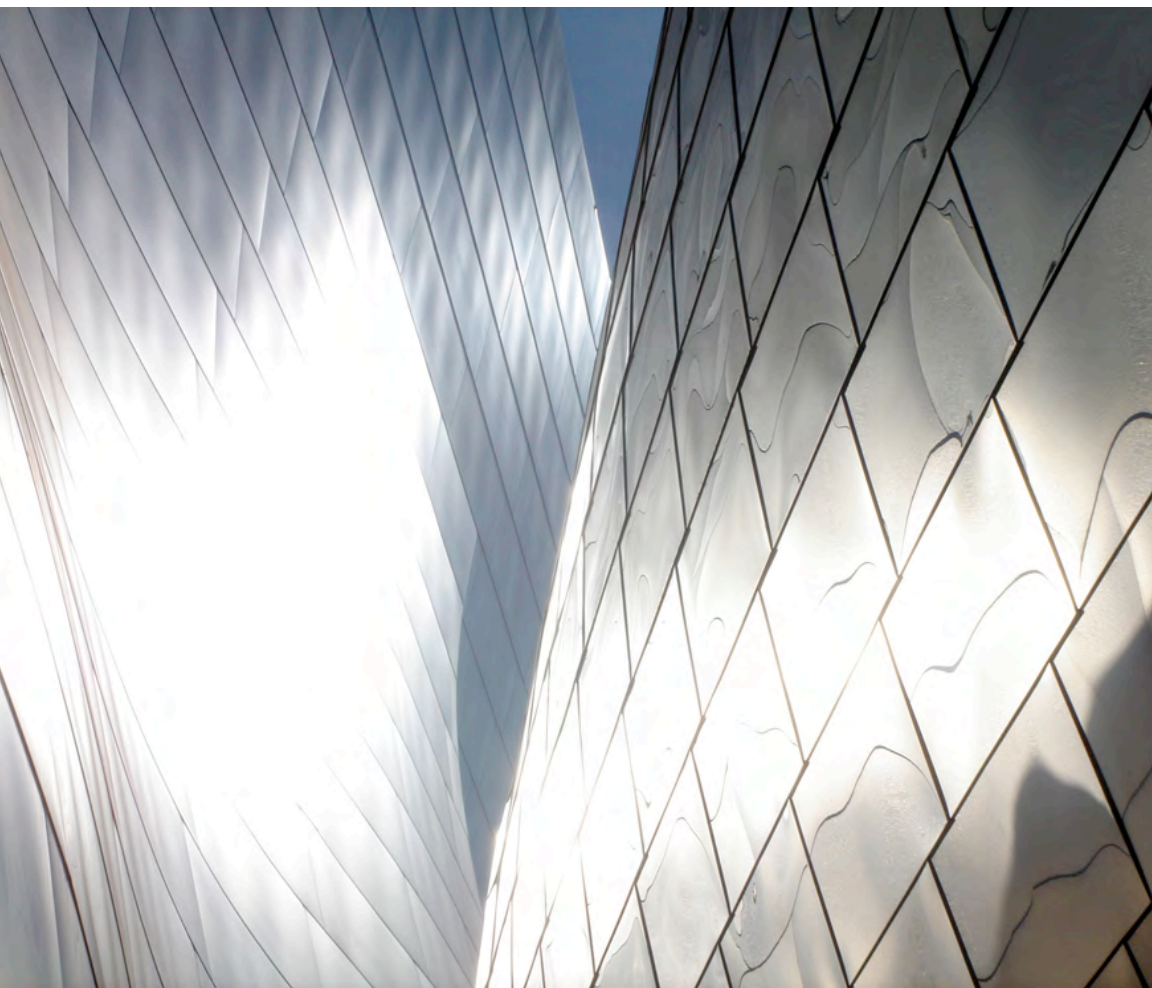


► Figure [1]

Frank O. Gehry, *Walt Disney Concert Hall* (Los Angeles, California, US 1989-2003, sails like arrangements at the main entrance. Photograph by Bożena Bugajna, 2008.

Deterritorialised, the building absorbs not only *wing-on-wing* surface formation and other spatiotemporal arrangements of sails but also an event of becoming a movement accompanied by a sensation of the pressure of the wind. ▶ Figure [1] ▶ **C 0348** The build forms are in a state resulting from a stimulus operating on the senses. Colebrook defines it, ‘deterritorialisation occurs when an event of becoming escapes or detaches from its original territory’ (2002: 59). In the ▶ **2003** Walt Disney Concert Hall (Los Angeles, California, 1989-2003), the event of becoming detaches from a condition of sailing, of the body enmeshed and combined with multiple sail formations, and makes it present in ‘a disorganised and disconnected way that it could no longer be attributed to a specific thing or object in space’ (Colebrook 2002: 59). There, a sense of sail-like surface formations and their spatiotemporal arrangements is available not as actually perceived wind pressure, but as what is produced by a virtual flow of forces. ▶ **C 0690** ▶ **C 0663** ▶ **C 0559** ▶ **C 0755** ▶ **C 0658** ▶ **C 0622**

Other than Jørn Utzon’s iconic Sydney Opera House, where the appearances or apparitions of geometrically idealised sails ‘echo the graceful catamarans that pepper Sydney Harbour’ (Kipnis 2003: Scene 13.5), formal imitation of the *wing-on-wing* (or any other sail formations) fluxes in convoluted surfaces wrapping Gehry’s composition of the Walt Disney Concert Hall (Los Angeles, California, 1989-2003). Absorbed into a built structure by blending sensations rather than the appearances, Gehry’s sails lose their formal identity. Their evocative image is of a fleeting sensation perceptible in a fluctuation of parallax streams rather than the evocative image of Utzon’s sails, ‘refined and ennobled into a universal architectural symbol,’ as Jeffrey Kipnis puts it (2003: Scene 13.5).



► Figure [2]

Frank O. Gehry, *Walt Disney Concert Hall* (Los Angeles, California, US 1989-2003, 'sailness' of stainless steel cladding sails in Gehry's spatial abstractions. Photograph by the author, 2008.

Sensation

In Deleuzian understanding, sensation ‘takes place before cognition, it opens at the threshold of sense, at those moments prior to when a subject discovers the meaning of something or enters into a process of reasoned cognition’ (Conley 2005: 244). What Gehry’s design shares with a viewer/passers-by/user of the ► **2003** Walt Disney Concert Hall (Los Angeles, California, 1989-2003) is the sensation, which strikes ‘before meaning is discerned in figuration or a thematic design’ (Conley 2005: 244). ► **C 0188** Unlike Utzon, Gehry is not interested in the idealised forms of sails. This is probably related to his experience of sailing; when sailing, Gehry willingly immerses himself in the sensation of sudden intensification, aerodynamic lift and the air moving the sail. Filmed while sailing, he recounts:

when you turn off the wind slightly, there’s a luff and the sails flutter and that reminded me of the folds in paintings and the folds... and, there was a sensuousness about that, that I like (...)
(Gehry in Kipnis 2003b: Scene 13.3). ► **C 0894** ► **C 0049**

When sails flutter, formally ungraspable, simultaneous, multiple spatiotemporal events of quick, overlapping deformations take place. ► **C 0943** ► **C 0658** ► **C 0102** ► **C 0690** ► **C 0049** They shutter symbolic representations of sails making the sensation productive. They bring to mind rather folds of classical paintings drapery. Sensation ‘has the productively deformative power of defacing the representations that cause it to be felt’ (Conley 2005: 244). What Gehry is affected by, and, what he as an architect is capable of absorbing, is the kind of vibration ‘at the threshold of a given form’ (Gehry in Kipnis 2003b: Scene 13.3). ► **C 0906** ► **C 0981** ► **C 0912** ► **C 0938** ► **C 0894** Even if they become geometric and painterly abstractions in the field of his still lifes (Conley 2005: 244), ► **C 0622** Cézanne is capable of producing the ‘appleness’ of painted apples to be felt. Similarly, even if sails become geometric and spatial abstractions in the field of his architectural enclosures, Gehry manages to produce

‘sailness’ of stainless steel cladding sails to be felt ▶ Figure [2] ▶ **C 0348** ▶ **C 0025**. Gehry cinematically fuses architectural fiction of embodying sensation with the architectural reality of what it is to be a building, of what it is to be a utilitarian built structure. The viewer/passers-by/user of the ▶ **2003** Walt Disney Concert Hall (Los Angeles, California, 1989-2003) passes ‘the frontier between the real and the fictional (the power of the false, the story-telling function)’ (Deleuze 1989: 153). Gehry’s built environment is capable of what Deleuze identifies in ‘a third time-image’ of his study *Cinema 2: The time-image* (1989), as the condition that blurs the differences of ‘the cinema of fiction and the cinema of reality,’ where ‘[t]he whole cinema becomes a free, indirect discourse, operating in reality’ (1989: 155). Gehry makes the viewer/passers-by/user of the environment of the ▶ **2003** Walt Disney Concert Hall (Los Angeles, California, 1989-2003) the character of his film. Gehry is the Deleuzian filmmaker. ‘The forger and his power, the filmmaker and his character, or the reverse, since they only exist through this community which allows them to say ‘we, creators of truth.’ (Deleuze 1989: 155). ▶ Figure [3] ▶ **C 0102** ▶ **C 0014** ▶ **C 0923** ▶ **C 0576**

Cathedral

In the external formation of the ▶ **2003** Walt Disney Concert Hall (Los Angeles, California, 1989-2003) building, there is a sensation that is not referred to any specific body or place. Following Christopher Vitale’s (2011) understanding of the Deleuzian concept of the movement-image, one can see the motion felt by the sailor’s whole body as a condensation of the entire universe into a single sensation. It is framed from the rest of the universe by the perspective on it provided by sailor’s body, the complex sensation of the body in motion.



► Figure [3]

Frank O. Gehry, *Walt Disney Concert Hall* (Los Angeles, California, US 1989-2003, ...passing 'the frontier between the real and the fictional (the power of the false, the story-telling function)' (Deleuze 1989). Photograph by Božena Bugajna, 2008.

The whole body becomes ‘the frame provided by my eye or a cinema camera, it slice up the world based on its ‘perspective’ on it, and in doing so, allows certain sensations, certain slices of the world, to be foregrounded over others’ (Vitale 2011). » **C 0102** Admitting he is emotionally connected to sailing, Gehry appears communicating about such sensations, or slices of the world:

I love sailing. I love to get into this big space being enclosed in front of you and you’re in it, it’s like a cathedral (Gehry in Kipnis 2003b: Scene 13.2). » **C 0783**
» **C 0014**

Convolved surfaces of the spatial enclosures of the ► **2003** Walt Disney Concert Hall (Los Angeles, California, 1989-2003) express sensations framed by Gehry-sailor’s body, the complex sensation of body in motion. He connect the sensation with the design:

So, I started working on that (...) and I concurrently was working on the Concert Hall, Los Angeles Philharmonic Disney Hall, and some of those ideas you can see on the design of the Concert Hall (Gehry in Kipnis 2003b: Scene 13.4). » **C 0348** » **C 0025**.

Rhizome:

» **C 0000**

» **C 0014** Gehry’s cinematographic seascapes

» **C 0025** [2008] Perspective-less. Viewing WDCH

» **C 0049** Chaos and potentials of painting

- » **C 0100**
 - » **C 0102** Cinematic language constructing its own 'objects'
 - » **C 0188** Gehry's *factual design action*
 - » **C 0300**
 - » **C 0348** [2004] *Wing on Wing*
 - » **C 0500**
 - » **C 0559** Malleability
 - » **C 0576** Cinematic framings and irrational breaks
 - » **C 0600**
 - » **C 0622** Cézanne
 - » **C 0658** Spontaneous crumples
 - » **C 0690** Deforming the skin
 - » **C 0700**
 - » **C 0755** Battlefield of Gehry's canvas
 - » **C 0783** Microscope and monuments
 - » **C 0800**
 - » **C 0894** Body in motion. Boccioni and Duchamp
 - » **C 0900**
 - » **C 0906** Vibrating tectonics
 - » **C 0923** Cinema of scaling
 - » **C 0912** Architecture from painting to the cinema
 - » **C 0938** Spasms
 - » **C 0943** Deformations
 - » **C 0981** Gehry's operative abstract machine *g*
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» **0476**

Poetry of scale

Kalisz, February 17, 2017 ⇨⇨ Lund, March 20, 2017

A play with scale

It *Proposals for Monuments and Buildings: 1965-69*, Claes Oldenburg envisions his large-scale sculptures through the procedure of placing his 'favourite objects in a landscape – a combination of still-life and landscape scales' (Oldenburg 1968)⁰¹ ➡C 0771. ➡C 0201 ➡C 0727 ➡ C 0688 ➡C 0043 ➡C 0625 ➡C 0188 ➡C 0543 ➡C 0106 ➡C 0651 ➡C 0660 ➡ C 0122 ➡ C 0230 ➡C 0783 ➡ C 0105 ➡C 0923 He defines his specific practice as 'a play with scale' or 'the poetry of scale' (Ibid.).⁰²

Technically, when 'playing with scale', Oldenburg dismantles two devices of architectural design: scale and perspective projection. Combinations of still life and landscape scales disrupt the technique of moving objects back and forth

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01. The architectural scale of the series of Oldenburg's works was driven by the size of his huge, a block-long, new studio on East 14th Street in New York. The scale combined with recollections of travels had given the artist an inclination to landscape representations. In: *The Poetry of Scale*, Claes Oldenburg in conversation with Paul Carroll on the origin and development of his exhibition 'Proposals for Monuments and Buildings: 1965-69,' taped on August 22, 1968, in the artist's room at The Carriage House in Chicago. Paul Carroll is a poet and editor.
02. Oldenburg uses these expressions reporting on the initiation of the idea for the three proposals for Chicago buildings and monuments.

along the projecting lines of Alberti's perspective, so the relation between the objects linked to their respective dilations and contractions becomes abnormal. » C 0423 » C 0061 » C 0858 » C 0571 Oldenburg's use of perspective makes the objects 'seem "colossal"' (Oldenburg 1968). It breaks the rules of Alberti's concept and exposes its artificiality. » C 0571 In his *Projective Cast: Architecture and Its Three Geometries*, Robin Evans reveals other abnormalities of the linear perspective. » C 0858 He shows that 'anomalies arise when measurements of the image are compared with measurements of the objects depicted' (Evans 1995: 62). » C 0858 » C 0858 » C 0571 Evans emphasises that

the convergence of parallels into a vanishing point does not conform to Euclid's fifth postulate, which has it that parallels never meet, and the continuous dilation and contraction of bodies as they move back and forth plays havoc with the Euclidean idea of congruence (1995: 62).

» C 0858

Oldenburg's subversive operations take place in the midst of this confusion and disorder. Flying to Chicago in October 1967, Oldenburg takes along an old-fashioned wooden clothespin and a postcard of the Empire State Building. He makes a sketch, superimposing a clothespin on the postcard.

» C 0771 » C 0122 » C 0651 » C 0923 » C 0576 » C 0102

» C 0061 » C 0688 He then takes the clothespin and places it on the little table in front of his seat (Oldenburg 1968). The dissonant blend of perspectival contractions of objects takes place when the plane is flying over Chicago. Oldenburg recalls: 'I noticed that the buildings down there looked the same size as the clothespin.' At this moment, perspectival disorder redefines the scale into 'poetry of scale'. Changing the meaning of scale, Oldenburg then sketches three proposals for Chicago buildings and monuments. ► Figure [1] » C 0783 » C 0727



► Figure [1]

Claes Oldenburg, *Proposal for a Skyscraper for Michigan Avenue, In the Form of Lorado Taft's Sculpture "Death"* Chicago, Illinois, 1968. Photo-collage.

Poetry and *ostranenie*

In the essay ‘Art as Procedure’,⁰³ the Russian-Soviet proto-Structuralist literary critic and theorist of Russian Formalism Viktor Shklovsky (1893-1984) asserts that the use of ‘purely literary devices such as phonetic patterns, rhyme, rhythm, metre’ is what distinguishes poetry from other literary forms. Shklovsky claims that ‘poetic speech is formed speech’ (Shklovsky 1916); that is, a set of formal devices makes the reader view and experience the world in new, unusual ways. **» C 0106** For instance, ‘the use of sound not to “represent” sense, but as a meaningful element in its own right’ (Hawkes 2003: 47) is what makes the language strange. Shklovsky describes such a process of *defamiliarization* as the linguistic phenomenon of *ostranenie* (остранение).⁰⁴ It describes ‘the experience of having the familiar and commonplace made strange or alien.’⁰⁵ **» C 0106**

This phenomenon of pushing the reader outside of the usual patterns of perception by making the familiar appear strange or different applies to visual arts. The mid-20th century American art critic Harold Rosenberg finds forms and

03. Victor Shklovsky’s formative essay ‘Art as Procedure’ (or ‘Art as Technique’, or ‘Art as Device’) was first published in 1916. It was included in first publication by proponents of the ‘Opoyaz’ symposium (Boris Eichenbaum, Roman Jakobson, Boris Tomashevsky, Juri Tynyanov, and Viktor Shklovsky), who formed a ‘Society for Poetic Language.’ The publication, called *Sbornik po teorii poeticheskogo yazyka* [*Studies in the Theory of Poetic Language*], includes writings that shaped the early doctrine of a group of Russian linguists and literary historians that has come to be known as the Russian Formalism movement. The writings of the group were rediscovered and brought to Western culture in 1965 by Tzvetan Todorov. His *Théorie de la Littérature* is a French translation of a selection of the 40-year-old writings. This publication of a then-obscure group of Russian writers was the beginning of an influential movement of literary theory and criticism.

04. *ostranenie* (остранение); Russian: ‘making strange’ or ‘estrangement.’

05. ‘ostranenie’, in: *Lexicon of the Society Lézard*. 1997. Accessed at: <http://www.geocities.com/~lezard/lexicon/o/ostranen.html>. Retrieved on October 8, 2008.

mechanisms of *defamiliarization* in a collection of essays *The Anxious Object: The Art Today and Its Audience* (Rosenberg 1964). Among the artists challenging familiar ways of seeing things, of ‘changing some perceptual aspects of a familiar object, such as scale, texture, material, colour, etc.’⁰⁶ is Claes Oldenburg.

Asignifying raptures

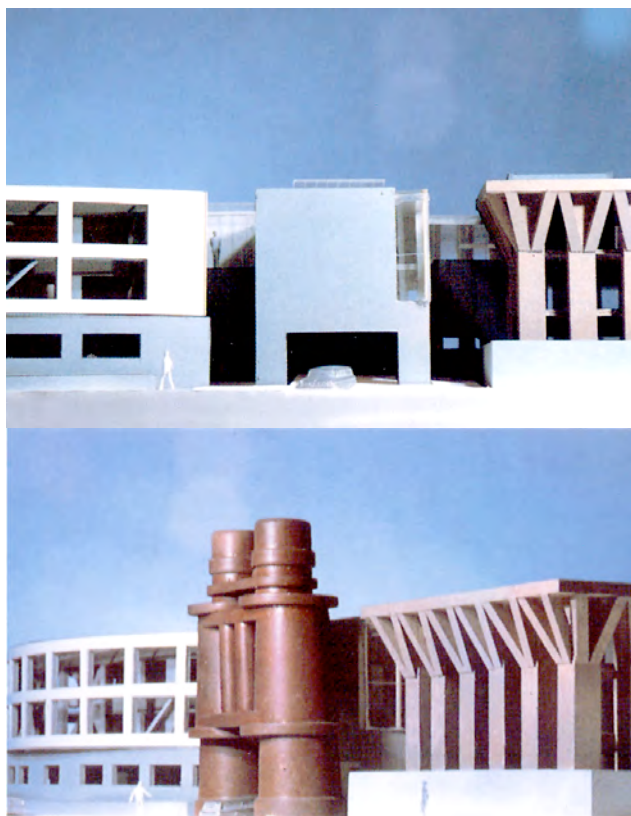
Gehry follows Oldenburg in his ‘poetic’ use of scale. Like Shklovsky’s literary sense of the ‘poetic’ use of a word that ‘makes ambiguity a notable feature of its performance’ (Hawkes 2003: 49), Gehry’s re-scaled, monumental objects make ambiguous the performance of an ordinary architectural procedure of scaling. » C 0106 » C 0102 » C 0543 » C 0576 » C 0727 » C 0771 » C 0783 » C 0923 Oldenburg and Gehry’s *poetic* mixes and manipulations of scales, benefitting from Euclidean geometry’s perspectival space, intuitively and habitually perceived as congruent, explodes into Deleuze and Guattari’s asignifying rapture. » C 0423 Each event of the *poetic* crashing of scales goes beyond the structural roles of the signifier and signified; each produces *ostranenie*. As it overthrows the regime of visual signs, it estranges the usual and constrains one to think differently. To comprehend the event’s result, we should invent new concepts. ▶ Figure [2] As Claire Colebrook suggests, in such cases, ‘thinking would not be governed by a preceding system but would be violated by the shock or encounter with life, a life that emits signs well beyond those of the system of signification’ (2005a: 249). » C 0688 » C 0091

06. Ibid.



► Figure [2]

Frank O. Gehry, *GFT Fish*, Turin, Italy, 1985-86. Itinerant installation/inhabitable sculpture, wood frame armature, glass, plexiglas, custom-laminated plywood scales. Commissioned by the Gruppo Finanziario Tessile.



► Figure [3]

Frank O. Gehry, *Chiat/Day Building*, Venice, California, USA, 1985-1991.
Study model before and after adding binoculars. © Frank O. Gehry. Getty Research
Institute, Los Angeles (2017.M.66), Frank Gehry Papers.

Gehry's collaboration with Oldenburg led to the invention of the "binocular building." Their collaborative design of the ▶ **1991** Chiat\Day Building (Venice, California, 1985-1991) shows generative properties of 'poetry of scale.' It is an architecturally productive instance of Deleuze and Guattari's asignifying rapture. ▶ Figure [3] Model-making for the 'binocular building' and other instances of Gehry's *action of placing in* ▶ **C 0771** render familiar the *defamiliarised*; all cases radically challenge our habitual expectations and force us to see anew. They also realise Shklovsky's technique of art. The act of placing binoculars in the model of the ▶ **1991** Chiat\Day Building (Venice, California, 1985-1991) is the asignifying rapture of scale making objects 'unfamiliar', making forms difficult to perceive. Again, Shklovsky's theory of art explains such an effect of 'poetry of scale'. According to Shklovsky, 'art exists that one may recover the sensation of life; it exists to make one feel things, to make the stone stony'⁰⁷ (Shklovsky 1916: 18). ▶ **C 0622** Here, Shklovsky remarkably aligns with Deleuze's commitment to the primacy of the actual, where 'one should remain attentive to what appears, to what is,' where 'we should not, for example, establish what it is to think on the basis of what is usually, generally or actually thought' (Colebrook 2010a: 10). Shklovsky replies by defining the purpose of art, which is 'to impart the sensation of things as they are perceived and not as they are known' (1916: 18). ▶ **C 0923** ▶ **C 0576** ▶ **C 0102** ▶ **C 0106** ▶ **C 0660**

07. In this expression of sensation, of making 'the stone stony', Shklovsky aligns with Deleuze's account of sensation in painting, which links Francis Bacon to Cézanne – of 'painting the sensation'. In *Bacon: The Logic of Sensation*, he writes: 'Sensation is what is painted. What is painted on the canvas is the body, not insofar as it is represented as an object, but insofar as it is experienced as sustaining this sensation.' (Bacon 2003: 35) Shklovsky's expression 'the stone stony' vividly parallels D. H. Lawrence's description of sensation in Cézanne's painting: 'the appleyness of the apple' (Lawrence 1936: 578-9); Deleuze quotes this in this context.

Rhizome:

- » **C 0000**
- » **C 0043** Breakthrough
- » **C 0061** Optical versus manual
- » **C 0091** *Snowflaking* or filling of space

- » **C 0100**
- » **C 0102** Cinematic language constructing its own 'objects'
- » **C 0105** Projection and representation
- » **C 0106** Language, code, *ostranienie*
- » **C 0122** Attachments: architectural *objet trouvé*
- » **C 0188** Gehry's *factual design action*

- » **C 0200**
- » **C 0201** Painting
- » **C 0230** From actual into virtual

- » **C 0400**
- » **C 0423** Disruptive actions, disruptive affects

- » **C 0500**
- » **C 0543** Cinematic *viewing-sections-model*
- » **C 0571** Distorting perspective
- » **C 0576** Cinematic framings and irrational breaks

- » **C 0600**
- » **C 0622** Cézanne
- » **C 0625** Flux of images and 'time-image'
- » **C 0651** Catastrophe

- » **C 0660** Diagram
 - » **C 0688** Gehry's combines

 - » **C 0700**
 - » **C 0727** Flowers and canyons
 - » **C 0771** *Action of placing in*
 - » **C 0783** Microscope and monuments

 - » **C 0800**
 - » **C 0858** Perspective

 - » **C 0900**
 - » **C 0923** Cinema of scaling
 - » **C 0576** Cinematic framings and irrational breaks
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» **0477**

Imagined and unimagined

Kalisz, September 30, 2015 ⇨⇨ Lund, May 9, 2016

Imagined and unimagined

The imagined and the unimagined simultaneously emerge and merge in architectural sketches. Even though the imagined is always a part of reality that will exist *after* the drawing and does not follow nature, as Evans defines the essence of architectural drawing (1997: 165), in the imagined, there are always connections with something remembered, something real preceding the act of sketching.⁰¹ In the architectural sketch, the imagined refers to something already present; it reflects upon it and produces its alterations. Thus, the imagined is always preconceived. One can always retrace its ties to the past, to the already existing. It is everything that occurs in a draughtsperson's mind, even a fraction of a second before the externalization of its drawn effect. Including its tiniest, rapidly, or even instinctively produced elements. The imagined in an architectural sketch belongs to an already established territory of architecture. In the broadest sense, this territory includes and combines everything concerning architecture that has already been built, drawn, written, told, or rendered in any other way.⁰²

01. Evans' emphasis in italics.

02. 'In Gilles Deleuze and Félix Guattari's *A Thousand Plateaus* (1980), territoriality is any entity or institution that restricts the free flow of individual desire. The

In her essay ‘Frank Gehry: On Line’, Esther da Costa Meyer suggests that Gehry’s ambiguous architectural sketches are grounded in the programme’s stipulations for the projected future building, before starting to draw.

His practice tacitly acknowledges the ambivalent character of the sketch, the freedom on which it is predicated, as well as the fact that client, site, and budget are there from the start, staking their claims. The architect does not have to resist the image because it is always informed by programmatic requirements (da Costa Meyer 2008: 39).

She rejects the assumptions of critics such as Germano Celant (1985: 11) and Francesco Dal Co (1998: 55) that Gehry’s sketches are records of a sort of automatic writing. A simple opposition between the imagined and the unimagined fails; the differences here are of a complex nature. The complexity of the correlation between these two realms is embedded in their mutual dependence: they always exist in a close interconnection. The unimagined is constantly situated across and/or within the imagined. The first occurs in an architectural sketch simultaneously with the latter. ▶ Figure [1] The unimagined is intentionally rationalized. While sketching, a draughtsperson sorts out useless, invalid, and unproductive drawn elements just before their involuntary re-arrangement, re-rendering, and eventual translation into the imagined, into the architecturally imaginable: useful, valid, and productive.

family and the state count as prime examples of territorialities, and they conspire to produce the modern subject – the controlled and, as Deleuze and Guattari see it, inhibited subject of liberal humanism and the Enlightenment project; “there is no fixed subject unless there is repression”, they insist. They argue that desire needs to be “deterritorialized”, and they treat nomadic existence as some kind of ideal of deterritorialisation.’ From TERRITORIALITY entry in: Stuart Sim (ed.), *The Routledge Companion to Postmodernism*, (London: Routledge, 2005), 315.



► Figure [1]

Frank O. Gehry, *Fondation Louis Vuitton*, Paris, France 2005-2014, sketch, 2006. Exterior view, ink on paper. Image Courtesy of Frank O. Gehry.

At the same time, the unimagined unavoidably re-occurs, expands and develops. The complexity of the dynamic coexistence of the two realities of the architectural sketch resonates with Deleuze and Guattari's analysis of smooth and striated space:

The passages from one to another; the principles of the mixture, which are not at all symmetrical, sometimes causing a passage from the smooth to the striated, sometimes from the striated to the smooth, according to entirely different movements (1987: 475).

The smooth space of the unimagined becomes striated in the process of architectural rationalization through the visual expression of the drawing. Striation of such smooth space deepens and becomes more rigorous through three-dimensional visualisations and materializations within a further design process and construction of a building, when the unimagined becomes structured and governed.

The nature of the unimagined may be effectively mapped into Deleuze and Guattari's image of felt that they recognize as one of *The Technological Models* of 'smooth space' (1987: 475- 477). The extracted visual aspect of the unimagined in an architectural sketch resembles the microscale of felt's entangled fibres, an aggregate of intrication (1987: 475). Celant recognises lines in Gehry's sketches in a similar way. He sees them 'directionless' and 'entangled like balls of yarn' (Celant 1985: 11). Indeed, the unimagined extracted into Gehry's sketches is especially close to the microscale of felt's entangled fibres. ▶ Figure [2] Its complexity is in no way *homogeneous*. As in Deleuze and Guattari's differentiation between smooth and striated space, the space of the unimagined contrasts with the space of the imagined: it is in principle infinite, open, and unlimited in every direction (1987: 475-476).

At the same time, in a purely architectural sense, the unimagined occurring in architects' sketches 'has neither top nor bottom nor centre; it does not assign fixed and mobile elements but rather distributes a continuous variation' (Deleuze and Guattari 1987: 475).

This explanation aligns with da Costa Meyer's hypothesis that Gehry's sketches 'can be read as both two- and three-dimensional, either as flat lines on a flat sheet of paper or as lines that cut through a pliant and luminous space' (da Costa Meyer 2008: 40). Charting the realm of the possible, Deleuze and Guattari's *The Maritime Model* of smooth space delineates more properties of the unimagined present in Gehry's sketches. In both, the line is a vector, a direction, and not a dimension or metric determination. Gehry's drawings render the space constructed by local operations involving changes in direction (Deleuze and Guattari 1987: 478).

The imagined and unimagined appear simultaneously. The imagined is represented by all drawn marks, which intentionally externalize the architect's thoughts. At the same time, the imagined invents and supports the unimagined. And, the smooth space of the unimagined undergoes the process of striation. It is observable in most typically produced architectural sketches, where the accumulation of lines and other drawn marks creates the image of the process, in which thoughts or ideas become clear and fixed in the right outline of the ideal of the imagined spatial solution/configuration. The architectural sketch is always the site of a contest between smooth and striated space. It is the passage from the smooth space of the unimagined to the striated space of the imagined.



► Figure [2]

Frank O. Gehry, *American Centre*, Paris, France 1988-1994, sketch, 1988.
Street view and plan iterations, ink on paper.
Image Courtesy of Frank O. Gehry.

Unimagined and schizophrenia

The unimagined emerges due to a rapid, careless, or inaccurate performance of drawing. It materializes through the draughtsperson's slacked control over the technique of drawing, when the result of drawing is imperfect. ▶ C 0934 The unimagined takes place through and in vagueness – precisely in that which is unclear, indistinguishable, and indiscernible. ▶ C 0888 ▶ C 0764 ▶ C 0188 ▶ C 0905 ▶ C 0755 ▶ C 0622 The unimagined is purely about potentialities. The unimagined distributes formless forces through what is ambiguous and indefinable. ▶ C 0730

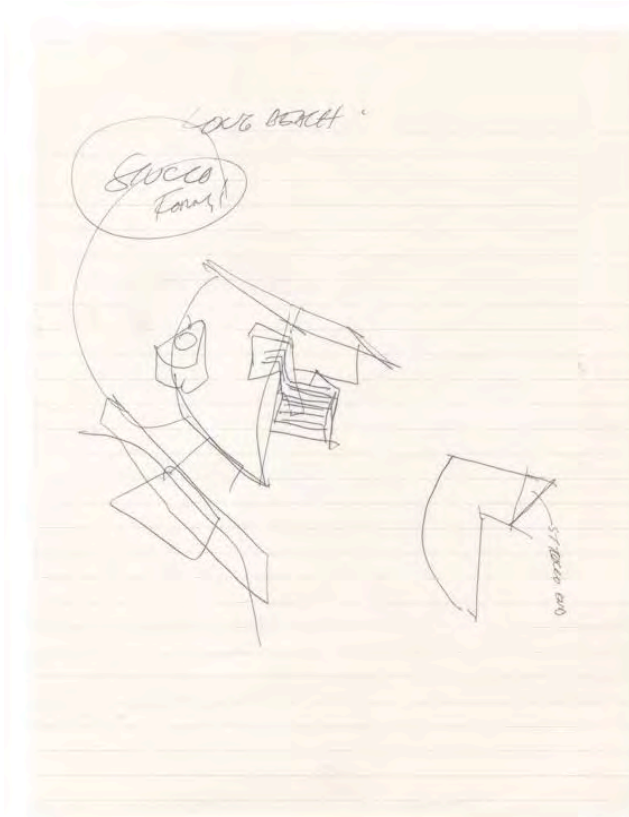
The unimagined in an architectural sketch opens it up to the possible. Not only as productive of a reality that will end up outside the drawing, as Evans would see it, but as productive of the *unreality*, or the *non-reality* of un-thought; of the difference, of the unexpected. It cannot be explained through Gehry's intimate declaration: 'I have a freedom in my drawings that I love to express in my architecture' (Rappolt and Violette 2004: 392). It cannot because the unimagined is unexplainable. However, in the context of Deleuze and Guattari's writings in the two-volume *Capitalism and Schizophrenia*, one can risk explaining the unimagined here through the comparison with the emancipatory declarations they make for schizophrenia. Even if many of these claims were considered flawed, it is important that in their writings they do not contemplate 'schizophrenia' as a pathological condition or a serious mental illness; it is important here to note that the 'schizophrenia' analysed by Deleuze and Guattari is a non-clinical concept as opposed to the 'schizophrenic' clinical end-result.

In his 'Pleasures of Philosophy',⁰³ which is meant as guidance for *Capitalism and Schizophrenia*, Brian Massumi reads schizophrenia as a process of 'inventive connection, expansion

03. An earlier version of 'Pleasures of Philosophy' appeared as the foreword to Gilles Deleuze and Félix Guattari's *A Thousand Plateaus: Capitalism and Schizophrenia* published by The University of Minnesota Press in 1987.

rather than withdrawal' (1992: 1). As Massumi puts it, 'the clinical schizophrenic's debilitating detachment from the world is a quelled attempt to engage it in *unimagined* ways'⁰⁴ (1992: 1). Massumi picks up its manifoldness as 'a relay to a multiplicity (...) Not aimlessly. Experimentally. The relay in ideas is only effectively expansive if at every step it is also a relay away from ideas into action. Schizophrenia is the enlargement of life's limits through the pragmatic proliferation of concepts' (1992: 1). This analysis casts new light on the unimagined in an architectural sketch, which commonly remains unnoticed. In effect, the unimagined in architectural sketching – which is habitually perceived as an error, a mistake, or a lapse and becomes invalid and is often erased – plays an important role in Gehry's sketches in the relay from ideas to action, in the pragmatic proliferation of concepts. In the earliest examples of such hand-drawings of Gehry, such as three small sketches of the never constructed ▶ **1975** Shoreline Aquatic Park Pavilions (Long Beach, California, 1975), the presence of the unimagined is barely detectable. ▶ Figure [2] Noticeably, however, an increasing amount of errors, mistakes, or lapses identifiable in sketches from less than a decade later favour the assumption that those faults were intentional. Somehow, the smooth space of the unimagined began repeatedly deterritorializing the striated space of the imagined. The assumption appears well grounded in the ambiguity of Gehry's sketches, which observably increased over the successive years as, for instance, in the following sequence: ▶ **1984** California Aerospace Museum (Los Angeles, California, 1982-1984), ▶ Figure [4] ▶ **1991** Children's Museum (Boston, Massachusetts, 1991-1996, unbuilt), and ▶ Figure [5] ▶ **1985** Lewis House (Lyndhurst, Ohio, 1985-1995, unbuilt). ▶ Figure [6]

04. Italics added.



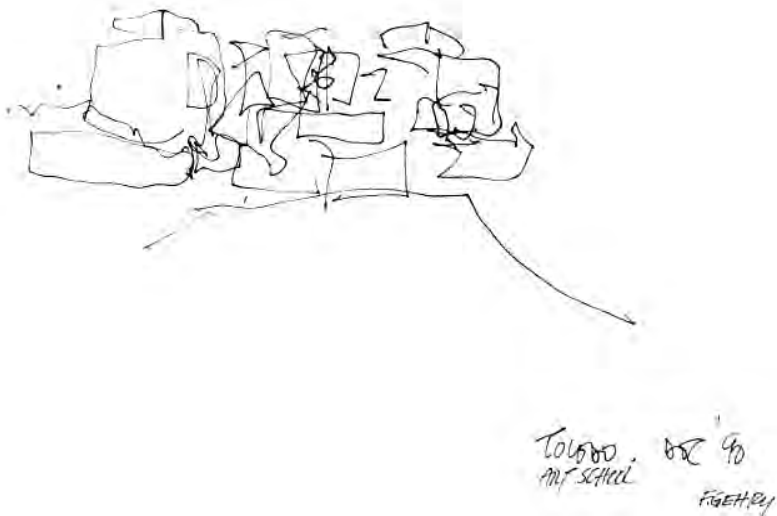
► Figure [3]

Frank O. Gehry, *Shoreline Aquatic Park Pavilions*, Long Beach, California, USA, 1975, sketch, 1975. Aerial view iterations, ink on paper.



► Figure [4]

Frank O. Gehry, *California Aerospace Museum*, Los Angeles, California, USA, 1982-1984, sketch. Street view, ink on paper. Image Courtesy of Frank O. Gehry.



► Figure [5]

Frank O. Gehry, *University of Toledo Centre for the Visual Arts*, Toledo, Ohio, USA, sketch, 1990. Exterior view, ink on paper, 22.9 x 30.5 cm (9 x 12 in). Image Courtesy of Frank O. Gehry.



► Figure [6]

Frank O. Gehry, *Lewis Residence*, Lyndhurst, Ohio, 1985-1995, unbuilt. Sketch, 1994. Exterior view, ink on paper. Image Courtesy of Frank O. Gehry.

Unimagined and the subject of architectural drawing

Evans rightly determines that the subject of architectural drawing exists after the drawing, not before it. However, despite his claim that ‘drawing in architecture is not done after nature, [and] it is not so much produced by reflection on the reality outside the drawing (...)’ (Evans 1997: 165), it still comes from architect’s imagination, which is obviously linked to the existing world, to everything we can sense. Thus, the architectural sketch territorializes and de-territorializes realms of *before* and *after* the drawing. De-territorialisation effectively takes place when the drawing becomes vague, not only for the viewer, but for the architect/draughtsperson. Every element that becomes indistinguishable by the specific nature of rapid, outline-only drawing unexpectedly thrusts its subject outside of the predetermined, of the imagined – precisely into the unimagined. Each of these thrusts into the unimagined not only de-territorializes the subject of architectural drawing, but the whole concept of architecture.

If only some of the lines in Gehry’s sketches emerge as erroneous, mistaken or vague, and if some of them are, as he claims, acts of ‘searching in the paper,’ of ‘grinding into the paper’ or attempting ‘to find the building’ (Gehry 1985: xv), these lines cross over the border between the imagined and the unimagined. They are exchanges between these two heterogeneous elements. In the Deleuzian/Guattarian sense, they are ‘not imitation at all, but a capture of code, surplus value of code, an increase in valence, a veritable becoming’ (Deleuze and Guattari 1987: 10), a becoming-imagined of the unimagined and a becoming-unimagined of the imagined.

Rhizome:

- » **C 0000**
 - » **C 0004** Drawing architecture
 - » **C 0100**
 - » **C 0105** Projection and representation
 - » **C 0106** Language, code, *ostranienie*
 - » **C 0188** Gehry's *factual design action*
 - » **C 0200**
 - » **C 0260** Zones of indiscernibility
 - » **C 0600**
 - » **C 0622** Cézanne
 - » **C 0700**
 - » **C 0730** Distribution of formless forces
 - » **C 0755** Battlefield of Gehry's canvas
 - » **C 0764** [1993] Red waxed felt
 - » **C 0783** Microscope and monuments
 - » **C 0800**
 - » **C 0888** Gesture and the concept of *plain action*
 - » **C 0900**
 - » **C 0905** Immediacy and kinetic properties
 - » **C 0934** Imperfect
 - » **C 0951** Architectural drawing as cognitive tool
-

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» **0658**

Spontaneous crumples

Lund, March 29, 2017 ►► Lund, April 20, 2017

Spontaneous crumples

In her study of the meaning and innumerable uses of models in contemporary architectural practice, entitled *Modeling Messages: The architect and the model*, Karen Moon⁰¹ points at ‘the spontaneous crumples of Gehry’ (2005: 212) as one of the unique characteristics of the medium of an architectural model. When focusing on materials and styles employed by architects to communicate their ideas and many characteristics unique to the medium, she emphasises that ‘an effective model speaks to its audience and expresses the architect’s vision’ (Moon 2005: 212). But what actually happens when Gehry crumples thin sheets of materials? What kind of vision do they express? And

01. Design and architecture historian Karen Moon shows how the physical model, as one of the oldest means of architectural representation, became a tool for a wide variety of forms and expressions, from perfectionized miniaturizations to rather sculptural representations. *Modeling Messages: The architect and the model* explores how architects use models for presentation and the practice of model-making through the relationship between the architect and the maker, the relationship between models and buildings, as well as the impact of scale, the materials and new technologies, which are transforming the notion of the architectural model and its fabrication modes.

why are the spontaneous crumples of Frank Gehry featured in *The Simpsons*?⁰²

When crumpled, the surfaces of a piece of paper are subdivided into a network of creases that outline a myriad of geometrical figures. Although any crumpling of thin sheets of material may rather appear as a burst of energy causing an implosion, a crushing down; flatness actually explodes spatially outward. The flatness of the surface explodes into its outside, into three-dimensionality. Due to external pressure released by the contraction (or a series of contractions) of Gehry's palm (or the palms of both hands), the surface violently splits into small facets and tectonics burst out of the surface in a sudden flurry of activity. ► **C 0043**

As a spatiotemporal event, crumpling combines the immediacy of physical impact and its aftermath. In Bacon's paintings, human bodies writhe, wrestle and almost dissolve, as in the physical and spatiotemporal actions of boxers and wrestlers in fierce combat. In fact, the painter derived them from photographs, which he collected in his studio.⁰³ Deleuze

02. Frank Gehry appeared as himself in the episode 'The Seven-Beer Snitch' of the popular cartoon television series *The Simpsons*. The episode aired on April 3rd, 2005 and was written by Bill Odenkirk and directed by Matthew Nastuk. In the episode, the character Marge sent Gehry a letter, asking him to design and build a new cultural centre for Springfield. Impressed with Marge's suggestion, he submitted his own design, which the citizens approved. Accessed on April 14th, 2019 and retrieved from https://simpsons.fandom.com/wiki/The_Seven-Beer_Snitch.

03. In the chapter 'Action – Painting' by Martin Harrison in *Francis Bacon: Incunabula* (London: Thames and Hudson, 2008), 85, 88, 90-93, there are reprints of boxing photographs found in Bacon's studio with detailed annotations. On p. 85: 'Joe Louis fighting Nick Braddock, fragment torn from book, Gilbert Odd, *Boxing: The Great Champions*, London: Hamlyn Publishing Co., 1974, (p. 41). Although Bacon's fascination with boxing was only occasionally manifested directly in his paintings, for example in *Figure in Movement*, 1973, he enjoyed watching the sport and accumulated many images of boxing taken from books and magazines'; on p. 88: 'Tunney v. Dempsey, 1927 leaf torn from book, Nat Fleisher and Sam Andre, *A Pictorial History of Boxing*, London: Spring Books, 1960, (p. 111)'; on p. 90: 'Three Illustrations showing Joe Louis in action, from book, Gilbert Odd, *Boxing: The Great*

points out that Bacon ‘surrounds himself with photographs; he paints his portraits from photographs of the model, while also making use of completely different photographs; he studies photographs of past paintings; and he has an extraordinary passion for photographs of himself...’ (Deleuze 2003: 90). Not interested in the aesthetic value of the photograph, he used them as ‘points of reference’ – simply as ‘triggers of ideas’ (Bacon in Sylvester 1990: 54). When photographed, boxing scenes have a unique capability of rendering moments of exerted forces, of rendering spatiotemporal events that combine the immediacy of physical impact and their aftermath. Bacon designates the role of photographic sources: ‘they exist in themselves: they are not only ways of seeing, *they are what is seen, until finally one sees nothing else*’ (Bacon in Sylvester 1990: 30ff).

Jabs, hooks, uppercuts and Bacon’s “graph”

Bacon must have been very interested in the energy and violence of boxing, of knockout punches, of boxers delivering rapid blows. Does it not reflect the dynamics of the “graph” on which Bacon’s paintings depend? ► **C 0660** Is it not an exact parallel with Bacon’s forceful actions of ‘throwing the paint, from various angles and at various speeds’ making ‘random

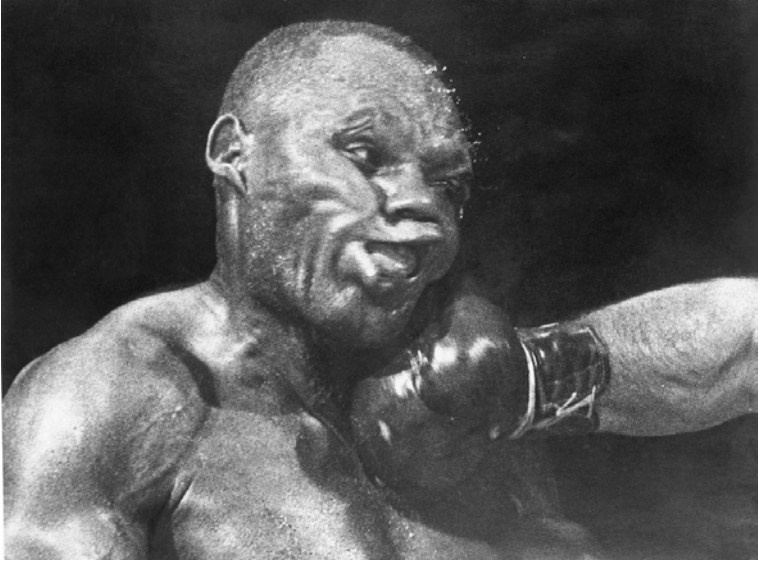
Champions, London: Hamlyn Publishing Co., 1974, (p. 42)’, on p. 91; ‘Archie Moore knocking out Yvon Durelle, 1958, fragment from book, Nat Fleisher and Sam Andre, *A Pictorial History of Boxing*, London: Spring Books, 1960 (p. 176), mounted on the inside cover ripped from a book’; on p. 92: ‘Leaf from exhibition catalogue, Lawrence Alloway, *Francis Bacon*, The Solomon R. Guggenheim Museum, New York in collaboration with the Art Institute of Chicago, 1963 (p. 19). Muybridge’s sequence ‘Some Phases in a Wrestling Match’ was the model for all Bacon’s coupling figures, and ‘Athlete Heaving 75 pound Rock’ was only adapted for *Study for Nude*, 1951’; on p. 93: “Highlights of the Hackenschmidt v. Madrali contest, 1906, leaf from book, Graem Kent, *A Pictorial History of Wrestling*, London: Spring Books, 1968 (p. 161)’.

marks (lines-traits); scrub, sweep, or wipe the canvas to clear out locales or zones (colour-patches),’ which Deleuze defines as a diagram? (2003: 99-100).

Invisible forces of deformation become visible in boxing. Precisely as Deleuze defines them in Bacon’s painting, they ‘seize the Figure’s body and head, and become visible whenever the head shakes off its face’ (Deleuze 2003: 63). ▶ Figure [2] Every jab, each of the ‘straight punches delivered with the lead hand, which moves directly out from the shoulder’, the hooks, also ‘thrown with the lead hand and a short lateral movements of arm and fist, with elbow bent and wrist twisted inward at the moment of impact’ and the uppercuts, of ‘upward blows delivered from the direction of the toes with either hand,’⁰⁴ and other modifications of these basic punches produce snapshots of what Deleuze would describe as rupture with figurative resemblance perpetuating the catastrophe (Deleuze 2003: 118). ▶ C 0651 ▶ C 0943 ▶ C 0049

The close look at the impact of a single punch and its immediate aftermath embodied in a momentary deformation shows that for a fraction of a second, the face completely loses its form. The facial deformations are extreme and powerful. Only photography is capable of capturing this, and boxing photographs are perhaps the only images of reality capable of revealing what Bacon calls ‘re-invented realism’ and catches in his radical and discomfiting depictions. In an interview, he said: ‘I believe that realism has to be re-invented’ (Deleuze 2003: 172).

04. Ron Olver and Nigel Collins (eds.), ‘boxing’ entry in: *Britannica Academic*, Encyclopædia Britannica, Inc. Article Contributors: E.C. Wallenfeldt, Ron Olver, Arthur Krystal, Nigel Collins, Jeffrey Thomas Sammons, Michael Poliakoff, Thomas Hauser. Accessed online at: <http://academic.cb.com/levels/collegiate/article/boxing/108498>. Retrieved on April 17th, 2017.



► Figure [1]

World Heavyweight Championship boxing fight: Jersey Joe Walcott (champion)
vs. Rocky Marciano (challenger), September 23, 1952. Photograph (detail).

Confronting volume and structure

Although Gehry's crumple and the boxer's jab punch do not explode in precisely the same way, the parallel of their impacts is revealing. The jab punch and the *spontaneous crumple* are both violent explosions that break the surface into a three-dimensionality that produces noise – 'the sharp and intermittent noises emitted by some kinds of crumpled papers and similar materials – including plastic sheets – qualitatively recall earthquakes, which arise when two tectonic plates rub each other' (Mendes et al. 2010: 1). » C 0651 » C 0783 As behind any crumpling of a thin sheet of paper, there are spatial and temporal mechanisms that cause forceful deformations at the moment of impact; they are behind any jab punch delivered into a boxer's face. The face crumples as the shock wave is distributed in the flesh of the face. In a split second, the skin surface flutters and flaps, almost separating the flesh from the bones. Deleuze clearly identifies the pictorial tension between flesh and bone in Bacon's work as 'something that must be achieved. And what achieves this tension in the painting is, precisely, *meat*.' (Indeed, some punches split the skin.) It is, as he writes, 'the state of the body in which flesh and bone confront each other locally rather than being composed structurally' (Deleuze 2003: 22). Rather than being structurally composed, this state of locally confronting flesh and bones is precisely what Gehry achieves in his *spontaneous crumples*, for each crumple locally confronts the relationship between architectural volume and structure. » C 0690 » C 0810 It is as if the *architecturalized* face were being punched, as in the pictorial tension between flesh and bones of deformed Bacon's faces.⁰⁵ ▶ Figure [2] » C 0943

05. This comparison extends to smaller-scale elements of architectural structure upon which Gehry imposes deformation, which find parallels in the following analysis by Deleuze: 'The same is true of the mouth and the teeth, which are little bones. In meat, the flesh seems to *descend* from the bones, while the bones

When a sheet of thin material is crumpled, it is deformed through ‘the bending energy becoming localized and the resulting crumpled shape is often thought of as a network of connected linelike ridges’ (Blair and Kudrolli 2005: 1). As physics confirms, the same topologies are found in a variety of objects ranging from biological systems to engineering applications – for example, polymerized vesicle membranes and crumple zones in automobile bodies (Blair and Kudrolli 2005: 1). Although each of Gehry’s *spontaneous crumples* might be associated with a car crash effect, they rather indicate a radical change, a breakthrough or breakaway, ► **C 0043** of a divergent move outwards of something that is established and long standing. In the case of Bacon, it is a search for a reinvented reality in painting, while in the case of Gehry, it is an equivalent of scientific breakthrough leading to discovery; following Deleuze’s use of language similar to Wittgenstein’s, it introduces ‘possibilities of fact’.⁰⁶ ► **C 0043** ► **C 0660**

Considering painting/model-making as a process, Gehry’s *spontaneous crumples* belong to what Deleuze defines as ‘a continual injection of the manual diagram into the visual whole, a “slow leak,” a “coagulation,” an “evolution,” as if one was moving gradually from the hand to the haptic eye, from the manual diagram to haptic vision,’ (Deleuze 2003, 159-160) As Bacon describes it: ‘these marks that have happened on the canvas evolved into these particular forms’ (Bacon in Sylvester 1990: 56, 58, 100). What Deleuze defines as the ‘great moment in the act of painting’ indicates the exact meaning of Gehry’s crumples and their role in the act of model-making: ‘for it is here that painting discovers, deep in itself and in its own manner, the problem of a pure logic: how to pass from the possibility of fact to the fact itself?’⁰⁷ The act of crumpling

rise up from the flesh. This is a feature of Bacon that distinguishes him from Rembrandt and Soutine’ (Deleuze 2003: 22).

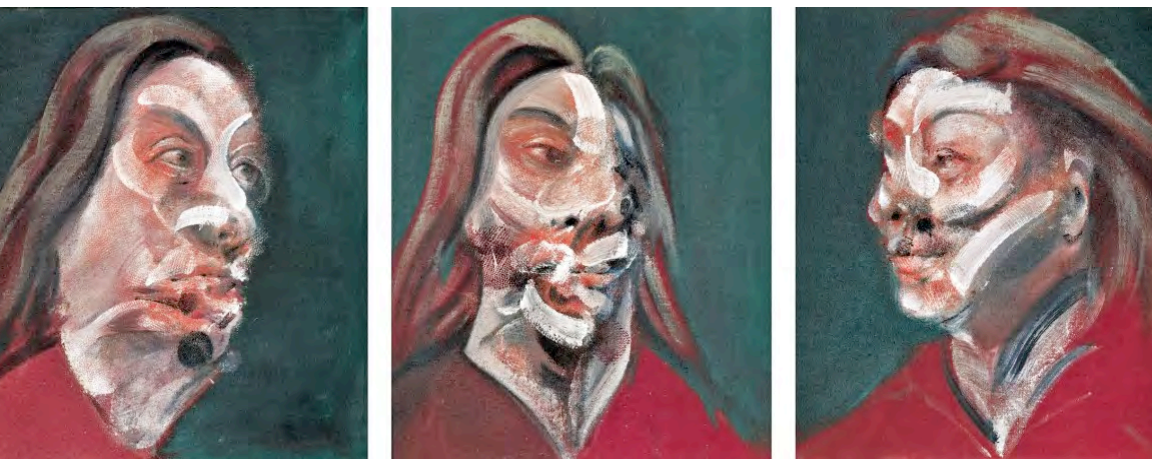
06. ‘Wittgenstein invoked a diagrammatic form in order to express “possibilities of fact” in logic’ (Deleuze 2003: 185 n6).

07. ‘See Sylvester, *The Brutality of Fact, Interviews*, p. 56: the diagram is only a

radicalizes expressive potentials of what Moon calls *modelling message* and redefines the notion of the architect's vision; from the thought of or imagined vision » **C 0477**, to the enacted one, to action itself » **C 0423** » **C 0888** » **C 0771** » **C 0983** » **C 0472** » **C 0474** or indeed, to simultaneous multiplicity of actions. » **C 0536**

As in Deleuze finds it in Bacon, in Gehry's *spontaneous crumples*, there is 'a realism of deformation, as opposed to the idealism of transformation' (2003: 130). In painting, Deleuze distinguishes different performances of brushstrokes. » **C 0550** Crumplings are architectural deformative formulations, *deformative gestures*. » **C 0764** They are architectural equivalents of multiple, yet simultaneous and multidirectional brushstrokes, » **C 0550** which, like brushstrokes in Bacon's "graph," 'do not constitute zones of indistinctness in the form, as in chiaroscuro, but zones of indiscernibility' (Ibid.). » **C 0260**

"possibility of fact." A logic of painting here meets up with notions analogous to those of Wittgenstein.' Note 11 in: Deleuze, *Francis Bacon*, 159-160.



► Figure [2]

Francis Bacon, *Three Studies of Isabel Rawsthorne*, 1965, oil on canvas.
Triptych, each panel: 14 x 12 in. (35.5 x 30.5 cm) © The Estate of Francis Bacon.

Rhizome:

- » **C 0000**
- » **C 0043** Breakthrough
- » **C 0049** Chaos and potentials of painting
- » **C 0100**
- » **C 0000** Attachments, Architectural *objet trouvé*
- » **C 0000** Gehry's *factual design action*
- » **C 0200**
- » **C 0260** Zones of indiscernibility
- » **C 0300**
- » **C 0000** Model-making and repetition
- » **C 0400**
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0429** *Action of breaking*
- » **C 0472** *Action of cutting*
- » **C 0474** *Action/painting*
- » **C 0477** Imagined and unimagined
- » **C 0500**
- » **C 0536** Multiplicity of actions
- » **C 0550** Gehry's brush strokes
- » **C 0600**
- » **C 0660** Diagram
- » **C 0651** Catastrophe

- » **C 0690** Deforming the skin

 - » **C 0700**
 - » **C 0764** [1993] Red waxed felt
 - » **C 0771** *Action of placing in*
 - » **C 0783** Microscope and monuments

 - » **C 0800**
 - » **C 0000** Gesture and the concept of *plain action*
 - » **C 0810** Baroque

 - » **C 0900**
 - » **C 0943** Deformations
 - » **C 0983** *Action of bending*
 - » **C 0888** Gesture and the concept of *plain action*
-

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» **0660**

Diagram

Lund, April 1, 2017 ⇨⇨ Kalisz, February 19, 2018

Bacon's and Gehry's graphs

Francis Bacon's paintings undoubtedly diverge from the traditional broad context of illustration, perspective, frontal plane, and easel. Although they seem to belong to the realm of paintings defined by physical likenesses or figurative representation, they do not. The functioning of what Deleuze affirms as Bacon's specific 'graph'⁰¹ [*diagramme*] (Sylvester, 1990: 32) provides explanations of the difficulties in the classification of Bacon's art. By planting forces of possibilities into the canvas, the painter makes his "graph" an integral part of the process of painting. Bacon allows such a diagram to invade the territory of a painted image, to invade it by the possibilities of all types of facts. ► **C 0888** ► **C 0188** Deleuze finds it a passage, which 'whether abrupt or gradual, is the great moment in the act of painting,' and where 'painting discovers, deep in itself and in its own manner, the problem of a pure logic: how to pass from the possibility of fact to the fact itself?' (Sylvester, 1990: n11 56).⁰²

01. 'graph': a picture that shows how two sets of information or variables (= amounts that can change) are related, usually by lines or curves.' Definition of diagram from *Cambridge Advanced Learner's Dictionary & Thesaurus*, Cambridge University Press.

02. Deleuze refers here to Bacon's description of the diagram as 'only a "possibility of fact."' A logic of painting here meets up with notions analogous

Surveying Gehry's design processes, Alejandro Zaera-Polo touches upon a corresponding construct of a graph:

Zaera-Polo:

So, what you do basically, is to develop some kind of graph or trace into an architecture. Where do you think this graph comes from?

Gehry:

I do not know precisely. Sometimes it may be a kind of gesture, an automatic reaction to some of the existing urban topographies, an inspiration from something that I have seen, a painting... My projects always develop through a succession of tests in different media that tend to evolve a gesture into a building... (Gehry in Zaera-Polo, 1995: 30-31). [» C 0888 » C 0188 » C 0308]

Noticeably, Gehry's response reveals a sequential character of his graph or diagram that corresponds to Deleuze's analysis of the abrupt or gradual passage of Bacon's diagram. What is more important, the function of Gehry's operations match those of Gehry discovering the way to pass from the possibility of gesture to the building, » C 0888 » C 0188 » C 0308 which resembles passing from the possibility of fact to the fact itself in Bacon's painting.

Analysis of Gehry's model-making renders it explicit: as in Bacon's painting, Gehry's diagram is neither a drawing nor a plan that represents something, nor is it an explanation. Rather, it is a set of actions. » C 0429 C 0771 » C 0472 » C 0005 » C 0049 » C 0983 It is a force. Deleuze's analysis of Bacon's diagram grants insight into the core of Gehry's architectural design procedures, into the specific *modus operandi* of both machinations.⁰³ In many respects, the architect's diagram

to those of Wittgenstein.' In: David Sylvester, *The Brutality of Fact: Interviews with Francis Bacon 1962-1979* (London: Thames and Hudson, 1990).

03. Machination is used here in the sense of machine-making (Latin *māchinātiōn-*, *māchinātiō*). 'machination, *n.*' Oxford English Dictionary Online, March 2017, Oxford University Press. Accessed online at <http://www.oed.com/view/Entry/111848>. Retrieved on April 01, 2017.

becomes a counterpart of Bacon's diagram. It discloses a combination of speculative and performative characteristics of a painter's manoeuvres. For instance, Bacon's thinking of a portrait becomes a rather periphrastic, indirect and meandering process:

you maybe have to put the mouth somewhere, but you suddenly see through this graph that the mouth could go right across the face. And in a way you would love to be able in a portrait to make a Sahara of the appearance to make it so like, yet seeming to have the distances of the Sahara (Sylvester 1990: 56).

Thrusting an arm into the space

Connecting architecture with the drama of Hieronymus Bosch's painted scene of *Christ Crowned with Thorns*, ► Figure [1] Gehry adopts similarly indirect ways of thinking about building:

I find things in them, like I found this to be a floor plan. And so it's an organization of objects around a central theme, Christ. The thrusting of this arm into the space becomes a competitive image next to the head of Christ and is the threatening fist with the crown of thorns. You know that's architecture for me, I go nuts (Gehry in Kipnis 2003b: Scene 8.1).

In much earlier interview, Gehry stated:

Scientists work that way too, for example, some of the genetic scientists that I have been involved with, seem to work similarly. It's kind of like throwing things out and then following the ideas, rather than predicting where you're going to go (...) (Gehry in Diamonstein 1980: 43).

The thrust of an arm into space in Bosch's painting is the image of the essential feature of Gehry's diagram. It is absorbed into his design processes in precisely the same way as the force of unpredictability of the throwing of woodcuttings, recalled as a playful, creative force from the architect's childhood. It has

remained the force of the architect's diagram, materialising in his settings of wooden blocks in the initial site models. » C 0005 » C 0049

Possibilities of all types of facts

As in Bacon's painting, the force of Gehry's diagram unfolds and fluctuates into various modes of operation, which allow the possibilities of all types of facts to be planted in design processes. » C 0308 » C 0888 » C 0188 » C 0049 Examples are the breaking of the ColorCore® sample, » C 0429 the placing of the toy fish in the environment of an architectural model, » C 0771 or the attaching of a pincushion to a representation of the wall in the same environment. » C 0122 These actions and modes of operation comprise Gehry's version of the painterly *diagramme*. They emphasise the role of happening without a warning and its unforeseen annexes.

The immediacy of these sudden incidents is innate to both Gehry's minute design actions and his similarly prompted strategies of throwing things out. » C 0888 » C 0188 » C 0308



► Figure [1]

Hieronymus Bosch, *Christ Crowned with Thorns*, between 1495 and 1500. Oil on wood, 73 × 59 cm (29 in × 23 in), National Gallery, London. The 1495-1500 version differs from another version with the same name.

Like a Sahara or a rhinoceros skin suddenly invades Bacon's portraits, fluttering cascades of scraps of crumpled paper, » **C 0550** » **C 0658** » **C 0104** waxed or dry pieces of draped cloth, » **C 0764** » **C 0389** » **C 0810** found objects, » **C 0771** » **C 0122** cuts, » **C 0472** and breaking » **C 0429** invade Gehry's process- and study models. They all occur in the same manner, 'as if, in the midst of the figurative and probabilistic givens, a catastrophe overcame the canvas' (Deleuze 2003: 100), » **C 0651** They make Gehry's diagram effective in the same way as Bacon's:

something must *emerge* from this diagram, and present itself to view. (...) one starts with a figurative form, a diagram intervenes and scrambles it, and a form of a completely different nature emerges from the diagram (...) (Deleuze 2003: 156). [» **C 0888** » **C 0188**]

Rhizome:

» **C 0000**

» **C 0005** A throw of woodcuttings

» **C 0049** Chaos and potentials of painting

» **C 0100**

» **C 0104** Waterfall

» **C 0122** Attachments, Architectural *objet trouvé*

» **C 0188** Gehry's *factual design action*

- » **C 0300**
 - » **C 0308** The manual and the haptic
 - » **C 0389** Action of wrapping

 - » **C 0400**
 - » **C 0429** Action of breaking
 - » **C 0472** Action of cutting

 - » **C 0500**
 - » **C 0550** Gehry's brush strokes

 - » **C 0600**
 - » **C 0651** Catastrophe
 - » **C 0658** Spontaneous crumples

 - » **C 0700**
 - » **C 0764** [1993] Red waxed felt
 - » **C 0771** Action of placing in

 - » **C 0800**
 - » **C 0810** Baroque
 - » **C 0888** Gesture and the concept of *plain action*
-

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» **0661**

Shifting scale, expanding rhizome

Lund, May 20, 2017 ➡➡ Kalisz, June 4, 2017

The story of discontinuity

Conducting her two-year ethnographical observation at Rem Koolhaas' Office for Metropolitan Architecture (OMA) in Rotterdam, architectural theorist Albena Yaneva confronted what she calls 'various visual enigmas' (2005: 868). The research she conducted at OMA is focused on one of those visual enigmas, related to the rhythm of scaling (2005: 868). It corresponds with the specific use of architectural models in Frank O. Gehry's office.

Entering Frank O. Gehry's office (FOGA),⁰¹ the sight of the many sketch-, study-, process- and working models is striking. ▶ Figure [1] It appears as if producing a wide range of models is not a matter of just supporting the design process, but the integral factor, its very essence. Yaneva reads the habitual in architectural design acts of scaling as 'small material operations' and deems these operations valuable for understanding what the designers do when they conceive a building (2005: 868 and passim).⁰²

01. The author visited FOGA on November 20th, 2008.

02. See Albena Yaneva, 'Scaling Up and Down: Extraction Trials in Architectural Design,' *Social Studies of Science* 35/6 (2005): passim.



► Figure [1]

View of the studio during the design of the *Guggenheim Museum Bilbao*, 1991-1997, Bilbao studio team at work with large-scale models in use and a set of fragments of models disposed on the wall. Image courtesy of Gehry Partners, LLP.

Yaneva observes that the network of models, brought into existence through sequences of spatio-temporal intervals, 'expose (...) a stabilized state of the (...) project' (2005: 867-868). By contrast, for Gehry 'models are ephemeral' (1999b: 48). ► **C 0476** Even when their fabrication stops, they remain *active* elements of the design process. What's more, most of the sketch-, study-, process- and working models are produced to *de-stabilize* the state of the project. At this point, Gehry's procedures align with Yaneva's recognition of the discontinuity of the mode of production and use of models. She explains that this discontinuity depends 'on surges, breaks, sudden "jumps" and meticulous inspections, repetitions and returns' where models in several scales are simultaneously set into play, 'many of which persist throughout all the stages of the project, regardless of their precision' (2005: n9). It sets Gehry's practice of model-making along with a series of Yaneva's references in design theory (2005: 870 n9), or recent studies on engineering design. The latter treats it as a messy non-linear process, full of unforeseen difficulties and unpredicted actions (Henderson, 1999), or as a maze, or a complex multidimensional web of interconnections, moving toward a final well-designed product (Bucciarelli, 1994).

Gehry's approach to scale models with emphasis on multiple changes of the scale is the 'story of discontinuity', 'not progressing in a linear fashion from a state of zero information to a completely known and defined object' (Yaneva 2005: 870). For many architects, this is not an unusual situation. Very often, architectural design process does not rely on a systematic progression from one scale to another; discontinuity and versatility are frequently its main figures (Schatz and Fiszer 1999).

Deleuzian 'AND' conjunction

In *Dialogues*, commissioned as a conventional book of interviews,⁰³ Gilles Deleuze and Claire Parnet not only discuss the nature of a conversation, but they produce its other format. In the book, 'each chapter is a "dialogue" consisting of two halves, which link and operate together in a multiplicity of ways, (...) in which a "dialogue" could take place without a forced, external ordering being placed on Deleuze's thought.'⁰⁴

» C 0287.

A multiplicity of connections does not unify the structure. In the first chapter of *Dialogues*, entitled 'A conversation: What is it? What is it for?', Parnet indicates that 'it is not the elements or the sets which define the multiplicity' (Deleuze and Parnet 1987: 34). » C 0536 Remarkably, what makes the multiplicity of connections in the network of Gehry's models the multiplicity of active interchange is not a juxtaposition of sets of models, but rather spontaneous changes of the scale and sudden, involuntary pauses with a tendency to repetition. Scale shifts intensify and increase the quality, the value, and the extent of the multiplicity – the multiplicity that aggregates the fusion of drawing and model-making. The architecture historian, theorist, and curator Beatriz Colomina is capable of revealing it in conversation with Gehry.

Colomina:

– So it starts with these site models, giving a sense of the volume and what is needed, and then you do the sketches.

Gehry:

– Yeah, sketches and models and sketches and models...'
(Gehry in Colomina 2003a: 8). [» C 0303 » C 0179]

03. Remark made by Hugh Tomlinson and Barbara Habberjam in 'Translators' Introduction', in Gilles Deleuze and Claire Parnet, *Dialogues: Gilles Deleuze and Claire Parnet* (London: Athlone Press, 1987), xi.

04. Ibid.

Each amalgamation of drawing and model-making is a Deleuzian ‘AND’ conjunction. It is ‘neither a union, nor a juxtaposition, but the birth of a stammering, the outline of a broken line which always sets off at right angles, a sort of active and creative line of flight? AND ... AND ... AND ...’ (Deleuze and Parnet 1987: 9-10).

Growing offshoots of sudden shifts of scale

Gehry’s sudden shifts of scale are of the same nature; they are ‘AND’ conjunctions. Each abrupt change to the scale of models puts the builder/viewer into the defamiliarised or not-yet-recognised environment. Each becomes the other, which constitutes the multiplicity (Deleuze and Parnet 1987: 34-35). Besides, Karen Moon finds that by having more than one model simultaneously built and altered and working on models in two or three scales at the same time, ‘Gehry seeks to elude their power’ (2005: 18). She refers to the architect’s observation that ‘if you focus on one scale, you become enamoured of the object in front of you, and [the model] becomes an end instead of a process’⁰⁵ (Ibid). » C 0023 » C 0923 In the context of Gehry’s studio, Yaneva’s idea of the network of working models brought to existence through sequences of spatio-temporal intervals expands in time, space, multiplicity and simultaneity of activities. Models no longer expose a stabilised state of the project. They become the process, the rhizome structure of growing offshoots of sudden shifts of scale. » C 0049 » C 0888 » C 0536 » C 0043 » C 0423 » C 0429. C 0472 » C 0389 » C 0983

05. Moon quotes Gehry. Quoted in Judith Davidsen, ‘Light-Hearted Models for Serious Results’ *Architectural Record* 180 (1992): 31.

Rhizome:

» C 0000

- » C 0004 Drawing architecture
- » C 0005 A throw of woodcuttings
- » C 0023 Arrhythmic scaling
- » C 0043 Breakthrough
- » C 0049 Chaos and potentials of painting
- » C 0061 Optical versus manual

» C 0100

- » C 0179 Process
- » C 0188 Gehry's *factual design action*

» C 0200

- » C 0201 Painting
- » C 0287 Dialogues, raptures, accelerations

» C 0300

- » C 0303 Model-making and repetition
- » C 0389 Action of wrapping

» C 0400

- » C 0423 Disruptive actions, disruptive affects
- » C 0429 *Action of breaking*
- » C 0472 *Action of cutting*
- » C 0476 Poetry of scaling

» C 0500

- » C 0502 Pollock
- » C 0526 [non] Sense
- » C 0536 Multiplicity of actions
- » C 0543 Cinematic *viewing-sections-model*

- » **C 0576** Cinematic framings and irrational breaks
 - » **C 0700**
 - » **C 0745** Model: difference, repetition, and variation
 - » **C 0771** *Action of placing in*
 - » **C 0800**
 - » **C 0888** Gesture and the concept of *plain action*
 - » **C 0900**
 - » **C 0903** Solitude and collaboration
 - » **C 0923** Cinema of scaling
 - » **C 0951** Architectural drawing as cognitive tool
 - » **C 0983** *Action of bending*
-

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» **0755**

Battlefield of Gehry's canvas

Kalisz, July 22, 2015 »» Lund, April 5, 2017

Battlefield of Gehry's canvas

What becomes the canvas of Gehry's painting/model is an ensemble of wooden blocks that establishes a building's programmatic layout and its initial volumetric estimation. A technique of piling and re-piling wooden blocks predefines 'the bone of the programme' (Gehry 2002: x) and outlines the range of figurative givens.⁰¹ On the one hand, Gehry's probabilistic figurative givens have already been outlined and encoded in his drawn sketches.⁰² » C 0004 » C 0477 » C 0588 » C 0962 Since an ensemble of wooden blocks is a conceptual remnant of the force of the powerful throwing of woodcuttings however, they already bear the load of the possibilities of Francis Bacon's type of facts planted into the canvas. » C 0049 » C0049 They may be seen as already enacting the first stage of a battle between the painter/architect and the figurative and probabilistic

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01. The terms 'probabilistic' and 'figurative givens' are borrowed from the parallel drawn here with Francis Bacon's process of removing those givens by the very act of painting. For an extensive description of the process see *Francis Bacon: The Logic of Sensation* (Deleuze 2003), specifically Chapter 11 'The Painting before Painting...' and Chapter 12 'The Diagram'.
 02. Gehry achieves an important interplay and/or conceptual exchange by shifting design efforts between the drawn sketches and the sketch-models.

givens, which will take place on the canvas/wooden block ensemble. The first action affirms the battlefield of Gehry's act of painting/model-making. ► C 0771 ► C 0429 ► C 0314 ► C 0888 ► C 0188 ► C 0122 ► C 0559 ► C 0348 ► C 0049

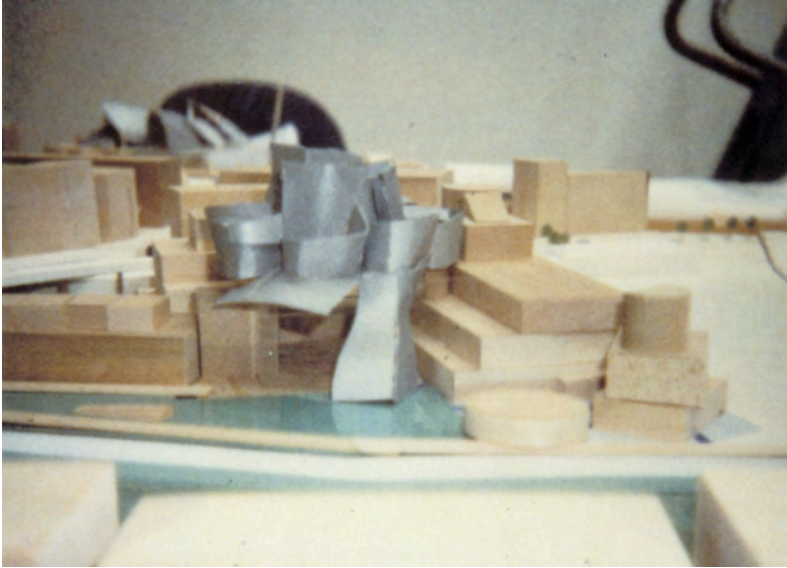
But once set up, the figurative givens of wooden blocks become figurative in an architectural sense; they are illustrative of the reductive efficiencies and functionalities of Modern architecture; they are a representational collage of box-like buildings. The Bacon-like battle on the canvas starts when the initial narrative of the architectural figurative givens is established. ► C 0005 ► C 0049

Gehry's battle

Although Gehry's removal of figurative givens requires several stages of painting/model-making and dozens of attempts, its nature does not differ from Bacon's removal of similarly figurative givens enacted in his paintings. As in Bacon, figurative givens of wooden blocks are wiped, brushed, or rubbed, or else covered over by Gehry's actions and/or forceful deformations. ► Figure [1]

The architectural equivalent of what Deleuze defines as Bacon's diagram ► C 0660 fits a classical definition of a diagram as an evolving image that continually shows how various sets of information or variables are related.⁰³

03. 'diagram, *v.*' definition from the Cambridge Advanced Learner's Dictionary & Thesaurus, Cambridge University Press. Accessed online at: <http://dictionary.cambridge.org/dictionary/learner-english/diagram>. Retrieved on November 15th, 2016.



► Figure [1]

Frank O. Gehry, *Guggenheim Museum Bilbao* (Bilbao, Spain 1991-1997). Study model. The most recognizable view of the building from the opposite bank of the Nervión River. Here, the process model is photographed as an ensemble of wooden blocks in the process of removal of figurative givens. Image Courtesy of Gehry Partners, LLP.

Because of the multitude of study- or process models produced throughout each of Gehry's architectural design processes, it may be seen as a specifically evolving image of the typical diagram. Gehry's diagram goes beyond such images, however. It generates change. It de-forms. » C 0943 It is a multiple deformation that culminates in a catastrophe and overpowers and/or removes initial figurations. As in Bacon's painting, it leads to a catastrophe as defined by Deleuze. » C 0651 In addition, the initial act of piling and re-piling wooden blocks is a version of unpredictability of the childhood throwing of woodcuttings, transferred from the experience of the first, formative experience of playful, architectural creation. Throwing woodcuttings – irrational, accidental and random – is itself a micro-scale catastrophe and it has proven to be an apparatus of an abstract machine.⁰⁴ » C 0005 » C 0049 As Brian Massumi writes, 'the abstract machine is interpretation. It is the meaning process, from the point of view of a given expression'. And 'a diagram is a contraction of the abstract machine, which it envelops from a particular angle, recapitulates on a given level'

Emergence of another world

When Bacon's diagram is in action, Deleuze sees it as the emergence of another world. (Deleuze 2003: 100) » C 0030 For in our world it is not possible for a zone of the Sahara to suddenly be inserted into the head; it is not possible for a piece of rhinoceros skin, viewed under a microscope, to be stretched over the human face; it is not possible for the two halves of the head to be split open by an ocean; and nor it is possible for the

04. For more on the ABSTRACT MACHINE, see *A Thousand Plateaus*, 70-71, 141-142, 223-224, 510-512 and passim, and Foucault (1986): 44. (Massumi 1992: 148 n19).

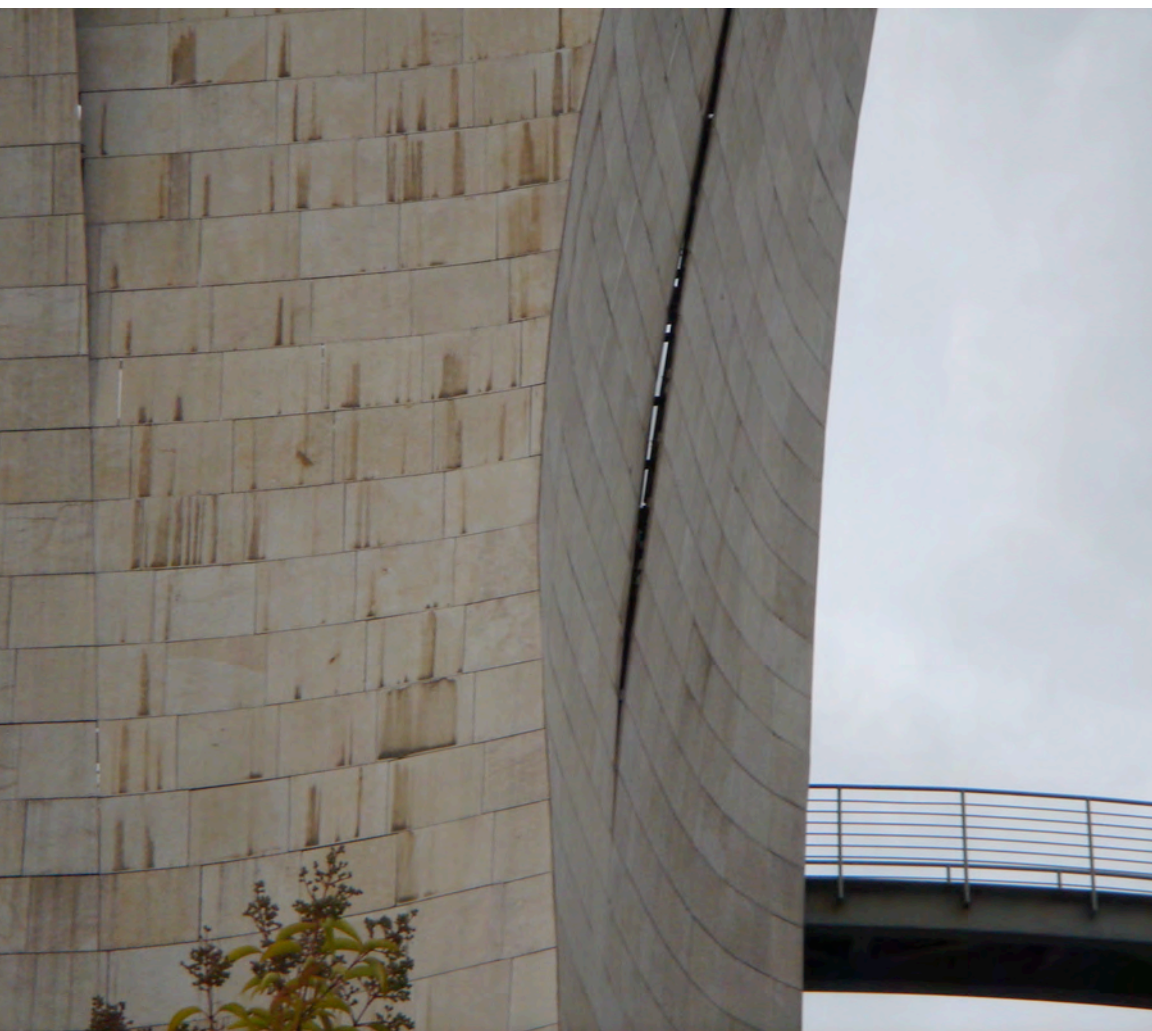
unit of measure to be changed, and for micrometric,⁰⁵ or even cosmic, units to substitute the figurative unit within the same entity (Deleuze 2003: 100).

When Gehry's diagram is in action, the impossible becomes possible: three wavy, sail-like scraps of white paper happened to be left covering the central part of the model of the future Bilbao building (van Bruggen 1997: 36); the sense of emergence of another world becomes palpable, because being an essential part of the architectural design process, it is destined to become a large-scale physical object and thus an integral part of the human environment.

Another world emerges when the asphalt road is suddenly inserted into the casual kitchen of the ▶ **1978** Gehry House (Santa Monica, California, 1977-1978); it emerges when sandstone becomes flexible enough to be stretched over the building as if it were a textile ▶ **1994** American Centre (Paris, France 1988-1994), or pulled taut over a steel frame structure as a membrane or a canvas in ▶ **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997), then cut and split open. ▶ Figure [2] Another world emerges when the notion of cutting stone of an archetypal mason shatters. It emerges neither as a biblical cleavage in the masonry of the temple porch nor as a break in the finished masonry but rather as slashes on the surface of monochrome paintings, as three-dimensional intrusions into a two-dimensional surface like those of the painter and sculptor Lucio Fontana's cuts/constructions in his *Concetto Spaziale*.⁰⁶ ▶ Figure [3]

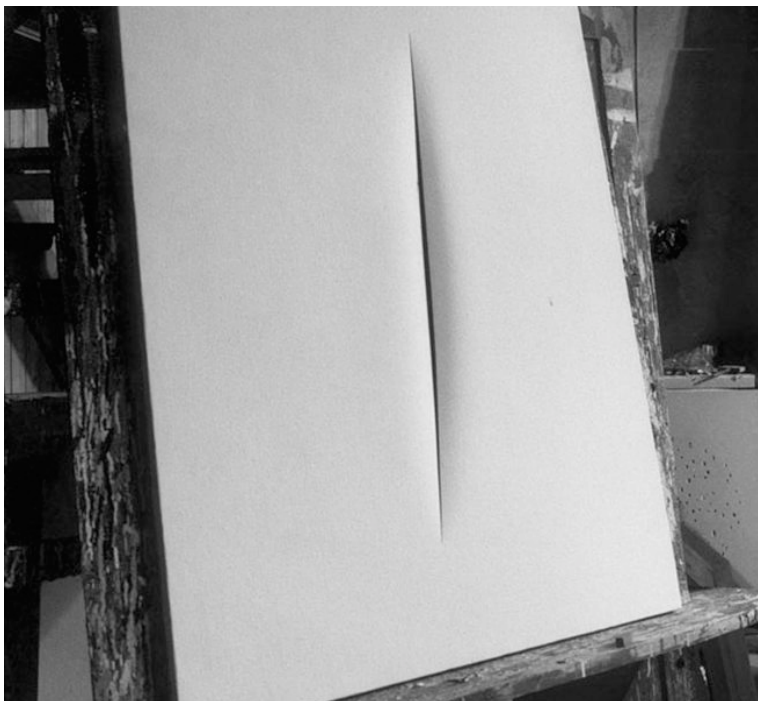
05. Measurement of minute objects with a micrometre.

06. Italian for 'spatial concept.' 'By slashing the centre of his canvases, Fontana allowed three-dimensional space to intrude into an otherwise two-dimensional surface. Fontana first introduced perforations within his works in 1949 and referred to these as "Spatial Concepts."' Interestingly, considering Gehry's design from the point of view of painting, Fontana's version of cutting through the surface of the canvas is validated by his claim describing his *Concetto spaziale* actions as constructions: 'I have constructed, not destroyed'. Cited by Dimitris Lempesis in 'TRACES: Lucio Fontana.' Retrieved from: <http://www.dreamideamachine.com/en/?p=10207>. Accessed April 2, 2017.



► Figure [2]

Frank O. Gehry, *Guggenheim Museum Bilbao* (Bilbao, Spain 1991-1997). Sandstone cladding shaped as cuts through the surface of the pylon-like element designed to relate pylons of the bridge over the Nervión River to the Guggenheim building.
Photograph Pawel Szychalski.



► Figure [3]

Lucio Fontana, *Concetto spaziale. Attesa* (*Spatial Concept. Waiting*) 1964, 100x80 cm.
Fragment of the photograph of Lucio Fontana in his studio, Milan 1964.
Photograph Ugo Mulas.

Another world emerges with the impossible insertion of a zone of the Sahara into the head, when such impossible insertions are suddenly executed. In Bacon's paintings, Deleuze identifies this as the suddenly outstretched diagram. 'It is as if, in the midst of the figurative and probabilistic givens, a *catastrophe* overcame the canvas' (Deleuze 2003: 100). But as the emergence of another world in Gehry's diagram is re-rendered into our built environment, » C 0771 Gehry's insertions often have an even stronger impact. As Betsky puts it, such operations mark 'the end point of architecture and art, (...) asserting how perception, knowing, and making interact to deform and re-form reality' (Betsky 1990: 49). » C 0943 » C 0303 » C 0764 » C 0314 » C 0543 » C 0651 The insertion of a glazed cube, or of 'a tumbling cube – one of El Lissitzky's *prouns* – crashed into the kitchen area' (Betsky 1990: 49) of the ► 1978 Gehry House (Santa Monica, California, US 1977-1978), or broke into the roof of the ► 1977 Familian House (Los Angeles, California, 1977-1978, unbuilt).

The model of the ► 1977 Familian House (Los Angeles, California, 1977-1978, unbuilt) may indeed be understood as a depiction of the result of a natural disaster or an accident; the building appears to have been damaged by a wooden frame box crushing into the main volume through the roof, or as if unknown forces had violently pierced the whole building with the long bar-like elements of another built structure, or scattered wooden studs thrown in random directions around the points of impact where one object perforated another. In his essay 'Architectural Choreography', Kurt W. Foster defines the never constructed proposal for ► 1977 Familian House (Los Angeles, California, 1977-1978, unbuilt) as 'fracturing the very notion of the house as a unifying shell, (...) as a collection of seemingly free-floating rooms', and as 'loosely assembled and barely concatenated volumes, each resting on its own footing and tending in a different direction' (Forster 1998: 24-25). He detected in the battlefield of Gehry's canvas the same forces as Deleuze discovered in Bacon's head paintings. » C 0049 As

Bacon's act of painting, the model-making of ► **1978** Gehry House (Santa Monica, California, US 1977-1978) and the ► **1977** Familian House (Los Angeles, California, 1977-1978, unbuilt) appears as random marks, scrubbing, sweeping, the clearing out of locales or zones of the canvas/model, the throwing of objects from various angles and at various speeds. (Deleuze, 2003: 99-100).

When marks or traits of Gehry's *factual design actions* ► **C 0188** are irrational, involuntary, accidental, free and/or random, as in Bacon's diagram, they are offshoots into another world – powerful projections of a new reality, an outgrowth of a distinctly different world with palpable new properties. ► **C 0888** What is at stake on the battlefield of Gehry's canvas is the Deleuzian emergence of another world.

Rhizome:

- **C 0000**
- **C 0004** Drawing architecture
- **C 0005** A throw of woodcuttings
- **C 0030** Klee's 'interworld'
- **C 0049** Chaos and potentials of painting

- **C 0100**
- **C 0122** Attachments, Architectural *objet trouvé*
- **C 0188** Gehry's *factual design action*

- **C 0300**
- **C 0303** Model-making and repetition

- » **C 0314** [1981] Fish
 - » **C 0348** [2004] *Wing on Wing*

 - » **C 0400**
 - » **C 0429** *Action of breaking*
 - » **C 0477** Imagined and unimagined

 - » **C 0500**
 - » **C 0543** Cinematic *viewing-sections-model*
 - » **C 0559** Malleability
 - » **C 0588** Gehry's sketching and the rhizome

 - » **C 0600**
 - » **C 0651** Catastrophe
 - » **C 0660** Diagram

 - » **C 0700**
 - » **C 0764** [1993] Red waxed felt
 - » **C 0771** *Action of placing in*
 - » **C 0783** Microscope and monuments

 - » **C 0800**
 - » **C 0888** Gesture and the concept of *plain action*

 - » **C 0900**
 - » **C 0943** Deformations
 - » **C 0962** Drawing movement
-

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-

» **0764**

[1993] Red waxed felt

Kalisz, November 14, 2015 »» **Kalisz, November 17, 2017**

Flexible surface

Referring to Gehry's design for the ▶ **1985** Lewis Residence (Lyndhurst, Ohio, 1985-1995 unbuilt), Greg Lynn states:

(...) it's one of the first projects that uses surfaces to make space rather than volumes. [▶ **C 0125** ▶ **C 0559** ▶ **C 0389** ▶ **C 0586**] So usually, architects draw with points and lines and volumes, whereas an automobile designer thinks in terms of flexible surfaces, like cloth. (Lynn in Kipnis 2003: Scene 16.2) [▶ **C 0389**]

More than any other material used in Frank O. Gehry's studio, the red, waxed felt is an enigma. Its mysterious temporality combined with fluidity that mutates into a surface played a central role. It was a new creative force that burst out into Gehry's unconventional use of computer-aided design tools. The design of the ▶ **1985** Lewis Residence (Lyndhurst, Ohio, 1985-1995 unbuilt) and the unfathomable piece of red felt that became an integral element of it brought previously unachievable formal complexity and fluidity to Gehry's architecture. Unmatched properties of red, waxed felt became one of the main aspects of the architect's experiments. ▶ **C 0559** ▶ **C 0967** ▶ **C 0389** ▶ **C 0905** ▶ **C 0907** ▶ **C 0730** ▶ **C 0517**

In his documentary *A Constructive Madness*, Jeffrey Kipnis recalls that at some point in 1993, as a result of innumerable iterations of design schemes for the ▶ **1985** Lewis Residence, the project's spatial configurations became 'more gestural' and its composition 'more coherent' (Kipnis 2003: Scene 15.11). ▶ **C 0888** Kipnis likens this change of vocabulary – where 'forms and spaces flow from one into another, almost as if the entire project were fluid' – to 'the drift away from Rauschenberg toward de Kooning' (Kipnis 2003: Scene 15.11). Suggesting that Gehry 'wanted to liquefy even further the discreet elements of architectural enclosures, to dissolve these more into a single, more coherent complex', (2003: Scene 15.11) Kipnis describes 'a desperate moment' when the architect 'tossed a piece of red fabric over the working model in the studio, and began to manipulate it' (2003: Scene 15.12). ▶ **C 0043** ▶ **C 0730** ▶ **C 0559** ▶ **C 0905** ▶ **C 0690** Gehry remembers that his design assistant Susan Desko had brought the waxed felt to the studio, 'and it worked, and we were able to mess with it...' (Kipnis 2003: Scene 15.12). ▶ **C 0287** ▶ **C 0043** ▶ **C 0903**

Smooth space

The fact that Gehry used felt as a means of externalisation, or better, for the formulation of ideas of architectural enclosures, probably has nothing to do with Deleuze and Guattari's analysis of this specific *anti-fabric*, as they define felt. Nonetheless, the close analysis of the waxed felt in the architect's hands reveals connections with felt explained as *The Technological Model* of smooth space in Deleuze and Guattari's *A Thousand Plateaus* (1987: 475-477).

As 'a supple solid product' (1987: 475) rather than a fabric, Deleuze and Guattari describe felt as a material that 'implies no separation of threads, no intertwining, only an entanglement of fibres obtained by fulling,' entanglement of 'the microscale of the fibres' (1987: 475). ▶ Figure [1]

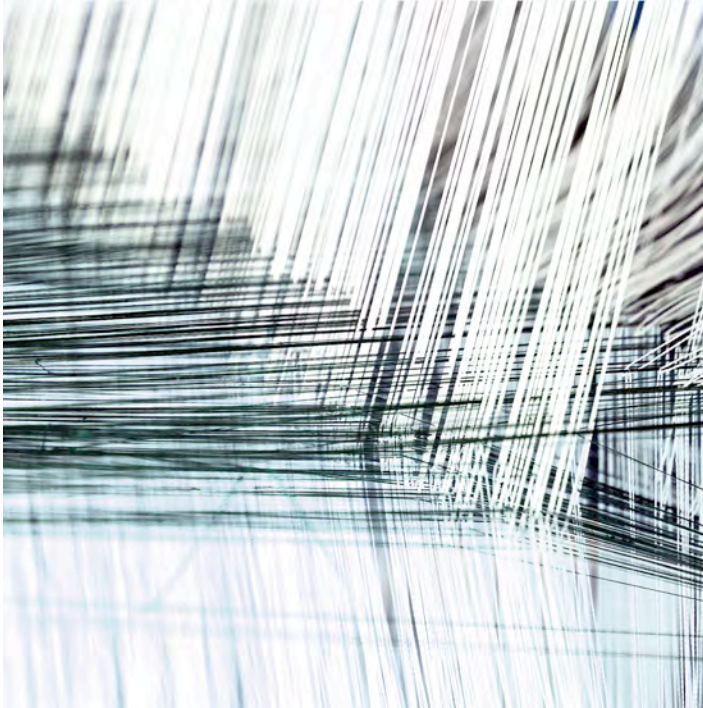


► Figure [1]

The felt texture, is one of the Deleuze and Guattari's examples of *Technological Model* of smooth space, with 'an entanglement of fibres obtained by fulling, an entanglement of 'the microscapes of the fibres' (1987: 475).

According to Deleuze and Guattari, the ‘aggregate of intrication of this kind is in no way *homogeneous*’ (1987: 475). They detect and distinguish smooth and striated spaces in different conceptions and practices of weaving and their products in felt and fabric, respectively. As they indicate, what makes felt the model of smooth space is the heterogeneity of an aggregate of its complex, inner makeup formed by a multiplicity of disparate elements. Felt ‘is in principle infinite, open, and unlimited in every direction’ (1987: 475-476).

Deleuze and Guattari differentiate felt’s smooth space from a striated space of fabric, which is ‘necessarily delimited, closed on at least one side: the fabric can be infinite in length but not in width’ (1987: 475). The authors reason that ‘it is determined by the frame of the warp; the necessity of a back and forth motion implies a closed space (circular or cylindrical figures are themselves closed)’ (1987: 475). The spatiality of such a closed system invokes the spatiality of closed systems of architectural representation; e.g. of axonometric projection. These systems require a top and a bottom. Indeed, like the space of the fabric, projections of architectural space are striated. They are constituted by ‘two kinds of parallel elements; in the simplest case, there are vertical and horizontal elements, and the two intertwine, intersect perpendicularly’ (1987: 475). The projection of architectural space slides along the same perpendicular Cartesian coordinates as the warp and woof in the weaving of fabric. ▶ Figure [2] Conventionally, Cartesian coordinates restrict architectural space and enforce its striation. Deleuze and Guattari observe that unlike fabric, felt ‘has neither top nor bottom nor centre; it does not assign fixed and mobile elements but rather distributes a continuous variation’ (1987: 476). These properties correspond with Gehry’s waxed felt, but not on the micro-scale of fibres.

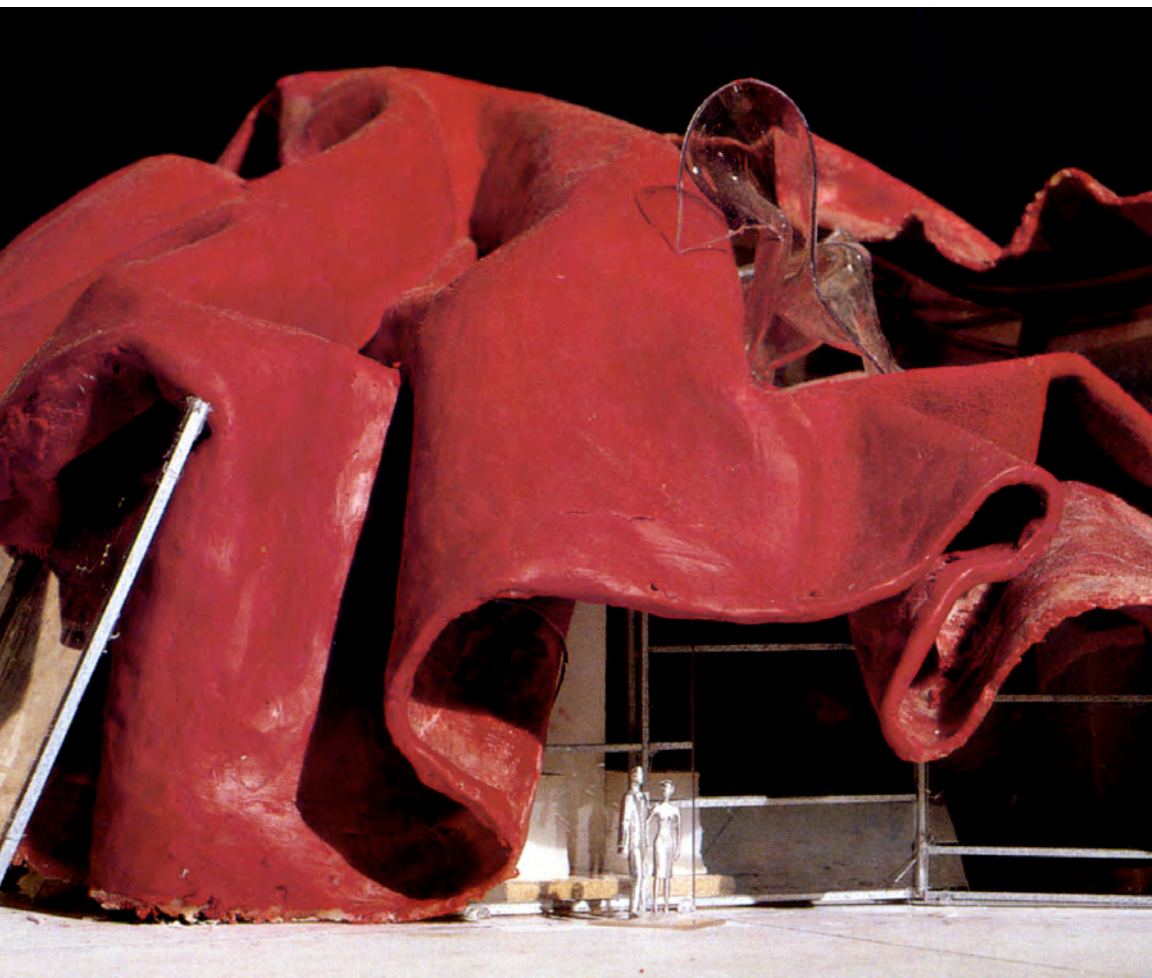


► Figure [2]

Vertical and horizontal planes of weaving fabric: Deleuze and Guattari's example of *Technological Model* of striated space of fabric texture with vertical and horizontal elements of weaving, perpendicularly intersecting and intertwining.

When soaked with wax that has been melted into a low viscosity liquid, felt as a material cannot be fully explored or understood in an architectural sense. » C 0260 » C 0943 » C 0905 » C 0907 » C 0967 » C 0188 » C 0030 » C 0690 » C 0032 When tossed and manipulated, the liquid-drenched surface of waxed felt loses the fundamental properties of an architectural surface, it has neither top nor bottom nor centre; it releases the smooth space, undoing traditional means of architectural projection. It opens the fastening of Euclidean geometry. It rather lets it fly. With a melting point that ranges from about 48° to 66° C (120° to 150° F),⁰¹ paraffin wax becomes liquid and forms a substance that flows; it has a fixed volume but indefinite shape. It becomes formless » C 0730 » C 0308 » C 0905 » C 0943 and remains thus even when narrowed in stratum to felt thickness rounded in size as a result of the accumulation of fluid. The composite whole remains a formless mass of flowing substance. Not assigning fixed and mobile elements within Cartesian coordinates of the production of fabric or projective geometries, it becomes continuous mobility. » C 0660 » C 0783 » C 0725 » C 0959 Until Gehry's waxed felt turns into a configuration of a spatial enclosure of an architectural model, its smooth space is an equivalent of the smooth space of felt's inner makeup identified by Deleuze and Guattari. ► Figure [3]

01. 'paraffin wax', *Encyclopædia Britannica*, Encyclopædia Britannica, Inc. Published on March 06, 2008. Retrieved November 09, 2017 at: <https://www.britannica.com/science/paraffin-wax>.



► Figure [3]

Frank O. Gehry, *Lewis House*, Lyndhurst, Ohio, 1985-1995. Model of conservatory with waxed felt used for the first time in a design process, Feb. 1995. Image Courtesy of Gehry Partners, LLP.

But even in this fixed, congealed, or *frozen* form, initial fluidity inscribes its aggregate of spatiotemporal configurations of singular and compound curvatures. There is no clear distinction between the areas of less and more complex curvatures. » **C 0104** They form a patchwork of pieces of diverse folds and bends.⁰² » **C 0328** » **C 0810** » **C 0660** They create the heterogeneous aggregate of a multiplicity of degrees of curvatures, of their infinite spatial configurations. » **C 0660** Similarly to the entanglement of the microscales of felt's fibres, Gehry's waxed felt aggregate distributes continuous variations. » **C 0658** » **C 0663** » **C 0690** » **C 0730** » **C 0943** Recurrence of patches of varying curvatures form the smooth space that Deleuze and Guattari find in free uniquely rhythmic values of the 'Crazy' patchwork quilt. ▶ Figure [4] 'Crazy' patchwork is visually and spatially formed by fitting together 'pieces of varying size, shape, and colour, and plays on the *texture* of the fabrics' (1987: 476). Becoming the core instance of architect's experimentation, Gehry's red, waxed felt is of such amorphous nature of "crazy" patchwork; it is a fluid combination of patches with different degrees of compound curvatures. Deleuze and Guattari call it 'an *amorphous*, nonformal space...' (1987: 477). » **C 0658** » **C 0663** » **C 0690** » **C 0730**

02. Writing about the diagram in Bacon's painting, Deleuze uses notions of traits and colour-patches. See translator's note 1: "Traits et taches." The *Robert* dictionary defines tache most generally as "a small space of different colour in a field of uniform colour," and the English language presents a rich variety of possible equivalents, such as spot, blot, stain, patch, mark, blotch, splotch, smudge, dab, daub, and so on. The term tachisme was coined to refer to "pointillists" such as Seurat, who used juxtaposed dabs or touches of uniform colour to produce their figurative works, and later, to the nonfigurative works of abstract expressionism or art informel. Deleuze introduces the term here in order to distinguish between two different conceptions of painting: the optical (the visual perception of line and colour by the eye) and the manual (the application of traits and patches of colour by the hand). I have rendered the term as "patch" or "colour-patch." For the translation of the term trait, see: Chapter 1, note 6, in: Gilles Deleuze, *Francis Bacon: The Logic of Sensation* (London, New York: Continuum, 2003).



► Figure [3]

Deleuze and Guattari's example of *Technological Model* of smooth space, the 'Crazy' patchwork quilt combining 'pieces of varying size, shape, and colour' (1987: 476) into 'an *amorphous*, nonformal space...' (1987: 477). 'Crazy patchwork' quilt; traditional African American art, 1900-1910.

Capacity for becoming, or virtuality

The temporal fluidity of the waxed felt aggregate implies continuous mobility; it transcends the descriptive limitations of Euclidean geometry.⁰³ For instance, according to Ervin Panofsky, the whole process of linear perspective is dependent on Euclidean geometry and cannot represent objects (Panofsky 1991); it is thus impossible to place within it an aggregate of ever-changing curvatures of tossed waxed felt. Nor can the orthographic, planar projections – another application of Euclidean geometry – represent the continuous mobility of felt drenched in liquid wax.

The fluidity gives compound curvatures of waxed felt a dimension of topological nature. In ‘A Plea for Euclid’ (1999), Bernard Cache sets up the design of complex curvatures as essentially Euclidean. His argument touches on the phenomenon of temporal transcendence of the descriptive limitations of Euclidean geometry that Gehry’s experiment presents. The fluidity implies a continuous mobility, but as Cache reminds us, ‘we cannot avoid the fact that there is a highly positive feedback between our Euclidean intuition and

03. It does this in the sense of exceeding the three dimensions of physical space. In *The Projective Cast: Architecture and Its Three Geometries*, Robin Evans connects Nikolai Ivanovich Lobachevsky, Janos Bolyai, and Georg Friedrich Bernhard Riemann’s mathematics and new geometries, which had transcended the limitations of traditional geometry (Evans 1995: 62). In *The Fourth Dimension and Non-Euclidean Geometry in Modern Art*, Linda Dalrymple Henderson maintains that Lobachevsky, Bolyai and Riemann’s discovery of non-Euclidean geometries in the 19th century showed the possibility of different geometric systems. The non-Euclidean geometries have made it possible to conceive and represent higher dimensions of space, namely hyperspace, which exceeds the three dimensions of physical space (Henderson 1983). Additionally, as Deleuze made clear in *Difference ad Repetition*, his philosophical theories are rooted in the works of mathematicians, e.g.: Riemann, Leibniz, Whitehead, and Gilles Châtelet.

the experimental behaviour of physical space' (Cache 1999). However, the continuous mobility of Gehry's wax-soaked felt diverges from Cache's reasoning on these topological resources of Euclidean geometry. Even if his observation that 'as soon as it comes to actually making a geometrical figure out of a topological structure, we enter into Euclidean geometry' (Cache 1999) applies to fixed formations of red waxed felt, ► Figure [3] the importance of the phenomenon is in its liquid state – in what Brian Massumi defines as capacity for becoming, or virtuality (2002: 279-280 n13).

Deformations of the manipulated fluid waxed felt are nearing to the mathematical model of differential composition from calculus, which Deleuze and Guattari borrow to define the phenomenal emergence, or, the ever-renewed event of their fusional variation articulated by this mathematical model. Cache argues that topology does not bring free curvature to architecture; that topological structures are often misunderstood as indefinite curved surfaces. He explains that they do not apply to mathematicians' perception of the kind of free surfaces, for they are not concerned with the actual shapes of topological incarnations (Cache 1999). The mathematical 'formlike' or 'objectlike' emergences can be assimilated as Leibnizian 'inflections' – Deleuze adopts Cache's term 'objectile'.⁰⁴ The term objectile represents a new definition of the object, no longer thought of as having an essential or definitive form; instead, it has a mathematical function that takes its place within a 'continuum through variation.' (Cache 2001: 95).⁰⁵

04. *Earth Moves* (written in 1983 and published in 1995) introduced the concept of 'non-standard architecture'. Deleuze later termed this 'objectile' *The Fold* (French original published in 1988).

05. Cache, Bernard 'Objectile records' in: Canadian Centre for Architecture, Montréal. A single-level record of the archive created by the digital archivist Tim Walsh in October 2016 is available at: <https://www.cca.qc.ca/en/archives/437805/bernard-cache-fonds>. Processing and description completed by digital processing archivist Justine Couture in April 2019. Retrieved on July 30, 2019.

Massumi clarifies the complex provenience of the phenomenal emergence of the objectile as less connected to the pre-givenness of elements than to the ever-renewed event of their fusional variation. ‘From the point of view of that event, the elements in play are never determinate givens. They are “determinabilities,” grasped from the angle of their capacity for becoming (their virtuality)’ (Massumi 2002: 279-280 n13).

Distributing a continuous variation of curvatures, the waxed felt fulfils Massumi’s definition of the virtual. Until the paraffin wax solidifies, the potential of a continuous mobility of deformations exceeds its actuality. Until then, it ‘can only figure as a mode of abstraction, for what is concretely given is what is – which is not what it will be when it changes’ (1998: 16). For Massumi, the virtual is change as such. As he argues, ‘the virtual is not contained in any actual form assumed by things or states of things. It runs in the transitions from one form to another’ (1998: 16). » **C 0188** He adds that architectural design processes always include ‘the production of abstract spaces, from which concrete forms can be drawn’ (1998: 16). » **C 0188** » **C 0043** » **C 0005** » **C 0260** » **C 0844** » **C 0663** » **C 0559** » **C 0943** The manual manipulations of waxed felt distribute a continuous variation, continuous mobility of deformations; the composite, liquid tectonics vibrate, making it impossible to subordinate to any projective cast. » **C 0906** » **C 0030** » **C 0690** » **C 0943**

Rhizome:

» C 0000

- » C 0005 A throw of woodcuttings
- » C 0030 Surface
- » C 0032 We detail on the curtain wall
- » C 0043 Breakthrough

» C 0100

- » C 0104 Waterfall
- » C 0188 Gehry's *factual design action*
- » C 0125 Surface

» C 0200

- » C 0260 Zones of indiscernibility

» C 0300

- » C 0308 The manual and the haptic
- » C 0328 [1957-1989] *Pli selon pli*
- » C 0389 Action of wrapping

» C 0500

- » C 0559 Malleability
- » C 0586 Bending

» C 0600

- » C 0658 Spontaneous crumples
- » C 0660 Diagram
- » C 0663 Irritability
- » C 0690 Deforming the skin

» C 0700

- » C 0725 [1955] Glenn Gould Variations
- » C 0730 Distribution of formless forces
- » C 0783 Microscope and monuments

» **C 0800**

- » **C 0810** Baroque
- » **C 0844** *Overdrawing*
- » **C 0888** Gesture and the concept of *plain action*

» **C 0900**

- » **C 0903** Solitude and collaboration
 - » **C 0906** Vibrating tectonics
 - » **C 0905** Immediacy and kinetic properties
 - » **C 0907** Dust: The impossible of architecture
 - » **C 0943** Deformations
 - » **C 0959** *Molto vivace*
 - » **C 0967** Wrapping
-

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» **0844**

Overdrawing

Kalisz, December 13, 2015 ►► **Kalisz, December 18, 2018**

Production: Abstract expression

‘Overdrawing’ is simply an act of drawing *over* an image. It is not about sketching the image’s outlines and shapes or copying the intricate details, however. *Overdrawing* is at once an act and its result.⁰¹ As Deleuze and Guattari find new powers of texture in abstract expression, ‘that ascent of the ground’ (Deleuze and Guattari 1994: 194), » **C 0201** » **C 0474** » **C 0502** » **C 0593** » **C 0792** the task of *overdrawing* is to unweave fibres and layers of abstract expression painting’s texture and transpose them, as if from the Deleuzian smooth space of felt. » **C 0764** *Overdrawing* is an engine of multiplicity of connections with the map beneath it » **C 0588** and it is a drawing device set to produce still other maps; maps in tune with an architectural tradition of linear drawings, yet radically diverging from traditions of architectural representation. » **C 0105** » **C 0201** » **C 0004** » **C 0477** » **C 0588** » **C 0962** Rather, its design reflects Gehry’s idea of ‘grinding in the paper,’ of making

01. *Overdrawing* is the name of a generative design tool for architecture students developed by the author as part of the architectural studio ‘Construction–Deconstruction–Reconstruction.’ The studio was held at the Institute of Applied Aesthetics, Department of Architecture and Built Environment at Lund University, Sweden from 1992 through 1999.

drawing a search tool – Gehry calls this ‘searching in the paper’ – as ‘trying to find the building.’ It is closer to Gehry’s association of making drawing with ‘a sculptor, cutting into the stone or the marble, looking for the image’ (Gehry 1985: xv).
 ► C 0004 ► C 0962 ► C 0990 ► C 0600 ► C 0951 ► C 0905

Moreover, in Deleuze’s analysis of the French filmmaker Jean-Luc Godard’s formula, *overdrawing* produces an image that ‘is not a correct image, [but] just an image [*pas une image juste, juste une image*]’ (Deleuze and Parnet 1987: 9). ‘It is the same in philosophy as in a film or a song: no correct ideas, just ideas [*pas d’idées justes, justes des idées*]’ (1987: Ibid.), expands Deleuze. Thus, *overdrawing* serves as a freewheeling procedure,
 ► C 0764 ► C 0906 where experimentation does not involve an effort ‘to find whether an idea is just or correct’, as Deleuze points, but a search for

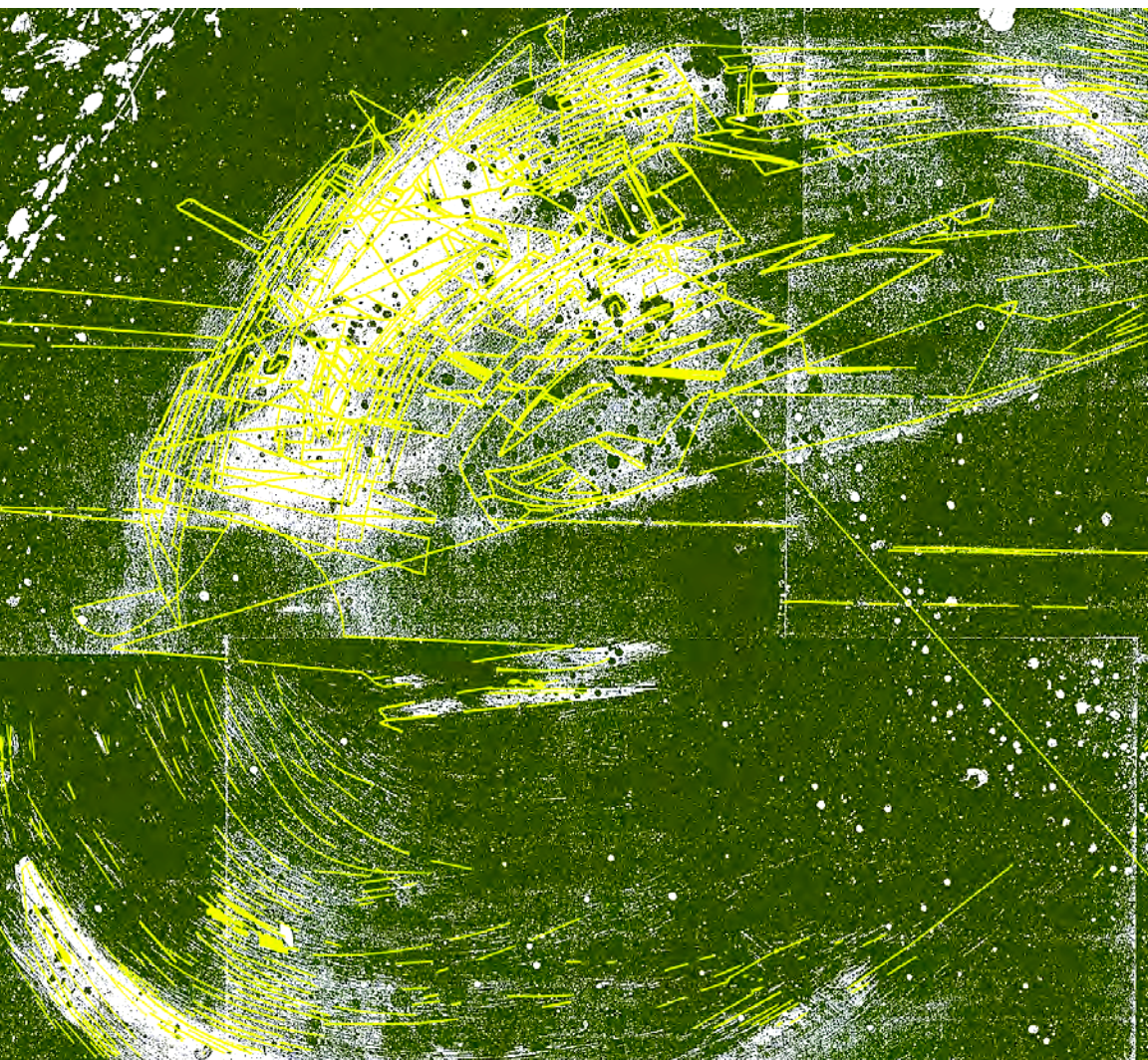
a completely different idea, elsewhere, in another area, so that something passes between the two, which is neither in one nor the other. Now, one does not generally find this idea alone; a chance is needed, or else someone gives you one (Deleuze and Parnet, Ibid). [► C 0660 ► C 0429 ► C 0188 ► C 0043 ► C 0903 ► C 0287]

Ploughing a surface

Overdrawing is inseparable from abstract painting. ► C 0201 ► C 0474 ► C 0502 ► C 0593 ► C 0792 ► C 0951 It works here as a painting that Seurat defines as ‘the art of ploughing a surface’. Deleuze and Guattari describe this as

[a] painting that no longer has any background because the “underneath” comes through: the surface can be furrowed [...]. One no longer covers over; one raises, accumulates, piles up, goes through, stirs up, folds (1994: 194). [► C 0543]

The act of *overdrawing* restores this scrambled, disordered mixture of movements and actions to a viewable state. ► Figure [1]



► Figure [1]

Vasco Trigueiros, *Overdrawing* (combined over photocopy of the painting), *Construction – Deconstruction – Reconstruction*, studio project at the Department of Applied Aesthetics, School of Architecture, Lund University, Sweden, 1999.

Overdrawing does not consist of traces of configuration given to paint by contact with the bristles of a brush.⁰² Rather, what is present in *overdrawing* are forces of ploughing through the paint just left on the canvas or other surfaces, and movements of the artist's body transmitted by the brush or other tools. ▶ C 0188 ▶ C 0831 ▶ C 0201 ▶ C 0888 What is present in the *overdrawing* is the micro-geology of the brushwork, of cutting, of lifting, of turning over, of its digs in the soil with the seeds of generative forces of movements and actions yet to come, to burst, to project new lines of flight. ▶ C 0905 ▶ C 0543 ▶ C 0201 ▶ C 0888

Overdrawing disentangles and extricates such active textures, not necessarily to use them literally in architectural design, but rather to free from constraints a new architectural expression of the spatial enclosures, of structures, and void/volume compositions. The act of *overdrawing* is an intensive urge to transgress a painting's entity, ▶ C 0049 to reinvent the architectural means of expression as a premise for putting life into architecture, the life of its shaped and subdivided, convoluted space, which raises, accumulates, piles up, goes through, stirs up, and folds. ▶ C 0328

Operational mode

Overdrawing's operational mode is to make connections and to create concepts. ▶ C 0043 ▶ C 0660 Always beyond any scale – being *scaleless* – it constantly fluctuates between painterly texture and tectonic potentials, between painterly gestures and architectural gestures. ▶ C 0188 ▶ C 0660 ▶ C 0888 The act of *overdrawing* oscillates and vibrates between the creation of an art form and the translation from one art form into another. It is neither a union of two radically different entities nor a

02. 'brushstroke, *n*' entry in: Merriam-Webster Dictionary, <http://www.merriam-webster.com/dictionary/brushstroke>. Accessed December 13, 2015.

juxtaposition. It deciphers, transposes, and performs. Thus, *overdrawing* is a production ‘that transforms the disparate entities that enter into a joint becoming’ (Toscano 2005: 40). The act of *overdrawing* is ‘a sort of active and creative line of flight’ (Deleuze and Parnet 1987: 9-10). An ‘AND ... AND ... AND ...’ (Ibid.) derivative of dynamics of gestural abstract painting and movements of the body engaged in the act of painting. It invariably follows Gehry’s statement:

I never think of the drawings as a finished product – they’re a process to get to an idea (Gehry 1985: xv). [▶ C 0191 ▶ C 0614 ▶ C 0201 ▶ C 0502 ▶ C 0004]

Rhizome:

- ▶▶ C 0000
- ▶▶ C 0004 Drawing architecture
- ▶▶ C 0043 Breakthrough
- ▶▶ C 0049 Chaos and potentials of painting
- ▶▶ C 0100
- ▶▶ C 0105 Projection and representation
- ▶▶ C 0188 Gehry's *factual design action*
- ▶▶ C 0191 Gehry's painting is not the end in itself
- ▶▶ C 0200
- ▶▶ C 0201 Painting
- ▶▶ C 0287 Dialogues, raptures, accelerations
- ▶▶ C 0300

- » **C 0328** [1957-1989] *Pli selon pli*

- » **C 0400**
- » **C 0429** *Action of breaking*
- » **C 0474** *Action/painting*
- » **C 0477** Imagined and unimagined

- » **C 0500**
- » **C 0502** Pollock
- » **C 0543** *Cinematic viewing-sections-models*
- » **C 0588** Gehry's sketching and the rhizome
- » **C 0593** Abstraction

- » **C 0600**
- » **C 0600** Confronting limitations of architectural drawing
- » **C 0614** The unfinished
- » **C 0660** Diagram

- » **C 0700**
- » **C 0764** [1993] Red waxed felt
- » **C 0792** From figurative to abstract

- » **C 0800**
- » **C 0831** *Immediacy*
- » **C 0888** Gesture and the concept of *plain action*

- » **C 0900**
- » **C 0903** Solitude and collaboration
- » **C 0905** *Immediacy and kinetic properties*
- » **C 0906** Vibrating tectonics
- » **C 0951** Architectural drawing as cognitive tool
- » **C 0962** Drawing movement
- » **C 0990** Scratching

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» 0888

Gesture and the concept
of *plain action*

Kalisz, December 20, 2015 ⇨⇨ Lund, March 26, 2018

Gesture and architecture

Not every purposive movement of the human body is a gesture. Just as little as every functional building is architecture.

Wittgenstein, *Culture and Value*

Wittgenstein's radical distinction makes gesture a useful concept in the analysis of Frank O. Gehry's architectural design processes – especially in the analysis of his specific, rather uncommon design actions.⁰¹ In 1995, responding to the Spanish-born American architect and theorist Alejandro Zaera-Polo's suggestion that Gehry develop 'some kind of graph or trace into an architecture' (Zaera-Polo 1995: 30), the architect responded that such graphs sometimes come from 'a kind of gesture'. Gehry describes it as 'an automatic reaction to some of the existing urban topographies, an inspiration from something that [he has] seen, [i.e.] a painting...' (1995: 30-31). Actions determined this way do not merely give ground for value-laden

01. The following analysis of gesture in the context of Gehry's design actions is a rewritten version of some sections of Pawel Szychalski, *The Role of Gesture in Frank O. Gehry's Architecture* (Lund: University of Lund, 2007).

linguistic descriptions of architecture that occur place when gesture denotes some aesthetic, spatial features of architectural works. In this case, they are actual gestures performed within the scope of Gehry's design procedures and then distinctively embodied in architecture. ► **C 0201** ► **C 0660** ► **C 0043**

Gesture and the concept of *plain action*

A British scholar and one of the foremost authorities on the topic of gesture, Adam Kendon defines gesture as 'visible action or any ensemble of action that counts for others as an attempt to "give" information of some sort' (Kendon 2004: 7). ► **C 0043** Thus, every gesture constitutes a specifically composed, or choreographed, bodily action performed to display a sign. Following Kendon's definition, to take place, a gesture requires the plain, bodily action to differ from any other plain action performed without the purpose of conveying a particular significance. For instance, waving goodbye requires its formalised manner that is easily distinguishable and appropriate to the cultural context within which it is understood as a way to say goodbye. This action – a dynamic and necessary component of the whole of gesture – can be extracted from it as a *plain action*. An extra feature that gives the *plain action* the specific meaning of goodbye is a cultural code. The definition of gesture is fully satisfied in a situation when the *plain action* gains a specifically codified, representational quality that conveys meaning or provides some sort of information, according to Kendal. This is evident in the *plain action* of vertically nodding the head: in English, French, Swedish, Polish and many other contexts, this signifies 'yes'; in Bulgaria for example, the same motion conveys the meaning 'no'.⁰² ► Figure

02. This can be especially confusing when performed by a Bulgarian-born French student on an exchange programme in Sweden in front of an audience consisting of international students.

[1] Considered as a simple ‘yes’ sign, the action of a vertical nod of the head may become a *plain action* with an entirely uncertain, unpredictable meaning – an action that signifies nothing, the Deleuzian asignifying action. It is thus possible to detail the concept of gesture as a dual entity: an individualised spatiotemporal configuration of asignifying *plain action* and its culturally assigned role to signify something.

Minute moves and asignifying traits

Albena Yaneva’s ethnographic study of architectural design processes at the Office for Metropolitan Architecture (OMA) exposed, among other aspects, their manual character. She writes that ‘the appearance of a building (...) emerges from the architects’ hands...’ and observes, ‘the tenuous and minute moves with various tools and models, the intelligibility of materials and the actions of the architects...’ (Yaneva 2005: 868). » C 0476 » C 0661 » C 0517 » C 0230 As in gestures, these moves and actions constitute *plain actions*; they are dependent on and produced by kinetic attributes of a human body and may become means of nonverbal communication within the realm of architectural design productions.

Formally and functionally, the tenuous and minute moves with various tools and the actions of the OMA architects appear indistinguishable from the micro-procedures of Gehry’s distinctive, clearly defined actions or manipulations of hand-made models. However, even though Gehry’s involuntary action of breaking » C 0429 or the bewildering action of placing a pincushion in the architectural model of the ► 1991 Chiat\Day Building (Venice, California, 1985-1991) ► Figure [2] are of the same nature.



► Figure [1]

The top sequence shows Petia Ratzov, a Bulgarian-born French student of architecture. She is nodding 'yes' in a Bulgarian context. The bottom sequence shows Petia shaking her head 'no', also in the same cultural context. In a French context, the gesture captured in the top sequence means 'no', and the bottom sequence means 'yes'. With kind permission of Petia Ratzov.

They differ from the common, manual actions performed by architects as components of the design process. They are not Wittgenstein's purposive movements – and even if they appear as gestures, they are not, for their meanings are not yet there.

But *plain actions*, actions that signify nothing, leave traits. Like Gehry's piece of ColorCore® laminate, broken in frustration, they are irrational, accidental, and random. ► **C 0429** Only when asignifying a *plain action* that results in shattering flints of laminate material do they become asignifying traits, 'nonrepresentative, nonillustrative, nonnarrative', like Bacon's involuntary line-strokes or colour-patches, '[t]hey are no longer either significant or signifiers' (Deleuze 2003: 100). Yet, because asignifying *plain action* produces asignifying traits, Gehry was able to observe their potentials. The architect reinvented attributes of laminate material, 'started layering it and (...) made a fish' (Gehry 1985: xvi). ► **1983** Fish and Snake Lamps (1983-1986) Although encouraged 'to experiment with and explore its material potential' (Lewin Grant 1991: 149-150) by the ColorCore® manufacturer,⁰³ this crucial act of Gehry's design process cannot be accepted as purposive movement or voluntary control over expression. Due to the fact that the shards of the laminate were fortuitously within the environment of the design process, the design took an unexpected, unintentional turn. The action of breaking the laminate exposed qualities of material radically different from those for which laminates are commonly used. ► **C 0429** ► **C 0043** ► **C 0550** ► **C 0005** ► **C 0049**

03. Susan Lewin Grant details the importance of the experimental character of the event: 'This interdisciplinary group created conceptual objects that are often cited as emblematic of the 1980s. (...) It was important that the show demonstrate the pluralism within American design. It was also important to tap designers noted for exploration of materials – designers such as Frank O. Gehry, James Wines, and Alison Sky of SITE. Following the Modernist tradition were Helmut Jahn, Emilio Ambasz, Leila and Massimo Vignelli, and Milton Glaser.'



► Figure [2]

Frank O. Gehry, *Chiat/Day Building, Main Street Headquarters*. Venice, California, USA, 1985-1991. Left, model showing nothing attached to the central part of a building, and right, a little box with a pincushion attached to its central part. © Frank O. Gehry. Getty Research Institute, Los Angeles (2017.M.66), Frank Gehry Papers.

Because the required degree of voluntary control over what the action of breaking expresses is absent, it makes it different from what Kendon defines as a gesture.⁰⁴ Rather, it is the *factual design actions*.⁰⁵ Nonetheless, as gesture, it draws on the etymological roots in Medieval Latin noun of action, *gestūra* (or *gerēre*, to carry),⁰⁶ or on its function as an indirect communication, and most importantly, on its employment of bodily movements. Unconventionally for the architectural practice, it is *not* performed for the sake of conveying meaning.

» C 0005 Furthermore, even when conducted as micro-components of manual model-making or sketch drawing, Gehry's *factual design actions* are distinct modes of action whose micro-procedures are directly implanted into architectural design productions. They create potentials for new design concepts, yet only after they are performed, and only when their traits factually exist. » C 0188 » C 0429 » C 0771 » C 0472. » C 0043 » C 0005 » C 0049 » C 0755 » C 0658 » C 0901 » C 0350 » C 0951

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04. Reference to Adam Kendon's *Gesture: Visual Action as Utterance* in: Paweł Szychalski, *The Role of Gesture in Frank O. Gehry's Architecture*, (Lund, Sweden: Lund University, 2007), 153.
05. The concept of *factual design action* was created and developed by the author in: Paweł Szychalski, *The Role of Gesture in Frank O. Gehry's Architecture*, independently of both Deleuze's analysis of Francis Bacon's paintings in: *Francis Bacon: The Logic of Sensation* and Bacon's own descriptions of the diagram as 'only a "possibility of fact"' in David Sylvester, *The Brutality of Fact: Interviews with Francis Bacon 1962-1979* (London: Thames and Hudson, 1990).
06. "gesture *n*," Oxford English Dictionary, *OED Online*. Oxford University Press. Published January 2018. Retrieved on March 26th, 2018.

Rhizome:

» C 0000

- » C 0005 A throw of woodcuttings
- » C 0043 Breakthrough
- » C 0049 Chaos and potentials of painting

» C 0100

- » C 0122 Attachments, architectural *objet trouvé*
- » C 0188 Gehry's *factual design action*

» C 0200

- » C 0201 Painting
- » C 0230 From actual into virtual

» C 0300

- » C 0350 After the event effect
- » C 0389 Action of wrapping

» C 0400

- » C 0429 *Action of breaking*
- » C 0472 *Action of cutting*
- » C 0476 Poetry of scale

» C 0500

- » C 0517 Kinetic – cinematic
- » C 0550 Gehry's brush strokes

» C 0600

- » C 0658 Spontaneous crumples
- » C 0660 Diagram
- » C 0661 Shifting scale, expanding rhizome

» C 0700

- » C 0755 Battlefield of Gehry's canvas
- » C 0771 *Action of placing in*

» C 0900

- » C 0901 Daily objects into architecture
- » C 0951 Architectural drawing as cognitive tool

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PROTOTYPING PLATEAU GEHRY_CONNECTIVES

For Milena and Božena

PROTOTYPING PLATEAU GEHRY_CONNECTIVES

Reading Frank Gehry's experiments through Deleuze and Guattari

Pawel Szychalski



LUND UNIVERSITY
2020

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Reading Frank Gehry's experiments through Deleuze and Guattari

Pawel Szychalski

Doctoral Dissertation

by due permission of the Faculty of Engineering, Lund University



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Volume 3. *After-image.* OUTCOMES

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After-image: OUTCOMES

Introduction

In relation to the initial questions stated in Volume 1, *Freeze Frame*: INTRODUCTION, the following questions have emerged through the experimental part Volume 2, PLATEAU GEHRY_CONNECTIVES, as important in this thesis. These questions can be stated as:

- is it possible to map the evolution of Gehry's specific design actions to appropriately delineate their connections with Deleuzian concepts and see how features of his architecture, or the design processes therein, are methodical embodiments of these actions?
- is it possible to expose the 'how' of Gehry's spontaneous design methods through connections with Deleuze and Guattari's thinking?
- can we explore the productive potential of Gehry's design actions in connection with what Deleuze defines as the 'operation of the diagram'?

- is the concept of *factual design action* productive in understanding the qualities of general significance in explorative and intuitive design practices when situated at the junction of architecture, art, and Deleuze and Guattari's philosophy?
- can the here developed Deleuze-inspired interpretation of Gehry's experimental practices serve as a prototype, model or a pattern, according to which other practices can operate?
- are Gehry's formal manipulations of a digital nature or rather manual alterations of physical properties of materials used in the design processes?

In its six chapters, *After-image: OUTCOMES* that constitutes Volume 3 of the current PhD thesis, addresses the above questions and discusses the content of the experimental Volume 2, PLATEAU GEHRY_CONNECTIVES. These questions can be seen as permeating all of the six chapters as they develop in the final volume of the thesis.

Using complementary secondary writings on Deleuze and Guattari, and on Frank Gehry, Volume 3 positions it in relation to theory, practice and research of contemporary architecture. Each chapter of *After-image: OUTCOMES* combines and further contextualises the results of experiments of the PLATEAU GEHRY_CONNECTIVES to enhance or emphasise the qualities and properties, describing the characteristics of Gehry's practice. Finally, Volume 3 *After-image: OUTCOMES* recapitulates and re-evaluates these characteristics in architectural theory contexts with an additional discussion of Deleuze and Guattari's philosophy.

Thus, the six following chapters of Volume 3 attempt to systematise some of the outcomes of experiments carried out in each _CONNECTIVE of PLATEAU GEHRY_CONNECTIVES. But, despite Volume 2 being a kind of freeze-frame recording of the research processes combining the experimental nature of Gehry's design practice and Gilles Deleuze and Félix Guattari's works in philosophy, the investigations captured in it, remain to a large extent a dispersed and heterogeneous material.

Moreover, even though in the current thesis, the PLATEAU GEHRY_CONNECTIVES is a kind of stoppage of its development, it remains the active field for yet another, new Deleuzian rhizomatic map of connections to grow out from.⁰¹ Therefore, the characteristics of the dispersed and heterogeneous material together with the inherent potential of the PLATEAU GEHRY_CONNECTIVES of always altering the character of the research put in place, constitutes the specific, suitable strategy of the analysis and discussion of Volume 3, *After-image*: OUTCOMES of the current PhD thesis.

Consequently, the following six chapters conduct certain re-mapping of the content and outcomes of the PLATEAU GEHRY_CONNECTIVES to systematise and re-contextualise it. Yet, it does it in a specific, stratified manner, where different frames of discourse are connected to the findings of Volume 2. The first layer of this stratum consist of Chapter 1: 'Actions and Strategies' and Chapter 2: 'Other Experiments and Operations,' and it reapplies connections of aspects of Gehry's design practice with the philosophy of Deleuze and Guattari making connections similar to the ones in the PLATEAU GEHRY_CONNECTIVES, but now presented in a more academic format and style. These two chapters discuss the recurring (Chapter 1) or otherwise significant (Chapter 2) design actions and strategies of Gehry's that were seen in Volume 2 as connected with the philosophy of Deleuze and Guattari. In Chapter 3, 'Other Theories, Themes and Issues Discussed,' Gehry's design actions and strategies are re-contextualised through other thinkers, for instance, a French philosopher Maurice Merleau-Ponty or Viktor Shklovsky, a literary theorist and writer associated with Russian formalism and various aspects of Modern and contemporary art. These three chapters point towards the importance of incorporating

01. See 'Manual: hypertext and experiment' and Chapter 3. 'Structure and method' of Volume 1, for explanation of the nature of the content of the PLATEAU GEHRY_CONNECTIVES.

also others' readings of Deleuze and Guattari for a general perception of Gehry's architecture.

In Chapter 4: 'Architecture and Philosophy' Gehry's practice is linked to a post-deleuzian philosophical discourse and interpretation of Deleuze, here seen as furthering the importance of a Deleuzian perspective for the perception of Gehry's architecture. Chapter 5: 'Virtual, Actual, and Unthought' re-situates this relationship to the recent contemplation of Deleuze and Guattari's philosophy that tie their thoughts more specifically to architectural theory. This chapter also attempts to negotiate the content of the PLATEAU GEHRY_CONNECTIVES by re-evaluating essential aspects of these architecture-oriented theories, and putting them in relation to other theories, and to concepts such as "the cognitive nonconscious" discussed by N. Katherine Hayles, the literary critic studying the relations of literature, science and technology. Through this "detour" via architectural theory and other specific theories, chapter 5 outlines the significance of applying a Deleuzian aspect to the (findings in the) PLATEAU GEHRY_CONNECTIVES research.

Finally, Chapter 6: 'Research Contributions: Gehry and the deviations of architectural design practice,' outlines some of the research contributions to the discipline of architecture. In this chapter, new aspects of Gehry's design practice revealed through Deleuze and Guattari's concepts are rethought and expanded beyond Gehry. Chapter 6, points at possible applications of these new aspects in architectural design practice or architectural discourse and education.

The character of the final part of the current thesis, Volume 3, *After-image: OUTCOMES* is affected by the complexity of the content of the PLATEAU GEHRY_CONNECTIVES. This complexity, with its nonlinear system of self-structuring conceived to allow diverse outcomes, causes difficulties when being taken into more systematic, linear analysis. Hence, the functions of Chapters 1 to 5, described above, become variants of how to link a reading of Deleuze and Guattari with Gehry's design actions. Thus, each chapter of Volume 3, *After-image: OUTCOMES* rather re-maps and

summarises the whole content of the PLATEAU GEHRY _CONNECTIVES, finding various common denominators and extensions. The lists of _CONNECTIVES, for instance:

- » **C 0903** Solitude and collaboration
- » **C 0287** Dialogues, raptures, accelerations
- » **C 0303** Model-making and repetition
- » **C 0004** Drawing architecture
- » **C 0255** Ambiguous lines
- » **C 0371** [1976] Norton Simon Gallery. Movement (part I)
- » **C 0476** Poetry of scale
- » **C 0764** [1993] Red waxed felt

that follow the descriptions of problems discussed below, illustrate how the parts in the map of the PLATEAU GEHRY _CONNECTIVES point out those common denominators and extensions. The fact that these lists regularly overlap shows the two purposes of placing them under the accounts of all relevant problems. It further helps to understand the *rhizomatic* nature of Volume 2 and copies the potential of the nonlinear narrative of the PLATEAU GEHRY _CONNECTIVES into the current Volume 3.

1. Actions and Strategies

The explorations of PLATEAU GEHRY_CONNECTIVES utilise Deleuze and Guattari's concepts to show that what is considered creative, new, unusual, mad, or even 'absurd' (Silber 2007) in Gehry's architecture comes from moments of unconventional, disruptive actions that occur within his design processes. Together with his individualized design strategies, they distort or deform commonly accepted values of architectural aesthetics and structure. With central emphasis on the design processes, PLATEAU GEHRY_CONNECTIVES searches for traces in the processual dynamics of Gehry's early conceptual sketches (both drawings and models) that are transferred to the character of his buildings. The importance of this approach of the current thesis is rooted in findings of my Licentiate thesis, which acknowledge Gehry's engagement in the dynamics of built form emanating from its unfinished state as opposed to the perfectionist approach evident in the static, 'slick' finished buildings of Modernism. Gehry's emphasis on imperfection and the dynamics of the unfinished building is

evident in a quotation that also appears in the ‘Prologue’ of Volume 1, *Freeze-frame*: INTRODUCTION: ‘how could a building be made to look like it’s in process?’ It almost seems like the declaration of a design strategy. His immediate observation that ‘[t]hey look like in the normal building process somebody just stopped’ (Gehry 1985: xiii), appears delivering a plausible method to achieve the goal.

The following _CONNECTIVES investigate the actions and strategies implemented by Gehry to achieve such defined goals. These _CONNECTIVES also map and describe their outcomes, which cause distortions or deformations of commonly accepted values of architectural aesthetics, and except for unbuilt designs, how these outcomes may transfer into actual buildings:

- » **C 0043** Breakthrough
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0429** *Action of breaking*
- » **C 0771** *Action of placing in*
- » **C 0472** *Action of cutting*
- » **C 0983** *Action of bending*
- » **C 0888** Gesture and the concept of *plain action*
- » **C 0188** Gehry’s *factual design action*
- » **C 0677** *Ambiguous gesture*
- » **C 0371** [1976] Norton Simon Gallery. *Movement (part I)*
- » **C 0476** Poetry of scale
- » **C 0943** *Deformations*
- » **C 0764** [1993] Red waxed felt
- » **C 0321** *Movement (part II)*
- » **C 0651** *Catastrophe*
- » **C 0660** *Diagram*
- » **C 0122** *Attachments: architectural objet trouvé*
- » **C 0550** *Gehry’s brush strokes*
- » **C 0755** *Battlefield of Gehry’s canvas*
- » **C 0658** *Spontaneous crumples*
- » **C 0032** *We detail on the curtain wall*
- » **C 0661** *Shifting scale, expanding rhizome*
- » **C 0730** *Distribution of formless forces*
- » **C 0905** *Immediacy and kinetic properties*

- » **C 0901** Daily objects into architecture
- » **C 0938** Spasms
- » **C 0962** Drawing movement
- » **C 0990** Scratching, drawing, sculpture
- » **C 0477** Imagined and unimagined
- » **C 0005** A throw of wood cuttings
- » **C 0688** Gehry's combines
- » **C 0571** Distorting perspective
- » **C 0179** Process
- » **C 0903** Solitude and collaboration
- » **C 0303** Model-making and repetition
- » **C 0316** [1978] Wagner Residence
- » **C 0314** [1981] Fish
- » **C 0559** Malleability
- » **C 0106** Language, code, *ostranenie*
- » **C 0663** Irritability
- » **C 0201** Painting
- » **C 0894** Body in motion: Boccioni and Duchamp
- » **C 0260** Zones of indiscernibility
- » **C 0319** [1983] Exaggeration, embellishment, ornament
- » **C 0690** Deforming the skin
- » **C 0023** Arrhythmic scaling
- » **C 0923** Cinema of scaling
- » **C 0409** Village, dispersion, rhizome
- » **C 0576** Cinematic framings and irrational breaks
- » **C 0308** The manual and the haptic
- » **C 0600** Confronting limitations of architectural drawing
- » **C 0049** Chaos and potentials of painting
- » **C 0536** Multiplicity of actions
- » **C 0981** Gehry's operative abstract machine
- » **C 0614** The unfinished
- » **C 0967** Wrapping
- » **C 0104** Waterfall
- » **C 0003** Forces, faces, façades
- » **C 0508** Augmenting lines
- » **C 0588** Gehry's sketching and the rhizome
- » **C 0934** Imperfect
- » **C 0789** [1987-1989] Vitra Museum. The topological turn

The outcomes of the above _CONNECTIVES support the view that Gehry transgresses the limitations of and redefines the means of architectural design through idiosyncratic actions and strategies. Moreover, PLATEAU GEHRY_CONNECTIVES demonstrates that by these actions and strategies, Gehry reengages architecture with it's outside; i.e., with other ontological or disciplinary domains. It connects contemporary research with the Deleuzian thinking of the philosopher and feminist theorist Elisabeth Grosz, specifically in her book *Architecture from the Outside* (2001). For example, Gehry declares a kind of scientific, experimental approach to architectural design, which for him 'is kind of like throwing things out and then following the ideas, rather than predicting where you're going to go' (Diamondstein 1980: 41-42). » C 0005 *A throw of wood cuttings* Germano Celant defines it as a scientific-like breakthrough (1985: 7). » C 0043 Breakthrough Gehry sees such a *breakthrough* as a necessary ingredient of the design process.⁰² This thesis identifies it as a definite moment of re-engaging with the outside of architecture beyond existing architectural paradigms; as if, re-engaging with the outside of architecture, Gehry's *breakthroughs* 'evacuate' the inside so that architecture can engage its exteriority (Livesey 2015: 8).

- » C 0043 Breakthrough
- » C 0472 *Action of cutting*
- » C 0429 *Action of breaking*
- » C 0771 *Action of placing in*
- » C 0423 Disruptive actions, disruptive affects
- » C 0983 *Action of bending*
- » C 0389 *Action of wrapping*
- » C 0188 Gehry's *factual design action*
- » C 0651 Catastrophe
- » C 0660 Diagram
- » C 0122 Attachments: architectural *objet trouvé*
- » C 0550 Gehry's brush strokes

02. Throughout Volume 3, emphasis in italics indicates Gehry's use of the term *breakthrough*.

- » **C 0658** Spontaneous crumples
- » **C 0730** Distribution of formless forces
- » **C 0905** Immediacy and kinetic properties
- » **C 0901** Daily objects into architecture
- » **C 0938** Spasms
- » **C 0962** Drawing movement
- » **C 0990** Scratching, drawing, sculpture
- » **C 0477** Imagined and unimagined
- » **C 0005** A throw of wood cuttings
- » **C 0461** Coactions

Per analogiam, Gehry makes Le Corbusier the proto-Deleuzian architect, recognizing his chapel Notre Dame du Haut from 1955 as an exploration of materials and techniques, which ‘in a plastic sense’ transposes it ‘beyond architecture, taking it out of limits’ (Gehry 1997: 119).

Means of production

Since the earliest architectural drawings and models, the importance of representational means for production and institutionalisation of architecture has continued to grow. Means of representation became inseparable from the earliest phases of imagining architecture. In their essay ‘Architectural Representation Beyond Perspectivism’, Alberto Pérez-Gómez and Louise Pelletier remind us of the first theory of architecture derived directly from applied science and technology (1992: n3 21), pointing at the legacy of Jacques Nicolas Louis Durand’s early 19th century theory as the origin of unreserved confidence in a scientific methodology used in architecture. According to Pérez-Gómez and Pelletier, Durand’s *Précis des Leçons d’Architecture*, published in 1802 and 1813, empowered efficiency and economy of the design production, from which we inherited the authority of projections of plans, façades, and sections. The value system borrowed from applied science and technology ascertained and rigidified ‘the predictive quality of the projections of descriptive geometry’ (Pérez-Gómez and

Pelletier 1992: 21 n3) and inevitably resulted in dependence on methodology of architectural design production, and more importantly, the only 'true' image of a building, on the combination of projection planes, especially of the practice of handling plans, elevations, and sections.

Deleuze and Guattari confirm this dependence, this apparatus of architecture. They claim that 'not going beyond form, the most scientific architecture endlessly produces and joins up planes and sections' (1994: 186). They even suggest that architecture 'can be defined by the "frame," by an interlocking of differently oriented frames, which will be imposed on the other arts, from painting to the cinema' (1994: 186). Bernard Cache certainly influenced this view. Deleuze and Guattari declare that Cache makes architecture 'the first art of the frame' (1994: 187). But, noting Cache's concepts of 'enframing forms that do not determine in advance any concrete content or function of the edifice' (1994: 187), Deleuze and Guattari point at possible divergences from the system established by Durand's *Précis des Leçons d'Architecture*.

Deleuze and Guattari's understanding of frames goes far beyond established architectural notions of plans, façades and sections. They claim that frames are not coordinates but faces, or interfaces. 'Frames or sections are not coordinates; they belong to compounds of sensations whose faces, whose interfaces, they constitute' (Deleuze and Guattari 1994: 187). Recognizing the extendibility of such defined systems of framing; they introduce the concept of *deframing*. They write that

however extendable this system may be, it still needs a vast plane of composition that carries out a kind of *deframing* following lines of flight that pass through the territory only in order to open it onto the universe, that go from house-territory to town-cosmos, and that now dissolve the identity of the place through variation of the earth, a town having not so much a place as vectors folding the abstract line of relief (Ibid).

Such a new, vast plane of composition that carries out a kind of *deframing* casts new light on the concept of architectural design

production in general and Gehry's design practice in particular. Interestingly, Deleuze and Guattari derived the notion of *deframing* from writings on cinema. Coined by film critic Pascal Bonitzer, the concept of deframing [*décadrage*]⁰³ underscores new relationships between the planes in cinema. Called 'disjointed, crushed or fragmented' planes, it makes cinema 'an art by getting free from the commonest emotions, which were in danger of preventing its aesthetic development, and by producing new affects' (1994: 187 n28). This original version of the concept related to means of production in cinema adds still more aspects of understanding of Gehry's architectural design production studied in e.g.:

- » **C 0543** Cinematic *viewing-sections-model*
- » **C 0923** Cinema of scaling
- » **C 0912** Architecture from painting to the cinema
- » **C 0965** Cinematic *sections/frames*
- » **C 0474** *Action/painting*
- » **C 0576** Cinematic framings and irrational breaks
- » **C 0102** Cinematic language constructing its own 'objects'
- » **C 0014** Gehry's cinematographic seascapes
- » **C 0517** Kinetic – cinematic
- » **C 0903** Solitude and collaboration
- » **C 0287** Dialogues, raptures, accelerations
- » **C 0371** [1976] Norton Simon Gallery. Movement (part I)
- » **C 0476** Poetry of scale
- » **C 0943** Deformations
- » **C 0651** Catastrophe
- » **C 0660** Diagram
- » **C 0122** Attachments: architectural *objet trouvé*
- » **C 0962** Drawing movement
- » **C 0659** Paintings, cartographies, overdrawings
- » **C 0683** [1972] Ron Davis House
- » **C 0284** [1980] World Savings and Loan Association
- » **C 0959** *Molto vivace*
- » **C 0858** Perspective

03. First published in *Cahiers du cinéma* 284, January 1978.

- » **C 0328** [1957-1989] *Pli selon pli*
- » **C 0005** *A throw of wood cuttings*
- » **C 0844** *Overdrawing*
- » **C 0593** *Abstraction*
- » **C 0061** *Optical versus manual*
- » **C 0472** *Action of cutting*
- » **C 0371** [1976] Norton Simon Gallery. *Movement (part I)*
- » **C 0457** [1998] STATA and Boccioni
- » **C 0043** *Breakthrough*
- » **C 0429** *Action of breaking*
- » **C 0625** *Flux of images and 'time-image'*
- » **C 0316** [1978] Wagner Residence
- » **C 0810** *Baroque*
- » **C 0559** *Malleability*
- » **C 0730** *Distribution of formless forces*
- » **C 0764** [1993] *Red waxed felt*

In the same study in Chapter 7, 'Percept, Affect, and Concept,' of *What is Philosophy?*, Deleuze and Guattari's text exposes more possibilities for application to Gehry's experimentation with means of architectural design production. As Deleuze and Guattari's studies locate the concept of frames passing through the history or even prehistory of painting, emphasised in the 'Prologue' of Volume 1, *Freeze-frame: INTRODUCTION*, Gehry's specific affiliation with painting provides the ground for such possible readings. In this history, Deleuze and Guattari impose on the arts, especially on painting, the role of architecture as defined by the 'frame'⁰⁴ and by an interlocking of differently oriented frames that produce and join planes and sections. According to them, what happened in painting followed the developments in architecture.

We have seen that painting pursued the same movement. The frame or the picture's edge is, in the first place, the external envelope of a series of frames or sections that join

04. Elizabeth Grosz also explores the concept of framing in *Chaos, Territory, Art: Deleuze and the Framing of the Earth* (2008). In her study however, she refers to and develops a far more open definition of frames.

up by carrying out counterpoints of lines and colours, by determining compounds of sensations. But the picture is also traversed by a deframing power that opens it onto a plane of composition or an infinite field of forces. These processes may be very diverse, even at the level of the external frame: irregular forms, sides that do not meet, Seurat's painted or stippled frames, and Mondrian's squares standing on a corner, all of which give the picture the power to leave the canvas. The painter's action never stays within the frame; it leaves the frame and does not begin with it (Deleuze and Guattari 1994: 187-188).

In this context, Gehry's design actions and operations devised through his experiments align with Deleuze and Guattari's accounts of actions and operations of a painter. Seen as a sort of Deleuzian painter, Gehry negotiates his study models into a kind of architectural canvas.

The research undertaken in Volume 2, *PLATEAU GEHRY_CONNECTIVES* shows that when Gehry withdrew his professional practice from the commercial, architectural mainstream in the early 1970s, he started confronting inefficiencies, discrepancies, and the predictive qualities of means of architectural representation, including the projections of descriptive geometry. Studies in some of the *_CONNECTIVES* indicate that these confrontations involve or are conditioned by some of the architect's personal experiences or emotions, which rather instinctively transpose Gehry's design practice into his own or his collaborators' experience of lived spaces and from those lived spaces into design practice. Entering and interacting within spaces of design – lived space – reconfigures the means of architectural design production.

For instance, his version of the space of model-making is a specific mode of teamwork that brings in the experience of others. It is a fusion of the manual production of cryptic sketches and rapid model-making based on a nonverbal, visual

and cognitive exchange that Gehry calls a discussion or a *dialogue*.⁰⁵ The architect discussed it with Beatriz Colomina:

Gehry:

– Yeah. That’s how I talk to them [the team of partners and staff].

Colomina:

– With the sketches?

Gehry:

– Yeah. And then they start making models that are evocative of that. At this point, Edwin and Craig can go way ahead, they know. They are off to the races, fast, and it is getting there. I guess they can explain better what happens. But it’s a discussion, a dialogue (Gehry in Colomina 2003: 7).

Various aspects of such reconfigured means of design production are examined in e.g.:

- » **C 0903** Solitude and collaboration
- » **C 0287** Dialogues, raptures, accelerations
- » **C 0303** Model-making and repetition
- » **C 0004** Drawing architecture
- » **C 0255** Ambiguous lines
- » **C 0371** [1976] Norton Simon Gallery. Movement (part I)
- » **C 0476** Poetry of scale
- » **C 0764** [1993] Red waxed felt

The cognitive dialogue described above expands and reshapes the notion of the space of making and recalls James J. Gibson’s (1979) classic visual space defined by the information contained on environmental surfaces, here manifested through the relationships between elements of the design process beyond commonly accepted standards. It becomes a new version of the ecology of the architectural model (Dunn 2007), which Gehry transfers from Dunn’s context of the educational environment to the interactive environment of the collaborative architectural studio. This thesis surveys this kind of new version of the

05. My emphasis in italics.

ecology of an architectural model in the following
_CONNECTIVES:

- **C 0903** Solitude and collaboration
- **C 0287** Dialogues, raptures, accelerations
- **C 0005** A throw of wood cuttings
- **C 0303** Model-making and repetition
- **C 0764** [1993] Red waxed felt
- **C 0429** Action of breaking
- **C 0502** Pollock
- **C 0625** Flux of images and 'time-image'
- **C 0536** Multiplicity of actions

One of the central problems of this new version of the ecology of an architectural model is the question of means of communication between Gehry and his team. Gehry's partners confirm that results of Gehry's complex spatio-temporal configurations of his specific design actions are exposed to other viewers/design partners as part of the design process (Friedman and Frank O. Gehry and Associates 1999; Kipnis 2003; Pollack 2006). This way, through his initial drawn sketches and early concept- and process models, Gehry attempts to communicate some of the unspecified architectural qualities. Members of Gehry's design team confirm that he asks others to identify not-yet-specified architectural meanings present in the visual content of the effects of his design actions, and to speculate about these meanings in the subsequent stages of the design process. This indicates that this new ecology of the architectural model is the environment in which Gehry challenges traditional means of architectural design production.

Specific design actions are the key element of this environment. Although Gehry's actions resemble common architectural design actions, they differ from them by their re-conceptualised function; i.e., their operational purposes occurring, or changing, in the moment of their performance or immediately afterwards. PROTOTYPING PLATEAU GEHRY _CONNECTIVES describes this re-conceptualised function of Gehry's design actions through Deleuze's perception of Francis Bacon's diagram.

While Gehry's actions frequently relate to Deleuze's explorations of painting and arts, his strategies relate more to Deleuzian readings of cinema, science and philosophy. Thus, in a group of _CONNECTIVES, Colebrook's take on Deleuze's investigations of cinema facilitated a series of offshoots that conjoined with Gehry's explorations of modes and means of architectural representation:

- » **C 0005** A throw of wood cuttings
- » **C 0049** Chaos and potentials of painting
- » **C 0014** Gehry's cinematographic seascapes
- » **C 0023** Arrhythmic scaling
- » **C 0102** Cinematic language constructing its own 'objects'
- » **C 0105** Projection and representation
- » **C 0234** Motion and painting
- » **C 0316** [1978] Wagner Residence
- » **C 0321** Movement (part II)
- » **C 0350** After the event effect
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0450** Cinematic cathedral of sensation
- » **C 0517** Kinetic – cinematic
- » **C 0536** Multiplicity of actions
- » **C 0543** Cinematic *viewing-sections-model*
- » **C 0576** Cinematic framings and irrational breaks
- » **C 0625** Flux of images and 'time-image'
- » **C 0783** Microscope and monuments
- » **C 0894** Body in motion: Boccioni and Duchamp
- » **C 0905** Immediacy and kinetic properties
- » **C 0906** Vibrating tectonics
- » **C 0912** Architecture from painting to cinema
- » **C 0923** Cinema of scaling
- » **C 0965** Cinematic *sections/frames*

Although axonometry is still considered the 'paradigmatic' tool of designers and was already being used 'to illustrate their thoughts' (Cocoza 2017: 1) in the late 1970s, Gehry expressed his scepticism regarding its functionalities and capabilities. Eager to discard conventional patterns of its use in his design of the ► **1978** Wagner Residence (Malibu, California 1978, unbuilt), Gehry radically disturbed architectural interpretation

of an image of space. With his unusual projections, Gehry shifts the viewer's experience beyond conventional seeing in the representational systems applied in architectural design. Looking at orthographic projections of the West and Southwest elevations of the ▶ **1978** Wagner Residence (Malibu, California 1978, unbuilt),⁰⁶ one cannot be sure if they are not parallel oblique projections; these drawings thus fail to provide the accuracy of measurements of axonometric projections or the convincing likeness to reality of the linear perspective. By multiple, sudden changes of directions of oblique projections conjoined within one designed object, Gehry undermines the role of axonometric drawing as the epitome of design thinking, as Cocozza says (2017: 1). As if the slope of the site of the ▶ **1978** Wagner Residence (Malibu, California 1978, unbuilt) initiates the image of space Gehry creates and reveals the true, heterogeneous, incongruous nature of space.

He challenges the homogeneous representational system of axonometric space that had been declared 46 years earlier as more intellectual, archetypal, or more truly rendering 'the mental image – the thing seen by the mind's eye' (Bragdon 1932: 8). The image of space Gehry renders appears to claim that the only true space is revealed through penetration by oblique architectural elements woven through skewed architectural enclosures and wrought into axonometrically oblique openings. Drawings of the ▶ **1978** Wagner Residence (Malibu, California 1978, unbuilt) seem to insist that the only true space is the space of the oblique axonometric projection.

For Deleuze, cinema 'offers an image of time itself' (Colebrook 2002: 30), Gehry's exposition of space in the design for the ▶ **1978** Wagner Residence (Malibu, California 1978, unbuilt) causes a shock to thought, offering an image of space itself and forcing viewers to transform their thinking and imaging. His projections of the ▶ **1978** Wagner Residence (Malibu, California 1978, unbuilt) convert the image of space as

06. See ▶ Figure [1] and ▶ [2] in Volume 2, ▶ **C 0316** [1978] Wagner Residence: 9-10.

if the truth about the object in oblique projection determines the nature of space. Moreover, in this design, Gehry rearranges architectural reality through the inhuman eye of the same axonometry, which Cocozza defines as ‘the scientific reproduction of a mental space’, or as the ‘solid-state imagination’ (2017: 10). Gehry made what was impossible to the human eye possible through the inhuman eye of oblique axonometry.⁰⁷

Conceptual toolbox

In an essay on the strategies of assemblage in architectural productions, the Australian architectural and urban critic Kim Dovey reminds us that we use a tool ‘to achieve a desired end’ and that a tool ‘mediates a process of production’ (2013: 132). His account of Deleuze and Guattari’s use of concepts as tools defines Gehry’s approach to such mediatory function well: ‘What is at stake is not truth but usefulness – how does it enable us to think?’ Dovey insists and points at the potential misuse of the concepts/tools.

The usefulness of some tools and/or concepts will not be apparent as we rummage through the conceptual toolbox; we may also see uses that were never intended (Dovey 2013: 132).

With a similar type of critical approach, Gehry reinvents the conventional means and methods of architectural design production as an idiosyncratic conceptual toolbox. His intentionality or un-intentionality in using tools of design is often difficult to recognize. The outstanding example analysed

07. Inhuman should not be confused with the term non-human, which is associated with the equal treatment of human and non-human actors in Actor-Network Theory (ANT). I borrow the term from Deleuzian cinema studies and the concept of the ‘inhuman eye’ of the cinematic camera developed there.

in ► **C 0429** *Action of breaking* is his misuse or unintentional use of the ColorCore® laminate, which only made possible the design of ► **1983** Fish and Snake Lamps (1983-1986) when it was suddenly broken.

PLATEAU GEHRY_CONNECTIVES takes account of various cases of Gehry's unintentional uses, or misuses, of architectural design tools and means of representation. Each of the studied cases shows that applications that were never intended become useful design concepts. For example, ► **C 0316** [1978] Wagner Residence demonstrates how in architectural design, instead of benefiting from the precise, optical description of the three-dimensional object axonometric projection, Gehry utilizes the illusion embedded in it.

This thesis identifies Gehry's 'diagram' through Deleuze's reading of Francis Bacon's paintings. ► **C 0660** Diagram Placing the architect's apprehension of painting alongside Deleuze's analysis of Bacon, PLATEAU GEHRY_CONNECTIVES uses the concept of Gehry's *factual design action* and juxtaposes it with Bacon's understanding of the 'graph' [*diagramme*] elaborated in *Francis Bacon: The Logic of Sensation* (Deleuze 2003: 99-110 and *passim*). Placed side by side with the painter's 'graph', Gehry's *factual design action* reveals identical operational properties and shares the specific function of being 'suggestive' (2003: 101). This critically important functionality puts *factual design action* at the centre of the architect's diagram and facilitates understanding of his intuitive design micro-procedures. The mechanism of its micro-procedure is analogous to Deleuze's definition of the graph of Bacon's paintings. Gehry's diagram shows that when activated, its mechanism enables the designer to prompt different, never intended uses of tools of architectural design or means of representation. Its open formula makes it a conceptual device operating with various design actions plugged into it. Moreover, this tool/concept has been used here to expose Gehry's inclinations toward painting. It makes it possible to interpret many of Gehry's design actions and strategies as painterly procedures. In short, Gehry's diagram facilitates the

appropriation, or understanding, of painting as an action, turned into architectural design practice. Gehry thus effectively broadens the range of unconventionally performed actions and newly invented tools. PLATEAU GEHRY_CONNECTIVES explores them in e.g.:

- » **C 0550** Gehry's brush strokes
- » **C 0755** Battlefield of Gehry's canvas
- » **C 0660** Diagram
- » **C 0472** *Action of cutting*
- » **C 0658** Spontaneous crumples
- » **C 0983** *Action of bending*
- » **C 0943** Deformations
- » **C 0764** [1993] Red waxed felt
- » **C 0032** We detail on the curtain wall
- » **C 0730** Distribution of formless forces
- » **C 0905** Immediacy and kinetic properties
- » **C 0938** Spasms
- » **C 0962** Drawing movement
- » **C 0477** Imagined and unimagined
- » **C 0005** A throw of wood cuttings
- » **C 0688** Gehry's combines
- » **C 0571** Distorting perspective
- » **C 0559** Malleability
- » **C 0663** Irritability
- » **C 0201** Painting
- » **C 0894** Body in motion: Boccioni and Duchamp
- » **C 0260** Zones of indiscernibility
- » **C 0690** Deforming the skin
- » **C 0308** The manual and the haptic
- » **C 0600** Confronting limitations of architectural drawing
- » **C 0967** Wrapping
- » **C 0104** Waterfall
- » **C 0003** Forces, faces, façades
- » **C 0508** Augmenting lines
- » **C 0934** Imperfect
- » **C 0789** [1987-1989] Vitra Museum. The topological turn

Actions and deformations

Some properties and procedures of these unconventionally performed actions coincide with the earlier defined properties and procedures of Gehry's *gesture* (Szychalski 2007: 153-167 and passim).⁰⁸ Furthermore, the concept of gesture in both architectural theory and criticism was re-defined as a new concept of *factual design action* through its correlations with properties and procedures of art concepts, such as *objet trouvé*, collage, automatic drawing, and improvised music. As such, it folds into thoughts found in the writings of Deleuze and Guattari.

» **C 0888** Gesture and the concept of *plain action*

» **C 0188** Gehry's *factual design action*

The concept of factual design action gains importance when contextualized as related to thoughts by Deleuze and Guattari in PLATEAU GEHRY_CONNECTIVES. Properties of the immediacy of *factual design action* and its effects indicate that it generates alterations of the physical properties of materials used in the design process. The immediacy of *factual design action* fastens it to the locality where the forces it releases collide with the material and where these forces deform it. Furthermore, as in Bacon's painting, '[t]he deformed materials take on a new meaning because they mark the zone where the force is in the process of striking' (Deleuze 2003: 58-59). Gehry's deformations take place when any movement of the hand (with or without a tool) aligns chronologically and is inseparable from the production of its traces or its other physically present remnants. It does not exclude the occurrence of traces left in the traditional action of drawing, where any movement of the draughtsperson's hand with a pencil or any other tool instantly leaves drawn marks, which often also deform the texture of the paper. Ultimately, drawn lines are indicators of the mutual

08. As in Volume 1, the emphasis in italics distinguishes the specific meaning of the term gesture elaborated in the Licentiate from its general meaning.

dependence of the action and its effect. If we follow Deleuze, the problems of Gehry's forms are those of deformation, and not transformation. Deleuze distinguishes these very different categories in Bacon's paintings of faces.

The transformation of form can be abstract or dynamic. But deformation is always bodily, and it is static, it happens at one place; it subordinates movement to force (Deleuze 2003: 59).

The immediacy of *factual design action* fastened to the locality where forces collide with the material 'does not give birth to an abstract form, nor does it combine sensible forms dynamically'. The forces of Gehry's deforming action render this locality 'a zone of indiscernibility that is common to several forms, irreducible to any of them' (Deleuze 2003: 59), precisely as Deleuze evaluates the painterly actions of Bacon.

- » **C 0755** Battlefield of Gehry's canvas
- » **C 0658** Spontaneous crumples
- » **C 0943** Deformations
- » **C 0764** [1993] Red waxed felt
- » **C 0730** Distribution of formless forces
- » **C 0905** Immediacy and kinetic properties
- » **C 0938** Spasms
- » **C 0962** Drawing movement
- » **C 0477** Imagined and unimagined
- » **C 0005** A throw of wood cuttings
- » **C 0571** Distorting perspective
- » **C 0109** Non-philosophy and chaos
- » **C 0559** Malleability
- » **C 0663** Irritability
- » **C 0201** Painting
- » **C 0894** Body in motion: Boccioni and Duchamp
- » **C 0260** Zones of indiscernibility
- » **C 0690** Deforming the skin
- » **C 0308** The manual and the haptic
- » **C 0600** Confronting limitations of architectural drawing
- » **C 0049** Chaos and potentials of painting
- » **C 0967** Wrapping
- » **C 0104** Waterfall

- » **C 0003** Forces, faces, façades
- » **C 0934** Imperfect
- » **C 0789** [1987-1989] Vitra Museum. The topological turn
- » **C 0450** Cathedral of sensation

Bacon is a Cézannean painter for Deleuze, and Gehry's deformations also connect him with the post-impressionist. » **C 0622 Cézanne** In his countless sketch- or process models for his scribbled drawings, Gehry obtains deformation 'in the *form at rest*; and at the same time, the whole material environment, the structure, begins to stir: "walls twitch and slide, chairs bend or rear up a little, cloths curl like burning paper..." (Deleuze 2003: 59).⁹ This description may well serve as an account of his buildings, just as they do for Bacon and Cézanne's paintings.

Gehry's *factual design action* gains the Deleuzian force of deforming and of giving new meaning. Applying this force in deformative actions and strategies, Gehry reclaims the abstraction of design drawings and models, relieving them of their restricted definition as a mere transfer of architectural information, making these means of architectural representation like the medium of painting. Such deformative force becomes the force 'that constitutes deformation as an act of painting: it lends itself neither to a transformation of form nor to a decomposition of elements' (Deleuze 2003: 59). Like Bacon's deformations, Gehry's utilisation of deformative force is 'not tortures, despite appearances' (2003: 59); the force is instead generative.

For instance, the deformation of the sample of ColorCore® laminate reveals its inner make-up and the inner texture hidden beneath its surface.¹⁰ The analysis of the action

9. Deleuze's italics. Here, in double inverted commas, he cites D. H. Lawrence, "Introduction to These Paintings," in *Phoenix: The Posthumous Papers of D. H. Lawrence (1936)* (New York: Viking Press, 1972), 580.

10. 'The product, a plastic laminate with colour integral through its depth (conventional laminates have only a thin surface layer of colour), eliminates the visible seams, which make laminate coverings so clearly identifiable as veneers. Most commissioned designs exploited the product's potential to

of breaking provides evidence that Gehry's association of suddenly exposed inner make-up of the material with the fish scale stems from the particular property of producing compelling visual aesthetics (Szychalski 2007: 163), of being suggestive (Deleuze 2003: 101, 184 n3). Broken material afforded the communication of a fish scale.

Rhizome and Gehry's nomad thought

When the architect 'starts mostly from what he finds, lifting some of the most ordinary things from their familiar places and urging new purposes on them (Forster 1998: 9),' he seems to be following one of the handy scenarios of writing *A Thousand Plateaus* – to make use of everything that comes within range, what is closest as well as farthest away (Deleuze and Guattari 1987: 3). The *rhizomatic*, heterogeneous nature of the design processes is evident in Forster's observation that Gehry 'likes to play hide-and-seek with contingencies, causing happenstance in the midst of hindrance' (1998: 9). Feeding back his 'method of moving on various parts of the project at once' (van Bruggen 1997: 15), at this stage of design, Gehry moves into intuitive actions of affective intensities, as he generally allows various detours from the mainstream of accepted or necessary, proceedings. At the same time, this gives the process Deleuzian multiplicity, making it a *rhizome* of connections.

Gehry's design investigations and experimentations are however focused on the building itself. In the course of action, the architect maintains firmly that the *rhizomatic*, heterogeneous characteristics of design practices can permeate built structures and result in various types of experience ranging from aesthetic perception, emotions, and even bodily awareness. The

appear as part of a sculpted solid.' Andrews, 'Fish and Snake Lamps' (Dal Co and Forster 1998): 266.

emergence of such possibilities is mapped in investigations of a series of _CONNECTIVES.

Grosz's exploration of 'architecture's outside' (Grosz 2001) was a rough guide to connecting Deleuzian concepts with architecture; without it, the idea of the project of PLATEAU GEHRY _CONNECTIVES would never have come to be. Thinking outside architecture, or thinking about *Architecture from the Outside* (2001), was a formative exercise in Deleuzian *nomad thought*. It led to the observation that Gehry not only thinks outside of the discipline and shapes concepts by moving into architecture's exterior to get something out of painterly compositions, out of painterly immediacy, literature, music, sailing or even playing hockey; he does this by making architecture to its outside. Grosz positions the disciplines outside each other to re-intersect philosophy and architecture, to re-integrate the processes of design and construction that are usually withdrawn from architectural apprehensions of space, time-related events, or from change. Gehry does it by experimenting with his time-related micro-procedures, with movement, with distracting events producing change, or with a transfer of feeling to the built structures. Gehry releases Deleuzian nomad thought to render space, and its built enclosures, dynamic, to produce unknown, or previously used concepts as if acting in response to Deleuzian philosophical experiments.

Like Deleuze's 'nomadism' can be seen as a reaction against rigid structuralism or linguistics (Colebrook 2010: 1), Gehry's nomad thinking should be seen as a reaction against rigid systems of architectural practice. The concept of 'nomadism' is investigated in *A Thousand Plateaus*, and its much older philosophical heritage of Immanuel Kant's preface to the *Critique of Pure Reason* already reveals the essence of its anti-systemic nature, which we can also recognise in Gehry's specific design-nomadism.

Colebrook interprets the anti-systemic nature of nomadism as an opposition between the despotism of reason sustained by some dogmatists and a specific barbarism described by Kant as that of 'a kind of nomads who abhor all

permanent cultivation of the soil' (Kant 1998: 99).¹¹ 'Deleuze is anything but a Kantian philosopher', Colebrook claims, 'for Kant's aim of limiting the principles of reason to a legitimate and harmonious use is countered by Deleuze's nomadic aim of allowing principles to be pushed to their maximum power (Deleuze 1984)' (Colebrook 2010a: 185). With his exploratory and experimental treatment of design practice, Gehry is in this context anything but a Kantian architect. His anti-limiting principle of legitimate or harmonious use of reason is evident in every design endeavour since experiments with absorbing movement in ► **1976** Norton Simon Gallery and Guest House (Malibu, California 1976),

- » **C 0371** [1976] Norton Simon Gallery. Movement (part I)
- » **C 0962** Drawing movement

or earlier still, in an unusual, exploratory collaboration with the client-painter Ron Davis in the design process of ► **1972** Davis Studio and House (Malibu, California 1968-1972).

- » **C 0049** Chaos and potentials of painting
- » **C 0571** Distorting perspective
- » **C 0858** Perspective
- » **C 0903** Solitude and collaboration
- » **C 0912** Architecture from painting to the cinema

In Gehry's design practice, nomadic thinking evolved from perpetually folding into design processes unintentional actions into more complex and intentionally implemented strategies.

The nomadism of Gehry's strategies refutes dogmatic, fixed law determining spatial arrangements in advance. His strategies are not about acting according to good and common sense; it seems almost a response to Colebrook's statement that Deleuze 'rejects the idea that a principle, or a power, or tendency to think, should be limited by some notion of common sense and sound distribution' (2010a: 186). Gehry takes the risk of planting a liberal view of the notion of common sense into architectural thinking. In the domain, which

11. Colebrook's quotation of Kant (Colebrook 2010a: 185).

generally embraces reason and logical thinking, it becomes itself a synonym of common sense. An explicit description of the nomadism of Gehry's strategies can be seen through what Colebrook reads in *Difference and Repetition*: 'if something can be thought, then no law outside thinking, no containment of thought within the mind of man should limit thinking's power' (Deleuze 1994: 37). Gehry's nomadic thinking is triggered, supported, even made possible, by actions and their immediate results. Gehry's nomadic thinking becomes one with actions and strategies. A formative experience from Gehry's childhood is a prime example of such nomadic thinking inseparably compounded with action/strategy.

A throw of wood cuttings

Although the action of a throw of wood cuttings was not performed by the architect, nor was it close to possibly being interpreted as a design action, it has a fundamental importance for the understanding of Gehry's design methodology, specifically his nomadic strategies. When Gehry was a child in Toronto, his grandmother used to bring home wood cuttings from his grandfather's hardware store. As he recalls,

she'd open one of the sacks and fill the kitchen floor with pieces of raw wood in all kinds of shapes. We'd sit on the floor together and make things out of them – cities, bridges, buildings. When I was choosing a profession, I didn't know what I wanted to be or what to do with my life, and I remembered us making those things on the floor. (...) I started thinking about what was the most fun I ever had in my life. What would be something useful for me to do? And I had this image of being on the floor with Grandma making things. Years later, I realized it was a license to play. (Isenberg 2009: 15-16).

'I keep coming back to it in my work' (Fanshawe 1992: 47), he said in another interview. There is a double force in the throwing of wood scraps. Massumi defines that force in his *A*

User's Guide to Capitalism and Schizophrenia: 'in its wild state [it] arrives from outside to break constraints and open new vistas' (1992: 6). In each throw of wood cuttings there is the transformational intensity of a childhood experience and the architect's recollection of that experience and 'all [the] funny shapes' that Gehry still remembers. It is the proto-language of his architectural, combinatorial form-moulding. If 'playfulness is what produces the sheer dazzling unconventionality of his work' (Fanshawe 1992: 47), it is the childhood experience projected into Gehry's professional practice.

Today still, Gehry uses the mediated version of a *throw of wood cuttings*¹² in the early stage of his design processes: an assembly of wooden blocks, a three-dimensional prefiguration of programmatic and volumetric interaction with the site model. In this prefiguration of programmatic and volumetric interaction with the site model, the act of 'throwing' the loose parts of a primary spatial outline of the building structure into initial site model is a Deleuzian strategy; it is nomad thought. In this strategy, the wooden elements all retain their potential as mobile and not yet shaped. As Kurt W. Forster observes in his essay 'Architectural Choreography', 'it permits impossibly cantilevered parts and vertiginous piles of volumes in fluid transformation. As he began to shape buildings from mobile parts, his sense of space transcended Cartesian notions' (1998: 29). The assembly 'synthesises a multiplicity of elements without effacing their heterogeneity or hindering their potential for future rearranging' (Massumi 1992: 6). ▶ Figure [1] ▶ Figure [2] Gehry's strategy presents the potentials of nomad thought, which for Massumi 'sums up a set of discrete circumstances in a shattering blow' (1992: 6). Then, and now, a throw of wood cuttings is at once a scaled catastrophe and a release of productive energy.

» C 0005 A throw of wood cuttings

12. Italics are used to distinguish the *throw of wood cuttings* that Gehry reconstructs as his design strategy that from the original versions performed in his childhood.

- » C 0651 Catastrophe
- » C 0663 Irritability
- » C 0230 From actual into virtual
- » C 0894 Body in motion: Boccioni and Duchamp
- » C 0755 Battlefield of Gehry's canvas
- » C 0658 Spontaneous crumples
- » C 0831 Immediacy
- » C 0043 Breakthrough
- » C 0764 [1993] Red waxed felt
- » C 0429 *Action of breaking*
- » C 0502 Pollock
- » C 0559 Malleability
- » C 0321 Movement (part II)
- » C 0943 Deformations

In his essay 'Sensing the Virtual, Building the Insensible' (1998), Massumi acknowledges changes in architectural theory and practice caused by the digital technological shift and focuses on Deleuze and Guattari's notion of the virtual, outlining the new role of the architect and a new definition of design processes. Without reference to Gehry's design methods or to the childhood throwing, Massumi proposes open-ended creative strategies where 'constraints can be tweaked and set in action again to experimentally generate whole new series of formal separations', and where '[t]he outcome of any given run cannot be predicted' (1998: 18). Massumi's proposal matches all of the properties of the simple play of Gehry and his grandmother, and most importantly, we can transfer the generative forces in Massumi's description of open-ended creative strategy to Gehry's professional version of *a throw of wood cuttings*. Additionally, pointing out that 'a choice must be made: a set of forms must be selected to provide the foundation of the actual design' (1998: 18), Massumi's proposal emphasises the functionality of the key module of both sequences, of Gehry's childhood play and the mediated version of a throw of wood cuttings. Massumi terms this functionality the 'area of arbitrariness', or 'selection' (1998: 18).



► Figure [1]

Frank O. Gehry, *American Centre* (Paris, France 1988-1994). Study model with an assembly of wooden blocks and elements of initial phase of *wrapping*.
© Frank O. Gehry. Getty Research Institute, Los Angeles (2017.M.66), Frank Gehry Papers.



► Figure [2]

Frank O. Gehry, *American Centre*, Paris, France 1988-1994. The next phase of the *wrapping* strategy, where the scale of model is changed and an assembly of wooden blocks is exchanged with a multiplicity of surface-based, loose elements with potential for future rearrangement. Study model 1988. © Frank O. Gehry. Getty Research Institute, Los Angeles (2017.M.66), Frank Gehry Papers .

For a child, there was a simple act of calling wooden blocks bridges or buildings; for a professional, there is another set of exploratory adjustments, another Gehry's strategy: *wrapping*.¹³

Wrapping

It may be argued that Gehry's *wrapping* is a purely formal manipulation; based on his descriptions, it may be seen as part of a conventional design process. Before launching the *wrapping* strategy, he implements elements of traditional architectural planning:

Colomina:

- Sometimes you get ahead of yourself, but then you seem to save it for another project, as happened with the model of Jerusalem that ended up in Princeton project. So what happens next?

Gehry:

- Then you get to the object of desire, you get to the conclusion, the formal model that you like that works with the plans. It usually works from the inside out, which is something that people don't realise in my work. They think I crumple a bunch of paper and then jam everything in it. That's not the way I do it at all. I'm much more conventional about the organisation of the plan, the sequences of spaces and how they work before I put the enclosure around it (Gehry in Colomina 2003: 9-10).

Although several models from the late 1980s and the 1990s indicate the wooden blocks as the core of the functional and volumetric disposition of the project wrapped with cloth, or veiled, as Lahiji would call it (2016: 161), *wrapping* in Gehry's design methodology involves various unconventional forms, operations, tactics, and manoeuvrings. ▶ Figure [1] ▶ Figure [2] It

13. Italics are used to distinguish the *wrapping* Gehry developed as a design strategy from the common understanding of the word.

includes applications of a variety of materials from custom-fabricated wire mesh planned for ▶ **1997** One Time Square (New York, New York 1997, project) ▶ Figure [3], becoming a translucent, fabric-like veil in a scale model; crumpled-paper-like surfaces of process-models of ▶ **1995** Telluride House (Telluride, Colorado 1995-1998, project); pasted-in patches of paper-scrap reminiscent of *papier-mâché* or *collage* techniques used to define the internal and external undulations of surfaces of ▶ **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997); husk-like or flower petal-shaped splinters of loose disjointed wrapping of the ▶ **2014** Foundation Louis Vuitton, (Paris, France 2005-2014).

There is thus a different impact on the ‘effacement of the categories of inside/outside’ (Jameson 1991: 112), making deformations of inside/outside conditions a design practice. It results in diverse architectural departures – not only in different spatial or formal arrangements, but more importantly, in shifts of the very conception of architecture. For instance, Frederic Jameson (in an extensive analysis in 1990) and the art historian, Hadley Arnold (in a purely descriptive manner [1998: 151]) both see the design of ▶ **1978** Gehry House (Santa Monica, California 1977-1978) as involving ‘wrapping’:

In 1977, Frank and Berta Gehry bought a pink, two-story, gambrel-roofed bungalow on a corner lot in Santa Monica, built around 1920. A radical remodel within a limited budget ensued. (...) Gehry wrapped the house in a new exterior envelope, with the old house still visible within, each enriching and commenting on the other. Leaving the rear and south facades of the house virtually untouched, corrugated sheet metal wraps the most public facades, to the north and east’ (Arnold 1998: 151).

*Wrapping*¹⁴ as a spatial intervention in design for ▶ **1978** Gehry House (Santa Monica, California 1977-1978), is discussed as a

14. Describing Gehry’s design strategy, Frederic Jameson uses the word wrapping without italics. It is used in the Jameson context to keep its distinctive character whenever the term is used as description of Gehry’s design strategy.

philosophical problem by Jameson in his seminal work *Postmodernism, or, The Cultural Logic of Late Capitalism* (1991).¹⁵ For Jameson, who made ▶ **1978** Gehry House (Santa Monica, California 1977-1978) the central problem of his study of postmodern developments in architecture,¹⁶ Gehry's design based on this novel spatial intervention characterizes the problem of thinking about contemporary America (Jameson 1991: 128).

In the Santa Monica project, *wrapping* consists of two elements planted around the older building, the glazed cube and the slab of corrugated metal. According to Jameson, they operate 'like some lethal strut transfixing the body of a car crash victim, clearly shatter any illusions of organic form that might be entertained about this construction (and that are among the constitutive ideals of the older modernism)' (1991: 113). Jameson also argues that these two spatial phenomena making up the 'wrapper' actually 'violate the older space and are now both parts of the newer construction and at the distance from it, like foreign bodies' (1991: 113).

15. Chapter 4, 'Architecture: Spatial Equivalents in the World System,' appeared in a previous publication as 'Spatial Equivalents: Postmodernist Architecture and the World System,' in Ralph Miliband and Leo Panitch (eds) (1990) *The States of Theory*, (London: Merlin): 11-32.

16. Jameson's analysis of postmodernism as the cultural response to the systemic change of late capitalism searches for a definition of the term within a broad range of contexts. Beside architecture, Jameson's studies include culture, cultural criticism, economy, religious revivals, new therapies, video, music, film festivals and more.



► Figure [3]

Frank O. Gehry, *One Time Square* (New York, New York 1997, unbuilt). Model. Image Courtesy of Gehry Partners, LLP.

As this description outlines the characteristic merger of the wrapping components and the wrapped content, which preserves the distinctiveness of ‘foreign bodies’, it illustrates the broader setting of the relationship of Gehry’s two dominant strategies, of *a throw of wood cuttings* and *wrapping*. Even if they have been used with different intensities and varying modalities, they have been present in Gehry’s practice ever since. For instance, Gehry used a much later version of *wrapping* or a merging of both strategies in the design of the ► **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997).

Wrapping is the strategy of the violation of already established space. In ► **1978** Gehry House (Santa Monica, California 1977-1978), the already established space is an existing building, whereas in the ► **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997), it is Gehry’s pre-established space of an assembly of wooden blocks prefiguring programmatic and volumetric interaction with the site model. In the ► **2003** Walt Disney Concert Hall (Los Angeles, California 1989-2003), *wrapping* is recognised as the way to develop ‘the sculptural dynamism’. In *Architecture: Sculpture*, Sewing compares the Los Angeles concert hall with Hans Scharoun’s ‘late expressionistic’ Berlin Philharmonic Hall in Germany. Calling Scharoun ‘the godfather to Gehry’s “vineyards”¹⁷ of terraced auditorium around the centrally placed orchestra’, architecture theorist Werner Sewing sees Gehry’s design as more conventional than that of Scharoun, claiming that Gehry achieves the sculptural dynamism ‘not out of the space, but of the outer wrapping and its folds’ (2004:

17. ‘Vineyards’ refers to the description of Rudolf Weinsheimer, a musician from the Berlin Philharmonic orchestra, who had played concerts in Scharoun’s hall since its opening in 1963. He used ‘vineyard’ to describe the auditorium surrounding the orchestra on many levels of terraces; from the musician’s perspective, he felt as though ‘being watched by one thousand grapes [sic] from every level, (...) as though you are in a vineyard in a valley and the grapes are pleased with the beautiful sound.’ For detailed recollections of Weinsheimer see <https://www.youtube.com/watch?v=roZOeujURzw>.

120). According to Jameson, *wrapping* in ► **1978** Gehry House (Santa Monica, California 1977-1978) results in a 'rearrangement of inside/outside' (1991: 112). For Jameson, this rearrangement raises important philosophical questions about architecture. As a result of the careful study of interior spaces/rooms and their interplays with the outside conditions generated by *wrapping*, Jameson indicates the radical change in the very notion of the room. Resulting from the employment of the strategy of *wrapping*, Jameson sees that the room 'stands as some last minimal remnant of that older space as it is worked over, cancelled, surcharged, volatilized, sublimated, or transformed by some newer system' (1991: 119). An elementary architectural enclosure, 'the traditional room could be seen as some feeble, ultimate, tenuous reference, or as the last stubborn, truncated core of a referent in the process of wholesale dissolution and liquidation' (1991: 119). This analysis is reminiscent of Deleuze's reading of Bacon's portrait painting; according to Deleuze, Bacon 'pursues a very peculiar project as a portrait painter: *to dismantle the face*, to rediscover the head or make it emerge from beneath the face' (2003: 20-21).¹⁸ This Deleuzian understanding of an extreme approach defines the essence of Gehry's strategy of *wrapping*.

The following analysis unfolds that essence. When exerted on pre-established spatial/volumetric conditions, the forces of Gehry's *wrapping* disfigure the traditional structure of a building as a compilation of spaces bounded by separators of the interior environment enclosed in the building 'envelope' or 'façade'. The same deformational operations are performed that Bacon executes on the faces in his portrait paintings, where, according to Deleuze, the face loses its form by being subjected to the techniques of rubbing and brushing that disorganize it and make a head emerge in its place' (2003: 21). What emerges from Gehry's proceedings is a building without a 'façade' in the traditional sense. Enclosures, which physically separate the external from the interior environment, become

18. Emphasis in italics by Deleuze.

malformed, porous and permeable membranes. They no longer separate spaces; they become zones of the dynamic tensions, zones of indiscernibility.

- » **C 0260** Zones of indiscernibility
- » **C 0810** Baroque
- » **C 0252** Puppet and puppeteer: a rhizomatic connection
- » **C 0943** Deformations
- » **C 0764** [1993] Red waxed felt
- » **C 0348** [2004] *Wing on Wing*
- » **C 0559** Malleability
- » **C 0663** Irritability
- » **C 0550** Gehry's brush strokes

These zones of indiscernibility, or undecidability, are crucial elements of the Deleuzian analysis of Bacon. What is essential for the understanding of Gehry's operations of *wrapping* through Deleuzian reading of zones of indiscernibility is that Bacon generates them 'in place of formal correspondences' (2003: 21), and that they are 'common to several forms, irreducible to any of them' (2003: 59). Through the operations of *wrapping*, architectural enclosures become zones of indiscernibility, where traditional building elements like walls, roofs, or often, even windows or doors are mutilated and replaced by their newly invented prostheses. These prostheses are irreducible to any of the mutilated elements. As in Bacon's painting, the lines of force created by each zone of indiscernibility 'escape every form through their very clarity, through their deforming precision' (Deleuze 2003: 59).

Most importantly, what is common to Gehry and Bacon's zones of indiscernibility is 'indeterminability between two forms, one of which was no longer, and the other, not yet', indeterminability that 'destroys the figuration of the first and neutralizes that of the second' (Deleuze 2003: 157). Between the two forms, indeterminability 'imposes the Figure, through its original relations'. In Gehry, as in Bacon, '[t]here is indeed a change of form, but the change of form is a deformation; that is, a creation of original relations, which are substituted for the form' (Deleuze 2003: 158). Within these zones, *wrapping* forces deform the surfaces of proto-enclosures of wooden blocks of

Gehry's early site models, which ineluctably cause processes of breeding newly adjusted inner structures. Thus, with a diversity of newly adjusted structures and newly emerged pockets of space, the indiscernibility of these zones creates unknown possibilities for the heterogeneity of new programmatic layouts or functional inventions. Gehry's *wrapping*, with the zones of indiscernibility it produces, always induces the further design of semi- or pseudo-enclosures. Their diversities range from early projects from the 1970s, such as ▶ **1978** Gehry House (Santa Monica, California 1977-1978), or ▶ **1978** Gunther House (Encinal Bluffs, California 1978, unbuilt), to recent spatial configurations ▶ **2014** Foundation Louis Vuitton, (Paris, France 2005-2014). In the Paris project, the outcomes of Gehry's *wrapping* strategy are visually and spatially detectable. It shows that even in the accomplished building, the zones of the dynamic tensions and architectural indiscernibility are still active, retaining the difficulty of determining any generally acknowledged function of the building.

Initiated in the design of the ▶ **1978** Gehry House (Santa Monica, California 1977-1978) and popping out in diverse formats within models of countless iterations of the ▶ **1985** Lewis House (Lyndhurst, Ohio 1985-1995, unbuilt), the strategy of *wrapping* later shifts into thinking in surfaces. Probably encouraged by the first successful utilisation of surfaces with double curvature assisted by the CATIA system in ▶ **1991** Fish Sculpture (Barcelona, Catalonia 1991) *El Peix*, Port Olímpic, wrapping bursts out in a curiously literal draping with a piece of cloth in the model of the ▶ **1997** One Time Square (New York, New York 1997, unbuilt), ▶ Figure [3] and it has since become a major characteristic of Gehry's design production.

Refrains

Repetitious or repetitive do not necessarily denote unnecessary or boring things that occur or are expressed in the same way many times. For instance, since ▶ **1978** Gehry House (Santa

Monica, California 1977-1978), Gehry has repeated strategies of *wrapping* or *throwing of wood cuttings*, and yet, their modus operandi implies various tactics, manoeuvrings, or applications of a diversity of materials. Besides, the fact that architects do repeat their design strategies is nothing unusual. However, analysis of Gehry's recurring *wrapping* and *throwing of wood cuttings* reveals some non-architectural characteristics. Both strategies show characteristics of the refrain or *ritornello*, as Deleuze and Guattari find. The following _CONNECTIVES study these or similar characteristics of recurring strategies:

- » **C 0967** Wrapping
- » **C 0005** A throw of wood cuttings
- » **C 0260** Zones of indiscernibility
- » **C 0658** Spontaneous crumples
- » **C 0550** Gehry's brush strokes
- » **C 0287** Dialogues, raptures, accelerations
- » **C 0688** Gehry's combines
- » **C 0683** [1972] Ron Davis House
- » **C 0959** *Molto vivace*
- » **C 0328** [1957-1989] *Pli selon pli*
- » **C 0179** Process
- » **C 0091** *Snowflaking* or filling of space
- » **C 0831** Immediacy
- » **C 0061** Optical versus manual
- » **C 0457** [1998] STATA and Boccioni
- » **C 0745** Model: repetition and variation
- » **C 0727** Flowers and canyons
- » **C 0043** Breakthrough
- » **C 0255** Ambiguous lines
- » **C 0943** Deformations
- » **C 0625** Flux of images and 'time-image'
- » **C 0316** [1978] Wagner Residence
- » **C 0651** Catastrophe
- » **C 0660** Diagram
- » **C 0122** Attachments: architectural *objet trouvé*
- » **C 0550** Gehry's brush strokes
- » **C 0230** From actual into virtual
- » **C 0349** Assemblages
- » **C 0755** Battlefield of Gehry's canvas

- » **C 0658** Spontaneous crumples
- » **C 0690** Deforming the skin
- » **C 0740** Layering
- » **C 0155** Chain-link
- » **C 0409** Village, dispersion, rhizome
- » **C 0079** Two forests
- » **C 0730** Distribution of formless forces
- » **C 0905** Immediacy and kinetic properties
- » **C 0303** Model-making and repetition
- » **C 0049** Chaos and potentials of painting
- » **C 0792** From figurative to abstract
- » **C 0517** Kinetic – cinematic
- » **C 0125** Surface
- » **C 0536** Multiplicity of actions
- » **C 0906** Vibrating tectonics
- » **C 0901** Daily objects into architecture
- » **C 0981** Gehry's operative abstract machine
- » **C 0474** *Action/painting*
- » **C 0614** The unfinished
- » **C 0104** Waterfall
- » **C 0003** Forces, faces, façades
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0191** Gehry's painting is not the end in itself
- » **C 0508** Augmenting lines
- » **C 0934** Imperfect
- » **C 0015** Duchamp's stoppage
- » **C 0227** Billboard

In his translator's introduction to *A Thousand Plateaus*, Massumi points at the possible tendency to cycle back in following its sections by moving from one plateau to the next at pleasure (1987: xv). Some examples used in the text are recurrent and the activity of reading might be called repetitive; instead Deleuze and Guattari call this a refrain. The recurrence strategy is moreover an attempt to deconstruct the process of architectural design, applied to undo all of the previously performed design processes. In this way, Gehry deterritorialises the process, yet consciously accepts that it becomes re-territorialised by all the restrictions of the architectural system and industry. Gehry's repetitious strategies appear to follow

Deleuze's argument about the nature of recurring subjects and themes of a text that 'returning to the same example should lead to acceleration, even at the risk of wearying the reader' (Deleuze and Parnet 1987: 54). Deleuze explains that music and writing take such a course. He calls it 'the conversation itself, which will be a ritornello' (1987: 54).

Characteristics of Gehry's design strategies revealed in the above mentioned _CONNECTIVES allow thinking that when Gehry repetitively returns to the situation of throwing wood cuttings, he does it, in a Deleuzian sense, musically. Deleuze and Guattari observe that music does not eliminate repetition. In music, repetition has a long history rich with forms, meanings, functions, and elaborations. Ritornello is the diminutive of the Italian diminutive of *ritorno*, the return¹⁹ and denotes a recurrent musical section that alternates with different episodes of contrasting material, where the repetition can be exact or varied to a greater or lesser extent.²⁰ As a form, the ritornello is a Baroque design that alternates big vs. small effects (*tutti* vs. *solo*); usually the *tutti* section is a recurring melodic refrain.²¹

Gehry's activities of *throwing of wood cuttings* or *wrapping* are repetitious in a similar way. They are not a dull re-application of the design procedures tested earlier; instead, the repetitions operate as musical refrains. As Deleuze and Guattari observe, music does not eliminate the repetition of 'the bad or mediocre refrain, or the bad usage of the refrain'; instead,

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19. 'ritornello *n*,' (from Italian diminutive of *ritorno*, return) in music, 1. an orchestral interlude between arias, scenes, or acts in 17th-century opera, 2. a tutti section in concerto grosso, aria, etc. In *Webster's Encyclopedic Unabridged Dictionary of the English Language*, New York: Portland House 1989: 1237.
 20. 'Ritornello', The Editors of Encyclopaedia Britannica, *Encyclopædia Britannica*, Encyclopædia Britannica, Inc. Last modified: May 20th, 2014. Accessed online at: <https://www.britannica.com/art/ritornello>. Retrieved on June 15th, 2019.
 21. 'ritornello form' entry in: 'Glossary of Musical Terms,' Western Michigan University. Accessed online at: <https://wmich.edu/mus-gened/mus150/Glossary.pdf>. Retrieved on June 17th, 2019.

music ‘uses it as a springboard’ (1987: 349). Indeed, not only Gehry’s *throwing of wood cuttings* or *wrapping*, but also his cinematic use of scale, or his distortion of architectural means of representation rely upon various tactics, manoeuvrings, and applications of a diversity of materials or found objects to transgress themselves to new connections and new assemblages. By such hyper-modality, they become musical practices as ‘[c]hildhood or bird refrain, folk song, drinking song, Viennese waltz, cow-bells’ in which ‘music uses anything and sweeps everything away’ (Deleuze and Guattari 1987: 349). PLATEAU GEHRY_CONNECTIVES examines hyper-modalities of Gehry’s strategies in e.g.:

- » **C 0155** Chain-link
- » **C 0046** Ritornello
- » **C 0476** Poetry of scale
- » **C 0023** Arrhythmic scaling
- » **C 0923** Cinema of scaling
- » **C 0661** Shifting scale, expanding rhizome
- » **C 0105** Projection and representation
- » **C 0571** Distorting perspective
- » **C 0600** Confronting the limitations of architectural drawing

Connecting Gehry’s design strategies with refrain is neither artificial nor groundless. Deleuze and Guattari do not limit refrain to eminently sonorous production. They question privileging of the ear, ‘when even animals and birds present us with so many visual, chromatic, postural, and gestural refrains?’ (1987: 347). They ask whether ‘the painter [has] fewer refrains than the musician?’ and whether there are fewer refrains ‘in Cézanne or Klee than in Mozart, Schumann, or Debussy?’ (1987: 347). The expanded system of classification of refrain that they suggest includes milieu refrains, refrains of territory, folk and popular refrains, or ‘molecularized refrains (the sea and the wind) tied to cosmic forces, the Cosmos refrain.’ As Deleuze and Guattari argue, ‘the Cosmos itself is a refrain, and the ear also (everything that has been taken for a labyrinth is, in fact, a refrain)’ (1987: 347).

When Deleuze and Guattari define a refrain as interacting with what surrounds it, this precisely describes the

function of Gehry's design strategies. Through various tactics, manoeuvrings, or applications of a diversity of materials, *wrapping*, *throwing wood cuttings*, cinematic use of the scale, extract from their immediate surroundings 'various vibrations, or decompositions, projections, or transformations' (1987: 348). Subsequent passages of the eleventh chapter of *A Thousand Plateaus*, '1837: Of the Refrain' (1987: 310-350) not only convincingly depict Gehry's spatial and formal transactions as embodiments of musical refrains, but they are astoundingly architectural in a more general sense.

The refrain also has a catalytic function: not only to increase the speed of the exchanges and reactions in that which surrounds it, but also to assure indirect interactions between elements devoid of so-called natural affinity, and thereby to form organized masses. The refrain is therefore of the crystal or protein type. The seed, or internal structure, then has two essential aspects: augmentations and diminutions, additions and withdrawals, amplifications and eliminations by unequal values, but also the presence of a retrograde motion running in both directions, as "in the side windows of a moving streetcar" (Deleuze and Guattari 1987: 348-349).

When Deleuze and Guattari write about the ambiguity of the refrain, the spatiotemporal results of repetitious retrograde motion are exact images occurring within each of Gehry's *wrapping* strategies. For adding a piece of cloth or attaching a folded piece of paper or a multitude of tiny, fragmented scraps of any material to the pre-cast arrangement of wooden blocks of an initial model is not only about an increase in size or value, and removing similar elements or pieces of material from a process-model is not about the reduction in size or value. Instead, both are regular proceedings of *wrapping*, in which adding and removing 'leaves the exterior aggregate all the fuzzier', and, as in the musical composition, 'that aggregate now has only descriptive, indicative, or associative relations with the seed' (Deleuze and Guattari 1987: 349). Indeed, each of Gehry's treatments of pre-existing architectural arrangements, each of the wrappings, the cinematic uses of

scale and other distortions of architectural means of representation is “a worksite of inauthentic elements for the formation of impure crystals,”²² rather than a pure crystal that harnesses cosmic forces’ (Deleuze and Guattari 1987: 349).

Gehry’s impure forms are his landmarks. Production of such impurity can be described through Deleuze and Guattari’s analysis of the musical refrain. Through their repetitive nature, Gehry’s design strategies open architectural design processes onto themselves to enter into other connections. Via refrain-like repetitions, Gehry’s design strategies function as accelerations, setting deforming forces adrift toward other assemblages of new, unimagined structures. Furthermore, they are never reducible to closed and associative formulae.

22. This quotation is left without direct annotation. However, in note 58 on p. 551, Deleuze and Guattari indicate three references that are probably the source of the cited expression. ‘On the crystal, or the crystalline type, added and subtracted values, retrograde motion, see also Messiaen’s texts in Samuel, *Conversations*, and those of Paul Klee in his diary, *The Diaries of Paul Klee, 1898-1918*, ed. and intro Felix Klee (Berkeley: University of California Press, 1964)’ (Deleuze and Guattari 1987: n58 551).

2. Other Experiments and Operations

The research outcomes summarised in the first chapter show how certain actions and strategies of Gehry's design practice deviate from architectural standards. This chapter expands the range and contexts of the elements of Gehry's design processes to other experiments and operations identified and investigated through connections with Deleuze and Guattari's concepts in *PLATEAU GEHRY_CONNECTIVES*. This chapter gathers them once again, outlining their redefined and re-contextualised impact on Gehry's design practice as design actions or design strategies described in the previous chapter. In Chapter 2, Gehry's experiments and operations are discussed beyond the connections with Deleuze and Guattari and analysed through secondary writings on Gehry, reference to other theories and studies, such as Ervin Panofsky's account of perspective, Shklovsky's linguistic concept of *ostranenie*, Pérez-Gómez and Pelletier's explorations of the history and impact of architectural representation on architectural design, and others.

Scale

One of the driving forces behind the deviating paths that Gehry's design practice takes is his interpretation of the notion of the human scale, which he derives from the criticism of the modernist unification of architectural language. For Gehry, buildings 'can't just be faceless things. That's how some modernism failed...' he argues. 'It became a language that self-destructed. What was missing was human scale' (Gehry 1999b: 48). Indeed, modernism's universal determinism exemplified in architecture in 'international style' led toward the mass-produced, anonymous forms of buildings. However, from what Gehry's buildings represent, one can easily observe that his understanding of 'human scale' differs from what modernists acknowledged as such. This disagreement is reflected in explorations of PLATEAU GEHRY_CONNECTIVES, where the subject matter of scale emerges in the analysis of Gehry's design practice. The way Gehry contemplates the notion of scale, the way he disagrees with the habitual, mechanical usage in architectural design practice and finally, how he overthrows its power, subverting its applications, is one of the most important conceptual tools with which Gehry operates to alter the outcomes of his design. For instance, the cinematic comprehension and treatment of scale are his idiosyncratic design experiments and operations. All of the above aspects of scale in Gehry's practice contextualised by Deleuze and Guattari's thinking are partially or in extenso documented in the following _CONNECTIVES:

- » **C 0771** *Action of placing in*
- » **C 0102** Cinematic language constructing its own 'objects'
- » **C 0688** Gehry's combines
- » **C 0903** Solitude and collaboration
- » **C 0005** A throw of wood cuttings
- » **C 0166** Fact or actuality
- » **C 0061** Optical versus manual
- » **C 0476** Poetry of scale
- » **C 0727** Flowers and canyons

- » **C 0252** Puppet and puppeteer: a rhizomatic connection
- » **C 0314** [1981] Fish
- » **C 0319** [1983] Exaggeration, embellishment, ornament
- » **C 0651** Catastrophe
- » **C 0122** Attachments: architectural *objet trouvé*
- » **C 0550** Gehry's brush strokes
- » **C 0230** From actual into virtual
- » **C 0576** Cinematic framings and irrational breaks
- » **C 0783** Microscope and monuments
- » **C 0319** [1983] Exaggeration, embellishment, ornament
- » **C 0755** Battlefield of Gehry's canvas
- » **C 0105** Projection and representation
- » **C 0571** Distorting perspective
- » **C 0023** Arrhythmic scaling
- » **C 0923** Cinema of scaling
- » **C 0661** Shifting scale, expanding rhizome
- » **C 0079** Two forests
- » **C 0308** The manual and the haptic
- » **C 0901** Daily objects into architecture
- » **C 0244** Painting on the wall. Wall as a painting
- » **C 0095** Commedia dell'architettura
- » **C 0934** Imperfect

Ornament

Interestingly, Gehry also acknowledges his affinity with the modernist disdain for the ornament, which has denoted something alarmingly fancy and unreasonably decorative in architectural discourse since Adolf Loos's 'Ornament and Crime.'²³ Historically however, the roots of such a fundamental

23. Adolf Loos' 'Ornament and Crime' was first given in 1910 at the Akademischer Verband für Literatur und Musik in Vienna. 'The first publication of 'Ornament und Verbrechen' is unknown, but before it was published Adolf Loos presented lectures with that name, which he retrospectively dated to 1908. 'Ornament und Verbrechen' lectures were reported in *Fremden Blatt*, 22 January 1910, p. 21, and *Der Sturm* 1, 3 March

understanding of the ornament go deeper and are necessary in order to understand why Gehry's architecture is perceived as it is and to explain his design experiments and operations.

As mentioned in the previous chapter, the purified, homogeneous space of a geometrized system of architectural representation shaped by Durand's theory in the 19th century resulted in the false dichotomy of necessary structure and contingent ornament. Or, according to Pérez-Gómez and Pelletier's assessment of Durand's legacy, it left 'irreconcilable alternatives: [of] technological construction (functional) versus artistic architecture (formal)' (1992: 21). This dichotomy, which still dominates the popular and professional perception of architectural outputs, resonates in Mark Wigley's redefinition of an ornament. He exposed the genuine character of the purist notion of ornament on the occasion of the MoMA exhibition *Deconstructivist Architecture* mentioned in Volume 1.

Any deviation from the structural order, any impurity, is seen as threatening the formal values of harmony, unity, and stability, and is therefore insulated from the structure by being treated as mere ornament (Wigley 1988: 10).

Seen as a critique of purist views on ornament, Wigley's new delineation could in principle be applied to define Gehry's formal and structural experiments of the late 1970s. On inspection of almost of Gehry's buildings designed and constructed later, it is evident that his architectural design practices are about deviation from the structural order. It is not difficult to identify impurity in his design where the formal values of harmony, unity, and stability of his buildings are seriously threatened. Indeed, Gehry's experimentations and operations do not protect the structure from becoming

1910, p. 8. French translations appeared in the *Cahiers d'aujourd'hui* (June 1913), and *L'Esprit Nouveau*, 2, 15 November 1920, pp. 159–68. It appeared in German in the *Frankfurter Zeitung*, 24 October 1929. Citations taken from *Trotzdem* (Innsbruck, 1931), pp. 79–92.' Note 1 in: Canales, Jimena and Andrew Herscher (2005) 'Criminal Skins: Tattoos and modern architecture in the work of Adolf Loos', *Architectural History* 48: 235–256.

disharmonized, disjointed, and destabilized. 'He is searching for a dialectical and contradictory architecture that gushes from the decomposed and disjointed body' (Celant 1985: 10-11). On this decomposed and disjointed body of architecture, the potentiality of any formal value being treated as mere ornament becomes limitless. Gehry's operations of exaggerating with sizes of architectural elements, of unusual embellishments or attachments, of inventing of architectural *objet trouvé*, make ornament ever-present potential of denomination of building components. These operations are examined in:

- » **C 0319** [1983] Exaggeration, embellishment, ornament
- » **C 0122** Attachments: architectural *objet trouvé*

The fluctuating meaning of ornament becomes another of Gehry's conceptual tools. The architect uses the oscillating classification to upset norms of architectural aesthetics. The range of investigations and their outcomes in the following _CONNECTIVES show the ways Gehry understands, confronts, uses and abuses the notion of ornament:

- » **C 0688** Gehry's combines
- » **C 0810** Baroque
- » **C 0302** Simulacra
- » **C 0550** Gehry's brush strokes
- » **C 0690** Deforming the skin
- » **C 0023** Arrhythmic scaling
- » **C 0155** Chain-link
- » **C 0547** [1996] Prague. Context, simulation, variation
- » **C 0014** Gehry's cinematographic seascapes
- » **C 0079** Two forests
- » **C 0792** From figurative to abstract
- » **C 0901** Daily objects into architecture
- » **C 0698** Desire to name things
- » **C 0389** Action of wrapping

Movement

Mapping tangential connections of Gehry's architectural design practice with thoughts of Deleuze and Guattari, PLATEAU GEHRY_CONNECTIVES explores the role of the notion of movement, which is one of the architect's most oft cited references when describing sources of his inspiration. Gehry maintains that 'whatever it does to give movement and feeling, that's where the innovation in architecture is' (van Bruggen 1997: 119). Indeed, movement not only became his architectural mantra, but it also appears frequently in descriptions of his buildings and design processes. Movement had already been referenced in the description of such early architectural production as the ► **1978** Gehry House (Santa Monica, California 1977-1978). Writing about his design, Hadley Arnold stated that Gehry was 'playing with issues of perspective and movement' (1998: 152).²⁴

Seeking to explain why the notion of movement is intensely present in Gehry's design practice and in his conceptualization of architecture, this thesis takes into account the movement inherent in Gehry's favourite sports activities: sailing and playing ice hockey. PLATEAU GEHRY_CONNECTIVES takes into account the possible impact of movement as a force derived from sports activities on Gehry's modes of perception of movement, perception in motion, and hence on modes of his design practices. Although little is known about the characteristics of visual processing in ice hockey, the importance of hockey players' specific visual skills is undeniable. Reaction times to visual stimuli, better visual discrimination and an ability to rapidly shift focus between near and far

24. 'Gehry Residence, Santa Monica, California, 1977-78; 1991-94,' building description by Hadley Arnold, in: Dal Co, Francesco, and Kurt W. Forster (1998) *Frank O. Gehry: The Complete Works* (New York: The Monacelli Press), 152.

objects, and stereoptic speed²⁵ are factors that influence the visual perception of movement of the person playing hockey to some extent. This recognition folds into studies of Deleuze's notion of the virtual and is useful in the analysis of Gehry's ways of absorbing movement into architectural practice.

Investigating Deleuze's notion of the virtual, Massumi proposes that the eyes are proprioceptors and feelers rather than sight organs (1998: 21). Vision, in that case, is an unconscious perception of movement and spatial orientation arising from stimuli within the body itself, combined with tactility.²⁶ Gehry's absorption of movement into the design process of the ▶ **1976** Norton Simon Gallery and Guest House (Malibu, California 1976) reveals the special importance of this understanding of vision. Sketching an enigmatic drawing of a pergola for the ▶ **1976** Norton Simon Gallery and Guest House (Malibu, California 1976), Gehry attempted to prefigure the built structure. ▶ See Figure [4 Volume 1: 77] This drawing differs however from sketch methods commonly applied in architectural design processes. The relationship of the sketch to the built structure of the pergola of the Spanish-style Californian beach house it is supposed to visualize is unusual. ▶ See Figure [5 Volume 1: 85] Hadley Arnold describes the pergola as 'a wooden trellis (...) was transformed into a sculptural element – a pile of lumber appears to slide from the roof at one end (...)' (1998: 137).

Arnold's description is of a built structure that looks as if it were set in motion. Nevertheless, it is rational to assume that the elements of pergola were not set in motion and later curiously stopped, and claiming the opposite – that Gehry managed to capture the phenomenon of movement in his

25. Poltavski, Dmitri and David Biberdorf, 'The role of visual perception measures used in sports vision programmes in predicting actual game performance in Division I collegiate hockey players', *Journal of Sports Sciences*, Volume 33, 2015, Issue 6.

26. Definition derived from the entry 'proprioception *n.*' in *The American Heritage Medical Dictionary* (2007). Retrieved February 19, 2019.

sketch evocative of a pile of lumber sliding from the roof – is reasonable. Indeed, in discussion with Kurt W. Forster, Gehry reveals intentions of capturing movement in the design, of making

a trellis that looked like a pile of wood that had been laid on the roof, caught up in the wind blowing off the ocean, as if the wind had caught it and flung it into mid-air. The trellis would have captured this movement, and every time you looked at it, it would look different. That's what I was trying to do (Gehry in Forster 1999a: 32).

But, most importantly, the architect details a unique drawing procedure that resulted in the 'sliding' effect:

Gehry:

– (...) I didn't know how to do it. I knew how to draw it, but I didn't know how to build it.

Forster:

– Now, how would you have known how to draw it?

Gehry:

– I started drawing right away.

Forster:

– But you make it sound as if it was the first time you had tried something like this. How could you suddenly draw it?

Gehry:

– I just started, I drew a lot. It was a way to get an impression.

Forster:

– Of course, but that doesn't mean...

Gehry:

– ...that I could make it look like it was moving?

Forster:

– That's exactly what I'm wondering.

Gehry:

– The way I contrived to do it was to build it in situ. I would do a layer at a time. I did a drawing of the first layer of pieces of wood, and we built that. And then I went out and stared at it, and afterward I made a drawing of the next layer of pieces of wood, and we built that (Ibid.).

The above description demonstrates the inefficiencies of drawing as a means for the absorption of movement into design processes. At the same time, Gehry's reinvented tactic of architectural representation that effectively absorbs movement into the project of the pergola for the ► **1976** Norton Simon Gallery and Guest House (Malibu, California 1976) was possible due to an unconscious perception of movement and spatial orientation. It necessitated an act of building, or more accurately, of combining the act of building with the act of drawing. Production of the intricate arrangement involved tactility as well as spatial orientation arising from stimuli within the body itself. Sight may be understood here as 'the cognitive operation of detecting and calculating forms at a distance', for as Massumi argues, '[s]eeing at a distance is a virtual proximity: a direct, unmediated experience of potential orientings and touches on an abstract surface combining pastness and futurity' (1998: 22). Assembling such a structure that consists of many parts in a delicate and complicated arrangement requires the perception and tactility of the artisan. To properly represent movement, a structure must first physically co-emerge with its drawn representation. It has to be co-present; it has to be seen as in the diagram, where the fact has to be suggestive.

Gehry's fusion of the acts of drawing and building, of the visualization and the actualization, is the cognitive event in which seeing indeed encompasses proprioception and tactility, which by the power of former 'multi-sense conjunctions our body immediately, habitually 'knows' without having to calculate' (Massumi 1998: 22). Gehry's trial also verifies seeing as inseparable from experiencing through other senses; it verifies seeing as a synaesthetic, and as Massumi claims, thus kinaesthetic experience.

Every look reactivates a multi-dimensioned, shifting surface of experience from which cognitive functions emerge habitually, but which is not reducible to them. (Massumi 1998: 21)

Moreover, as Gehry's production of form is related to and involves movement, the architect's body engages in design activities 'as spatially located form in regular interaction with

other forms, as embodied subject in reciprocity with objects' (Massumi 1998: 22). Accordingly, as Massumi finds out, it co-occurs with depth and boundary, it co-emerges as 'a concretion and stoppage, companion arrests, fall-out of the befallen' (1998: 21). Massumi's conclusion that '[w]e ourselves are stoppage events in the flow of experience' (1998: 22) may be developed into Gehry's designer-stoppage-event of movement of the wooden trellis in the flow of design-cognition-experience. Gehry's design of the wooden pergola for ►1976 Norton Simon Gallery and Guest House (Malibu, California 1976) shows how 'seeing *stops* with perspective and form' (1998: 22). As Massumi explains:

We cannot properly be said to see, or experience, three-dimensional space and the bounded forms filling it. Rather, it is that they emerge from the abstract surface of experience, as reductive concretions and relative stoppages of it. (Massumi 1998: 22)

Exploring the role of the notion of movement in Gehry's design practice, PLATEAU GEHRY_CONNECTIVES reveals another aspect. Recalling that movement is incontestably part of any physically performed action, that movement constitutes action, it is easy to observe that movement is a constituent force behind many, if not all, design outcomes produced in the form of physical artefacts such as drawing or models.

The way Gehry controls actions and uses them to incorporate movement into design processes has been already explored in several _CONNECTIVES and discussed in '*Freeze-frame: INTRODUCTION*' in Chapter 1: 'Why', section 'Analysis of *factual design action*.' Moreover, as movement is the primary property of Gehry's *factual design actions* and the dominant component of their procedures, it determines the characteristics of the outcomes of these actions. Thus, when the architect incorporates the outcomes of his *factual design actions* into design processes, he absorbs movement into architectural design. Below is a list of _CONNECTIVES that include readings of Gehry's various modes of absorption of movement into architectural design.

- » **C 0321** Movement (part II)
- » **C 0005** A throw of wood cuttings
- » **C 0771** *Action of placing in*
- » **C 0061** Optical versus manual
- » **C 0472** *Action of cutting*
- » **C 0043** Breakthrough
- » **C 0255** Ambiguous lines
- » **C 0252** Puppet and puppeteer: a rhizomatic connection
- » **C 0943** Deformations
- » **C 0764** [1993] Red waxed felt
- » **C 0429** *Action of breaking*
- » **C 0502** Pollock
- » **C 0348** [2004] *Wing on Wing*
- » **C 0559** Malleability
- » **C 0004** Drawing architecture
- » **C 0651** Catastrophe
- » **C 0660** Diagram
- » **C 0122** Attachments: architectural *objet trouvé*
- » **C 0663** Irritability
- » **C 0201** Painting
- » **C 0550** Gehry's brush strokes
- » **C 0230** From actual into virtual
- » **C 0894** Body in motion: Boccioni and Duchamp
- » **C 0260** Zones of indiscernibility
- » **C 0755** Battlefield of Gehry's canvas
- » **C 0658** Spontaneous crumples
- » **C 0690** *Deforming the skin*
- » **C 0450** Cathedral of sensation
- » **C 0079** Two forests
- » **C 0308** The manual and the haptic
- » **C 0730** *Distribution of formless forces*
- » **C 0905** Immediacy and kinetic properties
- » **C 0109** Non-philosophy and chaos
- » **C 0234** Motion and painting
- » **C 0049** Chaos and potentials of painting
- » **C 0517** Kinetic – cinematic
- » **C 0536** Multiplicity of actions
- » **C 0906** Vibrating tectonics
- » **C 0901** *Daily objects into architecture*
- » **C 0888** Gesture and the concept of *plain action*

- » **C 0614** The unfinished
- » **C 0677** Ambiguous gesture
- » **C 0104** Waterfall
- » **C 0003** Forces, faces, façades
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0983** *Action of bending*
- » **C 0508** Augmenting lines
- » **C 0477** Imagined and unimagined
- » **C 0588** Gehry's sketching and the rhizome
- » **C 0962** Drawing movement
- » **C 0934** Imperfect
- » **C 0789** [1987-1989] Vitra Museum. The topological turn
- » **C 0990** Scratching, drawing, sculpture
- » **C 0959** *Molto vivace*
- » **C 0389** *Action of wrapping*

Rejection of perspective

First presented as a lecture in 1924, Panofsky's *Perspective as Symbolic Form* (1991)²⁷ showed that perspective had become a powerful apparatus in Western design, or form and space control, attuned with all sorts of historical modes of knowledge since its conception. However, Panofsky already revealed how our understanding of infinity expressed in the development of the artistic linear perspective of the Renaissance (*perspectiva artificialis*) suffers from problems of simulating optical processes of our innate perception (*perspectiva naturalis*) (1991: 29-31).²⁸

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- 27. Panofsky's lecture 'Die Perspektive als symbolische Form' was given in 1924 and published by *Vorträge der Bibliothek Warburg 1924/25* (Leipzig/Berlin: Teubner, 1927[1924]), edited in 1927 and heavily annotated. Panofsky's lecture shows the overwhelming power of perspective as a concept/tool that not only dominates spatial systems of architecture or other technical practices, but also the social, cognitive, and psychological awareness of space and form.
 - 28. Renaissance artists and theorists struggled with the limitations of linear perspective in painting and in other applications at the time the technique was invented.

As the concept of the infinite merged into space however, perspective maintains an understanding of space as necessarily continuous and homogeneous. Furthermore, perspective is thus still relevant for the vast field of geometric projections, especially for the 3D visualizations that dominate contemporary architectural design practices. Pérez-Gómez and Pelletier claim that perspective still stipulates modes of architectural design processes (1992: 21). They observe that computer-aided design is not only reliably embedded in the contemporary design practice of the architect, but with its ‘undisputed precision [it] has made the architect’s task into something akin to applied science’ (1992: 21). What is more, they claim that the efficiency of CAD techniques ‘is now deemed to be proof of quality’, impacting both ‘the conceptual elaboration of an architectural project’ and ‘the whole process of the generation of form’ (1992: 21). Pérez-Gómez and Pelletier are concerned with the fact that although architects recognise the limitations of projection tools, they still do not seriously consider any alternatives besides what the authors call ‘the domain of modern perspectivism, which has deeply conditioned our knowledge and perception’ (1992: 21).

Massumi’s investigations of seeing as a multi-dimensioned, ever-shifting experience mentioned earlier takes a more elaborate account of the notion of perspective. Referring to three-dimensionality, he takes the point of view of the ‘ecological’ school of perceptual theory (Gibson 1979), and while emphasizing the role of light, he argues that it

is an effect of complex differentials of surface lighting played out in ever-shifting proximities of shadow and colour, reflectance and luminosity, illumination and translucence (it is not, as traditional theories of perception would have it, the product of mysterious calculations of relative size and distance) (1998: 20).

Pérez-Gómez and Pelletier validate Massumi’s claims, claiming that by the very invention of perspective, ‘the artists of the Renaissance abstracted themselves from the experienced world;

the geometrization of depth in painting was a sign of an increasing rationalization of perception in general' (1992: 25).

But Massumi's critique of perspective is even more radical; he claims that it *stops* our seeing (1998: 21).²⁹ When he proposes that it is impossible to 'see or experience perspectival forms from the outside' for 'they occur to our experience and in it, as arrest events that befall it' (1989: 21), it could effectively be read as if he were contemplating Gehry experimentation with movement in the design of the wooden pergola for ▶ **1976** Norton Simon Gallery and Guest House (Malibu, California 1976). The connection between the notion of perspective and the notion of movement in reference to Gehry's practice had already been drawn in Arnold's description of the design of ▶ **1978** Gehry House (Santa Monica, California 1977-1978 1991-1994). Quoted in the previous chapter, it includes the remark that the architect was 'playing'" with both of them (1998: 152). Gehry talks about 'playing' with perspective in the much earlier ▶ **1968** O'Neill Hay Barn (San Juan Capistrano, California 1968) and ▶ **1972** Davis Studio and House (Malibu, California 1968-1972).

In conversation with Ernest Fleischmann,³⁰ Gehry points out the relationship between both projects. He describes the tweaking of perspectival perception in Donna O'Neill's hay barn as the tilting up of a plane of metal (Gehry 2006: 100) and links it with the origins of ▶ **1972** Davis Studio and House (Malibu, California 1968-1972), the origins of which are in Ron Davis' perspective drawings. The architect recalls Davis' unusual operations:

He came to the office, and we would do what he called string paintings. We made site models, and he would make these perspectival things over the models with

29. Massumi's emphasis.

30. Edited by Carol McMichael Reese, 'Frank Gehry in Conversation with Ernest Fleischmann' combines the transcripts of two conversations between Gehry and Ernest Fleischmann, former managing director of the Los Angeles Philharmonic in the summer of 2003 and the spring of 2004.

strings attached to the walls. And then I would make models of what he made and play with them (Gehry 2006: 100).

Indeed, perspective was the first of the means of representation Gehry tackled. Even if it was primarily a matter of ‘operating intuitively’ for him (2006: 100), or simply his way of experimenting with perspectival perception in the designs of both ▶ **1972** Davis Studio and House (Malibu, California 1968-1972) and ▶ **1968** O’Neill Hay Barn (San Juan Capistrano, California 1968), these perspectival actions support Massumi’s claim that perspective *stops* seeing. In these early designs, Gehry shows that only resistance against ‘the domain of modern perspectivism’, in Pérez-Gómez and Pelletier’s words, provides alternatives of the conceptual elaboration of an architectural project and the whole process of the generation of form. It offers an explanation for Gehry’s later refusal of perspective as the means of representation and especially as a design tool.

Inhuman eye

While surveying Gehry’s experiments and operations, Pérez-Gómez and Pelletier suggest other modes of architectural representation beyond perspectivism in their analysis. To transcend perspective and to ‘allow a new creative process to emerge’ they put forward a different practice of abstraction, ‘the model of which is closer to a film montage’ (1992: 22).

This proposition resonates with Deleuze’s writings on modern cinema (*Cinema I: The movement-image*, 1986; *Cinema II: The time-image*, 1989), where he identifies images as ‘freed from the human eye and from organising perspective and narrative’

and grants cinema with the ‘power to “see” in an inhuman³¹ and multiple way that gives us, he argued, a whole new way of thinking’ (Colebrook 2002: 6-7). Proposing the cinematic model of abstraction, Pérez-Gómez and Pelletier evaluate the existing one as endangered by ‘*dehumanizing* technological values (often concealed in a world that we think we control)’³² (1992: 22). Thus, the Deleuzian power of cinema to transcend perspective through its *inhuman* way of seeing contradicts Pérez-Gómez and Pelletier’s warnings on the dangers of *dehumanizing* technological values although they refer to the cinematic device of montage. A series of _CONNECTIVES map these aspects of Deleuze’s studies on cinema and fold the cinematic possibilities of thinking and imagining into the generative forces of Gehry’s experiments and operations.

Perception

The cinematic, inhuman way of seeing is directly related to the Deleuzian re-defined notion of perception and offers even more insightful explanations into Gehry’s architectural design experiments. Colebrook argues that Deleuze’s views on perception stem from his radicalisation of phenomenology. She claims that Deleuze does this by reintroducing its attention to *phenomena* to offer a new understanding of what it is to think (2002: 6), as well as with his concept of the *simulacra*. Colebrook explains Deleuze’s use of this concept by comparing it with what we understand as phenomena:

Phenomena are appearances *of* some world, but *simulacra* are appearances in themselves, with no origin or

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- 31. Despite recent discourse on ‘non-human’ and special connotations of the notion inhuman, I follow Deleuze and Colebrook and use the notion of ‘inhuman’ throughout the text.
 - 32. My italics, to point at the relationship between this notion and Deleuze’s notion of *inhuman*, also emphasised in the following sentence.

foundation ‘behind’ them. (...) Phenomenology had insisted that we need to look at the world in its fluctuating appearances, and not in terms of fixed concepts or logic. Deleuze’s genius lay in taking this notion of appearances (images or ‘simulacra’) well beyond its conventional philosophical home. Deleuze insisted that if we *really* want to accept the appearance of the world without judgement or presupposition then we will not refer to appearances as appearances *of* some world; there will be nothing other than a ‘swarm’ of appearances – with no foundation of the experiencing mind or subject (2002: 6).³³

Deleuze locates ‘the inhuman appearances and perceptions of machines and cameras’ (2002: 6) within this category of appearances. Consequently, Colebrook claims that cinema ‘offers something like a ‘percept’: a reception of data that is not located in a subject’ (2002: 16), or that it is not available by means of the framing devices of human eyes, even though they are similar to that of the camera. Cinema allows the mode of ‘seeing’ that is not attached to the human eye. The question thus arises: what mode of ‘seeing’ does the architectural design allow? The question may refer to the mode of ‘seeing’ the object, or subject matter, of architectural design.

As Robin Evans is right about the object of architectural drawing existing prior to its construction (1997: 165), the mode of ‘seeing’ it obviously cannot be attached to the human eye; it must be of another nature. Undoubtedly, the only mode of seeing it is by imagining it – but in a general sense, to imagine something (or someone) is to form or to have a mental picture of it (or her/him).³⁴ Hence, imagining cannot pertain to the reception of data located in an object, but to its production. Furthermore, data located in an object is certainly

33. All emphases by Colebrook.

34. ‘imagine’ from the *Cambridge Academic Content Dictionary* © Cambridge University Press. Accessed at: <https://dictionary.cambridge.org/dictionary/english/imagine?q=imagining>. Retrieved on July 11th, 2019.

not available through the framing devices of human eyes. Consequently, ‘seeing’ the object of an architectural drawing is a matter of conception rather than the reception of data. In general, an architect imagining something that is not real or true can only think that it exists, has happened, or is true.³⁵ If we reconnect this observation with Deleuze’s definition of simulacra, we discover the same lack of origin or foundation behind the appearances as in the imagining of the architectural object. One can argue, however, that what an architect is imagining is related more to phenomena, to appearances of *some* world; that is, all previously seen and retained appearances of architectural objects. Deleuze describes a similar situation. He maintains that before a painter begins working on a white canvas, everything he ‘has in his head or around him, is already in the canvas, more or less virtually, more or less actually’ (2003: 86). It certainly complicates the concept of what the architectural design production originates. Is it in a set of simulations, simulacra, or in the words of Jean Baudrillard, in ‘that which is always already reproduced: the hyperreal’³⁶ (1993: 239) instead of the real?

If simulacra are appearances in themselves, with no origin or foundation behind them,³⁷ they open possibilities for

35. Ibid.

36. This brief definition of the ‘hyperreal’ comes from the following excerpt from Jean Baudrillard, the expert in contemporary studies of simulacra. ‘The very definition of the real is that of which it is possible to provide an equivalent reproduction. It is a contemporary of science, which postulates that a process can be reproduced exactly within given conditions, with an industrial rationality which postulates a universal system of equivalences (classical representation is not equivalence but transcription, interpretation and commentary). At the end of this process of reproducibility, the real is not only that which can be reproduced, but that which is always already reproduced: the hyperreal.’ Jean Baudrillard (1993) *Symbolic Exchange and Death* (London, Thousand Oaks, California, New Delhi: SAGE Publications Ltd), 239.

37. Derived from the Latin verb *simulare* meaning to copy, represent, or feign, from the earliest English usage *simulacrum* named something that provided an image or representation (as, for instance, a portrait, marble statue, or wax figure representing a person). Drawn from the ‘simulacrum’ definition from the *Merriam-Webster Content Dictionary*. Accessed online at:

generating truly new appearances with no connection with architecture. Simulacra empower the rendering of new images that are free of references to any origins, to any previously seen and retained appearances of architectural objects, so the architectural design production can reach its *outside*. This is all the more so since simulacra in the Deleuzian sense are not the real thing, no matter how convincing and precise they appear to our eyes.

Deleuze's accounts of actions and operations of a painter developed in his study of Bacon align with the descriptions of the design actions and operations Gehry devised through his experiments in PLATEAU GEHRY _CONNECTIVES. By using such actions and operations, he does not design to reproduce an object functioning as a model. As a sort of Deleuzian painter, Gehry acts and operates on all of the appearances that exist prior to design in order to produce a kind of architectural canvas whose functioning reverses the relationships between model (object) and copy (painting)³⁸ (Deleuze 2003: 86). The canvas, then, is where simulacra seen as images or representations are insubstantial forms, as if following Deleuze's liberation of the copy from its adherence to a model by 'replacing the weak notion of the copy with the power of the simulacrum' (Lambert 2002: xi).

Painting

Gehry's affinity with painting and his understanding of its immediacy links to Deleuze's analysis of 'The Eye and the Hand' in the final chapter of *Francis Bacon: The Logic of Sensation* and Maurice Merleau-Ponty's 'Eye and Mind' (1964). All _CONNECTIVES that analyse Gehry's design procedures in the

<https://www.merriam-webster.com/dictionary/simulacrum>. Retrieved on July 12th, 2019.

38. My insertions in brackets.

context of painting may be set against two Deleuze's two basic definitions of painting: the visual and the manual. The first is defined by line and colour, and second, by the trait and the colour-patch (Deleuze 2003: 154-161). Through Merleau-Ponty's seminal text, Deleuze's analysis connects with the phenomenologically inclined, yet rather mysterious account of potentials of the human hand by the Finnish architect and theorist Juhani Pallasmaa. In his book *The Thinking Hand: Existential and Embodied Wisdom in Architecture*, his treatment is almost parallel with Deleuze's classification of the relationship of the eye and the hand and of the values through which this relationship passes (Deleuze 2003: 154-161). Moreover, in *A Thousand Plateaus*, there is a rather evocative reference to an acting puppeteer who becomes a puppet, and a puppet that at the same time becomes a puppeteer. The authors claim that puppet strings are linked not to the supposed will of a puppeteer, but rather to 'a multiplicity of nerve fibres, which form another puppet in other dimensions connected to the first' (Deleuze and Guattari 1987: 8). This instance of the specific occurrence of the relationship of the hand and mind in the puppet/puppeteer bond gains additional importance when used by an architect to define the unique role of the manual production of an architectural model. Daniel Libeskind points at a special role of the immediacy of both practices: 'when models are removed from the hands of the maker, the strings are cut.' He sees the immediacy of the connection between model-maker and model as electricity; as if the electricity produced by our bodies not only allows synapses, signals and even heartbeats to occur, but also make the model 'come alive'³⁹ (Libeskind in Moon 2005: 212). It is precisely one of those moments when architectural design intertwines with life – not conceptually, but on the real, physiological level. It is, as it were, the moment when life experiments with materiality. 'Lots of what we do in three-dimensional modeling has to do with

39. Daniel Libeskind's response to questions after a lecture. National Building Museum, Washington, D.C., April 6, 2001.

subconscious triggers’, according to Alee Vassiliadis. Materials bring a variety of worlds to us: ‘Materials have all sorts of subtle associations’ (Vassiliadis in Moon 2005: 130).

Most of the body of PLATEAU GEHRY_CONNECTIVES may be seen as a digression from Merleau-Ponty’s analysis of painting as a form of vision in ‘Eye and Mind’ (1964). Merleau-Ponty’s take on painting is as complex and poetic as Pallasmaa’s ‘eye-hand-mind fusion’ in *The Thinking Hand* (2009). Pallasmaa never refers to a Deleuzian ‘eye-hand’ relationship (as in Bacon in particular) however, or to Deleuze in general, and many of the _CONNECTIVES may be read as critical extensions of Pallasmaa’s theory, investigating the interplay of emotion and imagination, intelligence and making, theory and life, in the context of architecture. (Nota bene: these relations were already proposed in his 1996 work *The Eyes of the Skin*). Deleuze’s post-phenomenological explorations of aesthetics, of haptic space placed within the ‘logic of sensation’ in Bacon’s paintings, resonate with Gehry’s radically confrontational approach to means of representation that dominate his architectural design.

Montage

Rooted in conceptual design tools invented for students of architecture, a series of _CONNECTIVES targets the specific idea of slicing inspired by Deleuzian interpretation of cinematic montage and its power to ‘see’ in inhuman and multiple ways. Any time the universe is sliced, architects are imaging, hence making cinematic cuts. When manipulating the image of a future built enclosure, when viewing only a portion extracted from such a whole of a building that does not yet exist by separating a section, or a slice, from the rest of the whole of the future built environment, one is capable of framing that portion, of cutting it free from the background. One is, as it

were, capable of Deleuzian cinematic *imaging*.⁴⁰ 'For Deleuze, cinema has this power of releasing us from our tendency to organise images into some shared external world. We see imaging itself. Or, more accurately, there is no organising and presupposed 'we' so much as a presentation of 'imaging' (Colebrook 2002: 32).

Gehry's experiments and operations are attempts to emancipate architectural design processes from the tendency to organise images into the external world commonly shared as the concept of architecture, or in an even broader sense, of building or the built environment. Whereas a series of rotating stands on which architectural models are processed like emerging sculptures enable the architect to simulate the real perception of the future viewer/user, that same architect's frequent changes of the scale of study models, combined with simultaneous work with multiple models, resembles the perception of the cinematic spectator. Although both modes of seeing may appear formally passive, Pérez-Gómez and Pelletier claim the opposite. Like the cinema spectator, the architecture viewer/user is not passive, they suggest. Rather, both modes of seeing involve creative participation 'in the reconstruction of tactile space suggested by the montage' (1992: n46 37). Montage is a crucial element of Deleuze's analysis of cinema. Deleuze devotes Chapter 3: 'Montage', of *Cinema I: The movement-image* (1986: 29-55) to the technique. He also carries out an important analysis of montage in *Cinema II: The time-image*. In Chapter 2: 'Recapitulation of images and signs' (1989: 25-43), he recognises montage as an indirect representation of time. Gehry reinvents the cinematic reconstruction of tactile space as suggested by the montage in his design processes. Inserting it into design processes by the frequent changes of the scale of study models conjoined with the simultaneity of working with numerous models and with the use of rotating stands to process them, he reverses it into the cinematic construction of tactile space indicative of the cinematic

40. My emphasis in italics.

montage. Colebrook's description of the functioning of montage involving irrational cuts suggests its possible results outside of cinematic experience. Irrational cuts 'do not allow images to link together to form moving things, and (...) we are presented with imaging itself, both in its production of movement and its production of connection,' (Colebrook 2002: 53). This is similar to the visual experience of Gehry's architecture, such as ► **2003** Walt Disney Concert Hall (Los Angeles, California 1989-2003). This happens so because unlike everyday experience, the Deleuzian time-image operating through 'irrational cuts' disconnects experience 'into the irrational (or not yet unified or conceptualised) singularities' (2002: 53). Gehry's fragmentary image of built enclosures works through the transfer of the time-image generated by the 'irrational cuts' of his design procedures:

I can't keep doing the same thing. (...) I sometimes even leave things before they're fully developed and go in a new direction. I need a shift or change sometimes. I don't take design for granted. I don't assume that it's going to work every time (Futagawa 2002: 84).

- » **C 0472** *Action of cutting*
- » **C 0625** Flux of images and 'time-image'
- » **C 0025** [2008] Perspective-less. Viewing of WDCH
- » **C 0287** Dialogues, raptures, accelerations
- » **C 0517** Kinetic - cinematic
- » **C 0536** Multiplicity of actions
- » **C 0576** Cinematic framings and irrational breaks
- » **C 0303** Model-making and repetition
- » **C 0660** Diagram
- » **C 0472** *Action of cutting*
- » **C 0661** Shifting scale, expanding rhizome
- » **C 0745** Model: difference, repetition, variation

Experiencing the ► **2003** Walt Disney Concert Hall (Los Angeles, California 1989-2003) one can only make an effort at synthesising or connecting the fragmented architectural enclosures into ordered wholes, as everyday experience does. Images of built enclosures can only re-unify or re-conceptualise their designed singularities divided by Gehry's version of

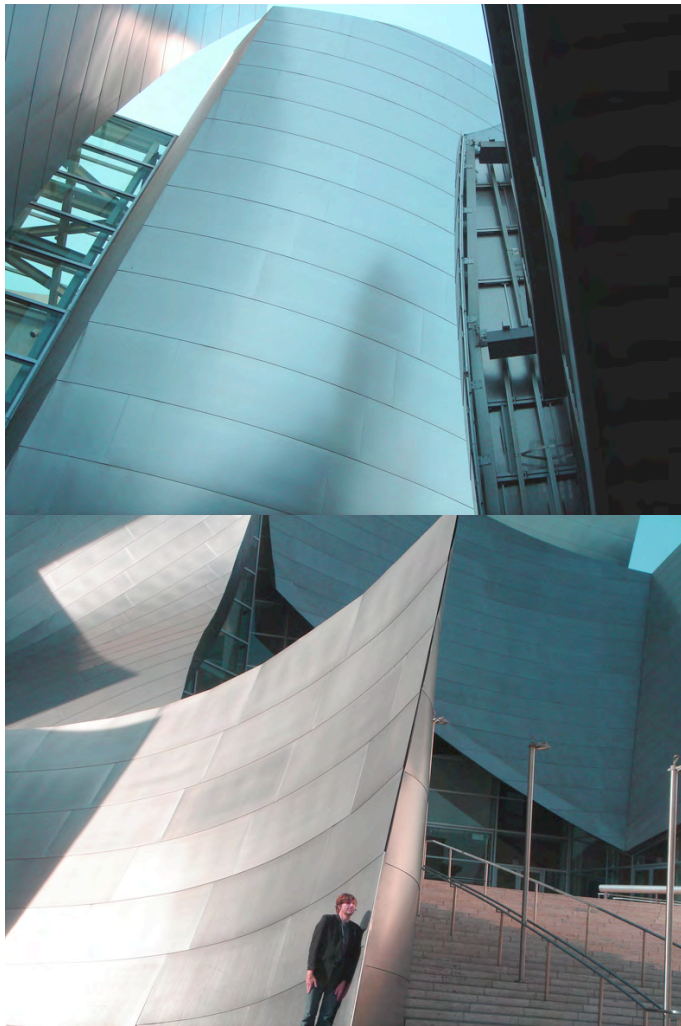
cinematic montage. Characteristics of these images resemble those ‘made up of aberrant movements and false continuity shots’ (Deleuze 1989: 41) produced in cinema. They are phantoms, just as the direct time-image in the Deleuzian sense, embodied by Gehry’s design productions and their artefacts. ‘This image is virtual, in opposition to the actuality of the movement-image’ (Deleuze 1989: 41). The virtuality of this image makes it open to actualisation in the ‘movement-image’ of the viewer/user. Characteristics of such disruptive perceptions appear interpolated in the formal/spatial narratives of Gehry’s buildings, as if configurations of these narratives could actively compel the viewer/user’s perception to reproduce explorations of the architect’s design process ▶ Figure [4] ▶ Figure [5] ▶ Figure [6] Gehry’s disruptive narratives are the architectural equivalents of Sergei Eisenstein’s descriptions of a structure of composition resulting from the cinematic montage. Eisenstein’s previous theoretical explorations of inventing and embracing all the expressive possibilities of montage included making the abstract appear. Eisenstein designates this power of montage as including or involving the spectator’s emotions and mind in the creative process.

The spectator not only sees the represented element of the finished work, but also experiences the dynamic process of the emergence and assembly of the image just as it was experienced by the author (Eisenstein 1942: 32).

Deleuze identifies ‘the change in quality and the sudden upsurge of the new quality, its squaring, its raising to the power two’ (Deleuze 1986: 35) in one type of Eisenstein’s montage. Presumably, this new type of abstraction was what Pérez-Gómez and Pelletier had in mind when referring to Eisenstein. But they also point at the surrealist filmmaker’s attempts ‘to redefine the distance between the world and its representation, a distance that would allow man to recognize his place in a new order’ (1992: 38), and at Giovanni Battista Piranesi’s questioning of the basis of perspective and search for new modes of architectural representation. The comparison with Piranesi’s cycle of etchings *Carceri* is especially significant.

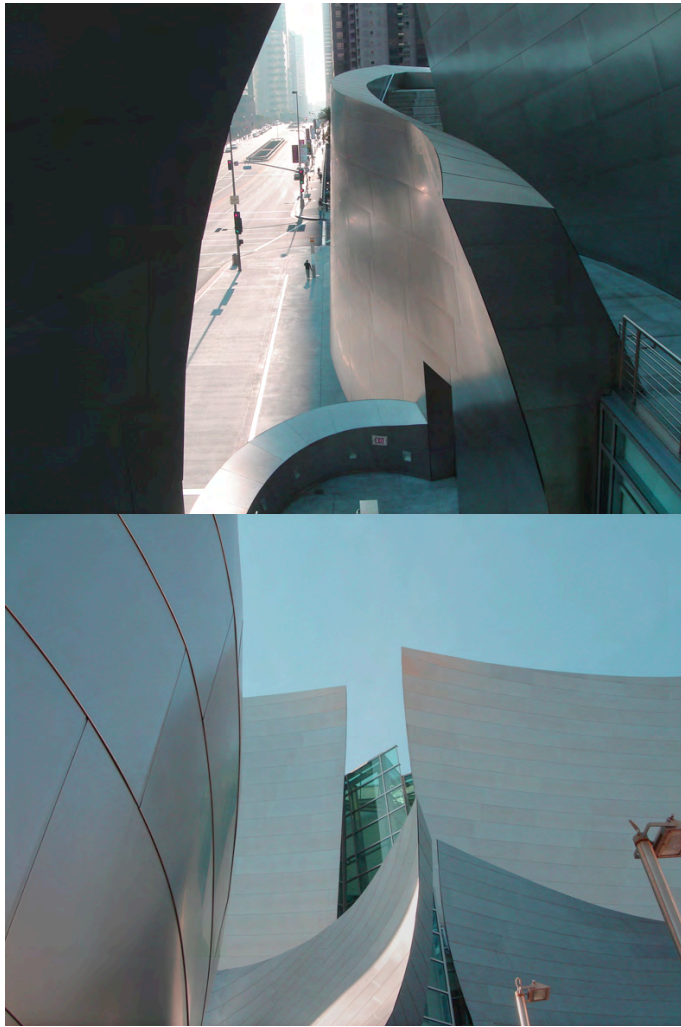
According to Pérez-Gómez and Pelletier, Piranesi's experiments and explorations of the visual representation in *Carceri* 'embody the first use of montage in architecture to deconstruct the linear perspective of space and time' (1992: 37). This statement lays the foundation for many connections. It places the above concepts of perspective and cinematic montage of the PLATEAU GEHRY_CONNECTIVES in the compound context of Deleuze's view on cinema as a composition of a pre-verbal intelligible content, ('the image of the cinema being 'automatic' and presented primarily as movement-image' Deleuze 1986: ix) and his concept of montage as 'composition, the assemblage [*agencement*] of movement-images as constituting an indirect image of time' (Deleuze 1986: 30). When Pérez-Gómez and Pelletier compare Piranesi's experiments in architecture with Eisenstein's work, the relationship shares ground with Gehry's experimental works in architectural design. Eisenstein has a background in architecture, and his cinematic practice grew out of his theorising; one can postulate that Eisenstein's theorising and practice with cinematic montage are of an architectural nature.⁴¹

41. According to a biography entry on Eisenstein in *Great Directors*, it 'was only natural for a Marxist engineer who came to the cinema to express his ideological fervour. The son of a Jewish architect, he studied to be an architect himself and, after distinguished service in the Red Army as an engineer, joined the theatre as a painter and designer. He soon became director of the Moscow *Proletkult*, an avant-garde theatre that rejected the naturalistic methods of Stanislavsky in favour of Vsevolod Meyerhold's biomechanical approach to acting, which was based on Pavlovian reflexology. Thus began the director's lifelong fascination with the question of how audience responses can be aroused in the theatre, and in film' (Shaw 2004).



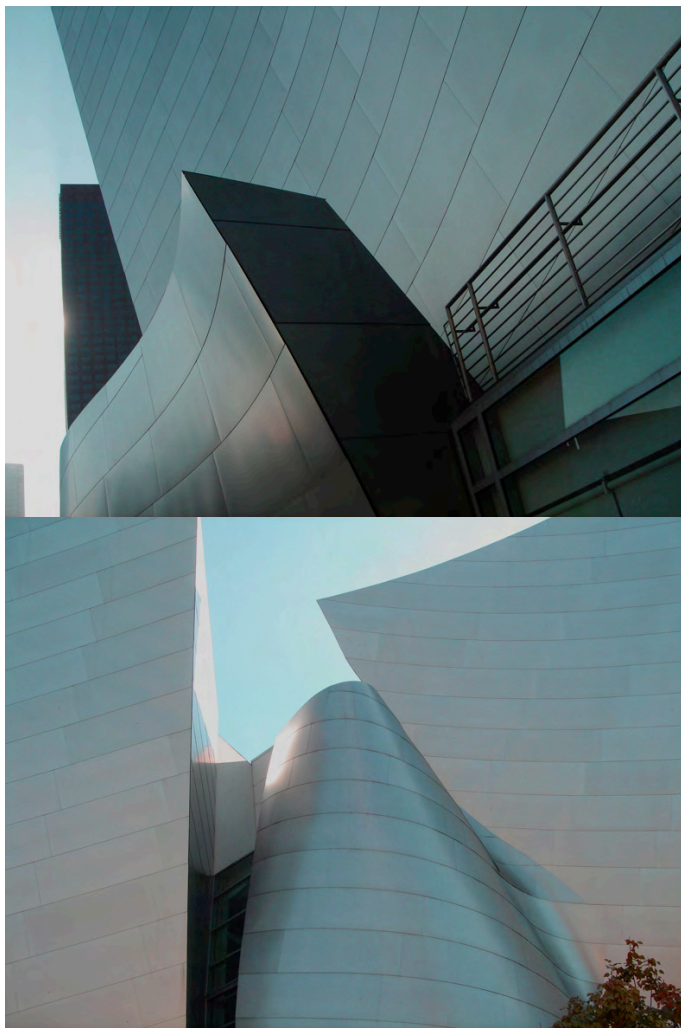
► Figure [4]

Frank Gehry and Associates, *Walt Disney Concert Hall*, Los Angeles, California 1989-2003. Photographs Pawel Szychalski (top) and Bożena Bugajna (bottom), 2008.



► Figure [5]

Frank Gehry and Associates, *Walt Disney Concert Hall*, Los Angeles, California 1989-2003. Photographs Pawel Szychalski, 2008.



► Figure [6]

Frank Gehry and Associates, *Walt Disney Concert Hall*, Los Angeles, California 1989-2003. Photographs Pawel Szychalski, 2008.

Gehry's attempts to animate perspective may date as far back as the design of ▶ **1968** O'Neill Hay Barn (San Juan Capistrano, California 1968) and ▶ **1972** Davis Studio and House (Malibu, California 1968-1972). Seen from a cinematic point of view, perspective produces new forms of vision as it becomes animated, and it may be seen as content matter of cinematic montage. Gehry's cinematic form conception reflects the cinematic forms created as content matter of cinematic montage; it creates formal/spatial narratives devoid of what is conceived through static projection modes such as perspective. Although without cinematic analysis, Vidler (2000) confirms the significant results of Gehry's treatment towards perspective. He looks at the architectural experiments of Frank Gehry, Coop Himmelblau, Daniel Libeskind, Greg Lynn, Morphosis, and Eric Owen Moss in the light of new digital techniques that – while relying on traditional perspective – have radically transformed the composition, production, and experience of architecture, and perhaps even architecture itself.

- » **C 0858** Perspective
- » **C 0571** Distorting perspective
- » **C 0683** [1972] Ron Davis House
- » **C 0102** Cinematic language constructing its own 'objects'
- » **C 0576** Cinematic framings and irrational breaks
- » **C 0625** Flux of images and 'time-image'
- » **C 0104** Waterfall
- » **C 0105** Projection and representation
- » **C 0476** Poetry of scale
- » **C 0783** Microscope and monuments
- » **C 0771** *Action of placing in*
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0450** Cinematic cathedral of sensation
- » **C 0061** Optical versus manual
- » **C 0906** Vibrating tectonics
- » **C 0912** Architecture from painting to cinema
- » **C 0923** Cinema of scaling
- » **C 0764** [1993] Red waxed felt
- » **C 0625** Flux of images and 'time-image'
- » **C 0348** [2004] *Wing on Wing*

Thinking and doing

Donald A. Schön's approach to cognitive design theory is of importance here. It positions PLATEAU GEHRY_CONNECTIVES within design research and makes tacit knowledge a possible explanation of the nature of Gehry's design experiments and operations. In the context of the relevance of art in Gehry's design production acknowledged earlier, Schön's claim about the professional 'artistry' of the everyday architectural design practice, which rests on the performance of 'knowing in action', is particularly important. According to Schön, knowing in action is essentially unspoken. The investigations of PLATEAU GEHRY_CONNECTIVES show that Schön's general thesis, namely that people have a tacit kind of knowing in their doing, supports certain aspects of Gehry's specific design actions. Schön's opinion that people know more than they can say reflects the research findings of PLATEAU GEHRY_CONNECTIVES particularly well. Juxtaposed with Schön's definition of doing and thinking as complementary activities (Schön 1983), PLATEAU GEHRY_CONNECTIVES exhibits the qualities of Gehry's design actions of 'reflective activity', 'reflection-in-action' or 'knowing-in-action'. Indeed, Gehry's design actions in the studio – shared with other designers and assistants – reveal qualities of the doing and thinking compound described by Schön. PLATEAU GEHRY_CONNECTIVES should be seen as an indirect critique of Schön's account of design process, or at least as an expansion or alteration of his ideas. Criticising Schön's dominant theory of 'reflective practitioner' exposes its intentional simplifications, manoeuvred to serve his theory (Mewburn 2009: 56). Gehry's design practice, especially through the specific exchange of design knowledge with his design partners and assistants, is in line with accounts of Adrian Snodgrass and Richard Coyne proposed in *Interpretation in Architecture: Design as a Way of Thinking* (2006).

Emphasising an essential role of representation in architectural design processes, they redefine Schön's interpretation of designers working with representations that

‘talk back’. For Snodgrass and Coyne, Schön’s studies demonstrate that the design processes operate ‘according to the dynamics of the hermeneutical circle’ (2006: 45). They explain that designers ‘proceed by continuing inter-referencing of a projected whole and the particulars that make up the design situation (...)’. Moreover, Gehry’s actions and procedures are exactly described by ‘understanding’ or cognition, which ‘arises through a process of constant revisions’ (Snodgrass and Coyne 2006: 45-46). Gehry’s ‘dialogue’ – his exchange of his ambiguous early sketch drawings with design partners, who, in response, produced early concept models (Gehry in Colomina 2003: 7) – illustrates Snodgrass and Coyne’s conception of design engagement in a dialogue with things. Snodgrass and Coyne paraphrase Gehry, indicating that he ‘talks’ to the team of partners with his sketches, that it is ‘a discussion’ (2003: 7).

Moreover, according to Snodgrass and Coyne, we can engage in a dialogue with things as well as with people. They even claim that objects can ‘ask questions’ of the designer in a manner of a ‘spirited conversation’ (2006: 48). Most importantly, in such circumstances, the designer loses a sense of the object being outside of her and is ‘carried in the flow’ (Snodgrass and Coyne 2006: 48).

In this context, some of Schön’s claims absorb Gehry’s unconventional design actions into the realm of his conceptual framework of thinking-and-doing: ‘doing extends thinking in the tests, moves, and probes of experimental action’, while ‘reflection feeds on doing and its results’. Doing and thinking, he says, ‘feeds the other, and each sets boundaries for the other’ (1983: 280). Thus, the reflective form of knowing-in-action is what makes opinions about architects and their relation with the object of their design and the design process itself revealing. Schön’s proposition that ‘practitioners usually know more than they can say’ (Schön 1983: 8) finds confirmation in Gehry’s difficult-to-describe design actions and strategies. However, the Deleuzian explorations of Frichot (2005) and Massumi (1989) pushed contemporary analysis of Gehry’s knowing-in-action and the tacit knowledge Schön proposed towards the

actualisation of the virtual, which will be summarised in Chapter 4 of this third volume.

Moreover, studies of Gehry's practice add a new dimension to the reflective practice that Schön defined as the practice by which professionals become aware of the implicit knowledge based in and gathered from their experience. Application of the CATIA system created a new environment in architectural design practice. Gehry called this new environment 'master-model' (Dean 2009: 309). 'Operating as a performative model (as opposed to a representational one) served as a platform for the co-coordination of topological relationships between building systems during design and construction processes.' (2009: 309). As a scale-less '*site* where information could be updated and people could be organized' (2009: 309), master-model changes the understanding of the traditional term 'master-builder', combining the designer and builder and repositioning the role of the architect-conceiver away from the building site. According to Dean's claim, 're-coupling of architect with builder', the new digital environment 'simultaneously undoes architecture's disciplinarity, by definition traditionally predicated on the separation of thinking/drawing and construction/doing' (Dean 2009: 312). It brings architectural practice into the realm of industrial design practice.

With no centre, Gehry's master-model is the rhizomatic structure where everything connects with everything: architect's knowledge and experience with contractors' knowledge and experience and builders' knowledge and experience. A combination of the architect thinking and doing complementary activities is now augmented with those of builders. Dean thus introduces a new paradigm of thinking-by-doing or, more precisely, *conceiving-by-delivering*, which Gehry inserts into the binary thinking/doing divide. Dean distinguishes this from Michael Speaks' 'thinking-as-doing', a

defining characteristic of his theory of design intelligence⁴² as ‘a form of knowledge that is not disciplinary but rather in line with technical training – a trade skill – and closer to the craftsman’s “know-how,” conceiving-by-delivering is a form of business savvy’ (2009: 312).

Studying chains of minute moves or actions of architectural design procedures, PLATEAU GEHRY _CONNECTIVES oscillates around Schön’s point that ‘the designer constructs the design world within which he/she sets the dimensions of his/her problem space, and invents the moves by which he/she attempts to find solutions’ (Schön 1992: 11). It expands into new dimensions when the master-model is concerned, where Gehry and his partners are capable of overriding the traditional design production reduced to two-dimensional projections of plans and sections. Dean defines this new dimension ‘a collapse of Renaissance distinctions between drawing/thinking and construction/doing’ (2009: 311). Drawing becomes a slice of reality, a site of operation, of continuous montage. Gehry’s practice brings ‘a return to a moment before architecture had acquired its disciplinarity’ (2009: 311) and institutionalization.

42. Dean argues that ‘Michael Speaks’s ‘thinking by doing’ is a defining characteristic of his recent ‘design intelligence’. Speaks writes: ‘This is a form of thinking-as-doing that creates design knowledge, or “design intelligence,” as I have called it [...] through design prototyping.’ While Speaks is right to claim that thinking-as-doing produces knowledge of sorts, I would argue that the knowledge is not disciplinary knowledge but more closely resembles the craftsman’s ‘know-how’ as described by Manuel de Landa. For the latest mutation of ‘Design Intelligence’, see Michael Speaks ‘After Theory’, *Architectural Record* Vol. 193, No 6 (June 2005): 72-75.’ (Dean 2009: 312 n31).

3. Other Theories, Themes and Issues Discussed

This chapter discusses and further contextualises themes and notions explored in PLATEAU GEHRY_CONNECTIVES, such as the relationship of Gehry's design production with art. This inventory should help to specify fields of knowledge contribution of the PLATEAU GEHRY_CONNECTIVES thesis. In addition, this chapter also draws up a catalogue of the theoretical endeavours, concepts and issues that this thesis does not investigate. For instance, as the current research concentrates on the actuality of design actions and physical aspects of the traces they leave, the study does not cover psychoanalytical aspects of Gehry's associations with fish. Instead, it examines only physical characteristics of a living organism of the fish, such as kinetics – the streamlined shape or structure that Gehry acknowledges conveying into his architectural design processes.

The question of representation

A fundamental notion that permeates the research of PLATEAU GEHRY_CONNECTIVES is that of representation. Gehry's experiments with means of architectural representation charted in _CONNECTIVES show how he deviates from the linear perspective and axonometry by investigating their hidden potentials. As these experiments relate to explorations in modern art, the research at hand places his architectural design production in the context of art and architecture movements of the early 20th century. Examples of new conceptualisations of space and their representations found in theories and works from the Dadaism, Surrealism, Cubism, Constructivism, Futurism, or Suprematism movements are thus adopted here. However, this research, and often the investigations of _CONNECTIVES, leaves aside the analysis of the theoretical backgrounds of these movements and styles, which is beyond the scope of the PLATEAU GEHRY_CONNECTIVES thesis.⁴³

Several _CONNECTIVES investigate how Gehry examines projective and representational potentials of the axonometric drawing, and it is necessary to put this in the context of drawing practices of the same period. It is well known that Gehry belonged to artistic circles in the mid-1960s and through 1970s, but he cannot be separated from the explorative culture of architectural circles of that time. In *A Confederacy of Heretics* (Gannon and Branda 2013), the editors extract the investigations of architectural projections such as axonometry or perspective from exhibition materials from

43 . All of these aspects brought in the context of architectural representations are meticulously researched in two invaluable texts by Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (1995), and *Translations from Drawing to Building and Other Essays* (1997). They provide a systematized account of connections of these various areas of art with the history of means of representation in architecture. Both books reveal processes in the imagining and realising of architectural form, detail various transactions between geometry and architecture and reworking ideas of their correlation, and they offer argumentative ground for the key claims of the current thesis and are an endless resource for scholarship in the subject of representation.

Thom Mayne's Architecture Gallery in Venice, CA. The gallery opened in 1979, and in the same year it held nine one-week exhibitions by Eric Owen Moss, Coy Howard, Frank Gehry, Frank Dimster, Fredrik Fisher, Roland Coate, Jr., Eugene Kupper, Studio Works and Morphosis. In the essay 'Eccentric Projections', Andrew Zago discusses experiments by these architects, revealing 'nascent stirrings of genuinely new features within the discipline, features that seem to occur here first, and which went on to have an outsized influence on the field' (Zago 2013: 104). He claims that the content of these shows in 1979 still possessed 'a few potent strands of disciplinary DNA, which passed through the Architecture Gallery to impact the development of architecture in the ensuing decades' (Zago: Ibid). Axonometry as a technique of architectural representation should also be put in relation to Peter Eisenman here; Zago compares Eisenman's axonometric projections of *House X* with Gehry's axonometric investigations of ▶ **1978** Wagner House (Malibu, California 1978, unbuilt), explored further in ▶ **C 0316** [1978] Wagner Residence. Moreover, Zago points at other drawing techniques, such as The Flat Projection, which is explicitly linked to Gehry's practice, particularly ▶ **1980** World Savings and Loan Association (North Hollywood, California 1980). The Flat Projection is also used in the design of the installation of ▶ **1980** In the Presence of the Past: Strada Novissima Corderia of the Arsenale (Venice, Italy 1980).

Fusion of built structure and work of art

The Australian artist, art historian and critic Terry Smith shows the extent and diversity of contemporary art. He explains it not only through the analysis of contemporary works of art, but also through the incisive study of contemporary art institutions. In the chapter 'Spectacles: Architecture/Sculpture', she identifies the atrium of the ▶ **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997) as the epicentre of contemporary art, where

art can be ‘experienced to the maximum’ and where arriving at the art museum is an arrival ‘at contemporary art’ (Smith 2009: 71). Bilbao’s atrium appears as a fusion of a built structure and a work of art, where ‘the question “Where are the works of art?” is the wrong one, because you are standing in it’ (Smith: Ibid). It echoes the painter Julian Schnabel’s statement that ‘if it does compete with art, maybe that art isn’t good enough?’ (Schnabel in Pollack 2006: 43’05”). The reason why it happens is no longer a matter of an archaic question of whether architecture is art, but it is rather due to the reshuffling of an old-fashion Romantic metaphor of ‘frozen music’⁴⁴ for which Deleuze and Guattari might be responsible. ‘On a strictly formal level, it is mathematics and music that create the smoothest of the smooth spaces.’⁴⁵ In fact, Deleuze and Guattari would probably be more inclined to call philosophy music with content than music a rarefied form of philosophy’ (Massumi 1992: 6).

Sculpture-architecture

The vague notion of ‘sculptural’ in contemporary architecture suggests that architects focus their design on matching sculptural elements with architectural function. The way in which a building may be classified as more than just a building

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44. Johann Wolfgang von Goethe in conversation with Johann Peter Eckermann: ‘Monday, 23d March [1829]. “I have found, among my papers,” said Goethe, “a leaf, in which I call architecture frozen music.” There is something in the remark; the influence that flows upon us from architecture is like that from music.’ Cited from ‘Conversations with Goethe in the Last Years of His Life,’ translated by Margaret Fuller in: George Ripley (ed.) *Specimens of Foreign Standard Literature*, Vol. IV, *Conversations With Goethe: From The German of Eckermann* (Boston: Hilliard, Gray, and company, 1839), 282.
45. Massumi reminds here that ‘[t]he terms SMOOTH SPACE and STRIATED SPACE were in fact coined by Pierre Boulez: see *A Thousand Plateaus*, pp. 477-78 [596-597]’ (1992: 6 n18). The contemporary French composer Pierre Boulez (1925-2016) was a friend of Gehry.

– as a sculptural structure that transcends rational, utilitarian functionality – is fairly impossible to define. No qualitative analysis is definitive enough to capture the intangible visions, principles and emotions often involved in architectural design behind the constructions of more dramatic expression. Even if ▶ **2003** Walt Disney Concert Hall (Los Angeles, California 1989-2003) provides evidence of ‘the closeness of Gehry’s design approach to the free form design of his sculptor friends Richard Serra and Claes Oldenburg’ (Sewing 2004: 119), Gehry’s architecture is far from unique in becoming sculpture. As an example, *Architecture: Sculpture* by Sewing with contributions by Erik Wegerhoff (2004) presents 36 other individual examples of ‘sculptural architecture’ designed by different architects, from the Le Corbusier’s Notre-Dame du Haut in Ronchamp (1954) through the Steven Holl’s Nelson Atkins Museum of Art Extension in Kansas City (2007).

‘For Gehry, architecture and sculpture are inseparable. With his Vitra Design Museum of 1989, Gehry had already tried out this organic-dynamic language of forms for the first time’ (Sewing 2004: 119-120). Sewing’s introductory essay highlights the historical basis of sculptural architecture from the 18th century to today. Gehry’s design process is often called sculptural, or even said to reduce architecture to a 3D billboard, to pop art (Foster 2011). Indeed, PLATEAU GEHRY_CONNECTIVES identifies minute design actions that may be considered similar to of those performed by sculptors. They match those of ethnographical observations of ‘the small material operations’ that combine into ‘the appearance of a building as it emerges from the architects’ hands (...)’ (Yaneva 2005: 868); these operations are crucial for the understanding of a process of conceiving a building. PLATEAU GEHRY_CONNECTIVES’ analysis of Gehry’s design processes corresponds to their designation as an ‘artistic’ effort ‘to manipulate a variety of materials, to generate a multiplicity of forms whose aesthetic coherence is discovered as he works’. (Smith 2009: 75). A hybridised architectural design in a complex, cultural-political sense (Fraser and Kerr 2000) as well as in a strictly professional, a design process resembling a ‘way

of generating original art, [specific to the late 20th-century] that emerges from (among other causes) a contemporary hybridization of medium that had previously – under a certain, strong (that is to say formalist) current of modernism – tended toward separation (“medium specificity,” in the recent mantra)’ (Smith 2009: 75). Hal Foster’s late 20th-century view on original or innovative art practices in *The Return of the Real* is based on reordering the relationship between pre-war and post-war avant-gardes. It argues ‘that the avant-garde returns to us from the future, repositioned by innovative practice in the present’ (Foster 1996).

There are no preconceptions about making a building become a sculpture; design procedures are constantly ‘immersed in a changing state of things’ (Massumi 1992: 5) producing ‘a hybrid, (...) a kind of built form that is both sculptural and architectural (...), but not exactly either. (...) More exactly, at Bilbao (...) the atrium [with] some of the smaller galleries and the major external configurations are essays in sculptural works of contemporary art.’ (Smith 2009: 75). The structure of the atrium of ► **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997) ‘does *not* qualify as art due to the degree that it looks like already-accepted art.’

Objet trouvé

Challenging traditional ideas about the nature of art, the concept of *objet trouvé* is one of the predominant elements of Gehry’s architectural design practice and thus the subject of several _CONNECTIVES. Some of the original qualities of *objet trouvé* resemble those of the earlier modern art form collage. This was discussed above in Chapter 2 in the context of Gehry’s operations.

In PLATEAU GEHRY_CONNECTIVES, *objet trouvé* is discussed through Marcel Duchamp’s re-contextualised artefacts and Claes Oldenburg’s large-scale objects. Gehry’s

experimental design practice introduces geological formations such as canyons or phytomorphological formations of flowers and the direct absorption of man-made objects that were not originally created as architectural components. Becoming elements of architectural design, they are named and displayed as architectural, which replicates operations of Duchamp's finder-artist aestheticisation of found objects and display of them as works of art. Stephen Zepke's *Art as Abstract Machine: Ontology and Aesthetics in Deleuze and Guattari* guides us through the impact of such operations, positioning Duchamp's *objet trouvé* practice as ontological and claiming that 'the readymade restores infinity to the creative process, and installs it in the artworks actuality, as the continual affectual variation the work in fact is.' Zepke suggests that 'it is what would make Duchamp the archetypal artist, and the readymade the fundamental work of art' (Zepke 2005: 160).

Contextualised by such newly understood aesthetics; various _CONNECTIVES are woven into Deleuze and Guattari's philosophy of art. Referencing Duchamp's fundamental works of art, PLATEAU GEHRY_CONNECTIVES folds them into Deleuze and Guattari's comprehension of art preoccupied with questions of how it works, what it does, how it 'becomes', thus problematizing architectural aesthetic criteria populated or polluted by fish, flowers, canyons, sails or binoculars.

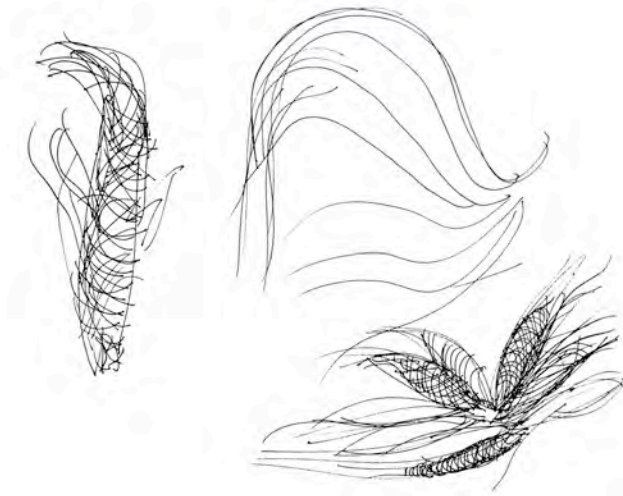
Fish

'It was by accident I got to the fish image', Gehry confesses (Pollack 2006: 49'31"). Since the early 1980s, the architect has been deterritorialising his design practice with this aquatic craniate creature. Through the concept, image and object of fish, Gehry referenced and ridiculed the postmodern historicisms with their uncritical adoption of formal languages or styles.

Adrian Parr reconsiders Deleuze and Guattari's deterritorialisation/reterritorialisation in a specified way, observing for instance that what Deleuze and Guattari point at as deterritorialised in music are human voices and the refrain (*ritournelle*) (Parr 2013a: 70). Following Deleuze and Guattari, her animal/artist version of deterritorialisation is that of French composer Olivier Messiaen. When birdsongs appear in Messiaen's compositions, he is not merely imitating the songs of birds, but rather bringing 'birdsong into relation with the piano in a manner that transformed the territory of the musical instrument (piano) and the birdsong itself' (Parr 2013a: 70). Messiaen uses birdsong in his compositions in a manner similar to that in which Gehry uses fish in his. There is a mutual relationship of results of the exchange.

While Messiaen's incorporation of birdsongs changes their sonic and dynamic characteristics exactly when connecting with 'musical organisation', his 'compositional style also changed when it entered into a relation with birdsong, whereby these compositions could be described in terms of a becoming-bird' (Parr 2013a: 70). As in any representations of fish in painting, sculpture or any other form of representation, Gehry's incorporation of the fish image changes its biological, aquatic characteristics and it becomes an image-of-the-fish in his initial fish sketches, entering the long process of its relation with his architectural composition that could be described in terms of a becoming-fish. (Forster 1998: 11). ▶ Figure[7]

So I started drawing fish in my sketchbook. I just kept drawing this fish, and then I started to realise that there was something in it (Gehry in Pollack 2006: 50'15").



► Figure [7]

Frank O. Gehry, the early *Fish drawings* from 1980s, Image Courtesy of Frank O. Gehry.

The characteristics of architectural organisation and composition started to change around 1980 when Gehry ‘actively began to think about the fish as the basis for implying a sense of movement to his work.’⁴⁶ An image of a fish gradually occurs to be less of a fish and more of something that is not.⁴⁷ The architect’s studies gradually enter into relation with the vertebrate. Gehry is not just imitating fish; his architectural design manoeuvres absorb more of the fish’s physical characteristics, bringing swimming fish into relation with the pencil drawing irregular lines that curl and loop and transform the territory of drawing (hand with pencil) and the swimming fish itself, with its muscles pulling on the vertebral column and producing wave-like undulations that travel down the length of the fish, pushing sideways and backwards against the water.⁴⁸ When Gehry sketched directly on the façades of Venetian buildings, ‘they began to quiver and mutate under a palimpsest of stenographic drawing’⁴⁹ (Forster 1998: 11). What is

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46. Keith Mendenhall of Gehry Partners, wrote via e-mail on October 21, 2004: ‘It’s difficult to place an exact date on the first appearance of the fish, but I would say that around 1980 is when he first began to consider the fish, with the first examples being the installation at the Architectural League in New York, followed by a proposal for an unbuilt fish sculpture also in New York, *Il Corso del Colltello*, the *GFT Fish*, the Fishdance Restaurant in Kobe, the *Fish Lamps*, the *Standing Glass Fish* at the Walker Art Center, the *Fish Sculpture* at Hotel Artes in Barcelona, as well as more abstract examples.’
47. A set of three of such sketches captioned ‘fish drawings’ and dated 1980s is included as a sketchbook sheet in: Francesco Dal Co and Kurt W. Forster, *Frank O. Gehry: The Complete Works* (New York: Rizzoli International Publications, 1998), 11.
48. The description of swimming fish is borrowed from the article ‘Fish: Characteristics’, in: *Characteristics of Fish, an Introduction*, Educational Resources for Biology by D G Mackean. Published on March 15th, 2007. Accessed online at: <http://www.biology-resources.com/fish.html>. Retrieved on August 16th, 2017.
49. See drawings superimposed on Palladian facades in Venice done as part of performance *Il Corso del Colltello*, published in ‘Architectural Choreography’ in: Francesco Dal Co and Kurt W. Forster, *Frank O. Gehry: The Complete Works* (New York: Rizzoli International Publications, 1998), 11.

deterritorialised in drawing, performance and improvisation is the way the draughtsperson externalises architectural ideas; what is deterritorialised is architectural thinking.

Sensation

Gehry takes into architecture events, actions, objects, and affects that have rarely or never before been registered within the discipline's design methods and methodologies. Celant diagnoses that '[h]e is searching for a dialectical and contradictory architecture that gushes from the decomposed and disjoined body, but which is still based on pulsation and on uncontrolled moments of pleasure' (1985: 10-11).

Gehry's physical deformations of architectural design mediums, distortions of projective tools and disarrangements of scaling are treatments of material capacity in art. Gehry invests in the expressive nature of his built structures through his often intuitively conceived design strategies and through experiments, actions, and operations, exploring 'material capacity to evoke and to question through non-mimetic means, by producing different affects' (Colman 2005a: 15), which Deleuze locates in the expressive nature of art. Aspects of Gehry's design practices related to Deleuzian reading of expressive potentials of material in arts are explored in the following _CONNECTIVES:

- » **C 0943** *Deformations*
- » **C 0316** [1978] Wagner Residence
- » **C 0683** [1972] Ron Davis House
- » **C 0858** *Perspective*
- » **C 0571** *Distorting perspective*
- » **C 0476** *Poetry of scale*
- » **C 0771** *Action of placing in*
- » **C 0423** *Disruptive actions, disruptive affects*
- » **C 0457** [1998] STATA and Boccioni
- » **C 0477** *Imagined and unimagined*
- » **C 0831** *Immediacy*

- » **C 0061** Optical versus manual
- » **C 0371** [1976] Norton Simon Gallery. Movement (part I)
- » **C 0764** [1993] Red waxed felt
- » **C 0319** [1983] Exaggeration, embellishment, ornament
- » **C 0559** Malleability
- » **C 0004** Drawing architecture
- » **C 0651** Catastrophe
- » **C 0122** Attachments: architectural *objet trouvé*
- » **C 0663** Irritability
- » **C 0755** Battlefield of Gehry's canvas
- » **C 0658** Spontaneous crumples
- » **C 0690** Deforming the skin
- » **C 0105** Projection and representation

PLATEAU GEHRY_CONNECTIVES shows that Gehry's design actions and strategies, experiments and operations can be put alongside acts of painters, sculptors, composers, and writers, who, as Deleuze and Guattari put it, 'paint, sculpt, compose, and write with sensations' (1994: 166). » **C 0450** Cathedral of sensation » **C 0348** [2004] *Wing on Wing* Deleuze and Guattari compare the working of sensations in the arts with percepts. 'As percepts', they write, 'sensations are not perceptions referring to an object (reference): if they resemble something it is with a resemblance produced with their own methods' (1994: 166). They illustrate this kind of production with the painted smile, which is rendered on the canvas with only the means and methods of painting, of 'colours, lines, shadow, and light' (1994: 166). Resemblance haunts not only the work of art, as Deleuze and Guattari suggest, but also the work of architecture, from mimesis in ancient Greek architecture and Vitruvius' imitations of the human body in classical orders of Doric, Ionic and Corinthian columns to Robert Venturi and Denise Scott Brown's annunciation of the 'duck' building (or the 'decorated shed'), in which the architecture is subsidiary to the exterior form or resemblance to any object or creature. But if resemblance regularly manifests itself in the work of art, as Deleuze and Guattari argue, 'it is because sensation refers only to its material' and consequently 'it is the percept or affect of the material itself' (1994: 166). In Deleuze and Guattari's

theory of art, the sensation is located in the material. In painting, it is the paintbrush or an equivalent agent, the colour in the tube, or even the easel. Deleuze and Guattari extend the materiality of the work of art that produces the sensation of ‘the smile of oil, the gesture of fired clay, the thrust of metal’ to the work of architecture, which produces the sensation of ‘the crouch of Romanesque stone, and the ascent of Gothic stone’ (1994: 166). » **C 0677** *Ambiguous gesture*

Gehry’s admiration of the immediacy of painting reconnects here with Deleuze and Guattari’s analysis in which they expand the materiality of the painting to ‘preparation of the canvas, the track of the brush’s hair, and many other things besides’, nominating all of them as ‘part of the sensation’ (1994: 166). They claim that this variety of material, the type of materiality of each individual painting, makes it ‘difficult to say where in fact the material ends and sensation begins’ (1994: 166). PLATEAU GEHRY_CONNECTIVES exposed the impact of painting on the architect’s design experiments and operations in:

- » **C 0755** Battlefield of Gehry’s canvas
- » **C 0550** *Gehry’s brush strokes*
- » **C 0660** Diagram
- » **C 0260** Zones of indiscernibility
- » **C 0030** Klee’s ‘interworld’
- » **C 0043** Breakthrough
- » **C 0049** *Chaos and potentials of painting*
- » **C 0502** Pollock
- » **C 0109** Non-philosophy and chaos
- » **C 0593** *Abstraction*
- » **C 0844** *Overdrawing*
- » **C 0543** *Cinematic viewing-sections-model*
- » **C 0912** *Architecture from painting to the cinema*
- » **C 0965** *Cinematic sections/frames*
- » **C 0474** *Action/painting*
- » **C 0004** Drawing architecture
- » **C 0201** Painting
- » **C 0658** Spontaneous crumples
- » **C 0943** *Deformations*
- » **C 0450** Cathedral of sensation

- » **C 0308** The manual and the haptic
- » **C 0043** Breakthrough
- » **C 0888** Gesture and the concept of *plain action*
- » **C 0677** Ambiguous gesture
- » **C 0683** [1972] Ron Davis House
- » **C 0858** Perspective
- » **C 0571** Distorting perspective
- » **C 0188** Gehry's *factual design action*
- » **C 0457** [1998] STATA and Boccioni
- » **C 0831** Immediacy
- » **C 0061** Optical versus manual
- » **C 0559** Malleability
- » **C 0004** Drawing architecture
- » **C 0651** Catastrophe
- » **C 0663** Irritability

Based mainly on manual production of study- and process models, Gehry's design practice seen through the practice of painting reveals the Deleuzian sensation preserved in the material. Although models made of mainly paper or cardboard cannot last as long as architectural materials, reinvented potentials of the CATIA system convert the sensation expressively captured in model materials into the materiality of built structures, as if the digitally enhanced conversion was not only the interchange of one materiality into another, but also the conversion of material into a composition of sensations. According to Deleuze and Guattari,

however short the time it lasts, this time is considered as a duration. We will see how the plane of the material ascends irresistibly and invades the plane of composition of the sensations themselves to the point of being part of them or indiscernible from them (1994: 166).

Gehry's architecture is woven of these conversions and invasions. In Gehry's *factual design actions*, as well as in their multiplications in manually stimulated fluctuations of red waxed felt, » **C 0764** [1993] Red waxed felt or in painterly design actions developed as equivalents of brush strokes, » **C 0550** Gehry's brush strokes sensation refers to the material they shape and alter. They shape and alter it because of the imprints

of their deformational kinetic phrases characterized by the innate local coherencies, the imprints that leave unique material compositions. Technological support of 3D scanning enables the transfer of Gehry's deformational kinetic phrases with their local coherencies into architectural tectonics.

But some of the deformational kinetic phrases are based on something other than gestural local coherencies. In the ▶ **2007** InterActiveCorp Building (New York, New York 2004-2007), deformational actions are performed on the building site. Their transfer into architectural tectonics is no longer a matter of scaling up, but simply an element of the construction process. Sensation, which is the percept or affect of the material itself, is produced in another way. In the bent glass panes of ▶ **2007** InterActiveCorp Building (New York, New York 2004-2007) the small scale of Gehry's *factual design actions*, of manual bending of architectural model materials, ▶ **C 0983** *Action of bending* is exchanged with a one-to-one scale; it becomes real bending. ▶ Figure [8] ▶ Figure [9] ▶ **C 0586** *Bending* PLATEAU GEHRY_CONNECTIVES particularizes the cases of the sensation expressively captured in model materials as well as in the materiality of built structures. Numerous _CONNECTIVES directly describe the conversion of material into a composition of sensations, of becoming part of it or indiscernible from it, showing how Gehry's architecture is woven of these conversions:

- » **C 0550** Gehry's brush strokes
- » **C 0660** Diagram
- » **C 0260** Zones of indiscernibility
- » **C 0030** Klee's 'interworld'
- » **C 0043** Breakthrough
- » **C 0049** Chaos and potentials of painting
- » **C 0502** Pollock
- » **C 0593** Abstraction
- » **C 0844** Overdrawing
- » **C 0543** Cinematic viewing-sections-model
- » **C 0912** Architecture from painting to the cinema
- » **C 0965** Cinematic sections/frames
- » **C 0474** Action/painting

- » **C 0004** Drawing architecture
- » **C 0201** Painting
- » **C 0658** Spontaneous crumples
- » **C 0943** Deformations
- » **C 0450** Cathedral of sensation
- » **C 0308** The manual and the haptic
- » **C 0043** Breakthrough
- » **C 0888** Gesture and the concept of *plain action*
- » **C 0683** [1972] Ron Davis House
- » **C 0677** Ambiguous gesture
- » **C 0858** Perspective
- » **C 0571** Distorting perspective
- » **C 0188** Gehry's *factual design action*
- » **C 0457** [1998] STATA and Boccioni
- » **C 0831** Immediacy
- » **C 0061** Optical versus manual
- » **C 0559** Malleability
- » **C 0004** Drawing architecture
- » **C 0651** Catastrophe
- » **C 0663** Irritability

Gehry's deformative design actions embody Deleuze and Guattari's observation that

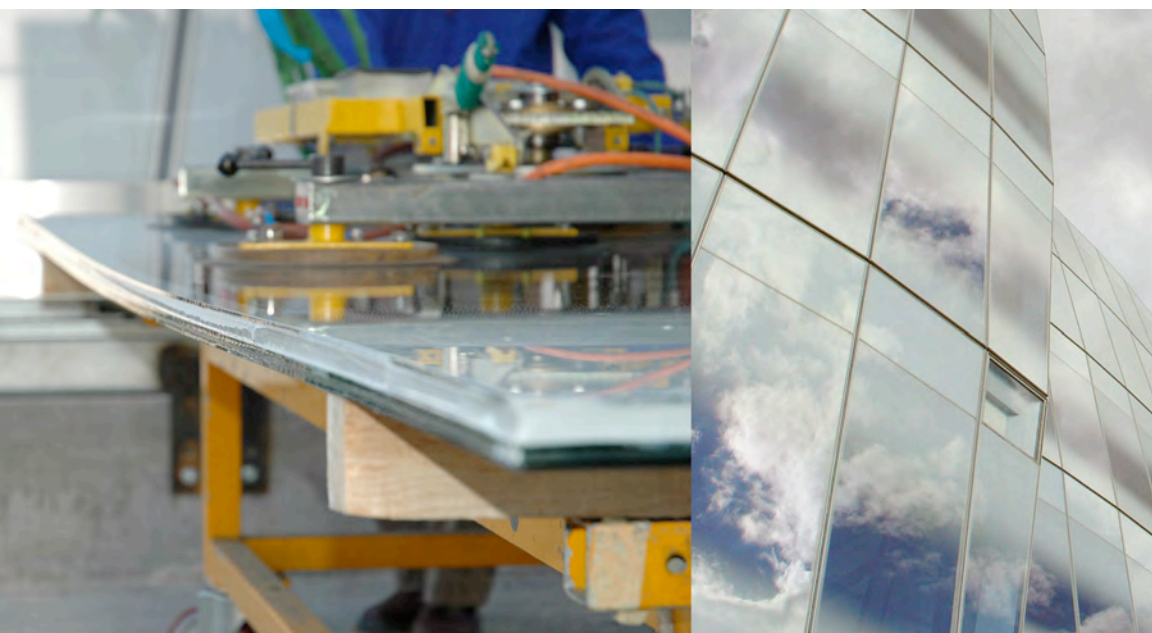
Even if the material lasts for only a few seconds it will give sensation the power to exist and be preserved in itself *in the eternity that coexists with this short duration*. So long as the material lasts, the sensation enjoys an eternity in those very moments. (Deleuze and Guattari 1994: 166)

The PLATEAU GEHRY_CONNECTIVES research shows that Gehry's disruptive, deformative actions are capable of forcing material to become expressive. In such acts, Gehry emulates the emotional expression he seeks in architecture, as if knowing that '[s]ensation is not realized in the material without the material passing completely into the sensation, into the percept or affect' (Deleuze and Guattari 1994: 166-167). As if his long-standing affiliation and collaboration with artists granted him the knowledge that all the material becomes expressive (Ibid.).



► Figure [8]

Frank O. Gehry, *InterActiveCorp Building*, New York, New York 2004-2007. Façade consisting of glass panes bent *in situ*. Image Courtesy of Gehry Partners, LLP.



► Figure [9]

Frank O. Gehry, *InterActiveCorp Building*, New York, New York 2004-2007. Bending process of glass panes (left) and glass panes on façade (right). Image Courtesy of Gehry Partners, LLP.

In model-making and drawing, Gehry is capable of transforming material into sensory experience; he makes it processed and passed into built structures. PLATEAU GEHRY _CONNECTIVES shows that, as in plastic arts, Gehry's design acts are searches in the development of forms, aesthetics and associated affects and may be justified through Deleuze's value of overcoming historical distinctions and divisions and 'translate, illustrate and perform the forces of the world (such as desire), by making them visible' (Colman 2005a: 15).

This shows Deleuze's interpretation of art's ability to transform material into sensory experience through its means and methods as an explanation of the materiality of Gehry's design production. PLATEAU GEHRY _CONNECTIVES may be seen as a mapping of tests set up to detect the capability of Gehry's design productions means by which 'to operate affect, temporality, emotion, mortality, perception, and becoming' (Colman 2005a: 16).

Geometry

In the eighteenth century, architects seemed ready to accept the notion that there was no distinction between a stage set constructed following the method 'where there was no longer a privileged point of view, and the permanent tectonic reality of their craft. Reality was transformed into a universe of representation' (Pérez-Gómez and Pelletier 1992: 32). The power of architects became ungraspable. Like all other overcoded means of representation, descriptive geometry encourages architects to use dishonest methods for achieving their aims. The likelihood of architecture becoming a practice of deception is imbedded in Deleuze and Guattari's regard of architecture as 'the first of all the arts' – not only because of *art* and *artful* refer to something artificial or 'cunning, crafty, skilled

in adapting means to ends',⁵⁰ but by means of maintaining the power of the archaic, anachronistic prefix *archi-* (via Latin from Greek *arkhi-*, from *arkhos* 'chief'), of an *arch-art*, which re-empowers a chief, principal position such as that of *archbishop* or *archdiocese*.⁵¹ Although Frichot explains that their position is, echoing the claim made by Vitruvius, a Roman architect of the first century BC, in *Ten Books on Architecture*, that primitive man 'gradually advanced from the construction of buildings to the other arts and sciences'⁵² (Frichot 2005: 79 n2), from the sociopolitical point of view, with the value-laden title *master builder* supported by the hegemony of *archi-* (as if of *arch-episcopal*) playing the archbishop's role among partners, co-workers, draughtswomen and others, there is no place for *architecture* in contemporary radical philosophy. The system behind the very notion of *arch-tecture* brings to mind the future role of *tecton(s)*.

Geometry still dominates and facilitates the essential activity of architecture, which according to Deleuze and Guattari 'endlessly produces and joins up planes and sections' (Deleuze and Guattari 1994: 182). Virilio goes further calling geometry 'the necessary foundation for a calculated expansion of State power in space and time' and the State resources of 'an ideal, sufficient figure, provided that the figure is ideally geometrical' (Virilio 1975: 120).

However, Deleuze and Guattari suggest potentials of geometry defined as a primitive geometry or protogeometry. With its value and advantages of 'an operative geometry, in which figures are never separable from the affectations befalling

50. 'artful' (*adj.*) '1610s, 'learned, well-versed in the (liberal) arts', also 'characterized by technical skill, artistic,' from **art** (n.) + **-ful**. Meaning "cunning, crafty, skilled in adapting means to ends" is from 1739. Related: *Artfully*; *artfulness*.' Retrieved from: https://www.etymonline.com/word/artful?ref=etymonline_crossreference. Accessed on November 8, 2018.

51. From definition of '*arch-*', in: English by Oxford Dictionaries.

52. Vitruvius cited in the introduction to Kate Nesbitt (ed.) (1996) *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995* (New York: Princeton Architectural Press), 18.

them, the lines of their becoming, the segments of their segmentation: there is “roundness,” but no circle, “alignments,” but no straight line, etc.’ (Deleuze and Guattari 1987: 212). Husserl sees the morphological essence of protogeometry as ‘*vague*, in other words, vagabond or nomadic, (...) it is neither inexact like sensible things nor exact like ideal essences, but *anexact yet rigorous* (“essentially and not accidentally inexact”)’ (Deleuze and Guattari 1987: 367).

Deleuze and Guattari analyse Husserl’s descriptions through the example of the relation of the circle and roundness, ‘a vague and fluent essence, distinct both from the circle and things that are round (a vase, a wheel, the sun)’ (Deleuze and Guattari 1987: 212). Pointing at distinctive differences between an ideal geometry of the circle and a vague, yet rigorous form of problematic figures resulting from ‘transformations, distortions, ablations, and augmentations’ (1987: 212) they refer directly to the versions of distortions produced by Gehry’s actions included and discussed in e.g.:

- » **C 0571** Distorting perspective
- » **C 0476** Poetry of scale
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0450** Cathedral of sensation
- » **C 0457** [1998] STATA and Boccioni
- » **C 0983** *Action of bending*
- » **C 0061** Optical versus manual
- » **C 0371** [1976] Norton Simon Gallery. Movement (part I)
- » **C 0319** [1983] Exaggeration, embellishment, ornament
- » **C 0559** Malleability
- » **C 0321** Movement (part II)
- » **C 0651** Catastrophe
- » **C 0660** Diagram
- » **C 0663** Irritability
- » **C 0201** Painting
- » **C 0550** Gehry's brush strokes
- » **C 0755** Battlefield of Gehry's canvas
- » **C 0764** [1993] Red waxed felt
- » **C 0260** Zones of indiscernibility
- » **C 0658** Spontaneous crumples

- » **C 0690** Deforming the skin
- » **C 0308** The manual and the haptic
- » **C 0730** Distribution of formless forces
- » **C 0894** Body in motion: Boccioni and Duchamp
- » **C 0429** *Action of breaking*
- » **C 0314** [1981] Fish
- » **C 0472** *Action of cutting*
- » **C 0943** Deformations

Gehry's sketching techniques resulting in fluent yet vague articulations become an instance of problematic figures, especially in the context of drawings produced as spatial, architectural projections. His drawings are examined and connected with Deleuze's concepts in the following _CONNECTIVES.

- » **C 0255** Ambiguous lines
- » **C 0004** Drawing architecture
- » **C 0508** Augmenting lines
- » **C 0477** Imagined and unimagined
- » **C 0588** Gehry's sketching and the rhizome
- » **C 0962** Drawing movement
- » **C 0959** *Molto vivace*

As if Gehry's 'scribbling' drawing 'all of its variations, form problematic figures that are vague yet rigorous,' as if reflecting or even mimicking "lens-shaped," "umbelliform," or "indented" geometries (Deleuze and Guattari 1987: 212).
 ▶ Figure [10] Other than 'underscored or overcoded' 'segments' of line, they gain 'dynamic relation to segmentations-in-progress, or in the act of coming together or coming apart' (Deleuze and Guattari 1987: 212), as if Gehry's scribbling had liberated lines from overcoding of segmentation, from idealized geometrical objects.



► Figure [10]

Frank O. Gehry, *Peter B. Lewis Building: Weatherhead School of Management* (University, Cleveland, Ohio 1997-2002). Sketch from 1997. Image Courtesy of Frank O. Gehry.

Scribbles and Surrealist visuality

While freeing them from geometrical overcoding, from idealized geometrical objects, making them vague and fluent articulations, Gehry avoids the situations, with which he is fascinated, ‘the moment of truth’: the moment, in which painters find themselves before the first brushstroke leaves its mark on an empty canvas. Gehry confessed:

If I have a big envy in my life, it's about painters. I wish I was painter. What I'm fascinated with is the moment of truth. There is the canvas; it's on your easel. You've got a brush and you've got this goddamn-palette-of-colours and... what do you do? What's that first move? I love that... dangerous place! (Pollack 2006: at 1:11:49)

While ‘looking through the paper to try to pull out the formal idea’ (van Bruggen 1997: 37), as Gehry put scribbles into words, it has another side; Gehry needs ‘material’ in which to find and from which to pull out.

In the Surrealist practice of automatic drawing, the French artist André Masson also identifies this moment of finding the formal idea, which he calls ‘unpredictable birth’. The British scholar Roger Cardinal notes in an analysis that Masson identifies ‘the first graphic apparitions upon the paper [as] pure gesture, rhythm, incantation’ (Cardinal 1996: 83).⁵³ Favouring their kinetic spontaneity over the semiotic doubts embedded in these graphic apparitions, Cardinal describes them as ‘scribbling’. At this point, Masson’s scribbling reveals the same pragmatics as Gehry’s. Mere scribbling, as well as pure gesture, rhythm and incantation, determine visual ambiguity of the produced image, some aspects of such ambiguity in Masson’s early example of automatic drawings ► Figure [11]

53. Roger Cardinal implies that André Masson did not articulate his own formula for automatic drawing until the lecture he gave in 1961. (Cardinal *Ibid*: 83).



► Figure [11]

André Masson, *Untitled*, automatic drawing, ca. 1924.

and Gehry's scribbling drawings ▶ Figure [12] exhibit recognisable and cognisable, or newly cognised elements.

These occurrences of recognisable, or newly cognised elements locate these two forms of drawings along with the Deleuzian conception of Bacon's graph mentioned in Chapter 1 along its function, as Bacon says, of being 'suggestive' (Deleuze 2003: 101). It further aligns with Cardinal's analysis of Masson that the procedure rather quickly passes a threshold of the emergence of a perceptible image. The moment of recognition appears conditional and highly subjective.

At this crucial moment, however, Gehry and Bacon's procedures diverge from those of Masson. In automatic drawing, the image (which had been latent) now asserts its rights, and according to Masson, 'once the image has appeared, it is time to stop' (Cardinal 1996: 83),⁵⁴ while in the case of Gehry and Bacon, it becomes generative of new concepts. Both events mark perceptual shifts that deflect development and organisation of created structures or images, redirect or reroute their subsequent developments.

This analysis shows how Gehry's experiments borrow from, or can be read through, Surrealist experiments in visuality, from Masson's automated drawings to René Magritte's painted concepts. Yet, the architect's scribbles fall under the definition of another Deleuzian concept. When the architect compares scribbling to 'drowning in paper' (van Bruggen 1997: 37), he is actually drowning in 'zones of indiscernibility' that Deleuze recognizes in Gothic line (Deleuze 2003: 130), where geometry

is a very different geometry from that of Egypt or Greece; it is an operative geometry of the trait or the accident. The accident is everywhere, and the line never ceases to encounter obstacles that force it to change direction, and to intensify itself through these changes. It is a manual space, a space of active, manual

54. Cardinal quotes André Masson, 'Propos sur le surréalisme', in *Le Rebelle du surréalisme*. Écrits (Paris: 1976), 37.

strokes, which works through *manual aggregates* rather than through *luminous disaggregation* (2003: 130).

The manual space of Gehry's scribbles is a dynamic space, thick with lines' acts of coming together and coming apart. In the manual aggregates' vague and fluent essence, neither the circle nor things that are round occur. The manual space of Gehry's scribbles is of the nature of distortions.

It is a realism of deformation, as opposed to the idealism of transformation; and the strokes do not constitute zones of indistinctness in the form, as in chiaroscuro, but zones of indiscernibility in the line, insofar as it is common to different animals, to the human and the animal, and to pure abstraction (serpent, beard, ribbon) (Deleuze 2003: 130).

To extract the formal idea from the paper, Gehry needs to be sure that he will pull them from the outside of architecture. This is why he first needs his drawings to become 'scrawl', or 'a cursive script, the scratchings of a running hand' (Connah 2001: 89). He needs to free his lines from the overcoding of segmentation, from idealized geometrical objects. Becoming vague and fluent articulations, they open to the outside, and according to Grosz, it

steals ideas from all around, from its own milieu and history, and better still from its outside, and disseminates them elsewhere. It is not only a conduit for the circulation of ideas, as knowledges or truths, but a passage or point of transition from one (social) stratum or space to another (Grosz 2001: 57).

Like Grosz's *text*, Gehry's scribble-sketch is not 'the repository of knowledges or truths, or the site for the storage of information' (Grosz 2001: 57-58). It instead functions as 'a process of scattering thought; scrambling terms, concepts, and practices; forging linkages; becoming a form of action' (Ibid.). Interpreted through Grosz's reconceptualization of *text*, architectural scribbles reach extend further still out of the discipline.



► Figure [12]

Frank O. Gehry, *Le Clos Jordanne*, sketch from 2001, Lincoln, Ontario.
Courtesy of Frank O. Gehry

Gehry does not use the scratching/scribbling technique of drawing simply as a tool or an instrument, but rather goes beyond its practicality; like Grosz's *text*, it is 'too amenable to intention, too much designed for a subject' and indeed scratching-scribbling 'is explosive, dangerous, volatile' (Grosz 2001: 58).

Like concepts, *scribbles* are the products of the intermingling of old and new, a complexity of internal coherences or consistencies and external referents, of intension and extension, of thresholds and becomings. *Scribbles*, like concepts, do things, make things, perform connections, bring about new alignments (Grosz 2001: 58).⁵⁵

Following Deleuzian thinking, Gehry's use of scribble-sketches may be seen as 'little bombs' that explode and 'scatter thoughts and images into different linkages or new alignments without necessarily destroying them' and thus 'generate affective and conceptual transformations that problematise, challenge, and move beyond existing intellectual and pragmatic frameworks' (Grosz 2001: 58) – especially those of architecture. The linguistic device *ostranenie* offers a relevant analysis of the mechanisms of the aforementioned affective and conceptual transformations that are also evident in other architectural design productions by Gehry.

Ostranenie

Gehry's statement on aesthetics from 2006 may serve to introduce the concept of *ostranenie* and some aspects of the literary theory applied in the PLATEAU GEHRY _CONNECTIVES research.

55. To emphasise its operational accuracy in the context of the current argument, the originally used word "text" has been exchanged with "*scribbles*" in italics in the citation of Grosz's text.

What is ugly and what is beautiful? I used to ask that all the time when I was a kid. And it's still hard to define. I mean, there's people that write about that endlessly. And I don't think there is any – I mean, it's something you get attuned to. You see something that is new and when you first see it, it's off-putting. I think, most human beings when they see something brand new, they run away from it.⁵⁶

When it comes to collaboration with the client, Gehry's idea is to act against general beliefs, to rethink the design task and challenge the habitual way of thinking of what is right: '(...) I was always fascinated by denial' (Gehry 1995: 40). Gehry is constantly engaged in discussion of the culturally related acceptance of the otherness of the built environment, of defamiliarization of architecture that has been 'the pleasure of architecture' for some critics (Jencks 1995: 31) for others becomes 'a computer-driven version of a Potemkin architecture of conjured surfaces' (Foster 2001).⁵⁷

In a public lecture I gave at the University of Texas at Arlington on October 15th, 2008 concerning linguistic contexts in architectural theory and the strong link between the architectural theory and literature theory, I connected the early Russian structuralist concept of *ostranenie* (from Russian *остранение*: 'making strange' or 'estrangement'). The term *ostranenie* was coined by Victor Shklovsky (1893-1984), who wrote the essay 'Art as Technique' (or 'Art as Device').

Shklovsky believed that the main driving force of literature was not its social impact, but its use and creation of language. He postulated that writing is: 'the use of language and its devices that cause the reader to view the world in a new light by presenting everyday occurrences and experiences in new, odd ways.' 'Poetic speech is formed speech. Prose is

56. Frank Gehry, transcript from *The Charlie Rose Show* (CQ Transcriptions), Apr. 11, 2006.

57. For an analysis of perception of Gehry's work in the cultural context of the mid-1990s, see: Jencks, Charles, Jeffrey Kipnis, and Robert Maxwell (1995) *Frank O. Gehry: Individual Imagination and Cultural Conservatism* (London: Academy Editions).

ordinary speech – economical, easy, proper, the goddess of prose is a goddess of the accurate, simplistic type, of the “direct” expression of a child’ (Shklovsky 1916). This position is loaded with positive epistemological potential that highlights the duality between familiar and strange present in everything we consider our own and in everything we recognize as foreign. He called this *ostranenie* – ‘making strange’. The coined neologism, from *stranno* (Russian for *strange*) with the prefix *o-*, denotes the process of making the familiar strange, implying the strategy of taking things out of their habitual context and rendering them more perceptible through displacement. This distancing perspective is intrinsic to Gehry’s positioning himself as an architect/artist.

Ostranenie refreshes perception and counteracts the numbing uniformity and routine of the habitual. Shklovsky recognizes this approach as a defamiliarization strategy that subverts worn-out linguistic conventions and resurrects the meaning of words. Following Shklovsky, the essential function of poetic art is to counteract the process of habituation enforced by routine everyday modes of perception, by which we cease to ‘see’ the world we live in and become desensitized to its distinctive features. The aim is to reverse that process, to *defamiliarise* that with which we are overly familiar, to ‘creatively deform’ the usual, the normal, and thus to inculcate new and childlike vision in us. The poet, the poet-architect, the *philotect*, thus aims to disrupt ‘stock responses’ and generate a heightened awareness: to restructure our ordinary perception of ‘reality’, so that we ultimately *see* the world instead of numbly recognizing it, or design a ‘new’ reality to replace the (no less fictional) one that we have inherited and to which we have become accustomed.

Poetry *multiplies* the range of meanings available to a word rather than separating it from its meaning. Such ‘freedom’ from the habitual referent raises the word’s potential to combine with a vast number of referents, which often causes confusion. Gehry emancipates architecture from the domination of the linguistic ideology of naming, understanding and justifying the meaning of buildings through linguistic expressions; he develops devices analogous to poetic devices. The sum of ‘devices’ employed in the poem generates and constitute range of its ‘meaning’, thus, the poem constituting its devices constitutes its form. (Hawkes 2003: 48)

Sense and nonsense

Gehry’s design approach may suggest his awareness that Le Corbusier had already shuttered ‘the architectural process as a teleological activity’ (Frichot 2005: 63) in the design for Ronchamp. The thickness of the concrete walls and the dysfunctional pockets of air within the roof’s ruled surfaces would hardly withstand the contemporary criticism of Hal Foster (2001) or Lahiji (2016). ▶ Figure [13] ▶ Figure [14] Frichot recognises the problem and assumes ‘that architecture wants to leave the exploration of its formal permutations open-ended’, and consequently, that ‘it implicitly relies on the co-presence of sense and nonsense’ (2005: 64).

Celant’s 1987 analysis of the collaborative project *Il Corso del Coltello* recognises such a co-presence of sense and nonsense, which appears to foresee the whole range of qualities of Gehry’s architecture from the following more than three decades. Writing extensively about the combined theatrical-architectural-pop-art performance of the Venice project, Celant describes the event, in which the works, thoughts and concepts of Oldenburg, Gehry and van Bruggen liberate from the power of a single and monolithic vision (Celant 1986: 23).



► Figure [13]

Le Corbusier, *Chapel of Notre Dame du Haut*, Ronchamp, France. The inner ruled surface of reinforced concrete roof during construction, ca. 1954. Photograph: Charles Bueb. © Fondation Le Corbusier, Paris. Courtesy of Fondation Le Corbusier.



► Figure [14]

Le Corbusier, *Chapel of Notre Dame du Haut*, Ronchamp, France. The inner pocket of space within the concrete roof made of two thin, parallel concrete slabs; the person photographed reveals the scale of the enclosure, ca. 1954. Photograph: Charles Bueb. © Fondation Le Corbusier, Paris. Courtesy of Fondation Le Corbusier.

These artists seek architecture or objects, in which the parts fall, twist, seethe, and whirl, in which perspective is dislocated and multiple. Any visual sense of the whole falls apart in the uncertain relation between the support and image. Verticality and horizontality are confounded; there is progressive loosening up, a rupturing of continuity, of rhythm, of fixity, of art and architecture's sense of absoluteness and totality. Fluctuation, instability, nomadism, and the cut were catalysed in *Il Corso del Coltello*, for this was a vertigo of images, marked from beginning to end by a feeling of catastrophe, of the swallowing up of hundreds of fragments in an unarticulated mass, of a hinge swinging between the everyday and the imaginary. (...) The piece stretched the limits of logic, but signified the two aspects (or, better, the two "blades"), sense and non-sense, of *Il Corso del Coltello*. In fact, the whole spectacular event oscillated around the sense of the double, the interweaving of impossible or unthought-of combinations that here were as both possible and thinkable. It constructed an independent order that was disorder, a concrete language that was desire (Celant 1986: 23-24).

Visitors to ► **1978** Gehry House (Santa Monica, California 1977-1978) feel lost facing such co-presence – what the architect himself recognises as 'what was strong about it'. Gehry remarks that visitors 'were never sure what was intentional and what wasn't', and thus the building 'looked in process'. Visitors weren't sure whether designer meant something or not, but Gehry knew that 'the thing a lot of people hated or laughed at, was the magic' (Gehry 1999: 57). Starting with this 1978 project, the tendency prevails; 'the co-presence of sense and nonsense' is reflected in the controversial, contradictory and frequently vague language of publications and discussions about Gehry's work. The intensity of its poetic character reaches a level that is not normally seen in architectural criticism.

A survey of over two and a half thousand titles of various types of publications (mostly popular culture publications) from over 40 years – from August 18, 1963 to

March 10, 2004⁵⁸ – gives a sense of the confusion Gehry's work creates. There are statements such as 'it's new; it's not; it's cool; it's hot' or 'Tonic to the Eye or the Ugliest Building' and 'So, Mr Gehry, can you explain this? Is it genius or a mess?' Ambiguity dominates. There are expressions like 'Gehry designs far out', and the authors' uncertainty is unmistakable (Szychalski 2007: 12).

The authors of articles like 'Today We Have a Kind of Free-for-all Architecture,' and 'Different Kind of Lib' seem apprehensive of freedom and liberation. There is a sense of puzzlement, embarrassment and/or invective in evaluations such as: 'Shock at First Sight,' 'Wild Thing,' or 'Basic Instinct,' 'A Transition Based on Transit,' 'The House That Gehry Built... and built and built and built,' or 'Cry of Indignity,' 'Fillets of Soul'. While it should be remembered that newspapers purposefully seek captivating titles, I would like to remind that these titles are dealing with architecture. A classical architectural notion of order was often rearticulated in various configurations – from the solemn 'Frank Gehry's Buildings Invent Their Own Order' to 'Heroic, Chaotic, Fabulous' and on to a calm illumination that it is only an 'illusion of chaos' and to a scientifically quantifying assessment of 'calculated disharmony'.

Strong linguistic expressions – e.g. masterpiece, sensation, surprise, exuberance, explosion, blockbuster – seem feeble in the context. Finally, the decisive question is raised: is it architecture? Some of statements seem to answer it: 'it's all a big façade', 'Wall Flowers', 'the building as Jujitsu', 'junkyard art'. Other authors struggled to make them onomatopoeic: 'Gehry Go-Around', 'Fender Bender', 'Mummery and Flummery'. Gehry is saluted and probed: 'Hail Gehry, Full of Grace' or called 'High Gehry'; 'Gehry, The Illness of Design', 'Frank Gehry: Punk Architect,' 'LA Architect at Large', 'Fish

58. In my Licentiate thesis, it formed the content of 'Bibliography 5' (Szychalski 2007: 26).

on a Line', 'Master of Mud Pies' 'Earthshaking Architect', or simply 'Iconoclast' (Szychalski 2007: 13).

While Ronchamp may be seen as a glimpse of the modernists' struggle to prove that architecture (or the building) is actually capable of representing ideas that are bigger than itself, it does not alter that architectural edifice has failed in this attempt and that 'we must look toward the immanent conditions of architecture, the processes it employs, the serial deformations of its built forms, together with our quotidian spatio-temporal practices' (Frichot 2005: 63). Gehry's practice and its perception show that he is well aware that, as an architect, he must 'struggle to surmount the full of danger and risk threshold between sense and nonsense, or the meeting place between the framing capacity of a provisional form and the forces, which both facilitate and trouble its construction.' (Frichot 2005: 67). Gehry's practice shows that he is able to operate with an unconscious or habitual displacement of fear of nonsensical interpretations of architectural design, or even of the fear of such interpretations of singular design moves or decisions, of singular events within architectural design production.

Boundaries of architecture

While Gehry is not the only one who pushes the boundaries of architecture, when he does it, the limits of the concept of architectural design production, or the fabrication of the built environment, become vague, porous and leaky. Gehry transgresses those limits in different ways and at different points on those porous and leaky limits. The problem of Gehry's transgressions of disciplinary boundaries was already signalled in Chapter 1, 'Thesis Aims and Questions' in Volume 1 of this thesis. Yet, Gehry's practice could easily be criticised as firmly residing within the traditionally understood discipline of architecture. He indeed does construct buildings, however.

In her *Creative Ecologies: Theorizing the Practice of Architecture* (2018), Frichot examines territories opposite to those occupied by architectural design production manoeuvring toward, and resolving in, buildings. Positioning her analysis within the Anthropocene, affect theory, and new materialism, she examines how the discipline of architecture is theorised and practiced at the periphery, or in the background of architectural practice. From this perspective, she introduces creative ecologies, where architecture appears to exist with regard to other objects and ideas. Drawing on the architectural culture burdened by notions *aedificium* or *aedificāre*, (Latin: to build or establish), Frichot argues that the edifice claims its formal autonomy through its frontality, ‘with the architectural object in view, looming forward from an indistinct background’ (Frichot 2018: 7). Her critique of conventionally perceived architecture extends to ‘[t]he celebrated forms of architecture, their iconic status and their contribution to the identity formation of global cities, together with the signature architects who author world-significant projects’ (2018: Ibid). Defining an orthodox approach to architecture as one that demands ‘that the object that is architecture is kept in focus, and that space, form, program, typology and material distribution are prioritised’ (2018: Ibid), she argues

that the object-hood of architecture is but a small part of what constitutes this vastly differentiated discipline. Sometimes an *indisciplined* approach reveals more about what is at stake in carving out spaces, territories and shelter and acknowledging contingent encounters that accept inconvenient relations.

Frichot argues that minor creative practitioners presented in her book conceive architecture ‘as a multiplicity of diverse concerns in engagement with local environment-worlds at the threshold of exhaustion’ (2018: 8) and proclaims her definition of architecture. Moreover, she locates the vastly differentiated discipline ‘in the midst of things’ and describes it as ‘undergoing continuous variation, emerging from the contingency of events across complex social, political, economic, ecological, technological, material and conceptual fields (2018: Ibid). I would argue that unexpectedly, in this description, Frichot

balances on the edge of what have become quite universally proclaimed theories behind celebrated designs of hard-core orthodox ‘signature architects’.

Proposing a series of philosophical encounters with architectural practice that cannot be neatly located in any single domain, Frichot documents a series of architectural interventions that she calls ‘other ways of doing architecture’ (2018: 1), of artistic occupation of existing buildings, geoglyphs that can hardly be called architectural. Showing that there is no “core of architecture” (Ibid.), Frichot attempts to broaden the definition of architecture beyond the notion of building, which distinctively puts architecture’s system of design production and construction to the side.

To There is only a façade in Gehry’s design productions, to quote a prominent critic, ‘exterior surfaces that rarely match up with interior spaces’ (Foster 2001). There is only a surface in his wrapped structures. Although his practicing of architecture concerns accomplished buildings, the edifices no longer appear to claim their formal autonomy through its frontality, they do not necessarily loom forward from an indistinct background but rather resonating within it. ▶ Figure [15] ▶ Figure [16] One might ask, which views are frontal in ▶ **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997), ▶ **1999** Der Neue Zollhof, (Düsseldorf, Germany 1994-99), ▶ **2000** Experience Music Project, (Seattle, Washington 1995-2000), ▶ **2006** Guggenheim Museum Abu Dhabi (Abu Dhabi, United Arab Emirates 2006 [in progress]), ▶ **2010** Cleveland Clinic Lou Ruvo Centre for Brain Health, (Las Vegas, Nevada 2005-2010), ▶ **2007** IAC InterActiveCorp Building (New York, New York 2004-2007), or ▶ **2014** Foundation Louis Vuitton, (Paris, France 2005-2014). Moreover, ▶ **2004** Jay Pritzker Pavilion at the Millennium Park (Chicago, Illinois 1999-2004) appears to meet Frichot’s requirements for an architectural object, ‘revealed to be something closer to a thing among other things, operating necessarily in ecological relation, apt to emerge only to decay?’ (Frichot 2018: 8).

Nonetheless, it is difficult to identify Gehry's design processes informed by studies in geophilosophy, anthropology, feminist theory, social or postcolonial studies, his exchange with arts alone shows capabilities of transgressing boundaries of the discipline. The above example of ▶ **2004** Jay Pritzker Pavilion at the Millennium Park (Chicago, Illinois 1999-2004), may be seen through one of the criticisms of Gehry's architecture. This project exemplifies what critics describe as making buildings into a billboard. And, at the same time, this critical perception proves that the building, or more generally, Gehry's architecture transgresses the discipline becoming part of the discussion in the disciplines drawing on traditions from the social sciences and humanities, such as media studies, communication studies, advertisement, or consumerism. It is an example of the interdisciplinary transgression Deleuze and Guattari promote in their writings.

Gehry has always been a friend of tectonics, although the tectonics he cultivates are strange and dangerous and dare to disturb the proceedings. He recognises and accepts the paradox of abstract forms of architectural models and drawings in the utilitarian profession, freely disrupting their imbedded representational vagueness. And yet, he pursues his primary objective: the goal is building and not a 'glib' drawing or perfectionized model. He has however not always been appreciated for those disturbances. For instance, of ▶ **2014** Foundation Louis Vuitton, (Paris, France 2005-2014), Wainwright stated, 'he doesn't know when to stop. [...] It is certainly a spectacle, but it makes you wonder quite what it's all for' (Wainwright 2014). Wainwright suggests that the building is a 'gift' from Louis Vuitton that the 'neighbourhood hasn't seemed all that keen on receiving.' French courts had originally halted the project – referencing the initial trouble with the project, Wainwright concludes that it is an 'indulgence of over-engineering.' It is, 'in reality, is a hell of a lot of steel columns and glue-laminated timber beams, thrown together in a riotous cat's cradle of zig-zagging struts and brackets, props and braces' (Wainwright 2014).



► Figure [15]

Frank O. Gehry, *Jay Pritzker Pavilion at the Millennium Park*, Chicago, Illinois 1999-2004. Street view.
Photograph Pawel Szychalski, 2008.



► Figure [16]

Frank O. Gehry, *Jay Pritzker Pavilion at the Millennium Park*, Chicago, Illinois 1999-2004. Street view.
Photograph Pawel Szychalski, 2008.

Wainwright's views imply the accuracy of the description of Gehry's work as disturbing the peace and deranging the proceedings.

The Deleuze-driven neologism *philotect* does not denote a 'Deleuzian architect' who deliberately follows Deleuze. Coined along with the explorations of the PLATEAU GEHRY_CONNECTIVES project, *philotect* should reflect a Deleuzian type of architect who forces herself and the co-creative team to push the boundary of the means, and thus the meaning of architecture, like all of Gehry's collaborative experiments, operations, actions and strategies that the PLATEAU GEHRY_CONNECTIVES project has mapped (and will continue mapping). The various objects, images, actions or compositions he derives from art or collaborations make his design strategies living, ever-changing concepts. Gehry's disregard for the dogmatic thinking in architecture is a manifestation of his intellectual nomadism. 'What counts here is not so much mobility between places, as mobility between cultures and identities, so that for example, philosophical *personae* are adopted and abandoned' (Ballantyne 2002a: 24).

Master builder / master of disguise

Grosz casts new light on Deleuzian thought on architecture, making it opulent with outward-reaching connections identifying tangential points between the disciplines and beyond, as in her reading of the notion of text expanding to film, painting, or building. The tangential nature of the present work becomes a structural and conceptual tool to facilitate and explore the patency of Grosz's connections. For her, a book, a film, a painting, or a building is 'always complex [and]' steals ideas from all around, from its own milieu and history, and better still from its outside, and disseminates them elsewhere' (Grosz 2001: 57) Does her perception entail these entities operating covertly, even planned and performed dishonestly?

What if painting, making a film, or drawing a building is an activity planned and performed dishonestly? What if the painter or the architect steals ideas from all around and abuses the language to cover it up? Shall we ‘consider the role of the architect as pickpocket, in that she has become well-practised in the redistributing of concepts she has borrowed from outside her disciplinary terrain’ (Frichot 2005: 63)? If Deleuze and Guattari’s declaration ‘that architecture is the first of all the arts’ follows Vitruvius (Frichot 2005: 79 n2), should it not be collated with Plautus referring to architectōn (from Greek *arkhitektōn*)⁵⁹ not as a master builder, but as a master of disguise and deceit, a cunning and skilful author-creator of tricks, of schemes intended to deceive or outwit?

Milphio: (to Agorastocles)
Grand! My word, he’s a sly one!
Such a hardened rascal, so unstolid and subtle.
Look at him weeping, so as to take his role more
realistically! Here he is, better at flimflam than*
*myself even, the chief architect.*⁶⁰

Architects abuse language. Speech is the architect’s weapon, a confidence trick is their mostly frequently used munition to swindle audience e.g. the client, authority, public, users, etc. The audience risks hearing insincere explanations, stories

59. Plezia, Marian (1998) *Słownik Łaciński-Polski, Tom I: A-C* (Warszawa: Wydawnictwo Naukowe PWN), 246. *Latin-Polish Dictionary* from 1959 (re-edited and reprinted 1998) cites Verse 1110 of the play *Poenulus*, or *The Little Carthaginian* by Titus Maccius Plautus’ (late 254–184 BC). It is used as a second, (*metaphorical*) meaning of the word ‘**architectōn**, -onis *masculinum* (from Greek *arkhitektōn*).’ It translates: ‘author, creator (of trick, guile). Plautus, *Poenulus*. 1110: “me quoque dolis iam superat architectōnem.”’

60. Excerpt from the play *Poenulus*, or *The Little Carthaginian* where Milphio, the slave of a young gentleman from Calydon called Agorastocles, comments to his master on the nature of architects’ skills. In: G. P. Goold, (ed.) (1932) *The Loeb Classical Library in Five Volumes, Founded by James Loeb, LL.D.*, with an English translation by Paul Nixon. Vol. IV *Plautus* (Cambridge, Massachusetts: Harvard University Press and London: William Heinemann Ltd).

invented only to deceive the public – a situation, which only gives more force to Frichot’s analysis of deformations of architectural discourse, architectural object and ‘the role of the architect [which] has also shifted’ (Frichot 2005: 63). Frichot maintains that although the role of an architect is a confusing combination of a number of historically established roles – ‘demiurge, progenitor (playing the conjoint role of father and mother), engineer, for example, of the modernist house as a machine for living, ironist of postmodern pastiche’ – the architect ‘still sees herself as author-creator’ (Frichot 2005: 63). It is as if the case of Frichot’s defunctionalization of architectural theory from Vitruvius to Le Corbusier (2005: 63) hinges on the evidence of a single eyewitness in disguise, playing the fictional character Frankie P. Toronto:

Gehry: (to Forster and Dal Co)
*Palladio faced a fork in the road, and he took the wrong turn. (...) He should have recognized that there’s chaos; he should have gone ahead and done what Borromini did. He would have been a pioneer. (...) I’ve said it all as Frankie P. Toronto.*⁶¹

In the role of orator, Frankie P. Toronto was assisted by Carambola, writes Celant, ‘who corrected his pronunciation and clarified, when possible, his concepts of zoomorphic architecture. Both men used words as active dramatic signs, capable of representing both thoughts and the experience of a dream – of architecture’ (1987: 28). Frankie P. Toronto was a barber from Venice, California, on a perpetual lecture tour to

61. Frank Gehry quoted in Forster’s essay ‘Architectural Choreography’ in: Dal Co, Francesco and Kurt W. Forster (1998) *Frank O. Gehry: The Complete Works*, (New York: Rizzoli International Publications), 10. Gehry played the fictional character *Frankie P. Toronto* in the multimedia performance *Il Corso del Coltello*, See also Chapter 2, Volume 1 of this thesis and Celant, Germano (ed.) (1986) *Il Corso del Coltello / The Course Of The Knife: Claes Oldenburg, Coosje van Bruggen, Frank O. Gehry*. My use of italics emphasises the theatricality of Gehry’s part in *Il Corso del Coltello* and similarity with the dramatic nature of Milphio’s part.

present his theory of ‘disorganized order’ in architecture (Celant 1987: 108) and his following architectural endeavours. Through the 1985 performance of the role, Gehry removes the architecture’s disguise – its overcoded means of representation. Unabashedly disregarding what Frichot defines as a ‘fixed and universally valid set of rules that determines the ‘how’ of architecture’ (2005: 63), he recognizes, explores and exploits restrictions of the architectural design process. It demonstrates that ‘the key texts, from Vitruvius, through Laugier, to Le Corbusier, offer the architect an interesting genealogy, but no longer provide instructions for use’ (Frichot 2005: 63).

Gehry enters this emptiness and plunders all possible architecture-related (and unrelated) mediums, modes of representation (including all dimensions of the ‘projective cast’), and puts tectonics in motion, into the state of vibration. Not because the aerospace industry and their Computer-Aided Three-dimensional Interactive Application (CATIA) system allow it, but because he has systematically developed modes of manual production – modes that steal their impetus from the subversive building cuts of Gordon Matta-Clark, from Claes Oldenburg’s poetically interpreted notion of scale (1968), or Richard Serra’s bending of semi-architectural-scale surfaces, and many others.⁶²

Forces, densities, intensities

Gehry’s deformations executed upon manually produced models show the tendency to take on the value of pure material for a force of motion, of bending and/or crumpling. When, for instance, rendering invisible forces of waterfall’s highly complex

62. See for instance the chapter ‘Gehry’s Use of Contemporary Art’ and following subsections in Gavin Macrae-Gibson (1985) *The Secret Life of Buildings: An American Mythology for Modern Architecture* (Cambridge, Massachusetts and London: MIT Press), 9-29.

and unpredictable fluid dynamics, Gehry follows a shift that dates to post-romanticism in painters' interest to move from themes, matters and forms to forces, densities, intensities (Deleuze and Guattari 1987: 343), as if capturing the concept of molecularized matter, the situations when 'material becomes necessarily molecular, with enormous force operating in an infinitesimal space' (Deleuze and Guattari 1987: 343). Gehry's process models of ▶ **1997** Samsung Museum of Modern Art (Seoul, South Korea 1997, project) render the indeterminacy of turbulent flow of falling water, with particles moving over each other in a remarkably free manner, in flows being mixed, their speed continuously changing in both magnitude and direction.⁶³ Painterly characteristics of these models correspond with Cézanne's rocks, which 'begin to exist uniquely through the forces of folding they harness' (Deleuze and Guattari 1987: 343).

Gehry's turn towards exploratory, manually manipulated model-making is as if an attempt 'to consolidate the material, make it consistent so that it can harness unthinkable, invisible, [nonmaterial] forces' (Deleuze and Guattari 1987: 343). This way he produces malleability, if not irritability, of used materials and makes throbbing model-making and sketching technique into battlefields. ▶ **C 0755** Battlefield of Gehry's canvas. Thus, what was mockingly shown in the episode of *The Simpsons*, was in fact not far from realities of those battlefields where Gehry and his team force these two mediums to become exaggerations, embellishments, or unlikely ornamentations to unfold their spontaneous crumples, to steal from paintings and painters, to deform the skin and distort perspective, to shift scale and to re-scale arrhythmically, so the inhuman, ungraspable 'eye' harnesses the unthinkable stretching of scales of scaled and un-scaled models.

63. The Editors of *Encyclopaedia Britannica*, 'Turbulent flow', *Encyclopædia Britannica*, Encyclopædia Britannica, Inc., Published: January 28, 2016, <https://www.britannica.com/science/turbulent-flow>. Accessed March 16, 2018.

4. Architecture and Philosophy

Keeping in mind that the political unrest of 1968 may have been a motivating condition for Deleuze and Guattari's provocative *Anti-Oedipus*, their work may be further situated here. As indicated in the introduction to this thesis, Gehry's radical approach to architectural design, and not least to the design of the ► **1978** Gehry House (Santa Monica, California 1977-1978) in the early 70s may be of the same lineage. Therefore, it is put here in the context of a series of studies that question, or neglect, the current impact of Deleuze and Guattari's philosophy on architectural theory and practice.

For instance, the modern architecture historian and theorist Joan Ockman suggests that generally speaking, history and architecture theory have lacked their former lustre in the last two decades. She claims that 'Deleuzianism, for its part, has become less of an obsession of architects and/or receded into the misty history of late-20th-century architectural theory' (Ockman 2018). In a conversation between philosopher Todd Gannon and the architects Graham Harman, David Ruy and

Tom Wiscombe (2015), a re-emerging interest in the architectural object and object-oriented philosophy replace the nostalgic reverence of a dog-eared copy of *A Thousand Plateaus* lying on the desk, which used to deliver constant reference on the architectural design process. The American architectural historian Reinhold Martin claims that mentioning Deleuze's name became embarrassing, for – as it was endlessly pointed out – referencing Deleuze in the context of architectural theory and practice was distorting the Deleuzian politico-philosophical project so as to render it unrecognisable (Martin 2005: 2).

PROTOTYPING PLATEAU GEHRY_CONNECTIVES opposes the claim that architectural theory and practice has exhausted Deleuze and Guattari's concepts, and it offers a response to those critical assessments. Even if the Marxist theorist Slavoj Žižek still upholds the authority of Deleuze and Guattari as philosophers of radical social change, I neither embrace nor discuss here Žižek's testing of correspondences between affect-producing Deleuzian 'desiring machines' and the apparatus of desire embodied in advertising by the vaguely offensive description of 'a yuppie reading Deleuze' (2004). Instead, I share Frichot and Loo's view that even if the Deleuzian concepts were used as 'the tools until they have become clumsy and their edges blunt, what persists is an ethos, which perhaps no longer even needs to be signed by Deleuze, so fully has it been incorporated into what it is to pursue an ethico-aesthetic architecture' (2013: 6).

This thesis shows how Gehry's lessons in design actions and strategies can be reclaimed and resituated within the history of Deleuze and Guattari's thoughts circulating within architectural discourse. As witnessed through tides of reengagement and questioning, PROTOTYPING PLATEAU GEHRY_CONNECTIVES shows how one of the most controversial architectural design productions can reclaim the relevance of Deleuze today, especially after the history of the reception of his work in architecture (as mentioned above and especially in Chapter 2, 'Scope of the Research' in Volume 1).

Six years after Frichot and Loo's evaluation, the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis seeks to show how Deleuze and Guattari's concepts did not exhaust their power as tools for understanding contemporary architectural practices. Although architectural theory and practice 'have indeed been exhaustive in finding ways to appropriate the works of the philosopher', the present work attempts to prove the *in-exhaustive* potentialities of Deleuze and Guattari's work. One may confirm that '[a]gainst the rumours of exhaustion we will argue for the on-going relevance and persisting legacy of Deleuze's philosophical, ethical and aesthetic work for the thinking-doing of architecture' (Frichot and Loo 2013: 3).

As Gehry 'realises all too well that he is pushing at the parameters of an architecture, boxed in by set rules (van Bruggen 1997: 119), he seems to pronounce a quite Deleuzian statement: 'To say that a building has to have a certain kind of architectural attitude to be a building is too limiting' (Ibid.). His pursuit of an ethico-aesthetic architecture is radical and based on radical views; he sees life as 'chaotic, dangerous, and surprising' and claims that '[b]uildings should reflect that'.⁶⁴ These views are rooted in his understanding of democracy, which he maintains 'has produced chaos, especially visual.' He argues that '[a] lot of people don't like it and yearn for nineteenth-century images, forgetting that the politics of those images were different than the democracy we love' (Isenberg 2009: 268).

Mapping conjunctions of Gehry's design productions with philosophical concepts, PROTOTYPING PLATEAU GEHRY_CONNECTIVES shows that Gehry's practice bridges subjects and objects from the two disciplines. Gehry's

64. Gehry cited in Germano Celant, *Frank Gehry* (Barnes and Noble, 2000), 6. As the architecture critic Paul Goldberg wrote, 'I am not sure how easy it is for children to understand what Gehry means when he says: "Life is chaotic, dangerous and surprising. Buildings should reflect it."' Paul Goldberger, 'Master Builder', *The New York Times* Nov. 19, 2000. Accessed online at: <http://www.nytimes.com/books/00/11/19/reviews/001119.19goldbet.html>.

exploratory, experimental, and in many respects subversive attitude to architectural practice is his ethos, it is the architecture-becoming-philosophy ethos fitting the Deleuzian condition of philosophical thinker, fulfilled by filmmakers or painters who ‘are philosophical thinkers to the extent that they explore the potentials of their respective mediums and break away from beaten paths’ (Massumi 1992: 6).

Deleuze and Guattari’s *Anti-Oedipus* is a by-product or incidental extension of a larger project of a 1960s uproar against of social conventions and the restriction of desire to bourgeois or ‘familial’ forms (Colebrook 2002: 5); similarly, Gehry’s radical treatment of the house – the most ‘familial’ social form and conception – may be seen as a fragment of the cultural aftermath in America after the first publication of *Anti-Oedipus* in English (1977). It seems to fuse the energy of the radically provocative text into a blast of distortions and deformations of the ▶ **1978** Gehry Residence (Santa Monica, California 1977-1978), ▶ **1978** Familian Residence (Los Angeles, California 1977-1978, project), or ▶ **1978** Wagner Residence (Malibu, California 1978, project). It is as if the power of *Anti-Oedipus* directly impacted ‘the formal purities of modern architecture, burst open its abstract boxes and plunged the rearranged fragments into the everyday ground of Southern California life’ (Foster 2001). It is as if new Deleuze and Guattari’s theories affected the social conventions of inhabiting the house, of family domestic life that ties the social with the spatial, and social forms with architectural arrangements. Gehry’s distortions and deformations of the social form of the house cause a shock to thought that prompts the question: ‘Did you explain to your family what your intentions were when you placed the dining room in the driveway?’ (Diamonstein-Spielvogel 1980a: 39’33”).

By analysing Gehry’s design production, the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis raises the question of whether architecture, through its processes of individuation of design procedures and techniques and through the architect’s discoveries of new possibilities and expansion of her continuous self in new contexts can be comparable or

identical to ‘active responses to life’ as acts of thought such as philosophy and literature? (Colebrook 2002: 4).

Theory and new concepts

If the theatre, or performance art, belongs to the same category of acts of thought, actively and corporeally responding to life, then Gehry’s unusual participation in such activities presented an occasion to reflect on the theory of his architecture. The way in which this theory was expressed is even more unusual. As described above, Gehry lectured about his theory disguised as the fictional character Frankie P. Toronto. Moreover, the lecture was part of *Il Corso del Coltello* at the 1985 Venice Biennale. According to van Bruggen’s essay, ‘Waiting for Dr Coltello: A project for *Artforum*’, ‘during the weekend of February 25–26, 1984’ was an event where ‘Claes Oldenburg and I met with Frank Gehry in New York to talk about a combined architectural and theatrical project for Venice originally proposed by the critic Germano Celant in connection with his exhibition *Art & Theater 1900–1984*’. This event was first ‘planned but not realized for the 1984 Venice Biennale. The events are now planned for the spring of 1985’ (van Bruggen 1984). The project was produced, curated and later described and documented by Germano Celant (1987), and the content of the unusual lecture most probably included elements of collaboration. In fact, it was more a dialogue than a lecture, appearing as a fusion of Gehry’s biographical facts and experiences, his architectural thoughts and ambitions merged with the ideas of Oldenburg, van Bruggen, and, most clearly, of Germano Celant, who published an analytical essay about Gehry’s architecture in the same year of the Venice project (Arnell and Bickford 1985). Moreover, as conceived by van Bruggen, the performance depended on the behaviour of specific characters, at the same time, ‘it was quite improvisational, relying on the spontaneity of the various

actors'. Like in the sixteenth-century *commedia dell'arte*, 'the dialogue was improvised on the spot' (Celant 1987: 26). In the 1986 essay 'The Indiscreet Knife,' Celant appears to foresee certain qualities of Gehry's architecture of the next three decades describing a combined project/performance where works, thoughts, concepts, and bodies of artists, architect and writer cohabitate and animate the space, objects and performance. Celant writes:

Throwing himself into his lecture, Toronto argued that architecture does not consist of in the disinterment of the ruins of the past, as the Postmoderns believe, but rather in the unsettling effect created by buildings that are born from 'cutting and slicing –that is the way buildings are made.' The temple fell because for the architect, as for Heidegger, novelty consists in 'continually knocking the bottom out of historical contexts.' For this reason, Toronto continued, 'real order is disorder' (Celant 1987: 26).

Gehry and theory

'In contrast to his East Coast contemporaries, Gehry's career is not based on an exploration of the liberating possibilities inherent in architecture's formal characteristics' (Betsky 1990: 47). Lahiji goes much further, stating that although 'he himself remains intellectually illiterate and hostile to philosophical discourse, Gehry is the master, an idol, of hyper-Deleuzeans.' (Lahiji 2016: 150). This thesis argues that reading Gehry through concepts of Deleuze and Guattari allows viewing his practice as making architecture into philosophy, not as applied philosophical theory or discourse, but through radical confrontations with long-established modes of production of architectural design – by violating architectural perfection.⁶⁵

65. The expression: 'violates architectural perfection' refers to Aaron Betsky's book *Violated Perfection: Architecture and the Fragmentation of the Modern* (1990).

Gehry prefers actions. Unlike e.g. Peter Eisenman or Rem Koolhaas, Gehry does not theorise about his work or about architecture in general; nor does he write or publish texts on the subject. While Koolhaas uses ‘Deleuzian concepts, such as the smooth and the striated to discuss his work (...)’ (Frichot and Loo 2013: 7), Gehry (with his collaborators in the studio) first enacts them. Though they are not labelled as such, the qualities of smooth and striated space occur in his drawings or manual manoeuvres performed on red waxed felt.

Connections with philosophy

Lambert’s further explanation of the relation between philosophy and ‘non-philosophy’⁶⁶ is particularly relevant for the present study of connections of Gehry’s architectural practice with philosophy. In it, he claims that the latter ‘takes the form of a general co-dependence and distribution’ among the planes of expression of art and science, ‘all of which’, he adds, ‘are attempting to gather a little bit of the chaos that surrounds us and carries us along and to shape it into a sensible form (Lambert 2002: xiii). In this analysis, Lambert seems to borrow directly from Deleuze and Guattari’s ‘Conclusion: From Chaos to the Brain’ in *What is Philosophy?* In it, they state that:

Every [a]rt takes a bit of chaos in a frame in order to form a composed chaos that becomes sensory, or from which it extracts a chaoid sensation as variety; but science takes a bit of chaos in a system of coordinates and forms a referenced chaos that becomes Nature, and from which it extracts an aleatory function and chaoid variables’ (1994: 206).

66. Lambert’s spelling ‘non-philosophy’ does not differ from the spelling of the earlier version of ‘non-philosophy’ in *Difference and Repetition*.

Gehry's tale of architecture's transactions with chaos reflects above renditions. Projected onto Palladio's oeuvre, his account of these transactions was an architectural design statement. As Frankie P. Toronto,⁶⁷ Gehry accused Palladio of leaving chaos imperceptible, of categorising it as unimportant and architecturally useless. Comparing Palladio with Borromini, Gehry already indicated two dominant characteristics of his future architectural practice in 1985. Announcing that Palladio 'should have recognised that there's chaos; [and that] he should have gone ahead and done what Borromini did' (Dal Co and Forster 1998: 10), Gehry declared his architectural affiliations with the Baroque. » **C 0810 Baroque** The addition that Palladio 'would have been a pioneer' (1998: 10) appears to reflect Gehry's architectural manifesto, indicating his uncompromising urge to alter architectural design practice.

Gehry's tale of architecture's transactions with chaos becomes the practice of his architectural design production. There, chaos is not recognisably distinct from the substance in which it is embedded; instead, chaos is enmeshed in the heterogeneous whole of both the design processes and of the material properties of the artefacts produced.

» **C 0049 Chaos and potentials of painting**

» **C 0109 Non-philosophy and chaos**

Numerous _CONNECTIVES investigated and revealed a variety of Gehry's architectural design transactions with chaos.

» **C 0810 Baroque**

» **C 0005 A throw of woodcuttings**

» **C 0091 Snowflaking or filling of space**

» **C 0844 Overdrawing**

» **C 0043 Breakthrough**

» **C 0255 Ambiguous lines**

» **C 0943 Deformations**

» **C 0559 Malleability**

67. See also Chapter 2 of Volume 1 and the section 'Master builder / master of disguise' in Chapter 2 of this volume.

- » **C 0321** Movement (part II)
- » **C 0543** Cinematic *viewing-sections-model*
- » **C 0550** Gehry's brush strokes
- » **C 0260** Zones of indiscernibility
- » **C 0755** Battlefield of Gehry's canvas
- » **C 0658** Spontaneous crumples
- » **C 0571** Distorting perspective
- » **C 0023** Arrhythmic scaling
- » **C 0409** Village, dispersion, rhizome
- » **C 0547** [1996] Prague. Context, simulation, variation
- » **C 0576** Cinematic framings and irrational breaks
- » **C 0102** Cinematic language constructing its own 'objects'
- » **C 0079** Two forests
- » **C 0371** [1976] Norton Simon Gallery. Movement (part I)

In *What is Philosophy?*, Deleuze and Guattari put 'art' in a privileged position in their triad of philosophy, art and science. Art is an integral component of their three-level operations of the cerebral quality of things (the brain-becoming-subject). (Colman 2005a: 16).

At the junction of the respective domains of the architect and philosopher, art becomes the area of most of the research of the PLATEAU GEHRY_CONNECTIVES project. Colebrook points out that art is an area, which for Deleuze is 'movement away from structuralism, towards theorising relations between art, science and philosophy as an affirmative strategy of positive difference' (Fensham 2002: vi). Deleuze's re-definition of philosophy makes painters and filmmakers 'philosophical thinkers' as long as they 'explore the potentials of their respective mediums and break away from beaten paths' (Massumi 1992: 6).

Pragmatics of Gehry's strategies and actions

The instrumentality of concepts is the kind of pragmatism that connects Gehry's practice with that of Deleuze and Guattari. The approach can be seen in Gehry's design

actions and strategies.⁶⁸ His action of placing in, of breaking, of cutting, or bending, his throws of wood cuttings, poetically-used scale, repetition and variation of modelmaking, *breakthroughs* and deformations, the spontaneous crumpling of paper or tossing of waxed felt – these are all equivalents of Deleuzian concepts.

- » **C 0771** *Action of placing in*
- » **C 0429** *Action of breaking*
- » **C 0472** *Action of cutting*
- » **C 0983** *Action of bending*
- » **C 0005** *A throw of wood cuttings*
- » **C 0476** Poetry of scale
- » **C 0745** Model: difference, repetition, and variation
- » **C 0043** Breakthrough
- » **C 0943** Deformations
- » **C 0658** Spontaneous crumples
- » **C 0764** [1993] Red waxed felt

All of the explorations in PLATEAU GEHRY_CONNECTIVES attempt to expose *breakthroughs* with the intention of examining them at the moment of their invention – the point at which it is possible to observe what they invented.

68. Gehry's specific pragmatism was a subject of the author's paper 'Pragmatics of Gehry's gestures: Marking out properties and procedure' presented at the 32nd Associations Art Historians Annual Conference, *Art & Art History: Contents. Discontents. Malcontents*, University of Leeds, 5–7 April 2006. The content of this paper is reworked in this thesis.

5. Virtual, Actual, and Unthought

The results of the mapping of Gehry's experiments in PLATEAU GEHRY_CONNECTIVES show that Deleuzian concepts still engage with architectural research and contemporary architectural design processes. What summarises the findings of PLATEAU GEHRY_CONNECTIVES is how Gehry emulates the processual dynamics of his distinctive design actions and strategies in buildings and how Deleuze's concepts can describe them. Following the PLATEAU GEHRY_CONNECTIVES, one wonders whether the experimental design processes Gehry shaped over more than four decades need to be evident in the building, manifested in the structural and formal arrangements. Major monographs and essays on Gehry and many case studies mapped by the _CONNECTIVES indicate that pushing architecture toward the visual arts was imperative for Gehry (Arnell and Bickford 1985; van Bruggen 1997; Dal Co and Forster 1998; Friedman and Frank O. Gehry and Associates 1999; Gilbert-Rolfe with Gehry 2001; Lemonier and Migayrou 2015; Goldberger 2015; et al.). Recurring exclamations about

painting and its importance in Gehry's views on architecture and architectural design in series of interviews are especially important here (Diamonstein 1980; Arnell and Bickford 1985; Zaera-Polo 1995a; Pollack 2006; McMichael Reese 2006; et al.); they explain Gehry's essential urge to make a building expressive the way that he perceived painting as expressiveness. Thus, for Gehry, the process could not end in a building that no longer speaks of the process.

Through Gehry in particular then, we can argue more generally for an understanding of design aesthetics that could possibly explain architectural design phenomena in other contemporary or future practices. Three essays strongly support such a general understanding of design aesthetics through Gehry: Penelope Dean's 'Practice *Nouveau*' (2009), Hélène Frichot's 'Stealing into Gilles Deleuze's Baroque House' (2005), and Brian Massumi's (1998) 'Sensing the Virtual, Building the Insensible'. In 'Practice *Nouveau*' – the only essay that directly addresses Gehry's design processes – Dean explains the consequences of the urge to make a building expressive. In Gehry's architectural design production, Dean argues, digital tools (CATIA) not only transformed how architecture could be *practiced*, but it also redefined what could constitute the very nature of architecture (2009: 307). Interestingly, Dean writes about 'reconfiguring the relationships between architect and builder through 3D digital models' (2009: 307), which Gehry calls 'master models'. As I argued in the first part of this thesis '*Freeze-frame*: INTRODUCTION, the use of the digital model was motivated by a need to transfer the formal complexity of hand-made models into a digital, construction-oriented modeling environment. The reading of Gehry via Deleuze and Guattari casts new light on the design processes here.

Dean asserts that application of the CATIA system facilitated the 're-disciplining of architecture' into 'a craft nouveau' or 'a new mode of working' (2009: 307), also suggesting that it transfigured model-making practices. Nonetheless, the present thesis argues that the manual character of Gehry's model-making practice prompted the application of CATIA system. This character of model-making

also explains the role of painting in Gehry's attitude towards design productions. Through the analysis of the ► **C 0755** Battlefield of Gehry's canvas, it furthermore suggests that Gehry, dealing with sketch- or process models, works as a painter; especially when juxtaposed with Deleuze's reading of Francis Bacon. Moreover, various characteristics of Gehry's drawing technique detected in PLATEAU GEHRY_CONNECTIVES show inclinations towards different aspects of painting, e.g.:

- **C 0004** Drawing architecture
- **C 0255** Ambiguous lines
- **C 0600** Confronting limitations of architectural drawing
- **C 0951** Architectural drawing as cognitive tool
- **C 0201** Painting
- **C 0962** Drawing movement
- **C 0061** Optical versus manual
- **C 0831** Immediacy
- **C 0905** Immediacy and kinetic properties
- **C 0934** Imperfect
- **C 0943** Deformations
- **C 0030** Klee's 'interworld'
- **C 0792** From figurative to abstract
- **C 0725** [1955] Glenn Gould Variations
- **C 0730** Distribution of formless forces
- **C 0371** [1976] Norton Simon Gallery
- **C 0105** Projection and representation
- **C 0260** Zones of indiscernibility
- **C 0287** Dialogues, raptures, accelerations
- **C 0502** Pollock
- **C 0049** Chaos and potentials of painting
- **C 0588** Gehry's sketching and the rhizome
- **C 0810** Baroque
- **C 0888** Gesture and the concept of *plain action*
- **C 0903** Solitude and collaboration
- **C 0959** *Molto vivace*
- **C 0677** Ambiguous gesture
- **C 0593** Abstraction
- **C 0091** *Snowflaking* or filling of space
- **C 0625** Flux of images and 'time-image'

The actual and the virtual

Jeremy Till claims that ‘at every stage of its journey from initial sketch to inhabitation’ (2009: 45f), architecture is fully dependent on others than the architect herself. Even if this is true, the PLATEAU GEHRY_CONNECTIVES research reveals small, yet relevant gaps in this theory, at least if we regard dependency as a direct working impact from others – or their tools – in the creative moment. Studies of Gehry’s hand-drawn sketches (van Bruggen 1997; Rappolt and Violette 2004; da Costa Meyer 2008) show that the technique, which evolved through decades of practice and the interactive expansion into unconventional collaborations, empowers design results to break away from such dependency. Gehry turns his design strategies against habitual inclinations towards specific expectations, steering his design processes out of Till’s scheme, that ‘an architectural sketch has a certain innocence, (...) even these early marks are conditioned by previous experience and present expectations’ (2009: 45f). This is evident in Gehry’s disregard of ‘glib’ drawing as a representational technique, or the expectation of a scientific-like *breakthrough* as the essence of his team’s working culture (Gehry in Diamonstein 1980; Friedman with Gehry and Associates 1999; Colomina 2003: 6-17). Despite Till’s claim, the present research reveals the production of early visualisations of architectural design that is not conditioned by previous experience or present expectations. This chapter makes the final claim of the PLATEAU GEHRY_CONNECTIVES thesis: that the Deleuzian concept of the virtual describes these specific, very early stages – typical for Gehry – of architectural design production.

Conjunctions with Deleuze and Guattari’s thoughts on the virtual detected in PLATEAU GEHRY_CONNECTIVES reveal the very essence of Gehry’s experimentation. Arguments of the two other essays supporting the understanding of design aesthetics through Gehry, Frichot’s ‘Stealing into Gilles Deleuze’s Baroque House’ and Massumi’s ‘Sensing the Virtual, Building the Insensible’ provide a vivid connection of

architecture with Deleuze and Guattari. Both contribute particularly to the inter-relationship between the concept of the virtual and architectural design productions. The study of Gehry's unique technique of drawing in the » **C 0477** Imagined and unimagined and the analysis of the implications of the use of unconventional material in model-making in the » **C 0764** [1993] Red waxed felt demonstrate what Massumi designates architects' topological turn. The » **C 0764** [1993] Red waxed felt exemplifies his claims on the deformational strategies that result in a less heroic approach to architectural design because their '[a]rbitrariness and constraint are internal to the process' (1998: 18). Massumi's argument against conventional methods of 'form-making' and his proposal of open-ended creative strategies best defines the interpretation of Gehry's design aesthetics.

Specific asignifying properties of material productions resulting from Gehry's *factual design actions* that are presented and analysed in PLATEAU GEHRY_CONNECTIVES are topologically inclined in Massumi's sense. » **C 0188** Gehry's *factual design action* For Massumi, topology has to do with continuity of transformation. 'It engulfs forms in their own variation. The variation is bounded by static forms that stand as its beginning and its end, and it can be stopped at any point to yield other still-standing forms' (Massumi 1998: 16).

- » **C 0477** Imagined and unimagined
- » **C 0764** [1993] Red waxed felt
- » **C 0188** Gehry's *factual design action*

New relationship between the architect and the design process

Material production of Gehry's *factual design actions*, as multiplied in free-flow-drawings and in tossing felt soaked in liquid wax, are manually deformed objects with spurious effects, which, when aggregated, produce complexity and destabilise their

architectural meanings. Massumi deliberately defines such circumstances to delineate a new relationship between the architect and the design process:

The architect's activity is swept up in that complexity, its triggering and stoppage. It works at a level with it. The architect yields dosed measures of his or her activity to the process. The 'arbitrary' of the decisions that enter and exit the process are more like donations to its autonomy than impositions upon it. Rather than being used to claim freedom for the architect, decision is set free for the process. The architect lets decisions go, and the process runs with them (Massumi 1998: 18).

Gehry's description of his mode of sketching published earlier echoes Massumi's reasoning:

I think that way. I'm just moving the pen. I'm thinking about what I'm doing, but I'm sort of not thinking about my hands (van Bruggen 1997: 37).

In a recent interview, Gehry suggested that the kinds of arbitrariness that appear in his design processes – what Massumi calls donations to their autonomy rather than impositions – are borrowed from artists:

Rauschenberg and Judd, and Carl Andre and all these guys, and John Chamberlain were all doing things. They... It looked like they were letting *it* happen, and I started to let things happen. (...) it's crazy, but if you play with it, you can use it and make things, as Rauschenberg did with the combines (Lemonier and Migayrou 2015: 57).⁶⁹

69 . Emphasis added.

Translation into and out of virtual force

PLATEAU GEHRY_CONNECTIVES maps such design productions. They represent the qualities that Massumi defines as the translation into and out of virtual force (1998: 18). They are most vividly present in Gehry's drawing technique, examined in the » **C 0477** Imagined and unimagined, and in his spatiotemporal manipulation of the » **C 0764** [1993] Red waxed felt. Following Henri Bergson, the philosopher who rejected static values in favour of values motion, change, and evolution elaborating a *process philosophy*, we can say that the virtual is the mode of reality implicated in the emergence of new potentials. In Massumi's words, 'its reality is the reality of change: the *event*' (1998: 16). When Massumi points at the problem of the virtual, which 'can only figure as a mode of abstraction' (1998:16), he brings it directly into an architectural design context. Suggesting that this particular mode of abstraction generates problems for practices interested in truly accommodating the concept,⁷⁰ he reminds us that architecture, especially in processes of architectural design production, has always dealt with this kind of abstraction. For Massumi, 'the production of abstract spaces, from which concrete forms can be drawn' is always an integral part of the creative process of architectural design production (1998: 16).

Even if Gehry's architectural design processes are inseparable from material production, even if Gehry's affection for the concrete is factual, his design actions and strategies mapped in PLATEAU GEHRY_CONNECTIVES show that they effectively encounter the difficulties of the virtual. According to Massumi, the difficulties are not related to abstractness of the virtual, but its 'unform' nature.

- » **C 0043** Breakthrough
- » **C 0477** Imagined and unimagined

70. Massumi claims that 'the abstractness of the virtual has been a challenge to certain discourses, particularly in the interdisciplinary realm of cultural theory, which make a moral or political value of the concrete' (1998: 16).

- » **C 0188** Gehry's *factual design action*
- » **C 0764** [1993] Red waxed felt
- » **C 0255** Ambiguous lines
- » **C 0260** Zones of indiscernibility
- » **C 0005** A throw of wood cuttings
- » **C 0287** Dialogues, raptures, accelerations
- » **C 0550** Gehry's brush strokes
- » **C 0559** Malleability
- » **C 0651** Catastrophe
- » **C 0658** Spontaneous crumples
- » **C 0660** Diagram
- » **C 0661** Shifting scale, expanding rhizome
- » **C 0663** Irritability
- » **C 0905** Immediacy and kinetic properties
- » **C 0906** Vibrating tectonics
- » **C 0907** Dust: the impossible of architecture
- » **C 0923** Cinema of scaling
- » **C 0938** Spasms
- » **C 0943** Deformations
- » **C 0951** Architectural drawing as cognitive tool
- » **C 0962** Drawing movement
- » **C 0967** Wrapping
- » **C 0981** Gehry's operative abstract machine
- » **C 0959** *Molto vivace*

Although phrased differently, Gehry's interest parallels Massumi's question: 'How can the run of the uniform be integrated into a process whose end is still-standing form?' (Massumi 1998: 16).

- » **C 0907** Dust: the impossible of architecture
- » **C 0559** Malleability

The materiality of Gehry's design productions, or material deformations resulting from his design micro-procedures, displays their fundamental quality of change. For instance, anything being cut changes its physical properties, » **C 0472** *Action of cutting* and breaking generates an abrupt change of properties of broken material. » **C 0429** *Action of breaking* Because of an analogous character of micro-procedures embodied in material change, other examples of Gehry's

deforming actions are studied in PLATEAU GEHRY
_CONNECTIVES:

- » **C 0005** A throw of wood cuttings
- » **C 0188** Gehry's *factual design action*
- » **C 0771** *Action of placing in*
- » **C 0983** *Action of bending*

Executing these actions, Gehry relentlessly confronts the dichotomy that Massumi describes as what is concretely given, of what is, and that which will be when it changes. Through his understanding of the scientific-like idea of *breakthrough*, » **C 0043** Breakthrough the architect intuitively perceives the potential of situations in which such *breakthroughs* occur – the potential that Massumi defines as situations exceeding their actuality (1998:16). Gehry thus insistently enters the mode of reality that for Deleuze and Guattari is implicated in the emergence of new potentials, ‘the reality of change: the *event*’ (1998:16).⁷¹

Event

Borrowing from Deleuze’s analysis of Bergson, Frichot (2005) follows a similar path. Positioning the activities of an architect at the threshold of the virtual, she adds to the understanding of the essentials of Gehry’s experimental modes of operation. Her rendition of the relationship of the virtual and the actual explains the core findings of the ‘fieldwork’ of PLATEAU GEHRY_CONNECTIVES. Referring to Deleuze’s question ‘what is an event?’, Frichot makes an insight right into the heart of architects’ design production procedures, into micro-procedures similar to those explored in PLATEAU GEHRY_CONNECTIVES and identified as Gehry’s formative, yet disruptive actions. » **C 0423** Disruptive actions, disruptive affects

71. Massumi’s emphasis.

Frichot's account of 'event' offers another view, if not a redefinition, of what I have called Gehry's *gesture* and *factual design action*.

- » **C 0888** Gesture and the concept of *plain action*
- » **C 0188** Gehry's *factual design action*

Through their properties and micro-procedures, Gehry's actions resemble the surface effects marked by an event, which Frichot describes as 'produced in the construction of something that is minimally durable' (2005: 67). » **C 0423** Disruptive actions, disruptive affects In *factual design actions* – in those disruptive actions and disruptive affects – Gehry approaches closest to what Frichot calls 'the convergence of thought and matter' (2005: 67); i.e., to the Deleuzian event as that which is expressed. Like the event, Gehry's *factual design action* is plotted across, or through, two sides of what Frichot describes as 'the surface of sense' (2005: 67). According to Frichot, one side of the surface belongs to the material facticity, or the pleats of matter, which, for instance, might inform a provisional form or framing device, whereas the other side belongs to 'the immaterial folds or incorporeal forces without which the material could never have become actualised' (2005: 67). What is observable in Gehry's plotting of the unimagined into the imagined of his scribbles, in tossing the red waxed felt, in all occurrences of his breakthrough, in all performances of Gehry's *factual design action*, in all outbreaks of disruptive actions, disruptive affects, and in all instances of poetic use of scale, are Gehry's attempts to actualise the virtual – the virtual that Frichot contends resists representation.⁷²

- » **C 0477** Imagined and unimagined
- » **C 0764** [1993] Red waxed felt
- » **C 0043** Breakthrough
- » **C 0188** Gehry's *factual design action*

72. Even if there are many more examples of _CONNECTIVES presenting Gehry's attempts of actualisation of the virtual, I purposefully refer only to those marked in light blue: these _CONNECTIVES are in Volume 2, and the reader can easily verify the above claims.

- » **C 0423** Disruptive actions, disruptive affects
- » **C 0476** Poetry of scale

Although unrepresentable, the virtual presents itself when the unimagined is plotted into the imagined of Gehry's scribbles, when a breakthrough occurs in the design environment, when Gehry uses scale in a strangely poetic manner, when his *factual design action* leaves a material residue or deformation, or when other disruptive actions take place. This happens because, as Frichot describes it, the actual 'punctures the threshold of the virtual and presents itself, but in no way does it resemble the writhing force of the virtual' (Frichot 2005: 71). As if conscious of the ungraspable nature of the virtual, of 'the unseen, the invisible, the unthought', or of the Outside,⁷³ Gehry's searches, his notorious reiterations of model-making interspersed with drawn sketches, » **C 0287** Dialogues, raptures, accelerations are at the same time grounded in the certainty, passion, and fervour of the appreciation that what 'we can perceptually and conceptually grasp is the actual, and the real' (Frichot 2005: 71).

The possible and the virtual

Frichot acknowledges that when making the relationship with the virtual, the decisive factor of framing or capturing of the actual and the real, of the conceptual and the material, the real relates more exactly to the possible (2005: 71). According to Frichot, the actual and the real, or even the conceptual and the material 'bear no resemblance whatsoever to the virtual' (2005: 71). The Bergsonian challenge of the notion of possible in favour of that of the virtual (Deleuze 1991a: 97-98) thus becomes valuable in the context of the architectural design production. Deleuze's reading of Bergson recognises the

73. Frichot finds out that in Maurice Blanchot's oeuvre, the virtual is called the Outside (2005: 71). The emphasis with a capital letter is Frichot's.

possible as a false notion, as the source of false problems (1991a: 98). He argues that:

The real is supposed to resemble it. That is to say, we give ourselves a real that is readymade, preformed, preexistent to itself, and that will pass into existence according to an order of successive limitations (1991a: 98).

Is this not what the architectural design production suffers from in its inability to seriously entertain the concept of the virtual?

Deleuze's concept of the image may be useful for examining the problem. In this concept of the image, '[e]verything is already *completely given*,⁷⁴ it is the image as 'pseudo-actuality of the possible' (1991a: 98). Deleuze's analysis resonates here with Evans' fundamental claim about the nature of the image in architectural drawing, which refers to the object preexisting its construction (1997: 165). If we agree that the architectural sketch is the image of the imagined architectural object and therefore resembles the possible, Deleuze's sleight of hand enters the equation.

If the real is said to resemble the possible, is this not in fact because the real was expected to come about by its own means, to "project backward" a fictitious image of it, and to claim that it was possible at any time, before it happened? (1991a: 98)

Gehry manifests the awareness of the burden of 'projecting backwards', and its consequences for the built environment verbally and in the practice of his experiments. His experiments counteract the backward projections. In his architectural design production, Gehry seems to identify the correlation of the real and the possible in the same way that Deleuze interprets Bergson's 'The possible and the Real', namely that

it is not the real that resembles the possible, it is the possible that resembles the real, because it has been abstracted from the real once made, arbitrarily extracted from the real like a sterile double. (1991a: 98).

74. Deleuze's italics.

Rather than ‘projecting backward’, Gehry always uses the immediacy of his *factual design actions* and attempts to connect directly with the virtual. Instead of risking rendering the possible that resembles the actual, or the real, he avoids the moment of abstracting anything from the real like an unproductive standard replica, as if intuiting Bergson and Deleuze’s thoughts; it seems almost as though Gehry is taking full advantage of Evans’ realisation and Deleuze’s analysis. His grinding into the paper to get to an idea and his making models of ideas scratched out of the paper (Gehry 1985: xv) appear acts of compulsive struggles to reveal what is beyond the possible, beyond the real that is supposed to resemble it. It is as if Gehry is following Deleuze’s connotation of the real that is readymade, preformed, and preexistent to itself in any architectural drawing or model, to compulsorily disobey and violate the rule that the possible will pass into existence according to an order of successive limitations of architectural design processes.

The aggregation of *factual design actions* in Gehry’s grinding into the paper or in the painterly treatment of making models from an idea scratched out of the paper, or in the manual manipulations of other materials, reveals a state of undecidability, a hesitant balance ‘between material constituents and immaterial forces’ (Frichot 2005: 67).

- » **C 0755** Battlefield of Gehry’s canvas
- » **C 0658** Spontaneous crumples

This state is characteristic of the fine grain of Gehry’s disruptive actions and of his micro-procedures leading to *breakthroughs*, and it is reminiscent of the nature of fine details on what Deleuze calls the surface of sense. According to Frichot, upon this surface ‘we discover the circulation of events and the creation of innumerable surface effects’ (2005: 66).

Gehry places his design actions right at the dynamic threshold between the virtual and the actual, where the process of actualisation takes place through his atypical, disruptive actions of cutting, breaking, bending or placing in, through his

defamiliarizing strategies of *wrapping*, of shifts of scale and of searching for scientific-like *breakthroughs* described in e.g.:

- » **C 0423** Disruptive actions, disruptive affects
- » **C 0005** A throw of wood cuttings
- » **C 0472** Action of cutting
- » **C 0771** Action of placing in
- » **C 0983** Action of bending
- » **C 0429** Action of breaking
- » **C 0661** Shifting scale, expanding rhizome
- » **C 0043** Breakthrough

Frichot defines this as the process of grasping what enables creative moves. In this process, ‘the actual and the virtual are co-present, much in the same way that nonsense and sense are co-present, and co-productive (Frichot 2005: 71). When referring to Deleuze, Frichot also writes that

actualisation pertains to the folds in the soul, those drapes that are writ large enough that we can make concepts of them, realisation is figured across the pleats of matter – for example, we could realise a material built form (Deleuze 1991: 26).

This description echoes the *modus operandi* of Gehry’s actualisations that are most extended in time, those occurring within exchanges of imagined and unimagined, or in manipulations of red, waxed felt.

Gehry is the process tweaker and form flusher

PLATEAU GEHRY_CONNECTIVES notes that Gehry’s architecture is developed from circumstances common for the discipline, such as programme, site, budget, regulations, etc. PLATEAU GEHRY_CONNECTIVES concludes that Gehry employs various strategies that add other circumstances to the practice. Developing Deleuze and Guattari’s concept of the virtual, PLATEAU GEHRY_CONNECTIVES follows Massumi’s claim in ‘Sensing the Virtual, Building the Insensible’ (1998)

that architects have reverted to topological and deformation strategies.

Massumi decisively introduces virtuality into architectural discourse as the insensible new potential, which does not manifest in material form, but in a mode that facilitates confluence. Borrowing from Bergson, Elizabeth Grosz reads the concept of the virtual and that of the actual as vehicles of relating and connecting past, present and future, and thus, space with time. The interaction of the virtual with the actual is most important for the current project. In the context chosen by Grosz, this allows for a re-interpretation of Gehry's characteristic micro-scale design procedures explored in PLATEAU GEHRY_CONNECTIVES. It is a register of the micro-procedures of Gehry's architectural design process, the design process that also involves the whole range of common architectural design procedures. Moreover, the micro-procedures of Gehry's *factual design actions* encompass what Massumi defines as the 'impurities' of the everyday, such as 'personal taste, dirty function, preference enforced in part by social convention, and most vulgar of all, cost' (1998: 18). According to Massumi, all of these aspects, with their arbitrariness and constraint, are internal to the design process; 'they are variables among others, in a process that is all variation' (1998: 18).

From the perspective of the PLATEAU GEHRY_CONNECTIVES thesis, the way in which Massumi relocates and redefines the role of the architect in his analysis is important. He argues that the 'arbitrary' gives a less accurate description of the architect's decisive actions and insists instead on a role of the architect 'that requires "following" the process, which in turn requires having a certain "feel" for its elusiveness, for its running, for its changeability: a feeling for its virtuality' (1998: 18). The variety of Gehry's design operations mapped in PLATEAU GEHRY_CONNECTIVES reveals – in Massumi's terms – the characteristics of the new role of the architect. The _CONNECTIVES expose the way Gehry is capable of 'following' the process, or of having a certain 'feel' for its elusiveness. Many _CONNECTIVES cite Gehry's repeatedly expressed interest in

allowing the process to lead his design decisions while referring to the elusiveness of the design process and its means of production. The mapping performed by PLATEAU GEHRY _CONNECTIVES shows Gehry's affection for the changeability of the design process, which Massumi calls its 'elusiveness', 'running', or 'its virtuality' (1998: 18).

Gehry likes the form to remain unknown; he seeks it in paper or through manual deformations. He provokes uniform through his deformational actions and does not need the computer as a tool of indeterminacy. His hands-on strategy does not include the computer keyboard, which Massumi suggests is necessary for 'the topological turn (...) to catalyse newness and emergence rather than articulating universalised fixation' (Massumi 1998: 17). Gehry's abstract space of design is not in the digital domain; there is no return of the arbitrary, of the programmed space/environment. Rather, an architect's arbitrary decision follows the process of deformations. Ultimately, everything Gehry delegates as part of his architectural models becomes a foreign object and starts operating as a found object, and the architect, as the finder-artist, recognizes it as an 'aesthetic object', like the *objet trouvé*. Or, it becomes one by being deformed. Massumi calls the new role of the architect that of a 'process tweaker and form flusher' (1998: 18); this accurately describes the redefined role of the architect Gehry enacts.

This argument is important for the PLATEAU GEHRY _CONNECTIVES thesis as it touches on the problem of the 'starchitect' status attached to Gehry in popular culture and absorbed by the architectural discourse. This informal and derogatory notion denotes the status of a high-profile architect, very often mixed with pop culture celebrity status. For various reasons, Gehry is perceived as a typical famous and ego-driven starchitect.⁷⁵ PLATEAU GEHRY _CONNECTIVES strives to

75. Numerous publications in popular culture references to Gehry as a starchitect; notably, on one of popular Internet search engines, a photo of Gehry accompanies the search results for 'starchitect'.

demystify Gehry's status as a starchitect whose 'scribbles' or 'crumplings' are strokes of 'god-like' genius, and whose architectural design approach is caricatured in cartoons. The popular definition of starchitect shaped by the internet community suggests that their celebrity status is generally associated with 'avant-gardist novelty'.⁷⁶ The findings of the PLATEAU GEHRY_CONNECTIVES research show that Gehry's design processes are not simply forms created by a demiurgic form-maker, but rather driven by a striving for *breakthroughs*, and these searches are a matter of collective effort, of an unusual type of dialogue-teamwork:

- » **C 0043** Breakthrough
- » **C 0287** Dialogues, raptures, accelerations
- » **C 0903** Solitude and collaboration
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0005** A throw of wood cuttings

For instance, when Gehry's design assistant Susan Desko brought the waxed felt to the studio, it was a *breakthrough*, 'and it worked', Desko recalls. It also worked according to Gehry's definition of the *breakthrough*. It resulted in an immediate recognition of the possibilities the material brought: 'we were able to mess with it...' says Desko (Kipnis 2003: Scene 15.12). Teamwork ultimately challenges the notion of the star's creative genius.

Despite the collaborative nature of design dialogues of Gehry's design productions, the results always risk being labelled as those of the genius starchitect. British architectural theorist Neil Leach challenges the arbitrary form-making process, implying that the contemporary digital-technology-driven discipline shifts the role of the architect from a 'demiurgic form-maker' into a 'controller of processes' (2004: 72). Inspired by the swarming behaviours of animals and

76. Wikipedia contributors. 'Starchitect'. *Wikipedia, The Free Encyclopedia*. Last modified July 5, 2019. Accessed at <https://en.wikipedia.org/w/index.php?title=Starchitect&oldid=904949109>. Retrieved on August 22, 2019.

insects, the concept of 'swarm intelligence' characterised by 'a kind of bottom-up development of complex adaptive systems that self-regulate' (Ibid.) is reminiscent of the kind of non-hierarchical organisations that include rhizome and network systems (Deleuze and Guattari 1987). Various circumstances and the collaborative character of Gehry's design processes examined in PLATEAU GEHRY_CONNECTIVES attest to their non-hierarchical organisations. Gehry develops a bottom-up progression of the complex adaptive systems in both his sketching technique and model-making. Gehry's lessons in unusual design actions and strategies can be reclaimed and resituated through this 'swarm intelligence', but they also correspond with the new role of architects, which Massumi perceives as 'not measured by any god-like ability to create something from nothing' but rather, 'the more modest ability to extract a difference from variation (a standing difference from a running variation)' (1998: 18). In a similar analysis, Massumi refers to the more conventional notion of 'intuition' to redefine the architectural design process, acknowledging the intuition as an appropriate and sufficient replacement of 'arbitrariness, freedom, inspiration, or genius' (1998: 18). Massumi's argument for the use of the term shows its usefulness for reclaiming and resituating Gehry's lessons:

'Intuition' is the feeling for potential that comes of drawing close enough to the autonomous dynamic of a variational process to effectively donate a measure of one's activity to it. Intuition is a real interplay of activities. It is neither a touchy-feely dreamlike state nor an imposition from on high of form on matter, order on disorder. It is a pragmatic interplay of activities on a level. The 'donation' involved should not be constructed as an 'alienation' of the architect's activity, because what is donated is returned in varied form, ready for insertion into a different process, or a different phase of the same process (building) (Massumi 1998: 18).

Similarly, Gehry's somewhat less heroic approach to architectural design was signalled in Forster's 1998 essay:

Today Gehry is less a lonely hero battling the status quo than he is an explorer of unanticipated possibilities. He has shifted ground only gradually and still starts mostly from what he finds, lifting some of the most ordinary things from their familiar places and urging new purposes on them. There is little to be found that would lend itself to his treatment, or where there are only obstacles to overcome, he likes to play hide-and-seek with contingencies, causing happenstance in the midst of hindrance (Forster 1998: 9).

A tracker in an elusive field of generative deformation

Gehry does not fit the popular image of the architect described by Massumi as an ‘autonomous creative agent drawing forms from an abstract space of Platonic pre-existence, to which he or she has inspired access, and artfully dropping them into the concrete of everyday existence, which is thereby elevated’ (1998: 16). Gehry’s design procedures explored in *PLATEAU GEHRY_CONNECTIVES* show that he makes palpable an abstract space from which forms are rendered. Massumi contrasts the autonomous creative agent architect type with the type of architect whose ‘activity becomes altogether less heroic’ (1998: 16). What is important here is that Gehry does it via manual model-making and not digitally.

Contrary to Vidler’s claims about the design for ► **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997), the research of *PLATEAU GEHRY_CONNECTIVES* demonstrates that Gehry’s ‘manipulations’ have nothing to do with ‘the techniques of post-digital culture’ nor with ‘effortless effects of keystroke manipulations’ (Vidler 2000: 7). Instead, the present thesis asserts that Gehry’s ‘manipulations’ are actual, manual alterations of the physical properties of the materials used. (Vidler 2000: 7). It substantiates the initial assessment that Gehry’s design practice belongs more to the early 20th-century avant-garde tradition (which Vidler attributes to ‘efforts of

conception and laborious processes of visual representation and reproduction' embodied in Le Corbusier's *promenades architecturales*, El Lissitzky's 'gravity-free' projections, or Sergei Eisenstein's montage experiments) than to 'the techniques of post-digital culture' that can reproduce such 'exuberant forms' as those of Frank Gehry's building in Bilbao, through 'the effortless effects of keystroke manipulations' (Vidler 2001: 7).

Through the material manipulations, he prefigures the new type of design processes enabled by digital technologies. The decade-long project ▶ **1985** Lewis House (Lyndhurst, Ohio 1985-1995, unbuilt) is the laboratory of experiments where the tangible manual model-making environment converges and intertwines with the digital environment. Greg Lynn, a proponent of digital architecture, notes that the Lewis House is an important work of architecture not only because of its aesthetics, but most importantly because it is 'one of the first projects that uses surfaces to make space rather than volumes.' Lynn argues that Gehry transgresses the architectural tradition of 'drawing with points and lines and volumes' and operates more similarly to an automobile designer, who 'thinks in terms of flexible surfaces, like cloth' (Lynn in Kipnis 2003: Scene 16.2). Penelope Dean shares this view and points out that 'Gehry's processes of architecture merge closer to those of aeronautical design' and 'his contribution can be understood not only as a re-tooling of the design process through new techniques' but rather as 'architectural practice now emulating and following the practices of design.' (Dean 2009: 310-311).

The unusual convergence of the manual and the digital is evident in another observation by Lynn:

Frank will say he doesn't know about computers and he's not a user of the computers, but that he designs without them and then uses them to build. I actually disagree with that, because of all of my colleagues, the person that knows the most about how to develop an architectural surface from a computer into construction is actually Frank (Lynn in Kipnis 2003: Scene 16.3).

The more accurate assessment of the situation is through the influence of collaborators, who, as Dean argues, enable Gehry to continue ‘to “design” in the traditional sense, relying on hand made physical models for schematic design and design development’, whereas ‘CATIA was introduced into the design process mid-way to translate form – the curved surfaces of the sculpture’s skin’ (Dean 2009: 307).

As a result, Gehry’s process operates as what the IT adviser and collaborator James Glymph called a ‘continuum’; it, ‘much the same as it does in aeronautical design, (...) where different disciplines were brought together through the software. (Dean 2009: 310), or, ‘that software can create a seamless continuum between conceiving forms and implementing them, where, ‘[t]he process of creating an innovative automobile or airplane or building begins to look pretty similar’⁷⁷ (2009: 310). Consequently, rather than a master form-giver, Gehry becomes the type of architect that Massumi calls ‘a prospector of formative continuity, a tracker in an elusive field of generative deformation.’ The architect’s labour becomes ‘in a sense catalytic, no longer orchestrating’ (Massumi 1998: 16).

- » **C 0764** [1993] Red waxed felt
- » **C 0005** A throw of wood cuttings
- » **C 0943** Deformations
- » **C 0658** Spontaneous crumples
- » **C 0661** Shifting scale, expanding rhizome
- » **C 0651** Catastrophe
- » **C 0023** Arrhythmic scaling
- » **C 0030** Klee’s ‘interworld’
- » **C 0043** Breakthrough
- » **C 0951** Architectural drawing as cognitive tool
- » **C 0660** Diagram
- » **C 0962** Drawing movement

77. Michael Schrage of *Fortune* magazine, cited by Dean (2009: 310 n21). From Michael Schrage, ‘Nice Building, But the Real Innovation is in the Process’, *Fortune*, Vol. 142, Issue 2 (2000).

- » **C 0967** Wrapping
- » **C 0350** After the event effect
- » **C 0371** [1976] Norton Simon Gallery
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0015** Duchamp's stoppage

Although Massumi never mentions Gehry in his ‘Sensing the Virtual, Building the Insensible’, he envisages Gehry’s unique fusing of the manual and the digital in the architectural design process. He considers the practices of architects, who are ‘topologically engaged with the virtual’ as widely varying, and thus, ‘[t]he signature engagement with computers is not even necessarily a constant’ (1998: 19). Massumi argues that in architectural design processes, ‘allied processual effects may be produced by other means’ (1998: 19), such as those similar to experiments with chance by the composer John Cage or the cut-up (*découpe*) aleatory literary technique by the writer William Burroughs.

Contrary to conventional approaches to creation and form-making described in ‘Sensing the Virtual, Building the Insensible’, Massumi presents a less heroic approach to architectural design and offers open-ended creative strategies. Gehry aligns himself with this in his statement from 1982:

I go where my explorations take me – I never go back. I never turn off the searching until, like a mathematician, I’ve solved the problem. When faced with a new problem to explore I feel like a curious cat that has been given the freedom to play. I feel like a voyeur.⁷⁸

Actions and strategies mapped and interpreted in PLATEAU GEHRY_CONNECTIVES situate Gehry’s practice within what Massumi calls a ‘fluid typology of post-heroic architecture’ (Massumi 1998: 19). Gehry’s experimental approach is part of what he delineates as multiple lines of variations, which leap over gaps ‘in what may be an expanding field of futurity already prospecting the architectural present (or what may,

78. Gehry interviewed by Susan Grant Lewin, ‘California Condition’, La Jolla Museum of Contemporary Art: Nov. 13, 1982, 35.

alternatively, be just a blip)' (1998: 19). Massumi prefers multiplying productive distinctions that lump camps (1998: 19).

Topology, deformation, and the formless

According to Massumi, topology renders form dynamic, and 'it has important consequences for both the design process and the built form, to which it leads' (Massumi 1998: 18). Form in architecture was habitually considered as its beginning and its final product. 'Form bracketed design', writes Massumi. Considered topologically however, the architect's raw material is no longer form but *deformation* (1998: 18). Massumi's analysis reflects Gehry's approach to the formal aspects of architecture emerging from his design strategies.

Form falls to one side, still standing only at the end. Form *follows* the design process, far from enclosing it. Far from directing it, form *emerges* from the process, derivative of a movement that exceeds it. The formal origin is swept into transition. Followed by architect (1998: 18).

In Gehry's architectural design processes, the new form 'is not conceived. It is coaxed out, flushed from its virtuality' (Massumi 1998: 16), for instance in the broken fragments of ColorCore® material.

- » **C 0943** Deformations
- » **C 0559** Malleability
- » **C 0658** Spontaneous crumples
- » **C 0651** Catastrophe
- » **C 0043** Breakthrough
- » **C 0005** A throw of wood cuttings
- » **C 0951** Architectural drawing as cognitive tool
- » **C 0371** [1976] Norton Simon Gallery
- » **C 0660** Diagram

Broken fragments of ColorCore® material are formless, » **C 0429** *Action of breaking* but their 'non-form' elements are formative for the design of **1983** Fish and Snake Lamps (1983-

1986). Deformation always involves form and requires a pre-existing form. In Massumi's words, it is a 'recursion between form and the uniform' (1998: 29). 'Architecture can accept as part of its aim the form-bound catalysis of the uniform (the deform)' (1998: 22).

Forster proposes that Gehry's architecture de-forms the neutral concept of Euclidean space (1998: 29). He claims that in Gehry, '[a]s he began to shape buildings from mobile parts, his sense of space transcended Cartesian notions', which he imagines 'might be compared with the sensation of moving bodies in a medium akin to water' (Ibid). Forster suggests that Gehry's buildings 'arrest volumes in continuous motion (and transformation)', and thus 'time becomes their formative dimension' (Ibid.). Correspondingly, they are supposed to 'de-form the neutral concept of Euclidean space and enter into a conterminous function with the fields within which they occur' (1998: 29).

But deformation is innate in Gehry's design procedures. PLATEAU GEHRY_CONNECTIVES shows that Gehry's design processes are essentially about emergence and deformation. Massumi positions deformation at the level of 'the onto-topological turn', which 'catalyses experiential potential rather than meaning' (1998: 22). Deformation stems from 'material dynamics of variation, pointing in two directions at once.' One, as in Gehry's actions and strategies, evokes 'the elements of indeterminacy and chance of the design process itself' (Massumi 1998: 22). 'It is an echo of experimentations of the architect' Massumi suggests, producing 'the asignifying or processual sign-forms' (1998: 22). It is a kind of processual engagement with the virtual in which 'the virtual is fed forward into the final form', but '[t]he aim of onto-topological architecture has no end' (1998: 22).

The aim of processual architecture does not stop at any end. It takes everything from the middle again. The product is re-process (Massumi 1998: 22).

Unimagined, un-thought, and the virtual

As observed in *Freeze-frame: INTRODUCTION*, Gehry's drawing technique seems to invoke conditions outside experience. Perceived through Colebrook's reading of Deleuze, Gehry's sketching does not restrict 'the potential and virtual according to already present actualities.' When drawing, Gehry does not 'define what something is according to already actualised forms'; nor does he 'establish what it is to think on the basis of what is usually, generally or actually thought' (Colebrook 2005a: 10). Unimagined is by no means unimaginable. Derived from Bergson, the Deleuzian actualisation of the virtual describes the operations of the unimagined. Gehry's *factual design actions* become visible in drawings and palpable in architectural process models. The virtual, the unimagined, becomes present in Gehry's drawings, and the virtual, the unimagined, in Gehry's sketches resists representation. Each of Gehry's actions of scribbling or scratching punctures the 'threshold of the virtual and presents itself, but in no way does it resemble the writhing force of the virtual' (Frichot 2005: 71). These Deleuzian perceptions help us understand how architectural design procedures can capture the unknowable, and thus, how Gehry's buildings can escape what is known.

In **_CONNECTIVE** ► **C 0477** Imagined and unimagined, the concept of the unimagined is developed from the analysis of the nature of an architectural sketch. The ► **C 0477** Imagined and unimagined recognises that the unimagined occurs due to a quick, careless, or inaccurate performance of drawing, and that it materializes through a draughtsperson's loosened control on the technique of drawing. It results in the drawing remaining imperfect. The unimagined occurs through elusiveness and imprecision, precisely in the indistinguishable or indiscernible.

- **C 0764** [1993] Red waxed felt
- **C 0934** Imperfect
- **C 0188** Gehry's *factual design action*
- **C 0888** Gesture and the concept of *plain action*
- **C 0905** Immediacy and kinetic properties
- **C 0677** Ambiguous gesture

- » **C 0755** Battlefield of Gehry's canvas
- » **C 0622** Cézanne

Because the unimagined is purely about potentialities, it enables the distribution of formless forces within the ambiguous and indefinable, within the malleable and irritable.

- » **C 0730** Distribution of formless forces
- » **C 0255** Ambiguous lines
- » **C 0260** Zones of indiscernibility
- » **C 0559** Malleability
- » **C 0663** Irritability
- » **C 0105** Projection and representation
- » **C 0658** Spontaneous crumples

Becoming present in architectural drawing, the unimagined is without scale or scope. Even so, it is productive of a reality that will end up outside the drawing – of the difference, of *unreality*, or *non-reality*, of the unthought.

An attempt to describe the workings of the virtual, or rather of its actualisation, comes from contemporary cognitive science and neuroscience. The complex and difficult to define concept of the virtual is also known by other names, including the *unthought*. It links the present thesis with N. Katherine Hayles' recent publication, *Unthought: The Power of the Cognitive Nonconscious* (2017). Importantly, Hayles distinguishes Deleuze and Guattari's 'royal' and 'minor' sciences (2017: 79-80); the distinction implies positioning the present analysis of Gehry's practice as 'concerned with heterogeneous materials and craft-like approaches to flow and other phenomena difficult to mathematicise (Deleuze and Guattari 1987, 398–413). That is, in the realm of the 'minor sciences' contrasted with the 'royal sciences' 'concerned with the discovery of abstract laws and general principles' (Hayles 2017: 79). Recognising the Deleuzian paradigm – which 'does not place much (if any) emphasis on empirical verification', – Hayles' analysis enables alignment with the commitment to the Deleuzian paradigm assumed in the title of this thesis and implemented throughout the research and analysis.

The role of the virtual and its actualization in Gehry's *factual design actions* and deformative strategies articulated in PLATEAU GEHRY_CONNECTIVES is interpreted differently in Hayles' analysis of the nonconscious cognition. Referencing cognitive science and neuroscience, Hayles writes about the cognitive activities that go on outside of consciousness. In light of the references to the sub-consciousness in 20th-century art history, it is relevant to clarify that Hayles refers to non-conscious cognition, which is neither sub-conscious nor unconscious. There is, Hayles argues, 'considerable empirical evidence that th[is] kind of neurological structure giv[es] rise to nonconscious cognition' (2017: 79).⁷⁹ Hayles argues that nonconscious cognition subverts the Deleuzian distinction between two regimes of sciences and bridges 'the gap between the mainstream "royal" and marginalized "minor."' It challenges, she claims, 'the belief that most human behaviour is directed by consciousness, without requiring that we accept the ideologically laden assumption that the "minor" or marginal is inherently superior to the "royal" or major' (Hayles 2017: 79). Crucially, Hayles' *unthought*, or the cognitive non-conscious, further explicates the role that the virtual plays in the context of architectural design production in general, and in the context of this thesis in particular. For instance, by non-conscious cognition, she grants insight into the productivity of unreality, or non-reality, of the unthought or unimagined of architectural drawing, as explored in the.

The notion of the cognitive non-conscious follows the concept of 'proto-self', which denotes a level of neuronal functioning not accessible to the consciousness but capable 'of

79. Hayles details her position on the empirical evidence or empirical support. 'The issue of whether a discursive or ideological position has empirical support is, of course, complex, since the chains of reasoning involved in arriving at such conclusions are necessarily permeated with numerous assumptions about what constitutes evidence, what standards of confirmation are entailed, etc.' (2017: 79).

sophisticated pattern recognition'⁸⁰ – of patterns that are ‘too dense with information and too chaotic for consciousness to make any sense out of.’ (Hayles 2015: 12’30”). Hayles refers to experiments, in which it has been demonstrated that ‘non-conscious cognition can, in fact, discern these patterns and learn from them’ (Hayles 2015: 12’45”-13’07”), and that show that non-conscious cognition is capable of drawing inferences and influence behaviour. This perspective certainly gives a new understanding of Germano Celant’s reading of Gehry’s design activities, which, Celant claims, are “‘without reservation,” with total attention to the signals of the unknown and the game’ (Celant 1985: 11). In the context of the role of the virtual in Gehry’s design experiments, previously analysed in this chapter, Celant’s assessment is an alternative description of balancing at the threshold of the virtual and the actual.

The major finding of PROTOTYPING PLATEAU GEHRY_CONNECTIVES is the realisation that the common denominator of all the mapped and studied cases of Gehry’s actions and strategies are describable through the Deleuzian actualisation of the virtual. The issue of a clear, well reasoned definition of the virtual remains an obstacle however. Criticism of the Deleuzian paradigm in the context of the main argument of the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis thus becomes tantamount with criticism of the ‘Gehrian paradigm’ that this thesis seeks to construct. For some critics of the vagueness of the Deleuzian notion of the virtual, or of Gehry’s ability to actualise the virtual through his disruptive actions, it may be acceptable, however, by pointing out the human capacity to access non-conscious cognition.

80. She borrows the notion of the cognitive non-conscious from Portuguese-American neuroscientist Antonio Damasio’s concept of the ‘proto-self’ (Hayles 2015: 12’30”).

The virtual and non-conscious cognition

In a lecture in 2015, Hayles spoke about the difference between the consciousness and non-conscious cognition.⁸¹ The contrasting features she revealed are relevant to the problems with perception of Gehry's design production and his architecture. 'Consciousness,' Hayles argued, 'is dedicated to maintaining worldly coherence. When things that are strange, or bizarre happen, consciousness tends to simply edit them out' (2015: 22'02"-13'05"), whereas non-conscious cognition combines the capabilities of interpreting ambiguous information, reaching conclusions, recognizing patterns, or drawing inferences.

A potential partial explanation of the character of Gehry's design aesthetics could be that he is capable of accessing the non-conscious cognition with above-average efficiency and transferring the immediate recognition of ambiguous information,⁸² or complex chaotic patterns, into design micro-procedures. What is more interesting in this context is the fact that non-conscious cognition spans different levels of cognition's spectrum,⁸³ located outside of consciousness and unconsciousness, that Hayles recognises as modes of awareness. This view would indicate that results of Gehry's

81. The lecture, entitled 'Rethinking the Mind of Architecture', was held at the Southern California Institute of Architecture (SCI-Arc) in 2015.

82. 'The Cognitive Timeline' graph Hayles presented (2015: 23'00") shows that sensation/perception is stimulated at around of 100 milliseconds; non-conscious cognition begins to process the same information at around 200-300ms, whereas consciousness does not start processing until 500ms.

83. Hayles presented the spectrum through the pyramid of tripartite framework, which orders different levels of cognition. At the top of the pyramid, consciousness and unconsciousness were grouped together as modes of awareness. Below were the cognitive nonconscious processes (or proto-self), and at the bottom were the 'material processes', which she defines as 'something like a sandstorm, a blizzard, a glacier inching down the hill. The crucial criterion that separates material processes from cognitive processes is the element of choice' (Hayles 2015: 30'25"-30'47").

factual design actions are partially absorbed in an un-aware mode, or outside of conscious awareness.

Moreover, the cognitive nonconscious processes (or proto-self), located in the spectrum of levels of cognition next to the ‘material processes’, such as sandstorm, share some characteristics with the latter. Understood as ‘sum total of the forces acting on these processes, not as cognisors who can make choices and perform interpretation, and therefore, create meaning’ (Hayles 2015: 30’50”-31’05”) may also explain complexity in the aesthetic and processual tendencies of Gehry’s design approach. Gehry’s deformational strategies are then products of the cognitive nonconscious processes, which do not always require the cognisor’s choices and interpretations. Thus, because Gehry’s deformational strategies do not require the creation of meaning, they are Deleuzian strategies bound to asignifying raptures.

- » **C 0287** Dialogues, raptures, accelerations
- » **C 0188** Gehry’s *factual design action*
- » **C 0888** Gesture and the concept of *plain action*
- » **C 0423** Disruptive actions, disruptive affects
- » **C 0755** Battlefield of Gehry’s canvas
- » **C 0658** Spontaneous crumples
- » **C 0660** Diagram
- » **C 0661** Shifting scale, expanding rhizome
- » **C 0764** [1993] Red waxed felt
- » **C 0477** Imagined and unimagined
- » **C 0730** Distribution of formless forces
- » **C 0255** Ambiguous lines
- » **C 0651** Catastrophe
- » **C 0260** Zones of indiscernibility
- » **C 0677** Ambiguous gesture
- » **C 0905** Immediacy and kinetic properties

Almost as if entering a Deleuzian paradigm, Hayles redefines meaning-making, which she claims occurs at multiple levels – not only at the high level of e.g. abstract reasoning; meaning-making might be as simple as ‘a unicellular organism deciding to admit a chemical, or to use its membrane to avoid that chemical. That’s a choice. That’s decision. It includes

interpretation', which 'creates meaning' (Hayles 2015: 28'14"-28'47"). Meaning-making at this level already exists in secondary writings on Deleuze. The Deleuzian dynamics of flow, metamorphosis, and deterritorialization apply to studies of insects, which like unicellular organisms, are supposed to be devoid of consciousness. In the shaping of insect swarms, nonconscious cognition emerges as the potential for collective action and increases through chemical signalling and other non-semantic modes of communication. Interestingly, the opening scenes of Kipnis' documentary *Constructive Madness*, introducing Gehry's design of the ▶ Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997) show ocean waves forming and breaking and schools of fish and flocks of birds and the narrator asks:

Can we ever really fathom the intricate dance of forces
and influences that constitute even the simplest event?
(Kipnis 2003, Scene 1.1).

Similarities with this type of non-semantic mode of communication echo in Gehry's adaptation of creative stimuli: dialogue:

Isenberg:

– Your creative stimuli seem to come from everywhere.

Gehry:

– They do. It comes from the people who I work with, the client, the environment, and the hopes and aspirations of the projects I work on (Isenberg 2009: 162).

Gehry's admiration of immediacy shows the notion of non-conscious cognition as a key to understanding the micro-procedures of his design actions. According to Hayles, cognition is not an attribute like e.g. intelligence; 'Cognition is a process that interprets information in contexts that connect it with meaning' (Hayles 2015: 26'03"). This statement resonates with findings in PLATEAU GEHRY_CONNECTIVES.

6. Research Contributions: Gehry and the deviations of architectural design practice

The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis documents and discusses means of representation in architectural design fused into the specific creative culture of Frank O. Gehry. It notices that the discourse in architectural theory and practice, often neglects what occurs on a specific, molecular level of the architectural design process. In other words, the micro-level of design procedures analysable into simple, ordinary actions, is often underestimated. The close inspections of this research show that these elements of micro-level of design procedures render Gehry's idiosyncratic design phenomena intelligible and perceptible in a new way. This has been possible because Deleuze and Guattari's concepts become perceptibly operational in the interpretation at the level of elementary units of Gehry's design procedures. Importantly, PROTOTYPING PLATEAU GEHRY_CONNECTIVES does not focus on Gehry as an architect searching for a critical

framework for his design practice in Deleuze and Guattari's philosophy. Instead, it attempts to put another perspective on areas of their common ground or on redefining their connections. It is thus concerned with questions about how philosophy challenges architecture through a mutual investigation of particular modes, ideas, or cultures, of respective disciplines.

The strata emerging from the experimentally conducted part of PLATEAU GEHRY_CONNECTIVES intersect with the outlined body of literature. Volume 3 as an entirety discusses particular findings related to these intersections, and this final chapter, Chapter 6, presents five domains of interest considered relevant in extension for the discipline of architecture. These five domains shape the concluding sub-chapters: 1) Architectural modelling as painting and actualisation of the virtual; 2) What Architecture is and must not be; 3) Re-disciplining of architecture; 4) Practice *Nouveau*; 5) Gehry's reinvention of tools and the role of the architect. The five domains are important statements evolving from the scope of the research performed here, and also indicate possible future undertakings beyond this thesis.

Architectural modeling as painting and actualisation of the virtual

The close-up perspective of the PLATEAU GEHRY_CONNECTIVES investigations identifies certain similarities in the operational modes of the architect and the painter. It transposes Donald Schön's views on design as a reflective disciplinary practice into the extended reality of painting, and in doing so points out certain limitations of the architectural design process. Deleuze's explorations of paintings by Paul Cézanne, Georges-Pierre Seurat and especially Francis Bacon show how the meaning of painting deviates from its merely descriptive logic. Connecting with these accounts, PLATEAU GEHRY_CONNECTIVES attempts to give new meaning to

Gehry's design actions. For instance, through Bacon's making of a portrait, used by Deleuze to point at the qualities of the 'graph' as a meaning-generating device, a resemblance could be found with factual, gestural qualities of the architect's design approach. Gehry's design process is described as indirect and meandering, and the equivalence to Bacon's 'graph' indicates a combination of speculative and performative characteristics. Numerous _CONNECTIVES use Deleuze's reading of Bacon's painting with its deformed figurations. This thesis parallels these deformations produced by techniques of his graph that involve elements of gestural painting, with techniques of gestural, abstract painting Gehry practices in architectural design.

In Gehry's design practice, ensembles of wooden blocks represent the *figurative* aspects of architecture. They are *figurations* of the programme of a building and *figurations* of modernists' reduction of the building form. Yet, Gehry always extends this *figurative* phase of the design process by the release of dis-figurative forces comparable to those of Bacon's graph analysed by Deleuze. Gehry's factual design actions invade the architectural model just as Bacon's graph invades the canvas and reveals its true power of being suggestive, enabling dis-figurative potentials of the gestural facts planted. In many instances throughout PLATEAU GEHRY_CONNECTIVES, Deleuze's definition of Bacon's diagram as breaking with figuration has been found to correspond in character, form, and function with Gehry's *factual design action* (Szychalski 2007) and its disruptive, deforming forces. Deleuze's definition of its function of introducing 'possibilities of fact'⁸⁴ (2003: 101) and the importance of the 'fact' in investigations of Bacon's painting

84. In the expression 'possibilities of fact', Deleuze appears to combine Bacon and Wittgenstein's descriptions used in different contexts of the diagram. See Francis Bacon in: David Sylvester, *The Brutality of Fact: Interviews with Francis Bacon 1962-1979* (London: Thames and Hudson, 1990), 56: 'You see within this graph [*diagramme*] the possibilities of all types of fact being planted.' Wittgenstein invoked a diagrammatic form in order to express 'possibilities of fact' in logic.

reinforce the notion of specific factuality of Gehry's design actions. This specific factuality can be seen through the condition that the results of design actions are not sufficient in themselves, but must be 'utilized' (Deleuze 2003: 101). Notions of 'fact' and 'matters of fact' permeate Deleuze's study of Bacon's painting, framing and emphasizing the manual and the haptic features of creation. Highlighting the manual characteristics of Gehry's design actions, which are often misinterpreted as digital manipulations of forms, their operational mode resembles the mode of Bacon's graph.

The thesis further implies that Gehry's diagram, like Bacon's diagram, is not only a sign of the architect's attempt at becoming-painter, or an example of a painter/architect. Most importantly, it is the evidence of his intuitive processes of design as a generative mode of exploration. This generative reaction to traces of earlier actions becomes a technique of model-making.

In *factual design action*, perception is 'what brings about the creation of events, the very matter common to philosophy, art, and science. Sensation opens at the threshold of sense, at those moments before a subject discovers the meaning of something or enters into a process of reasoned cognition. Sensation takes place before cognition and thus pertains to significance' (Conley 2005: 244). But what does this relation do? What do we learn?

PROTOTYPING PLATEAU GEHRY_CONNECTIVES proposes the concept of *factual design action* as an extension of Deleuze's discussion of the insubordination of hand to eye, of challenging the optical code that dominates architectural design, and what it is supposed to support in terms of resemblance. And thus, to contrast with Gehry, it needs to be brought back to the conventional approaches of an architect; it needs to be thought of in terms of figuration or forms of representation.

Unlike architects influenced by Deleuze and Guattari, Gehry does not need to borrow a compelling critical and creative apparatus from their *oeuvre*. He becomes a Deleuzian architect by the exploratory and experimental nature of his practice. All _CONNECTIVES provide evidence of Gehry's

design processes becoming an elusive field of variation, of the intensity of hands-on exploration and experimentation. Massumi distinguishes such a field as a condition of Deleuzian architecture negotiated topologically. There, the ‘new form is not conceived’ but ‘is coaxed out, flushed from its virtuality’ (Massumi 1998: 16). Massumi argues that the task of such topologically negotiated architecture is ‘to catalyse newness and emergence rather than articulating universalised fixation’ (1998: 17). Furthermore, by defining abstract spaces of design as ‘no longer neutral screens for imaging what has already been seen in the mind’s eye’ (Ibid.), Massumi reintroduces the importance of Deleuze and Guattari’s notion of the virtual as separated from the oxymoronic compound of *virtual reality*. Distancing himself from ‘VR’ dominating theory and practice of architecture as antonyms for ‘reality’ and synonyms for ‘artificial’ or ‘simulation’, Massumi argues for Deleuze and Guattari’s most elaborated contemporary expression of the notion of the virtual, derived from Bergson, where the ‘reality of the virtual is the reality of change: the *event*’ (1998: 16).

The consequences of this shift in thought on the architectural design process are radical. PLATEAU GEHRY _CONNECTIVES exemplifies them as mapping Deleuzian aspects of Gehry’s practice where, as Massumi claims, architect’s raw material is no longer form but *deformation* (1998: 16). As virtual denotes ‘the mode of reality implicated in the emergence of new potentials’ (Ibid.), Gehry’s zealous experimentation with materials and manipulation techniques and his radical explorations of routine for architectural design modes of representation result in original production methods. Gehry allows the form to emerge from the process, ‘to become a derivative of a movement that exceeds it’ (Ibid.). The formal origin of his initial figurative phase is swept into transition, corresponding exactly with how Massumi defines topological architecture (1998: 16). Even if certain curvilinear, topologically floating, architecture echoes the era of digital experimentation, this thesis demonstrates non-digital versions of the topological performance. Gehry manages the topological turn, stretching geometrical properties unaffected by the continuous change of

shape or size of figures traceable to a mathematical matrix. Once manually affected, these properties are then re-actualised in a digital environment. Scanned and digitalised, they become an unprocessed swarm of loose, three-dimensional, surface-like configurations of re-positioned, re-actualised points.

The central volume of this thesis, *PLATEAU GEHRY _CONNECTIVES*, shows how non-digital, manually performed experimentation makes Gehry's practice a set of circumstances and conditions in which the premises of form relate explicitly to the design process. It changes our understanding of how architects visualise their ideas, how architects externalise spatial enclosures and their arrangements. To be productive, architects have to project them. This basic imperative of the architectural profession requires tools, and the topological turn changed those tools and their operational modes and consequently the role of the architect.

In Gehry's design processes for instance, computers facilitate the passage from the scaled materiality of manual deformations to the actual materiality of built constructions and producing transitory objects. This thesis thus proposes a different position than e.g. Massumi (1988) on how the built form is supposedly connected with its conditions of emergence. In contrast to Massumi's claim that 'the built form does not resemble its conditions of emergence' (Massumi 1998: 20), there is newness in literal conversion, of conditions of emergence made possible through Gehry's *factual design actions*, which leave physical deformations, but not in a building scale. The very nature of the building is thus questioned. Gehry's operations in the topological field are hence formally distinguishable from modernism's lines of production as well as from computer-driven design. Its originality lies in the radical shifting from one type of system and organization to another. Paradoxically, this does not leave any traces on the built form that anyone not directly involved in the design could be expected to notice.

Gehry's emulations of the energy and immediacy of painting are precise implementations of what Massumi understands as 'the nature of the actual relation between the

built forms that emerge from its process and the process as it happened' (Massumi 1998: 19). Together, drawn sketches and handmade, built models are a tacit communication. Given to design partners, Gehry's sketches become a matter of conversation, and the models become its record. In consequence, following the complexity of drawn squiggles, walls no longer emerge as mere vertical surfaces or structural elements that divide or enclose space, nor for the convenient display of paintings. Instead, expanding the form of the periphery of a building or a gallery room, intensifying, diminishing and regenerating their forms in the hands of form-searchers, walls become a new kind of painting, a new kind of compounds of surface-generating virtualities.

Investigations in PLATEAU GEHRY_CONNECTIVES identify Gehry's design actions of the painterly nature that yield to and bring out virtuality. Gehry's attitude to painting indicates where these might come from. 'Have you ever tried to paint?' – he is asked, and barely has the question been uttered when he responds with a sharp 'Never!' 'I wouldn't dare!' he adds (Pollack 2006: 1h 12'13"). This unfamiliar power of bringing out virtuality that Gehry's *painterly* design actions represent is among the most valuable research contributions of this thesis; in a such perspective, virtuality becomes traceable and factually conceivable in the products of design actions.

In the light of Massumi's analysis, the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis recognises the function of CATIA software as the re-emergence of what is left in the emerged of the painterly sketch- and process models. The feedback loop between the physical model and the digitized model takes place. It has since been described as a hybrid design practice that merges high-tech with low-tech (Dean 2009: 308).

This hybrid design practice echoes Deleuze and Guattari's history of painting being restrained by architecture imposing interlocking, differently oriented frames. They claim that the 'frame' that defines architecture shaped '[t]he prehistory of the picture,' which 'has been presented as passing through the fresco within the frame of the wall, stained glass

within the frame of the window, and mosaic within the frame of the floor' (Deleuze and Guattari 1994: 186-187). In the context of the frame that attaches the picture to the monument of which it is a reduction,⁸⁵ Gehry's hybrid design practice resulting in hybrid products appears to cut that 'umbilicus'. He rips the frame off the wall and replaces it with the painting embedded in the very matter of the wall, becoming the hybrid of wall-and-painting, as if 'it is in the process', or as if 'exploring the expressive and compositional attitudes of painting' (Gehry 1985: xiii).

What architecture is and must not be

Even if he rarely discusses or refers to philosophy, Gehry often questions foundational subjects concerning the nature of architecture, which are indeed subjects of the philosophy of architecture. Gehry asked, 'What is architecture?' and answered: 'It's a three-dimensional object, right? So, why can't it be anything?' (Gehry and Hodge 2003: 1). While this radical position manifests his far-reaching approach to architecture as a discipline and practice, it refers directly to one of the primary subjects of the philosophy of architecture.

Investigations in PLATEAU GEHRY_CONNECTIVES revealed Gehry's approach to an architectural object that expands the traditional view on the aesthetics of architecture, the character and roles of representation, and expression. It touches upon fundamental matters connected to the nature of architecture as an art form, which – in connection with Deleuze's critical works on arts, especially on painting and cinema – are prominent aspects of this thesis. This thesis thus relates to Deleuze's influence in architecture mapped in *Deleuze*

85. Henry van de Velde, (1979) *Déblaiement d'art* (Brussels: Archives architecture moderne), 20. Cited by Deleuze and Guattari (1994: 187 n26).

and Architecture. This thesis demonstrates that a critical history of Deleuze's influence in architecture has not yet been exhausted, and that implementation of Deleuze's work serves to challenge disciplinary specificities in, and future understanding of architecture. The specifically experimental feature of PLATEAU GEHRY_CONNECTIVES is an example of such implementation. Expanding the instrumental diversity of architectural theory and education, it attempts to shift the Deleuzian influence on the discipline towards new, less examined, territory. Here, Deleuze's critical commitments to the arts – especially painting and cinema – have added new, in-depth, analytical insights through which complexities, material manipulations, variable relations and exchanges with design collaborators, studio environment, and even aspects of behaviour gain new meaning and importance.

The present thesis is not so much about the reactivation of the Deleuzian discussion in the field of architecture as it is about promoting the expansion of the field of architectural theory and practice with new factors and perspectives. Nonetheless, as the PLATEAU GEHRY_CONNECTIVES project suggests ways of reading Gehry through Deleuze, its explorations of Gehry's inventions in architectural design bring to light actions and hybridised procedures of manufacturing architectural meaning. PROTOTYPING PLATEAU GEHRY_CONNECTIVES suggests that architecture can be extrapolated – this is analogous to Deleuze's claim that philosophy must produce its theory as a conceptual practice – as 'cinema itself is a new practice of images and signs' (1989: 280). Moreover, the thesis frames certain criticism of Gehry's architectural design practice linked to expectations of how architecture appears or how it is contextualised, such as that of Vidler (2000), Foster (1998, 2001) and Lahiji (2016). Here, the synthesis with Deleuze delivers this critique by questioning the fundamentals of a system, of what architecture should and what it must not be demonstrating that Gehry's practice radically reshapes architectural discourse.

Re-disciplining of architecture

To further determine the contribution of the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis to general knowledge about architectural design processes, it is necessary to refer to Gehry's declarations about his practice. This dissertation shows how Gehry already spearheaded the formation of discourse in 1984, challenging numerous conventions of architectural design productions. This thesis determines that Gehry's buildings differ from the traditional understanding of architecture because of the implementation of his declared challenging perception of architectural design. As he refers to architectural design as the production of large-scale three-dimensional objects (Gehry and Hodge 2003: 3), which appears reflecting his experimental practice conducted since the 1984 statement, the current thesis recognizes Gehry's most challenging understanding of architecture. Since 1984, prioritises the scaled tectonics as the only possible object of architectonic, or tectonic manipulations. And, while keeping a creative attitude towards the tools and towards the end result, through those inventions of new realities and new experiences, through manipulations of the scaled, or scale-less, tectonics Gehry redefines the notion of architecture as a domain close to the design activities that consider tectonic qualities, and their manipulation. In consequence, often provoking strong reservation, like other examples of controversial architecture,⁸⁶ buildings designed after the ► **1997** Guggenheim Museum Bilbao (Bilbao, Spain 1991-1997), were gradually acknowledged as fabrications of such new spatial experiences, as well as exponents of the emergence of new organisation design and of knowledge- and experience-based economies (Yoo et al. 2006; Dean 2009).

Complying with the geopolitical effects of Gehry's practice, this thesis places the emphasis elsewhere however,

86. As for instance, Utzon's Opera in Sydney, Hans Scharoun's Berlin Philharmonic Hall in Berlin discussed above, or buildings designed by Gehry's contemporaries, such as Peter Eisenman, Coop Himmelb(l)au, Morphosis, Zaha Hadid or Daniel Libeskind.

arguing that we can comprehend Gehry's fabrications of new realities and new experiences as an affirmative approach to a hybrid of manually executed prefigurations of buildings, as exemplified in the PLATEAU GEHRY_CONNECTIVES. Furthermore, it presents various ways in which new realities and new experiences come from his affirmation of the process of scaling-up as the only possible object of architectonic, or tectonic, manipulations. As discussed by Dean (2009), the integration of the CATIA system into a multitude of manipulations of the scaled, or scale-less, tectonics of simultaneously produced architectural models, supported this affirmation and confirmed its effectiveness.

The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis maps this creative attitude towards the design tools and through Deleuze's concepts shows how while simultaneously keeping the building in focus, Gehry re-defines architecture as a domain close to experimental design activities. Partly intersecting with literature (Dean 2009) and acknowledging Gehry's role in the renewal of thinking within architectural production, this thesis points to a deeper re-definition of the discipline to which Gehry contributes. The research of the thesis confirms the architect's processes of scaling-up tectonics as the object of architectonic manipulations as a new reality itself and a primary finding that also brought digital systems such as the CATIA to Gehry's practice – to the re-disciplining of architecture. Exposing and analysing the origins of these disciplinary changes, PLATEAU GEHRY_CONNECTIVES makes their comprehension and the contextualisation more effective. The findings demonstrate that Gehry's explorative culture of challenging means of representation employed in architectural design production facilitates the re-disciplining of architecture. Continually questioning the 'how' of the design procedures led to decisive breakthroughs, such as the integration of the CATIA system. PLATEAU GEHRY_CONNECTIVES shows that there is an essential correspondence between challenging every aspect of the representational means and the constant exchange of materials in processes of scaling-up tectonics as the object of

architectonic manipulations and Deleuze and Guattari's understanding of the fundamentals of arts. It is this kind of exchange and manipulation of materials to which Deleuze and Guattari refer, comparing painters, musicians and architects.

The experimental PLATEAU GEHRY_CONNECTIVES searches for instances of the fusion of materials and concepts. Analysis of their outcomes suggests that Gehry's design activities, his actions and strategies re-contextualised and re-evaluated in Chapters 1 to 5 of Volume 3 are focused on material manipulations.

Practice *Nouveau*

Following Deleuze and Guattari's connection of the practices of painters and architects, this thesis positions Gehry between the architect who declares his interest in painting and architects who, compared with painters by Deleuze and Guattari, are nothing but painters. Studies in PLATEAU GEHRY_CONNECTIVES point to the decisive impulses generating radical turns in the characteristics of Gehry's architectural design productions, attempting to document cases of changing architectural design the way Deleuze and Guattari describe the practice of painting as producing not a resemblance, but a pure sensation.

However, recapitulating contributions of the current thesis through Dean's (2009) argument of Gehry's practice *nouveau*, it is reasonable to strive to identify circumstances and the moment at which a decisive change in Gehry's practice occurred. The analysis of PLATEAU GEHRY_CONNECTIVES intersects with Dean's argument about the re-disciplining of architecture caused by the specific introduction of the CATIA system; this would indicate that the decisive impulse for the radical change occurred sometime during the design processes of the ► 1989 Vitra International Furniture Manufacturing Facility and Design Museum (Weil am Rhein, Germany 1987-1989). It was during this time that Jim Glymph, who was

responsible for introducing the CATIA system into the architectural design processes, joined Gehry's team. This is crucial because the complex spatial arrangements of the ▶ **1989** Vitra International Furniture Manufacturing Facility and Design Museum (Weil am Rhein, Germany 1987-1989) were the first instance of deformational surface curvatures in a built structure designed by Gehry. This topological turn in geometry applied in the design productions appears decisive. Translating the double curvature manufactured in the physical model into a built structure demanded technical support unavailable in the office and resulted in the collaboration with Glymph. The pressure to build complex, unusual spatial arrangements had been growing at least since the design of the pergola for the ▶ **1976** Norton Simon Gallery and Guest House (Malibu, California 1976). The earliest, conceptual implementations of complex surface curvatures in Gehry's production were in 1981, when the streamlined shapes of the fish appeared in ▶ **1981** Central Business District (Kalamazoo, Michigan 1981, unbuilt), and in the conceptual bridge project ▶ **1981** Collaborations: Artists and Architects, Architectural League of New York [with Richard Serra] (New York, New York 1981, unbuilt).

Even though Gehry's design production is often criticised for concentrating on new forms, as examined in the PLATEAU GEHRY_CONNECTIVES, this reflects recent re-conceptualisations of new forms of practice more than the shaping of individual architectural forms. Although it is driven by manual manipulations, Gehry's reshaped practice falls into the domain of new understandings of architectural design production driven by digital technology. It promotes technique rather than image and progresses from generating form toward individualised means of production.

Gehry's reinvention of tools and the role of the architect

The PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis recommends the view that in Gehry's practice, a centre of architecture is the materiality of design production passing through the range of experimentations. This centre is not a physical or conceptual site of architectural design; instead it is constituted by the becomings of the physical deformations and conceptual shifts. In this centre is Gehry's reinvention of tools, a new fusion of thinking and doing. This thesis intersects with previous work to confirm Gehry's individuated actions and procedures as an important part of the discourse surrounding non-standard, file-to-factory and computer-aided manufacturing (CAM). The thesis brings into discussion the irrational aspects of Gehry's practice revealed throughout several _CONNECTIVES. In this context, the thesis identifies a more *cultural* interpretation of software deployed in architectural practice, precisely where Gehry's venture with CATIA can be provisionally situated.

In their introductory essay to *Deleuze and Architecture*, 'Exhaustion and the Exhausted: Deleuze AND Architecture', Frichot and Loo (2013: 1-11) assert that it is valuable to frame the activities of architecture as a 'thinking-doing'. They argue that the productive role of critical and creative thinking, exhaustively continues while practising such 'thinking-doing' while constructing architectural environments (2013: 4). Hence, the following argument by Frichot and Loo is of decisive importance for this thesis. According to Frichot and Loo, Deleuze and Guattari's philosophy offers critical and creative skills with which we can further expand the field of architecture, question authorship and creativity, reconsider architectural ethics and politics, and rethink what architecture can do and what it can become (2013: 4). Frichot and Loo assert that 'an architect, with her required spatial, temporal, corporeal and affectual abilities, participates in 'forming, inventing and fabricating concepts' (Deleuze and Guattari 1994: 2) thus assumes the role of 'becoming-philosopher' (Ibid).

In Volume 1, *Freeze-frame*. INTRODUCTION, an initial hypothesis was presented that the interlocking of Gehry's exploratory design production with concepts of Deleuze and Guattari, combining the experimental nature of both practices, would create ways for these two areas to come together and affect each other. Frichot and Loo's terms can be seen as resolving this; an argument that audaciously grants equal importance to the roles of a philosopher and an architect-becoming-philosopher implies that the comparison of Deleuze and Gehry is both reasonable and logical.

PROTOTYPING PLATEAU GEHRY_CONNECTIVES maps Gehry's corporeal and affectual abilities to invent and fabricate concepts through an ongoing redefinition of the architectural design productions, through critical and creative thinking when constructing simulations of architectural environments in intuitive, erratic drawings and notoriously reiterated study- and process models. All these activities expand the field of architecture, question authorship and creativity, reconsider architectural ethics and politics and rethink what architecture can do and become. Moreover, through radical rethinking, or re-making or re-fabricating what architecture can do and become, Gehry pushed into a merging of the manually constructed simulations of architectural environments with the use of a digital system for the translation of surfaces. This radical re-making or re-fabrication shifted the whole practice of architecture into radical reorganization, into a less polarized relationship between the builder and architect. The dichotomy of draughtsperson and builder established in the Renaissance separated the design production of architecture from the craftsmanship of building. Gehry's radical re-making of the discipline shifted the master-builder, the *architectōn*, reconfiguring its original meaning into a new, interconnected collective relationship.

Connecting Deleuzian thoughts and Gehry's practice, the PROTOTYPING PLATEAU GEHRY_CONNECTIVES thesis adds to general knowledge in the field of architectural design theory and practice. It provides help to different professional groups in their understanding of what is often imperceptible or

overlooked when something intuitive is happening in design processes. Performed here, Deleuzian interpretations of Gehry's micro-procedures and strategies reveal what very often remains in the black box of architectural design. Moreover, the present thesis determines how these hidden traits are capable of changing architectural conventions. Like Massumi does not define Deleuze's books on cinema as practicing philosophical expansionism to bring cinema to philosophy, but to bring out the philosophy already residing in cinema (1987: xiii), this thesis discovers the potentials of bringing out the philosophy already in the art of Gehry's architectural design production.

In conclusion, this thesis does not contribute a general theory of Gehry's architectural design practice or its methodology, but is a demonstration of how Gehry de-codes architecture as a site of abstract thought and re-authenticates it as a site of action, of doing. Moreover, the thesis's prototyping of the experimental PLATEAU GEHRY_CONNECTIVES project has offered a dispersed, heterogeneous register of views on Gehry's design activities mapped into a multiplicity of connections.

Afterimage: the *text/map*

To bring the act of reading within the *text/map* and to render the reader the *reader/cartographer*, the task of each _CONNECTIVE is to ask Deleuzian questions: what map are you in the process of making or rearranging, what abstract line will you draw, what is your line of flight? To make the act of reading about being within, as making reading into making a map, the *reader/cartographer* has to violate a withdrawal distance of the observer/scientist to release the experience of nomad thought, of the *artist/surfer*, or the *architect/sailor* moving through the smooth space of her patchworking connections.

The task of PLATEAU GEHRY_CONNECTIVES is to create a network of intensive states between which any number of connecting circuits could operate. PLATEAU GEHRY _CONNECTIVES calls on the *reader/cartographer* to read from within, to capture her map. _CONNECTIVES aim to immerse the reader in a dynamic state of things, to leave an afterimage of their energy that can be restored to an active, vigorous state

in other activities, most likely in architectural thinking and making. PLATEAU GEHRY_CONNECTIVES should endlessly evolve, augmenting and generating change; it should be a thought-in-process.

_CONNECTIVES

The colour coding used in the list below, indicates three distinct phases of the current development of _CONNECTIVES:

- temporally frozen activity » **C 0188** | edited text
- gathering of research findings » **C 0472** | unedited text
- initially determined idea » **C 0350** | undeveloped text

» C 0000

- » **C 0003** Forces, faces, façades
- » **C 0004** Drawing architecture
- » **C 0005** A throw of wood cuttings
- » **C 0014** Gehry's cinematographic seascapes
- » **C 0015** Duchamp's stoppage
- » **C 0023** Arrhythmic scaling
- » **C 0025** [2008] Perspective-less. Viewing of WDCH
- » **C 0030** Klee's 'interworld'

- » **C 0032** We detail on the curtain wall
- » **C 0043** Breakthrough
- » **C 0049** Chaos and potentials of painting
- » **C 0061** Optical versus manual
- » **C 0079** Two forests
- » **C 0091** *Snowflaking* or filling of space
- » **C 0095** Commedia dell'architettura

» **C 0100**

- » **C 0102** Cinematic language constructing its own 'objects'
- » **C 0104** Waterfall
- » **C 0105** Projection and representation
- » **C 0106** Language, code, *ostranenie*
- » **C 0109** Non-philosophy and chaos
- » **C 0122** Attachments: architectural *objet trouvé*
- » **C 0125** Surface
- » **C 0133** Abstract machine
- » **C 0155** Chain-link
- » **C 0165** Gehry/Eisenman
- » **C 0166** Fact or actuality
- » **C 0179** Process
- » **C 0188** Gehry's *factual design action*
- » **C 0191** Gehry's painting is not the end in itself

» **C 0200**

- » **C 0201** Painting
- » **C 0230** From actual into virtual
- » **C 0234** Motion and painting
- » **C 0244** Painting on the wall / Wall as a painting
- » **C 0252** Puppet and puppeteer: a rhizomatic connection
- » **C 0255** Ambiguous lines
- » **C 0258** Carp in the bathtub
- » **C 0260** Zones of indiscernibility
- » **C 0262** The pleasure of architecture / The pleasure of philosophy
- » **C 0284** [1980] World Savings and Loan Association
- » **C 0287** Dialogues, raptures, accelerations

» C 0300

- » C 0302 Simulacra
- » C 0303 Model-making and repetition
- » C 0308 The manual and the haptic
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- » C 0316 [1978] *Wagner Residence*
- » C 0319 [1983] *Exaggeration, embellishment, ornament*
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