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ARCHITECTURE CULTURE AND THE QUESTION OF KNOWLEDGE: DOCTORAL RESEARCH TODAY

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Contents

Architecture Culture and the Question of Knowledge: Doctoral Research Today

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Over the past ten to 15 years most advanced education programmes within Schools of Architecture have been questioning the parameters and requirements of doctoral research both in terms of content and form. This issue of *Footprint* was motivated by the question of where the field stands today. The criteria for submission included not only PhD candidates currently involved in dissertation writing, but was also open to individuals who had recently completed dissertations and been awarded their PhD. Of course, the submissions received were highly diverse in terms of content, or perhaps more accurately we might say, in terms of the problematic the various researchers posed. Nevertheless, we believe that the papers herein do provide an informative, if partial, view of the state of doctoral research in architecture today; at least, that is, within the geographic regions and educational dispositions indicated by the affiliations of the contributions both submitted and those accepted.

It is arguable that in recent years there has been an increasing professionalization of research in architecture. Additionally, there has also been an increase in the questions put to the discipline as a whole: What kind of research constitutes 'proper' research in architecture and urban disciplines; and is such work to be situated within the domains and criteria of natural sciences, humanities, history, philosophy or the social sciences?[1] Alternatively, how can architecture research contribute to transdisciplinary practices, so important in the current state of sociocultural, political and economic complexity? Should architecture retreat from the academy to maintain its freedom of practice, should it reflect on practice-bound disciplines such as medicine and law, or instead remain allied to the art schools? Should it hope that by being positioned in the technical schools and the traditions of engineering – common in European Schools of Architecture – it will gain the scientific credibility that seems to be currently desired?

Moreover, there are shifts in the institutional landscape at large. For instance, in the Netherlands, the Dutch scientific council has now grouped architecture into the so-called 'creative industries', along with computer programming and gaming, fashion, and graphic design.[2] What this will mean in the coming years for funding proposals remains to be seen. Furthermore, there is an ongoing economic crisis that has unparalleled effects in the building industry, causing the closure of firms and people to step out of this particular 'creative industry'. Consequently, there has been an increase in the numbers of individuals seeking advanced degrees coupled with a decrease in funding possibilities with which to support the monetary requirements of extended educational programmes, not to mention the funds needed to provide for paid research positions as well.

All this together does raise the question: What is the goal, and the *raison d'etre* of doctoral research in architecture today? Should research remain sealed tight in the academy, disregarding issues of prac-

tice? Or, alternatively, should it engage with these professional battlefields, taking the position of what Michel Foucault has referred to as the 'universal (or public) intellectual' against that of the 'specific intellectual'?[3] In architecture theory the debate around 'critical' versus 'projective' practice – initiated as it was around the turn of the millennium and accompanying the manifold speculations at that time that we were entering an era decried as the 'end of theory' (an erroneous claim much like the previous provocations in the 1960s regarding the 'end of philosophy') – has yet to be resolved in any convincing manner.[4] At least not in a manner that can adequately respond to the debate in which it was lodged – that is the relation, or lack thereof, between theories in and practices of architecture.

With such questions in mind, we have elected to include a paper provided by Andrew Leach that we believe provides an overview of the general state of contemporary architecture research. Leach makes an appeal to refrain from making all research operational. At a time when the application of research and its economic value seem to form the primary criteria for judging value, this appeal should not be taken lightly.

Following Leach's initial inventory, we have selected a spectrum of contributions that range within the poles of intellectual autonomy and applied operationality. However, it is worth noting that within this overarching trajectory there is a striking cluster of literature-oriented research. Whereas in the traditional studies the writing itself fades into the background, being utilized as a medium for conveying specific ideas about the object of research, there is a cluster of papers that focuses precisely on this medium in order to gain alternative insights on architecture.[5] From Klaske Havik, who positions architecture as an activity of bridging various types of inquiry and literature as a mode of exploring this essential quality, to Sotirios Varsamis, who explores the peculiar phenomenon of the palindrome as an exemplar of spatial qualities of writing, to the fictocriticism of the research group led by Hélène Frichot, these essays all take a look at the very issue of putting things into words that are made (and apprehended) in other registers, from drawing to building to film. While the substantial number of papers in this issue that explore literary methods and metaphors in order to seek out new insights in architecture may seem disproportionate; it might also indicate that this is a prominent tendency in current research. Perhaps that should not surprise us, given the insights of Adrian Forty on the slippage between linguistic and visual understanding so precisely deconstructed in his book *Words and Buildings: A Vocabulary of Modern Architecture*. This area of research has become a field in its own right, departing from the more poetic gestures of fictional presentation in the 1980s to move towards a combination of analysis and creative tool in architectural design. However, while the literary researches appear to dominate in this issue, we have maintained our intuition that something is yet to be said through the media and within the domain of the visual and the spatial: an appeal for non-discursive practices that do not rely on representational analysis (transcendental or symbolic). The contribution by Andrej Radman can be seen as a clear example of this latter position. Perhaps this is a challenge yet to be met, but certainly a number of articles in this issue are suggestive of the specificity of architecture research as a full-fledged science of the artificial (to borrow Herbert Simon's phrase).

While the PhD itself is a long and lonely trajectory, most are driven by a belief in the general value of what they are doing. In many cases there is indeed an appeal to the importance in light of contemporary developments (appeals to the sheer accumulation of knowledge have, perhaps ironically, diminished as more knowledge becomes available through digital technologies). With this in mind, we close the issue with an article by Willem de Bruijn that is a personal

engagement with the very process of writing a PhD. It takes the reader along a path of wonderment and frustration, all the while positioning the efforts of research in the magical world of personal discipline and discovery. There may be public benefit at the end of this path, but it is subjugated to the pure experience of learning, exploration, intuitive leaps and unexpected discoveries. This article offers a counterpoint to Leach's appeal at the beginning of the issue to remember the value of non-instrumental knowledge. This type of value is not to be quantified, nor can it be directly applied. But altogether, it does contribute to that very human sense of accomplishment, and the pride that we, as a human race, take in constructing edifices – material or intellectual – that are larger than life, and indeed outlast our individual lives.

As a whole, this issue thus offers a perhaps somewhat idiosyncratic selection of research topics in the general domain of architecture and urbanism, yet the various papers share certain approaches or interests that point in a direction of the multiplicity of design thinking. They show lines that correlate with new directions in architecture, from the sustainability issue to the solid focus on design objects, exploring techniques and buildings, appealing to ideas. The constant interweaving, in many of the contributions, of literary, visual and material references requires the reader to engage on multiple levels of reception.

What does remain apparent in this state of the field is the continuing lack of shared vocabulary, or an agreement on what may be regarded as pressing issues. Furthermore, much of this research, however interesting it may be, seems to have difficulty identifying its key sources. The historical research finds its *raison d'etre* in uncovering new historic insights; the critical approach continues along the lines of uncovering existing habits and unseen tendencies; while other research approaches contribute to defining knowledge as yet undiscovered. Individually, each research is easily legitimated by virtue of the search for knowledge, or uncovering new approaches. Yet, while various papers do identify problems of the unique qualities of architecture, there is not yet the evident bridge to immediate, pressing questions raised by the current state of affairs affecting our societies (whether globally or locally conceived). Thus, the impatience one might have with a collection such as this may well lay in the inadequacy of both the questions posed and the answers provided within this cross section of contributions.

If architecture and the design fields can indeed lay claim to a unique form of academic knowledge, they continue to find it difficult to identify and describe this specificity in terms of either vocabulary or approaches. Academia has for some time now been interested in so-called 'research by design' but has not yet succeeded in constructing a broadly shared discourse.[6] There is a remaining tension inherent in this field, construed not only by the academic habitus of its theoretical proponents, but also by the historical, the practical and perhaps even the merely dilettantish. It is our contention that there is indeed something to be explored in the modes of knowledge specific to architecture, whether that concerns an openly political agenda or the more restrained spatial dimensions of the public piazza, a directly applicable research question on structural shear, or rather a meta-theoretical study of the discourse. As such, we see this issue of *Footprint* as setting an agenda to look forward more than back, to offer possibilities for future research, and more than anything, to show which gaps remain in our hope to understand the field as a steadily maturing domain of disciplinary and tacit knowledge, configured both by the state of the art and current scientific insights, and the continuing practices of its collective of practitioners, critics, public and academics.

Notes

1. Jane Rendell, 'Architectural Research and Disciplinarity', *ARQ*, vol. 8, no. 4 (2004), pp. 141-47; Jean Louis Cohen, 'The Emergence of Architectural Research in France', *Journal of Architectural Education*, vol. 40, no. 2, Jubilee Issue (winter 1987), pp. 10-11; Barend van der Meulen, Floortje Daemen, Leonie van Drooge, Stefan de Jong, Jack Spaapen, Frank Wamelink and Peter van den Besselaar, *Pilot Study at the Faculty of Architecture TU Delft, Final Report – confidential*. Project 'Evaluating Research in Context' (The Hague, Rathenau Institute, 2010), online at <http://repository.tudelft.nl/view/ir/uuid%3Af0a713f1-1564-4b79-be66-4f5299ebba2c/> [accessed 17 December 2012], pp.19-24.
2. Report on the Creative Industry, available online in Dutch at: <http://www.rijksoverheid.nl/onderwerpen/ondernemersklimaat-en-innovatie/documenten-en-publicaties/rapporten/2011/06/17/creatieve-industrie-in-topvorm.html> [accessed 17 December 2012]
3. Michel Foucault, 'Truth And Power', in Gordon, Colin, ed., *Power/Knowledge: Selected Interviews and Other Writings 1972-1977: Michel Foucault* (Sussex: The Harvester Press / Essex: Longman edition, 1980), pp. 109-33.
4. For issues on the 'critical' and 'projective', see also Lara Schrijver, 'Whatever Happened to Projective Architecture? Rethinking the Expertise of the Architect', *Footprint* 4 (spring 2009), pp.123-27.
5. Christof Thoenes makes note of the early ties between architecture and literature in the introduction to: Bernd Evers and Christof Thoenes, *Architectural Theory: From the Renaissance to the Present* (Cologne: Taschen, 2003), pp. 8-9.
6. There have been numerous events on 'research by design' over the past 20 years. Two such conferences are the recent 'Theory by Design' in Antwerp <www.theorybydesign.eu> of October 2012, and the forthcoming 'Knowing (by) Designing' in Brussels, May 2013 <www.bydesigning.net>. In addition, David Salomon makes note of the increasing importance of the research studio in his article 'Experimental Cultures: On the ''End'' of the Design Thesis and the Rise of the Research Studio', *Journal of Architectural Education*, vol. 65, no. 1 (winter 2012), pp. 33-44.

Inventory

Andrew Leach

Several years ago I wrote an essay called 'The Inconceivable Agenda' together with three colleagues then at Ghent University: Wouter Davidts, Maarten Delbeke and Johan Lagae. Each one of my co-authors were, at the time, within five years of completing their doctorates, while I was some months away from submission.[1] Within our own doctoral studies we had worked on different topics in different ways, with a common attitude that any given problem has an interior logic, never free from external interference, which nevertheless informs the choices faced by the doctorandus in the process and representation of research - in our case in the history and theory of architecture and architectural history.[2] The title of our essay was a direct response to the fourth (and final?) colloquium of neTHCA - the (Belgian) Network for Theory, History and Criticism of Architecture - in which was posed the problem of the 'PhDesign: The Unthinkable Doctorate' (Brussels, 14-16 April 2005).

Our position then, as now, was that in calling for a ground up reconsideration of the status, objectives, media and process of making doctorates in architecture, that the conference had posed the wrong question.[3] To put it another way, in confusing an institutional agenda for an intellectual agenda and questions of media for questions of method and epistemology, the conference had overlooked the fact that the kind of reconsideration of fundamentals it sought was built into the very idea of the doctorate - its historical function within the university - and especially into the idea of the doctorate in architecture as a degree with a much shallower heritage. Refuting the position that a 'professional' mode of knowing architecture was just as rigorous as and more perceptive than 'traditional' academic approaches to the architectural subject and to research within the architecture discipline, we argued that the conference had sought to bed down differences it expressed a wish to overcome. We countered: 'It is precisely by "thinking" of "scientific work in architecture" as a genuine architectural enterprise that we can redraw the current - admittedly often quite stubborn - practices and formats of doctoral study in architecture.'[4] Our claim was that the discussion sought to reinvent the wheel instead of turning it in a different direction because its proponents had not stopped to notice its shape. Defending the implied position of the 'unthinkable doctorate' that *only* architectural design - the principal vehicle for architectural practice - can contribute to architectural knowledge, we asked: 'Does the fact that one borrows insights, tools and analytical strategies from extra-architectural sciences and associated disciplines imply that one is no longer able to pose architectural questions and to work within an architecturally specific way of thinking?'[5]

It is important that the doctorate is something on its own. As we will see below, it is uniquely positioned to attend to matters of architecture's disciplinarity - the body of its knowledge as distinct from its practice - and to the institutions that secure and advance that knowledge, sometimes by prompting change within those very institutions. In this

sense, the discipline of architecture is not identical to the profession or practice of architecture, and even if many things happen under both monikers and thereby make such a distinction muddier than it might be otherwise, to draw a line between one and the other allows us to avoid the problem of treating a very particular, institutional question with too broad a brush.

The institutional premise to which 'The Unthinkable Doctorate' attended is by now common to many countries around the world, including those where I have taught and conducted research in recent years. As academics we are increasingly accountable for the way we spend the time apportioned to us to conduct research, which informs our contribution to disciplinary knowledge and its transmission through teaching and public outreach. Academics who are also practicing architects - teaching studio and preparing students for a professional life - have been forced to confront a shift in institutional attitudes whereby one's authority in the classroom no longer rests either on writing books or on realizing projects as buildings or on paper when not at the lectern or convening studios, but on conducting research, where the definition of research has had to expand to accommodate professional activities: sometimes by tacit agreement that research in architecture can look the same as what was once defended as professional practice (the embodied knowledge argument), and sometimes by genuine attempts to articulate how thinking and the transmission of ideas happens through architectural design (where the relationship between epistemology and media is at stake).[6] It cannot be the case that knowledge is formalized *only* by writing, but by the same token, where not every piece of writing communicates research and scholarship in the hard sense demanded of and by the university, neither does every drawing or building.

It follows that if everyone in the university is to do research, then everyone needs a research qualification, the doctorate; it is no longer enough to be professionally qualified or to do professional work without taking the extra step of arguing its contribution to disciplinary knowledge, in which one has proven oneself by defending original research, as well as to the stock of contemporary architecture, to which one contributes as a certified professional. And if, as in Belgium and the situation faced by the *hogescholen* (or as faced by the Australian institutes of technology from the end of the 1980s), an institution needs now to offer the doctorate even if its competencies have been firmly centred to one side of those fields that have habitually dominated the production of PhDs - the architectural sciences and humanities - then it is clear that something profound is shifting in the institutional landscape that required attention and discussion seven years ago and continues to do so.

The question of whether PhD research can be conducted in the mode of architectural design has two interrelated institutional ideas at stake. Firstly, if academics receive 'credit' as researchers for framing professional practice as research, then an extension of this acceptance is that one must be able to conduct research at the scale of the PhD in this same mode. One cannot allow one without the other, since the difference between a paper and a dissertation is a matter of scale in writing and question, not of a shifting definition of research and its proper methods and media. Secondly, it assumes that all matters concerning architectural education in the university - or in the institution that behaves, or now must behave like the university - pertain to a profession that is within a discipline claimed by the university as its domain. In this, I draw greater clarity from the situation in Australia, where the two forces of architectural culture are the professional institute and the university, with no institutions muddying the disciplinary-professional affiliations we can assign to them. In those countries and regions where exist those institutions with exhibition programmes and a publication mandate, such as in Flanders or the

Netherlands, we must admit a more complicated story that speaks to tendencies that are, in Australia, already delineated with greater clarity.

A PhD as a disciplinary degree reinforced by a recognizable contribution to the disciplinary field (through production and extension of knowledge), offers a different qualification than the terminal professional qualification reinforced by a recognizable contribution to the architecture profession (through professional and experimental practice). In the end, these two institutional ideas are widely confused. In the United States, in contrast, the persistent tendency of architectural culture is for graduate schools to be staffed by faculty whose terminal degree is either the MArch or the PhD, which tends to indicate whether an individual is attending to the discipline or the profession of architecture.[7] There is a clarity to this relationship between training and teaching that is no longer widespread. The distinction is, of course, rife with ambiguities, exceptions and (hence) confusions, but we might at least agree that there is a difference in mode and constituency between understanding how air conditioning works in a multistorey building from understanding how the discourse on deconstructivism impacted on architectural design since the end of the 1980s.

Our contribution to this discussion was straightforward, and recalled the long-term status of the doctorate as a space of authorized departure from the burdens of habitual knowledge.[8] The doctorate offers an invitation to walk into a problem armed with disciplinary tools and tasks knowing that what one finds there might change those very tools and tasks, as well as the discipline or field of study and the problems it contains. The doctorate is, in other words, charged with holding disciplines accountable to themselves and the university accountable to its broader social, cultural, technological and intellectual missions. Many things are possible within the doctorate, so long as the candidate can demonstrate a grasp of the discipline, rigorous thought and method, and an evident appreciation of what he or she has added by conducting research therein. One complication of the situation lies with the position of architecture within the university as a field of study and research that has disciplinary *and* professional responsibilities. In this, architecture is different to the fine arts and music, for which are made parallel claims to research through practice, but then without professional regulation of that practice beyond mechanisms of criticism and reputation. It is also different to the law, where research can occur through courtroom activities, but which has such a fundamental relationship with the very notion of the Western university that professional and university interests have become, out of practice, much more closely aligned.

We observed in 2005: 'The university is held morally accountable on two grounds: to "supply" graduates that are useful to architectural culture, who have skills enabling their entry to the profession, as well as to test the intellectual and technical limits of the profession by entering that same profession equipped with intellectual and technical knowledge indebted to the research-led teaching of university professors.'[9] If the university is to continue fulfilling its mandate as society's critic and conscience - while now also acting as its research and development workhorse in the applied sciences - then a 'local' variation of that self-imposed obligation is to hold architecture (as a profession and as a discipline) accountable for the limits of its knowledge and for its habits, 'to work towards defined institutional goals while testing the validity of those goals at every move'.[10]

If the doctorate is charged with holding the university accountable for knowledge and its production and maintenance, be it within a concept of the discipline or of interdisciplinarity, then doctoral research in architecture has the additional responsibility of testing that disciplinary knowledge on which the profession draws in its determination of its own

status, tools and tasks, which shape, in turn, the profession's expectations of the university as it produces work-ready, critically capable graduates to staff its offices. As we earlier noted: 'While the university is not the only place where architecture can be thought, it is one of the rare places where [it] can be thought outside of [the profession] and the exigencies of architectural practice.'[11] So runs the logic: the PhD in architecture has dual constituencies, these being the discipline (and architectural discourse, architectural science, as broadly conceived) and the profession (which relies on new entrants to meet competencies supplied by the university and to be capable of thinking and acting in such a way as to extend architecture's bases of knowledge and practice within the profession). Of course, no single PhD project reconstitutes the whole game in one hit. Through the cumulative attention by hundreds of vastly different studies into the limits of architecture's tools, tasks and knowledge, however, each project inevitably serves microcosmically in this larger role.

Certainly, institutional complicity is required to prevent the most adventurous experiments from going wrong, whether those experiments be medial or structural: juries and examiners open to the consequences of allowing the PhD to fulfil this traditional function; and an administrative scaffolding capable of seeing past habits and of sustaining variance. Ultimately, the university is reasonable in its demand for some reassurance that the emperor is not naked. It seems that these were precisely the kind of hurdles the organizers of 'The Unthinkable Doctorate' were intent on addressing alongside the rather more banal question of how architecture practice can also be understood to contribute to disciplinary knowledge as research, and how research conducted through professional practice can fulfil the basic requirements of the doctorate to demonstrate a contribution to the discipline through the practice of advanced and rigorous research. And it seems that institutions (broadly conceived) have by and large stepped up to the problem where it presented as such. They have not only allowed many things that once happened under the label of practice to instead serve as research, with some careful qualifications and some adjustments both to practice itself and the way it is reported within the university. Such exercises as the Australian 'Excellence in Research' [ERA] assessment of university research quality demonstrate that this has been possible. They have also fostered a way of conducting advanced research and scholarship on architecture's disciplinary problems and materials by using architecture's tools and media to fulfil the requirements of the PhD while also attending to the need for communicability to an informed non-specialist audience. Problem solved, right? To a large degree, yes, allowing for the ongoing discussion on the extent to which the tacit knowledge embedded in architectural design requires explication or elaboration, and excepting the ongoing discussion on the extent to which architectural design can serve the traditional architectural sciences, where science is meant in the broadest sense of objective knowledge and study.[12] One can choose to 'trust' the PhD by architectural design or not, but it is no longer (if it ever was) 'unthinkable'.

Where shifts in attitude and institutions have allowed for this development, however, those same shifts have introduced a new kind of problem for the organization and exercising of architectural knowledge that while still in its infancy may become troubling over time. The increased acceptance of the position that research in architecture, and therefore the doctorate, can explore architectural matters by architectural means and with architecture's traditional and emerging media has shored up the institutional relationship outlined above. It reinforces the idea that the PhD in architecture is accountable to an architectural culture that now more prominently figures the practice of architecture and its various ways of thinking, working and communicating. The new kind of question this raises

is for the so-called traditional modes of conducting research in architecture: such discursive modes as have long been appropriate for architectural history and architectural theory, and for the more recently clarified category of architectural culture's intellectual history; for such scientific modes as have long been appropriate for understanding the performance of materials and design solutions in light of natural and environmental conditions (gravity, light, thermodynamics, etcetera); and for such social science modes as required in studies of individual and social response to buildings and cities, to the sociology, anthropology, economy and psychology of architecture.

Among all of these, the historiographical study of architecture has the loosest connection to an architectural mode of thinking about and conducting research in architecture. And the decidedly architectural idea of architectural history as a 'project' - aligned with the behaviour of architecture within the modern era - is remarkable enough to have been one of the enduring phrases attached to the legacy of the architect-trained historian Manfredo Tafuri, whose department of architectural history in Venice sat within a university institute of architecture.[13] It has the greatest propensity to stray from the domain of architectural studies that can easily be allowed to occupy the zone of the project - to enjoy the freedom of assessing knowledge through research and holding habit accountable to the same - and to fail their perceived obligation to return doctoral research to the architecture discipline *and* the architecture profession as a check on both. Because the history of architecture has not grown exclusively out of the study of architecture from within the field of architecture, but from the histories of art and culture, architectural history and the intellectual history of architectural culture have more recently entered into a decidedly insecure position relative to the other modes of enquiry within architecture discipline and into architecture as a subject of academic study. Even if architectural history has in recent decades been institutionalized within schools of architecture, and for the academic habits it could import from faculties of arts and letters has led the development of doctoral studies in architecture, the position architectural history occupies within architecture is not, read this way, natural, but has been widely regularized in response to broader shifts in knowledge and institutions within the last half century.

The pragmatic turn in architectural culture of late has provided an excellent substratum on which to build up a strong case for architectural research by 'architectural' means, for thinking through architecture rather than about architecture. The ways in which this research met the criterion of demonstrating that it could fulfil the university's requirements for formally testing and returning knowledge to the discipline was a harder battle, but the lobbies for this change must concede progress even if some are dissatisfied with its speed. One consequence of this general shift in attitude within schools and faculties of architecture towards more pragmatic and professionally orientated research - and in architectural history, doctoral studies concerned with the contemporary - is the increased traction given to the idea that any given project submitted for the PhD in architecture should demonstrate an awareness not only of how the research articulates with and contributes to disciplinary knowledge, but also how it contributes to architecture as an idea and field of activity that is not only bound by the discipline and hence the university and the activity of academics and theoreticians, but also includes architecture's practitioners. To borrow the sentiments of a local colleague to make this point, one writes architectural history in a school of architecture in order to make better architecture - history of architecture for its own sake is what art history does.

Thankfully, this sentiment is not universal, but if architecture is currently in a swing towards pragmatism rather than abstraction, towards the profession

over the discipline - to pursue a distinction over which we could, of course, spill a certain amount of ink - then this places in a difficult position that research (and therefore those doctorates) whose ambition is to extend disciplinary knowledge *without* any ambition to affect or to directly contribute to contemporary architecture. What does this mean for the most speculative research in architecture? And what does it mean for historiographical research in architecture in those topics or questions that cannot (and should not) be argued as somehow contemporary? What is the effect, in other words, of being obliged not only to understand how doctoral research extends disciplinary knowledge, but also how it improves the present-day position of the architecture profession? Registering this as a problem is not to reverse the position of the PhD in architecture as described in the pages above. Even within the diagram that has doctoral research simultaneously testing disciplinary and professional knowledge and institutions, there remains scope for it to do so by attending to knowledge for the sake of knowledge rather than applied knowledge. It is this latter possibility that I notice waning.

To a very large extent I am extrapolating a general observation from circumstances and tendencies I have noted in my own wanderings in Australasia, Europe and North America. I have not conducted a systematic and international study to reach this point, and so what I have written above may not resonate with PhD candidates at the Courtauld Institute, the University of Pennsylvania or the Centre d'Études Supérieures de la Renaissance at Tours. The local manifestations of the tendencies I describe here are neither unimportant nor universal. The same goes for the exceptions one might think of that run against the grain of what I imagine - from my office near the beach - to be taking place in the rest of the world. I suspect that Australian academic culture has, in general, more eagerly accepted (embraced) the pragmatic, utilitarian demands made of it by government more so than British, American or European academic culture. Although the discussion within architectural culture around the idea of post-criticality and the end of the theory moment has largely been banal, underwritten by institutional rather than intellectual motives, it serves as intra-disciplinary and trans-disciplinary evidence of a pragmatic drift that has undermined intellectual culture in Australian architecture and eroded the once much broader scope of historiographical activity in Australian universities.

Casual observation suggests that this present moment, when nations are watching their budgets with concern and institutions are checking on the financial health of their endowments, has provoked a certain acceleration in the effects of this drift, which is now tinged with an anxiety that investment in education and research should register a return in a nation's economic health. This, clearly, is a situation against which the humanities have rightly taken a stand in defence of their longer-term and non-monetary importance to culture and society. We have to allow for a certain amount of nostalgia (always tinged with falsehood) for a less regulated past when academics outnumbered administrators and pursued a life of the mind with sufficient resources at their disposal. Nevertheless, the measure of the contemporary effect or impact of research matters to a greater extent than before. It determines the flow of funds, which in turn enhances or inhibits the possibilities of individual disciplines. In one sense, this simply demands a greater creativity in framing research projects as one applies for the means to conduct research or to secure stipends for doctoral candidates, but as an index it also points to a structural issue that has largely been left unattended by architectural culture, but which has been flagged within the humanities more generally. This, namely, is that pursuit of knowledge for its own sake - where research extends knowledge and conducts criticism without programming its extra-disciplinary application - is an endangered exercise in the modern university. The demand 'so what?' exceeds with

greater clarity disciplinary knowledge and expectations, increasingly favouring the extra-academic constituency for research and scholarship.

Within Australia and over the last few decades, architectural history as a field of research, doctoral study and education has moved from being split between departments of art history and professional schools of architecture to being centred (although not, as yet, with complete exclusivity) on the architecture school. As a consequence, where some PhDs in the history of architecture were once offered within arts faculties - where the responsibility of the PhD is to articulate and extend disciplinary knowledge, a responsibility, therefore, solely to the university on behalf of culture - the vast majority are now offered by those faculties in which architecture is taught professionally - rendering the architectural history PhD a doctorate in architecture, with the dual constituencies observed above, to the university *and* to the profession, and rendering it subject to the pragmatic drift of that same discipline and the adherent qualification implied as to the possibilities for research.

Although it was not always so, architectural history today does not have an uncontested 'natural' home and there are two often conflicting schools of thought as to where the appropriate 'formation' of the architectural historian lies.[14] Some argue that it properly belongs in the professional training of the architect, where architectural history is a post-professional specialization, and where one's professional insights into architecture and the thinking of the architect make for better history, which will inevitably inform the broader culture where architecture is produced. The contra position is that architectural historians should be first trained in history - the history of art or the history of culture - so that architectural history is taken up as an historical specialization informed by a sound training in historical and historiographical method, where one's training in the humanities makes for better history that better articulates knowledge of architecture as a subject and as evidence, thereby advancing knowledge in the human sciences. Just as the historian of painting can learn about the painter's technique, so too can the historian of architecture learn about the architect's professional knowledge. This is a very long discussion provoked by the increased attention to history within schools of architecture since the end of the Second World War. It was in some domains exacerbated and in others nullified by a split in discourses and research agendas, formalized by habit by the end of the 1980s, between that work conducted for the sake of architectural historiography and that work conducted for the sake of architecture.

To be explicit, my view is that one can learn the architect's perspective on architecture, just as one can acquire the historian's skills of analysis and argument, and both within the disciplinary training necessary for the doctorate. I hold in high regard architectural historians with both kinds of formation, where the architect-historian's insights and the art historian's erudition can be equally profound on quite different terms, and where one cannot be at all certain of where an individual's training, in fact, lies, in light of the complete command with which they hold their subject. I do not consider the institutional split unhealthy to the extent that there remains sufficient cross-fertilization so as not to skew the idea of 'disciplinary knowledge' to exclude research being conducted and thinking being done in the opposite 'camp' from that in which the doctoral candidate is working. To describe the work of architect-trained historians as amateur historiography, when compared with the professional architectural historiography practiced by the art historically-trained historian is unproductive, as it is to admonish art historically-trained historians of architecture for treating their subjects 'art historically' in paying heed to questions other than the contemporaneity of their topic or to its relevance to the body of knowledge the architecture profession regards as properly its own.

I have heard and read both lines numerous times. We could discuss the merits of either case at great length, notwithstanding the simplicity with which I have reduced them here, but given the dogmatism that abounds on this matter we are bound to agree, at best, on disagreement.

All of that said, however, when doctoral studies in architectural history only happen in the professional schools, and where the professional schools are subject to an increased pragmatism in their research programmes in relation to contemporary architecture, then the question of the architectural historian's proper formation is no longer as key as it once was for this matter, and as it remains for other kinds of disciplinary and institutional issues. Instead, it is the issue of critical distance that becomes the more serious matter. For how long can the doctoral candidate let out the rope that will eventually return him or her to the exigencies of disciplinary and professional knowledge, thereby delaying the question of relevance, contemporaneity and application to architecture? And thereby allowing for the least degree over the conclusions readers will draw from the work? Should the doctoral candidate in the twenty-first century study, as architectural history, the architecture of medieval France? Or of Roman antiquity? Is there scope in the school of architecture for a doctoral student to pursue the subjects once followed by Jean Bony or William McDonald? Is it the case that one can tag along behind Tafuri to critique Le Corbusier's ambitions in Algiers but not to redefine the historical significance of the proto in Venice or to further test the attributions he makes to Francesco di Giorgio Martini?

Lurking in the background of the discussion on the legitimization of architectural design as research is the counter-question of what determines a *proper* subject for architectural research, where propriety is tested against the perceived needs of contemporary architectural culture rather than by architectural history - in our case - and its imperative, formally tested by structures located in the university, to know more and better. This counter-current has placed the work of those doctoral candidates in architectural history engaged in research within the school of architecture in a position of having to defend how their research contributes not simply to knowledge but also to architecture. Both are contemporary qualifications, but where the former implies a long accumulation to be held accountable over time, a lot of time, the latter implies the application of research in order to reach into the future. That work which appears to be dislocated from professional exigencies and from the issues most obviously at stake in contemporary architectural culture does not fulfil the (moral) requirements of the increasingly pragmatic PhD in architecture as it has started to take shape in its contemporary incarnation.

My observation is that the number of students engaged in architectural history studies where the topics pre-date the nineteenth century is negligible. In Australia architectural history is a field dominated by the twentieth century, and increasingly by the post-war period, with a current boom in studies of the 1960s and 1970s (the 1980s and 1990s will be online before we know it). This is something more than a correction of the lacuna that modern architecture was not old enough to be history that persisted widely until the end of the 1980s. It is also a simple, but clear demonstration of the effect of the test of a doctoral topic against the question of its pertinence to contemporary architecture: the diminished sphere of research activity, the narrowed definition of the historical field of contemporary architecture. Given the cyclical structure of research-led teaching informing a student's choice to enter a research career, it will require an act of will - institutional or disciplinary - to reverse the trend, assuming that others share my disquiet. In those institutional contexts where the discipline of art history continues to teach and conduct research in the history of architecture, that field can always take up the slack created by architecture's preoccupation with its own

present moment. I regard the absence of such a check, such as I perceive it, to be concerning.

Curiously, a more recent development in frame and method has moved to serve, within architecture, where art history once served from outside its disciplinary confines. It emerged out of the hey-day of architectural theory, the *Oppositions* and *Assemblage* moments, running counter to the currents of post-criticality and also, to an extent, to the traditional work of architectural historians. This, in short, is the intellectual historiography of architectural culture, which has taken as its mandate the historical criticism and historicization of contemporary architectural ideas through recourse to history. From the middle of the 1990s onwards an increasing number of doctoral studies - many later published as commercial books - conducted historical research into the field of architectural ideas. A historiographical turn within a post-historical era, this work has served to clarify the conditions in which knowledge and intellectual practices in architectural culture have been formulated and transmitted, and to clarify the uses to which architectural ideas and practices have been put beyond the control of architecture as an institution. This is not (or has not necessarily been) in order to advance contemporary architecture, but instead serves to remind the discipline and its institutions of the historicity and institutional specificity of its various incarnations and issues.

Several volumes to 'graduate' from dissertations defended at the doctoral programmes in architectural history and theory at the Massachusetts Institute of Technology and Columbia University have sent a clear signal in this direction, lending form to an intellectual agenda I believe to offer a crucial line back to those historical topics we might otherwise have overlooked: the history of historians not for the sake of introspection, nor in order to force the expansion of contemporary architecture's historical field (although this would naturally follow). Thus, we might ultimately return to medieval France through the study of Bony, or Imperial Rome by attention to McDonald. I regard this as part of the 'political mission' on which Jean-Louis Cohen mused in his keynote address to the 2008 Annual Meeting of the Society of Architectural Historians, which 'can be assigned to architectural history in the first decade of the millennium'. I am deliberately twisting his conclusions to suit the agenda I have contrived for myself and my PhD students, but I regard the pursuit of the history of ideas in architectural culture, at this moment, to serve history's broader political ambition as 'a method in the struggle against the repression and the oblivion to which the "losers" and "defeated" are condemned'.[15]

Notes

1. Wouter Davidts, Maarten Delbeke, Johan Lagae and Andrew Leach, 'The Inconceivable Agenda', *Journal of Architecture* 11, 3 (2006), pp. 353-57. The paper was first presented at the 4th International Conference of neTHCA at Sint Lucas, Brussels, the full proceedings of which are published as *The Unthinkable Doctorate*, ed. by Marc Belderbos and Johan Verbeke (Brussels: Sint Lucas Hogeschool voor Wetenschap en Kunst and the Network for Theory, Criticism and History of Architecture, 2005).
2. The titles of our respective studies perhaps illustrate this point: Maarten Delbeke, 'La fenice degl'ingeni: Een alternatief perspectief op Gianlorenzo Bernini en zijn werk in de geschriften van Sforza Pallavicino'; Johan Lagae, 'Kongo zoals het is: Drie architectuurverhalen uit de Belgische kolonisatiegeschiedenis (1920-1960)'; Wouter Davidts, 'Museumarchitectuur van Centre Pompidou tot Tate Modern: Verschuivingen in het artistieke begrip van openbaarheid en hun impact op het architectuurprogramma van het museum voor hedendaagse kunst'; Andrew Leach, 'Choosing History: A Study of Manfredo Tafuri's Theorisation of Architectural History and Architectural History Research', PhD diss., Ghent University, 2001, 2002, 2003, 2006, respectively.
3. 'Call for Papers' = 'Appel à contribution' in *The Unthink-*

able Doctorate, ed. by Belderbos and Verbeke, pp. 13-15, 17-20

4. Davidts, Delbeke, et al., 'The Inconceivable Agenda', p. 355.
5. Davidts, Delbeke, et al., 'The Inconceivable Agenda', p. 355.
6. Compare Bart Verschaffel, '"Recherche": de l'Art en tant que Forme de Connaissance', in *B-Sites: A propos de la place d'un Centre d'Art et de Recherche à Bruxelles*, ed. by Wouter Davidts and Tijl Vanmeirhaege (Brussels: Bruxelles 2000, ville européenne de la culture de l'an 2000, 2000), pp. 46-51; and *De Zaak van de Kunst: Over kennis, kritiek en schoonheid* (Ghent: A&S Books, 2011), esp. pp. 37-47.
7. Compare the contributions to Andrzej Piotrowski and Julia Williams Robinson, eds, *The Discipline of Architecture* (Minneapolis: University of Minnesota Press, 2000).
8. In this I very much favour the description of the 'project' by Boris Groys in *De Eenzaamheid van het Project = The Loneliness of the Project* (Antwerp: Museum van Hedendaagse Kunst Antwerpen, 2002), also in the *New York Magazine of Contemporary Art and Theory* 1, 1 (2008), online at <www.ny-magazine.org>. As we wrote: 'The doctorate, consequently, is beyond the university while at once being inextricably bound to it. It is an institutionally authorized challenge to the disciplinary bases and techniques of architecture itself, however specific or traditional the individual project. By challenging the university from the intellectual 'safety' of the doctoral project, the doctorate in turn tests the institution that assumes responsibility for testing the limits of practice. When the doctoral candidate looks beyond the strict confines of their literary, scientific or technical inheritance, they subject to reappraisal both the institution that frames their study and the profession that practices within the broadly defined discipline of architecture.' Davidts, Delbeke, et al., 'The Inconceivable Agenda', p. 355.
9. Davidts, Delbeke, et al., 'The Inconceivable Agenda', p. 355.
10. Davidts, Delbeke, et al., 'The Inconceivable Agenda', p. 355.
11. Davidts, Delbeke, et al., 'The Inconceivable Agenda', p. 357.
12. Consider the ambitions of the conference 'Theory by Design: Architectural Research Made Explicit in the Design Teaching Studio', Artesis University College of Antwerp, 29-31 October 2012, online at <www.theory-bydesign.eu> [accessed 17 December 2012].
13. On this example, compare Marco Biraghi, *Progetto di crisi. Manfredo Tafuri e l'architettura contemporanea* (Milan: Christian Marinotti Edizione, 2005); Andrew Leach, *Manfredo Tafuri: Choosing History* (Ghent: A&S Books, 2007); and Anthony Vidler, *Histories of the Immediate Present: Inventing Architectural Modernism* (Cambridge, Mass.: MIT Press, 2008), pp. 157-89.
14. To illustrate this point, compare Andrew Leach, *What is Architectural History?* (Cambridge: Polity, 2010) and the review by Andrew Hopkins in the *Journal of Art Historiography* 5 (December 2011), online at <www.arthistoriography.wordpress.com/number-5-december-2011>. For documentation on the literature around this issue, see Leach, *What is Architectural History?*, pp. 156-63.
15. Jean-Louis Cohen, 'Scholarship or Politics? Architectural History and the Risks of Autonomy', *Journal of the Society of Architectural Historians*, 67, 3 (September 2008), p. 329.

Biography

Andrew Leach is an Associate Professor of Architecture at Griffith University, Australia, where he teaches architectural history and conducts research in the intellectual history of twentieth-century architectural culture. Among his books are *What is Architectural History?* (Polity 2010), *Architecture, Disciplinarity and the Arts* (A&S 2009, ed. with John Macarthur) and *Manfredo Tafuri: Choosing History* (A&S 2007).

You Are Hungry: *Flâneuring*, Edible Mapping and Feeding Imaginations

Mikey Tomkins

Introduction

Feeding cities is currently emerging as a concern within global, national and local debates.[1] A response to this situation is the concept of 'urban agriculture' (UA): 'The growing of plants and the raising of animals for food and other uses within and around cities and towns.'[2] UA has been conceived at a cities' scale, as a coherent planning strategy and as an individual building.[3]

However, the ability of residents to visualize, conceive and practise UA within the bewildering array of city structures that surround them is exacerbated by the notion that the built environment exists a priori, a product in part of developers, professional designers and planners. Little attention has been given to the actual and potential design contribution of urban food gardeners as a 'dweller landscaper' tactically augmenting the existing city, incrementally adding a bricolage of ideas and practices through everyday actions.[4] Also, while UA is regularly explored as a form of mini-agriculture that questions the dominance of the farm production system, little explored is how UA as an everyday practice may also question the actions of architects, planners, and professional designers in the creation of cities.[5]

This paper argues that in order to understand the position of the resident food gardener in relationship to architectural space, researchers need to embed themselves in landscape at the same scale as the phenomena being researched. Therefore, this research uses walking and talking with local residents in east London to examine how a UA landscape, imaginary and existing, might challenge our ideas of design and authorship.

This paper presents ongoing research drawn from 32 participatory walks with 150 residents and visitors to a 25-hectare (ha) site in east London that formed part of a PhD research. The two-hour walks took place in September 2010 and August 2011. The paper will present the methods, examine the thematic responses of walkers, and conclude with a discussion.

Method

A preliminary stage began in June 2010 when I repeatedly walked a 25-ha site in Hackney, east London, noting all open spaces within the site: parks, grassed areas on housing estates, waste ground, car parks and so forth. Additionally, Google maps were used to view the rooftops and private gardens. A hand-drawn A2 isometric map was created from this research process entitled 'You Are Hungry: an edible urban map of south Hackney'.[6] [fig. 1] Into these open spaces I envisioned various potential food-growing practices depicted by symbols. For example, symbols indicating potential fruit trees, vegetables gardens, compost bins and apiaries.

Buildings were represented as a simple line drawing to give a sense of scale, and actual roads and pavements were not marked. This map also presented some quantitative data about the 25-ha

site, namely the amount of land attributed to different uses. Also represented were existing examples of food gardening, such as an apiary, window boxes and a community orchard. The map combined these snippets of quantitative data with fictional stories about potential everyday food producing activities printed around the edges. These stories create a picture of would-be gardeners, food producing plots, market gardens and beekeepers who might inhabit the 25-ha site [fig. 2].

From 5 to 20 September 2010 and 18 August to 5 September 2011, 32 walks across this site were advertised for local residents and other interested parties via Space Studio and social media.[7] The walks were led by myself and each participant was given a bound copy of the edible map as a guide. The maps were used differently by participants, with some stuffing them in their back pockets immediately, whereas others had them constantly to hand. The map offered an overview of the site but did not have a route marked. I feel that its use was both as a gift and a way-finder.

As we completed the walks and talked about our experiences, walkers often read the map referring back to spaces for discussion or making notes on them. The map becomes a souvenir, a talking point, a provocation for ideas. It was also a way-finder for me that I used throughout the walk to identify locations. The groups were small (eight to ten people), which allowed walkers to contribute their own stories. While the map was designed with the idea that I would personally lead the walks, it has subsequently been used independently by over 25 walkers through the involvement of the Royal Geographical Society, and the map has been exhibited and published.[8]

In all 150 people took part in the walks. Data was collected as photographs, audio recorded semi-structured group discussions, alongside field notes. Data can be considered as both the generation and collection of 'empirical materials', such as 'interviewing, direct observation, the analysis of artefacts, documents, and cultural records… and personal experience'.[9] The succession of walks followed a similar route so that the taped discussions could be compared spatially. The recordings were transcribed in September 2010 and 2011.

The landscape of this peripatetic research is ordinary, and notably absent are the grand gestures of signature architecture or heritage sites. Most of the private housing and shops date from the Victorian period and the social housing from the 1930s to the 1960s, with two developments from the 1980s. The gentrified Broadway Market – which is full of cafés, delicatessens, organic food shops and restaurants – dominates this area, in marked contrast to the ring of social housing surrounding it.

I approached this walking project as a researcher, artist and local resident. This meant I had considerable knowledge about UA, the locality and its potential. However, I tried to resist imposing too much theory on the walkers therefore allowing their reactions to surface and generate its own 'local' theory. As an approach I followed Henwood and Pidgeon who refer to the need for researchers to read literature but also adopt a stance of 'theoretical agnosticism', a balance between claims about knowing and not knowing.[10]

Broadly, the walks were created as participatory within the general category of qualitative research useful in understanding situated phenomena.[11] To enhance engagement the number of walkers per walk was kept small, avoiding a tourist guide style, so that conversation and discussions among the group could emerge. There was linearity to the research, with 12 stopping points always starting and ending at the same point. In some sense the route chosen was pragmatic; I aimed for the 1,350 m route to be walkable in less than two hours, prioritizing talking without exhausting people's attention.

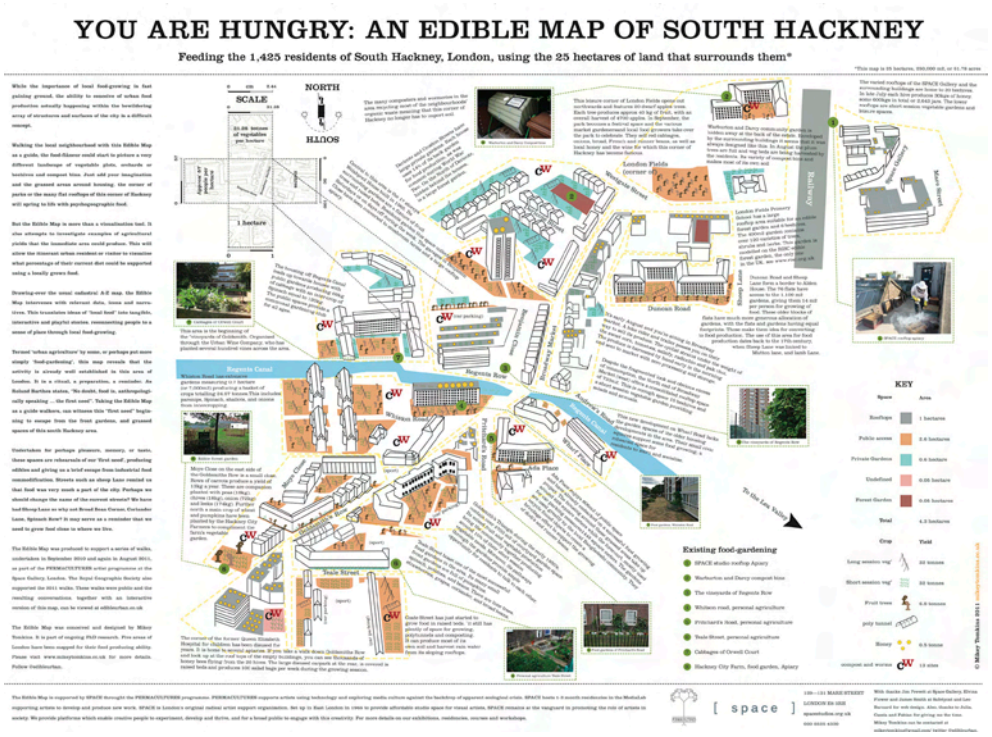

Fig. 1

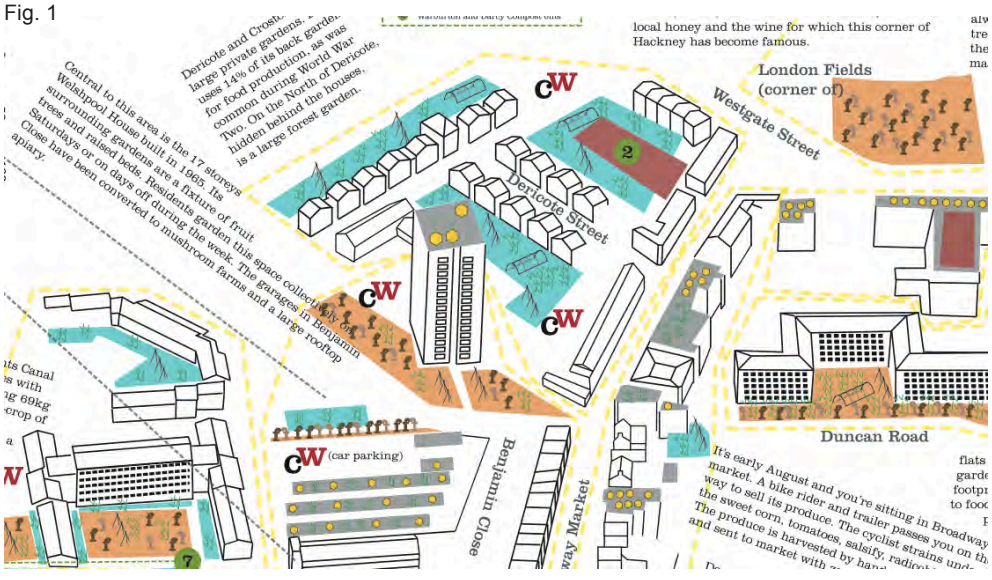

Fig. 2

Fig. 1: The edible map of Hackney
Fig. 2: Detail: The edible map of Hackney

The 12 stops on the walks are as follows. 1: Warburton Road car park (beehives); 2: Warburton and Darcy Community Garden (1930s social housing estate); 3: London Fields (13-ha park); 4: Duncan House (1930s social housing estate); 5: Welshpool House (1960s tower block); 6: Benjamin Street car parks, Orwell House (1980s social housing estate) [fig. 3]; 7: Whiston Road (1960s five-storey block); 8: Pritchard's Row (1950s social housing estate); 9: Teale Street north side (two-storey housing); 10: Teal Street south side (five-storey social housing estate); 11: The disused Victoria Hospital and grounds; 12: Haggerston community orchard (main audio recording site).

At the start of the route, walkers briefly introduced themselves, providing an overview of their interest in UA and motivation for joining the walk: on the whole they were either connected to food projects, interested in growing food themselves, or professionals working in food-growing-related projects, plus some local residents.

Analysis and Thematic Responses

According to Coffey and Atkinson: 'The process of analysis should not be seen as a distinct stage of research; rather it is a reflective activity that should inform data collection, writing, further data collection, and so forth.'[12] The process of writing about the edible walks therefore began during the collection of audio recordings and field notes. I visualized the conversations as a washing line spreading in many directions, from which the images and notes were hung. This echoes Denzin and Lincoln who talk of the need to see research emerging as 'a meaningful emotional whole, as if at a glance, all at once' and less as a linear overarching narrative, especially as such notes are a few steps removed from direct experience.[13]

I felt a strong need to resist the breaking-up of recorded interviews using codes to develop themes because of the personal interaction created on the walks. I repeatedly listened to interviews, identifying repetitions among data (interviews and field notes). This follows Barnacle's comment on coding that 'the hermeneutic conviction is however that coding, of itself, does not necessarily lead to understanding or insight; rather, the revelatory power of research is animated by the researcher's power of observation, reflection and judgement.'[14] Multiple walks allowed experiences to be analysed and grouped thematically using 'observation, reflection and judgement'. As themes emerged I would start to write paragraphs, which explored these themes. There was no measurable quantity for thematic repetitions but a sense of importance grew from my interpretation of how much emphasis residents placed on the activity.

Three main thematic responses emerged from the walks. Firstly, the subject of edible urban landscape, secondly the reaction to the culture of cultivated urban landscapes. Finally the multiple desire-lines presented by urban food gardening, which cut across the intended landscape of the planned architecture. These themes are broad and I have grouped conversations below to reflect the process of analysis as I experienced it. Wolcott states that 'qualitative researchers need to be storytellers… ground[ing] their reflections in observed experience'.[15] Thus the task at hand is the 'reconstruction of social phenomena… fashion[ed] out of… transactions with other men and women'.[16] Therefore there is a need to take account of the description of the essential experience while also developing academic theory.

Moreover this is a co-authored activity, negotiated between people and I was fully aware of the fact that I was constantly presenting myself to people in order to conduct research. The thematic section below tells the story of the research process, prioritizing the people within the landscape. In brackets after each quote is the gender of the interviewee and the date of the interview.*

Fig. 3: Benjamin Street car park

Edible Urban Landscapes

The notion of the 'edible urban landscape' is one in which the city starts to take some responsibility for an element of its food production. The emergence of this theme from the conversations came as little surprise as the subject of food and cities framed the walks. One walker in September summed this up, 'it's interesting food… when we think about food, we think about survival, talking about food, about growing… raises up most of the important questions' (m 19/9/10). The first garden on the walks is the well-established Warburton and Darcy community garden. One walker simply commented 'I liked this the most', echoing many such sentiments (f 07/09/10). A female walker said, 'it's like pre-enclosure common land' (f 12/09/10). Generally people responded well to the small examples of existing raised beds, well-established herbs, vines and compost bins of this decade-old garden. Warburton and Darcy is a mature community garden requiring no imagination.

What surprised almost all walkers was the location: hidden behind a 1930s council estate on a large expanse of grass that would have been designed simply as amenity grass. One local walker was shocked that in spite of living locally for years, this place was a secret garden commenting that, 'this is totally my local area… I live on London Fields and I hadn't seen… been to Warburton and Darcy' (f 17/9/10). Despite the initial surprise from participants, one walker commented that after spending just a few minutes in the space it felt quite natural, quite normal to have this garden here surrounded by the planned council estate. Walkers generally drifted off in this space, smelling the herbs, occasionally looking into the first floor flats. This space brought up discussions of names of food plants. Walkers started to list the fruit and vegetables growing like shopping lists: beans, lettuce, tomatoes, strawberries, grapes, spinach, figs and pumpkin. Walkers asked why there aren't any doors from the flats into the garden? The architecture seems to have been planned against a use that now seems obvious. Motifs of inclusion and exclusion are prominent, as one walker said, 'Like I probably won't think I'd be allowed to go into some spaces, but you are… just thinking people might think oh no that's their bit' (f 19/09/10). The garden has a welcoming sign and is completely fenced but I remarked that the garden, at least to my knowledge, is never locked. [fig. 4]

By contrast, the 17-storey tower block of Welshpool House is encircled by an unfenced patchwork of concrete, grass, broken benches and dead municipal flowerbeds. On one bed sat an elderly woman, watching several local men drinking and talking. These people are regular users of this landscape, perhaps its only users, certainly the only ones I've seen. I read from the edible map a suggestion that this landscape could be full of fruit trees and raised beds collectively gardened by residents on weekends and days off. A walker responded by saying that the fruit trees are nice but she felt exposed, as the landscape is basically an extended entrance to the tower block, crossed only to get home. She wouldn't want to 'hang out' there despite or because of the CCTV. Another walker commented that food gardening may reduce the need to have CCTV. Ideas of UA as an everyday practice seem to directly emerge from a sense of safety or issues of public performance, which in some ways create a literal connection to the concept of food security.

Crossing the Regents Canal, we walked to the foot of a six-storey 1960s block at the corner of Whiston Road and Goldsmiths Row. Here a small food garden has been emerging, jutting out as one walker describes it, like 'the bow of a ship' into a sea of grass that surrounds it (f 07/09/10). I have seen the woman who gardens this busy road junction plot once during my many walks. One walker said, 'I think what she is doing is brave because she's quite exposed… in that corner there… it's something completely different and people don't like something different' (f 12/09/10).

Fig. 4: Hidden entrance to Warburton and Darcy community garden

We moved on across the road to Pritchard's Row, and Teale Street. Here the grassed moats around estates have been colonized by some residents, peppering the wide grass moats with small personal food gardens [fig. 5].

Pumpkins climbed walls, aided by old cot bars, runner beans concealed the 1-m-high metal fence that encloses the grass. Walkers touched the common runner beans, as if they were an exotic plant, and commented that you just don't expect to find them there. Another walker remarked that they live across the street and hadn't noticed these plants growing because they are usually in a hurry to get somewhere. One participant picked up on this, commenting that once you start growing food you notice all the other food growers in the neighbourhood and want to converse with them. There was a real sense of excitement at the sight of a 4-m canopy of knotted rope suspended from above the first floor of a flat, extending over the front garden onto the street railings. Beneath, large gourds hung and grew [fig. 6]. 'It seems like they are saying I want to be living on a farm, give me more space!' (m 12/09/10), noted one walker. Food grown so close to the edge of the pavement, and sometimes onto it changed the street experience for one walker: 'It's beautiful because it softens it' (f 12/09/10). It's not just visual, another walker commented, because you can smell the coriander growing.

Walkers were not always convinced about the need for UA; for example, one walker stated that 'the justification for food growing [is difficult]… because industrially grown food is remarkably cheap' (f 12/09/10). One walker stated that the social significance 'might be more important than the plants… for the effort you put in you can get your carrots and potatoes cheaper' (m 05/09/10). He used the cinematic metaphor of the 'MacGuffin'. A MacGuffin is a narrative plot device (mainly associated with Alfred Hitchcock), which provides the energy to push a narrative into motion yet in and of itself is not important and does not get resolved.[17] It must grab the attention of the audience, but it can be forgotten or remain unconcluded. In this case it is the intention to grow food. It has to be there initially to ignite the residents but would soon become less relevant.

A walker commented on this, 'even if it's not eventually about growing food per se… because maybe the best thing isn't just to use a plot of land to be productive or grow your own food, at least it kind of gets people thinking, growing stuff' (m 19/09/10). Within this theme we can see that the concept of local food growing connects to a great many subjective feelings about access to space, connections with neighbours and knowledge before practice.

Sociocultural Landscape

The themes of the sociocultural landscape emerged across many of the sites: social interactions, sharing resources and knowledge. For example, standing in front of some of the wide moats of grass that run alongside Ade House, Pritchard's Row, where a handful of gardeners have established small vegetable gardens, a walker who lives along the same street commented: 'You can't actually start it [gardening] without talking to your neighbours… it's not yours… you need to get permission… you're forced into a dialogue with [neighbours], ones you never really talk to' (m 05/09/10).

This dialogue isn't always sympathetic. It is rare to meet gardeners on the walks, and I only managed to converse with a few over the period of research. On that day, luckily a Bangladeshi man was harvesting his red spinach, or 'lal shak', and he was happy to chat in broken English. We were a group of eight people and attracted attention. A passerby interrupted us, voicing her mild dislike of the food-growing practice on the basis that the gardeners are breaking the rules: 'They're not allowed to do that'. She joined our group standing on the pavement looking on at the gardening. We showed a clear support of the gardening and she

Fig. 5

Fig. 6

Fig. 5: Existing UA in Pritchard's Row
Fig. 6: Hanging gourds on Teale Street

softened her response slightly saying: 'It's OK but they don't have permission really.' Later, one walker commented that if you're just putting ornamental flowers in 'they're not as contested… if you wanted to… put a flower bed of roses in I don't think you would have as much problem as people putting vegetables in… I guess maybe there's an element of people resenting that someone's getting something out of it… if there's food' (f 21/09/2011).

One walker, who was also a food grower, followed on from this by saying that 'when I pass a nice garden, and see a gardener… I feel tempted to say something… because you do appreciate someone doing something' (f 05/09/10). A garden therefore becomes a visual commons; which can be enjoyed or disliked. As one walker stated: 'I particularly liked the vegetables that were growing along the railings, thought it was a great use of space… and nice to see it so close to the general public, so that they get the chance to appreciate it as well… I imagine some people walk past it and don't notice it' (m 21/09/11).

Others felt that food growing in public should be debated as a return to the idea of commons for urban residents. This appeared particularly germane when we stopped in London Fields, which was common land in the nineteenth century.[18] A small corner of the fields is the third stop on the walk. It has 'traditional' close-cropped grass and a concrete ping-pong table, which had two people enjoying a game.

I read from the map my suggestion of what the space could be used for: 'This leisure corner of London Fields opens out northwards and features 20 dwarf apples trees. Each tree produces approx 40 kg of fruit, with an overall harvest of 4,700 apples. In September, the park becomes a festival space and the various market gardeners and local food growers take over the park to celebrate. They sell red cabbages, onions, broad, French and runner beans, as well as local honey and the wine for which this corner of Hackney has become famous.'[19]

In contrast to the previous community garden, and like much of the following walk, none of this is happening – at least currently. To some walkers this absence brought frustration. It requires them to question what they see. In others it brought a quick response – for example: 'I guess it is good in a way because it gets the conversation going about that and then there's debate and then you can see what people feel' (f 19/09/10). Some walkers knew that London Fields was once 'common' land for grazing sheep but remarked that this open space is less of a 'common' than a scarce resource. Another walker added that the space is still common land but for grazing humans consuming beer and barbeques. One walker felt that in order to open up these spaces to productive practices we need a new form of communication, or perhaps to reconnect to an old forgotten one. She bemoaned the fact that in urban areas, 'we don't have a language for cooperating… about our space and the space we occupy with others' (f 14/09/10).

These ideas about the commons are contrasted with private spaces, which make up only 0.6 ha within the 25 ha site compared to 2.6 ha of public space. One walker summed this up: 'You can do this in your back garden where you don't have these social issues… it's the scale of balancing what you've got, what you need… what's possible with those other people, so actually you have to try and negotiate needs… someone needs a hobby, someone needs to produce something, someone needs some food… more gifting of crops… to people who are not growing in order for them to be happy… and maybe that's a way that ten people can grow in an estate that 40 families live in… there has to be some kind of link for everyone' (m 19/09/10). Whenever the subject emerges, generally walkers have been aware that in most inner-London boroughs, space is tight, scarce and a shared resource.

One resource that has often been discussed is knowledge. On the whole walkers feel that they don't have explicit knowledge of how to grow food. For example, 'I have some knowledge but it does seem quite scary, if someone said let's dig a community garden… what use would I be?' (m 12/09/10). Other walkers have argued that the epistemological harvest will develop and emerge alongside practice. Discussing the London Fields orchard I have sketched on the edible map, one local walker said: 'I think that knowledge spreads quite quickly so that if someone in London Fields was picking apples from an apple tree… and plums… then people would notice it and go aaarrh OK!' (f 21/09/11). Some have been more nervous: 'Orchards take looking after, the fruit is a good thing but the trees don't just manage themselves so you still have to have the knowledge, that has to come from somewhere' (f 21/09/21). Another walker was more upbeat: 'But in every estate of 200, or 400 people there's gonna be people who know how to look after it… I know in the estates near me there's two or three people' (f 21/09/21). As this is largely an imaginary edible urban landscape, it provides a way for walkers to rehearse some of their feelings, debates and reactions to food gardening. These feelings are the core of how a community might instigate UA. The above demonstrates that we should be careful when using the term 'agriculture' when implying a simple efficiency in a dense urban setting. As one walker reminded us, we do not have an enabled language for sharing community resources, which would be vital to developing city agriculture.

Desire in Landscape

Desire in landscape deals with the notion that, as Ward writes, 'cities grow and develop on two levels, the official, theoretical level and the popular, actual, unofficial level'.[20] The dialogue among walkers about food gardening has been focused on the variety of recycled objects assembled by the existing gardeners: cot bars, old catering buckets, a glass shower and a laundry basket, for example. All these objects and the associated daily practice contrast with the existing architectural space of delineated pavement, fences, grass and brick. For example, in Pritchard's Row growers use a car roof, as well as a mass of tangled bamboo, broken wood and string. Atop the bamboo canes are plastic bottles with faces drawn on and a few more complete scarecrows. As one walker observed, 'some of my favourites are just seeing people, like, salvaging bits and bobs, doing their higgledy piggledy things outside their gardens' (f 19/09/10).

This bricolage is usually well received, for example one walker said: 'That string thing for me was like sculpture' (f 19/09/10), commenting on a vast rope canopy supporting pumpkins. There is also the sense that the city benefits from these additions with one participant saying that: 'Making food growing part of the infrastructure of the city… it is a perception issue that food is not very tidy' (f 14/09/10). For other walkers it is a local story: 'That real connection with the place that you're living in, I mean I think growing food gives you that connection, like we were talking about with nature, giving you a sense of where you are… I mean that guy… seeing him implement changes and really owning the space.'

The food gardener that has started the plot on the corner of Whiston Road [fig. 7] has been commented on by many participants: 'I like the woman [on Whiston Road] who is barging out ever so slightly and her vine is creeping up… and I like the thought that every morning you wake up and water your garden before the sun comes up and that's an anarchist act in itself, just by taking over that public space' (f 14/09/10). There is a sense that walkers feel everyday practices are inherently incremental, never strategic. One walker remarks about the same woman: 'Her slowly moving out… the investment is incremental isn't it?… she puts a bit more work in [each year] and gets something' (f 19/09/10). As one walker stated, when we

talked about how intimidating empty space is and the advantages of creeping across the landscape: 'Having a big [space] all of a sudden is actually quite intimidating, you're like that's tons of work… doing a little bit at a time and building outward… I can do a bit more now' (f 10/09/10).

One walker made a direct comparison between the strategies of building and the emergence of multiple loci: 'I don't think there's a blueprint for this… each [space] is going to have its different character… and people in it… different troubles and triumphs' (f 12/09/10). Such a practice is not merely a counter-culture but is also practical: 'If it's centralized you've got the problem of everything being done in the same way… the fact is that there's loads of different cultures doing things the way that they do it… within that it means you've got loads of different knowledge about the way to do the same thing' (f 12/09/10).

Standing below the tower block we are equidistant from 3,000 m^2 of single-storey garages and an edible forest garden, hidden behind a Victorian terrace. The forest garden is growing in an old paddock, used when horses were ever-present in cities. It would have been hard to tell a Victorian that the ubiquitous horse would disappear from cities, to be replaced by a forest garden. Nevertheless, that's what happened. As we walk towards the rows of garages I ask the question: 'So what will the garages become in the future after cars have gone?' One walker quickly asked if they are still used as garages. We both knew the answer is no. I have seen a speedboat in one, another used for storage, while a third has deckchairs that two local residents bring out and sit on in front of the garage. Practical suggestions for food growing have been shouted out by participants: 'Mushrooms?', 'Rhubarb?', 'White asparagus?' [fig. 3].

Discussion

Walking has been explored as functional, artistic, a déambulation or anti-walk, or polemic.[21] Solnit notes that walking was once 'part of the continuum of experience', but is now taken as an explicit choice.[22] Ingold links walking directly to talking by asking: 'When did our walk begin? When will it end… walking in this regard, is much like talking, and both are quintessential features of what it takes to be a human form of life.'[23] Walking and researching is therefore a process, unlike the athletic race that begins with a bang and ends with a winner. Walking creates knowledge through performance requiring senses, movement and bodily interaction.[24]

Careri discusses how sedentary architecture and the nomad (or wanderer) are not necessarily oppositional but connected through path creation via walking. The city is seen as a series of walks made sedentary over time: 'The sedentary path structures and gives life to the city, in nomadism the path becomes the symbolic place of the life of the community.'[25] Viewing the city as a walker or nomad therefore recreates the sense that the city is still being created through the laying down of new paths via this edible pilgrimage. In much the same way that cattle were walked cross-country to London for slaughter, creating edible pathways, or migratory peoples search for seasonal food; walking and food have always been linked.[26]

Walter Benjamin turned wandering in cities or *flâneuring* into a serious study: termed 'botanizing on the asphalt', whereby the *flâneur* travels around the city following the phenomena *in situ*: walking and observing, wandering and wondering. For Benjamin, the city of signs, buildings, people and chance encounters speak of an ecology 'like a crackling twig' under his foot.[27]

The planned use of walking as research therefore forms part of an ongoing literature which is often ignored precisely because it is ongoing and hard

Fig. 7: Whiston Road gardener

to contain when it comes to research. Walking this edible perambulation returns us to the city as a hunter-gatherer, seeking knowledge and food, and not as a commuter with an efficient A-to-B routine.[28] The walking also forces a direct experience of landscape that is often absent in cities. Journeying on foot allows for an intimate discussion to take place using all of our senses to create dynamic responses situated close to the phenomena of research. This also requires the researcher to witness and participate rather than control: allowing conversations to dwell longer, drift, or suddenly stop, and noting these changes in field notes.

Recording conversation as we walked proved difficult due to background noise and in the end most of the audio-taped discussions took place seated in the bucolic peace of Haggerston Community Orchard. While this was a disappointment, it meant that photography and field notes became more important. Field notes were also less intrusive especially during the initial stage of a walk before people have become relaxed.

Edible Urban Landscape:
We Are Not Hungry…Yet

Despite the walks being based on food growing, during them we tasted little urban produce. We did taste some honey from the rooftop apiary in Warburton Street, and gleaned some plums, grapes and herbs. Conversation sometimes started with the explicit subject of urban food growing, but much like *flâneuring* would soon begin to drift. Walkers might begin by admiring the vegetables in close-up, but quickly the surrounding railings, walls and pavements would be pulled into the discussion. The fluid biomass and sedentary architecture mingle. As the season progresses from June onwards, this infrastructure slowly vanishes amid the biomass only to reappear in late September as the plants wither and die. This type of *in situ* investigation allows a greater sense of active contextualization between the differing components of the urban milieu, often specified by the participants rather than the author and the map. Within the process, food gardening becomes less of a singular subject; it becomes blended with issues of the design, use or potential reuse of urban space.

Often UA is bracketed by the issue of food security – nutritionally adequate food for all citizens through economic models of food provision.[29] Food sovereignty has emerged as a concept in response to this model, which states that: 'Food sovereignty is a precondition to genuine food security… we have the right to produce our own food in our own territory.'[30] The walk conversations show that territory in this sense would read as both space and architecture with sovereignty meaning ascendancy or at least influence over territory and cultivation.

As Richard Mabey writes: 'The development of cultivation was perhaps the single most crucial event informing our modern notions of nature. From that point on the natural world could be divided into two conceptually different camps: those… managed and bred for the benefit of humans, and those which are "wild", continuing to live in their own territories on, more or less, their own terms.'[31] Currently, UA in relation to modern city design seems to fall culturally into the latter camp, developing its own territorial practice that may initially seem 'wild'. However, given the formality of the modern city, almost anything placed against its straight and prescribed lines would seem contradictory and divergent. As Pugh writes: '"Natural" is the cultural meaning read into nature, meaning determined by those with power and money to use nature instrumentally, as a disguise, as a subterfuge, as a pretence that things were always thus, unchangeable and inevitable.'[32] Food growing, especially when it occupies designed spaces, challenges this 'subterfuge' that grassed monocultures which encircle housing estates for example are anything but 'unchangeable and inevitable'. This is not to set up a dualism between the architect and the resident, but to express the need

Fig. 8: The failed fragmented landscaping around Welshpool House

to examine the polarity in the relationships between the desires of intention and the desire of use.

Sociocultural Landscape: Anonymous Spaces

There was a clear sense that studying the urban landscape at this scale and speed was a revelation to some participants. It unveiled a great many spaces that had not been valued or even recognized – literally seen – by some local walkers. For example, there is an estate map on the wall of Warburton House, showing the Warburton Estate. The buildings are named and marked in orange but the grassed area and hard standing isn't, it's invisible. These designed spaces are left anonymous, which, as Ravetz states is 'a barrier to their recognition and hence utilisation as part of the estate environment'.[33] This is clearly true on the nearby Duncan Road estate where the grassed area is made inaccessible by fencing. It is a commanding 'open' yet unnamed space. Emile Zola once said of a grassed public square: 'It looks like a piece of nature that did something wrong and was put in prison.'[34]

Releasing this space for productive use requires more than just notations on a map. As Careri comments, discussing how walking has traditionally constructed empty landscape: what is needed is 'the ability to know how to see in the voids of places and therefore to know how to name these places'.[35] We know this because it is no coincidence, for example, that the road running off Duncan Road is called Sheep Lane.

These facts have not gone unnoticed among walkers, with one group creating epithets for streets based on UA potential: the corner of Teale Street becomes Strawberry Corner, and Pritchard's Row becomes Coriander Row because of the herb's scent. Local food production becomes a primeval marker, a new reference point born of bodily interaction with the landscape.

On site collection of data reveals stories about the site that would not be revealed from digital maps. Many of the spaces we looked at are too small to appear as more than a single line on many maps. Looking over these spaces, walkers have commented on how they would change sites: add a hedge, a welcome sign or fruit trees. As we continued talking, our conversations gradually augmented the architectural spaces. These are spaces that were clearly designed and that have so clearly failed [fig. 8].

Desire in Landscape:
Intention and Everyday Use

Architecture has embodied energy locked within its fabric; a measure of the energy spent during manufacture. Once residents have moved in, the building's main energy requirements are measured by the everyday use by residents: its energy-in-use. Similarly, desire, in the form of design intentions, gets locked into the urban fabric. Our daily use often contradicts this embodied desire, evident in the crisscross paths worn into the grassed areas of parks and open spaces; pedestrians take journeys contrary to the tarmac-prescribed footpaths, creating 'desire lines'. While these desire lines are difficult to trace outside of parks, it is safe to assume they exist all over the city. They are perhaps briefly visible when it snows, or when wet concrete pavements are laid – an opportunity to leave indelible footprints.

In a sense, this research follows a desire line: the 'desire in-use' of residents to reuse, modify and augment urban spaces 'productively' through food gardening, generating a direct relationship to urban human-environmental relations. This is what Turner calls 'housing as a verb', the 'process or activity of housing', contrasted to housing as a noun, an object, as something considered complete when the architect leaves.[36] The architect's embodied desire represents the prescribed design, the expected use for the building, now being contrasted with the resi-

dent's desire-in-use. Mostly our walkers expressed sympathy with the nascent practice, enjoying the contrast of the tidy modern city and the 'improvisatory joining in with formative processes'.[37] Szczelkun argues, in his historical study of Plotlands (pre-1948 self-build housing), that aesthetics take decades to develop a sense of sophistication.[38] For example, many Plotland houses that survived the mass post-Second World War extinction are now protected either by a high market value or a distinct ecology.[39]

One of the clear responses from walkers was the realization and appreciation of the incremental changes that food gardening brings. Such incremental changes are described by Allen as a 'restless landscape', supposedly controlled by planning and architecture, yet under the continuous influence of residents' diurnal desires.[40] Longstaffe-Gowan extends this across the landscape of the built environment to include the idea that 'all vernacular creations, whether gardens or buildings, are constituents, and therefore, products of our everyday life… the product of practice, not theory'.[41] It is what Bernard Lassus poetically labels the practices of 'habitants paysagistes', or 'dweller landscapers, which unveils the contradiction between the elements they wish to add and the original structures which did not take them into account'.[42]

Critically, it is necessary to examine food gardening, and its interaction with architectural space, to see how these discourses combine within the built environment. Hill for example, suggests architecture promotes 'models of experience that suggest a manageable and passive user, unable to transform use, space and meaning'.[43] Similarly, agriculture promotes a passive consumer, whose 'food comes from shops'.[44] A unsatisfied user who wanted to grow food within urban spaces would need to transform space, use and their food system. For example, Boudon examines how residents of Le Corbusier's Pessac housing estate modified the standardized design over a 50-year period (1921-1970).[45] In the preface, Henri Lefebvre writes: 'They took what was offered to them and worked on it, converted it, added to it. What did they add? Their needs.'[46] Our 'needs' especially in the urban environment will be to develop a sustainable local food-growing practice based on both security and sovereignty, addressing the need for a beautiful city that can enunciate agriculture both as culture but also as a nascent folk-art constantly in development.

Closing Remarks

Urban agriculture is increasingly being advocated through local policy, NGO campaigns, architecture and embraced at a community level.[47] As a method of research the map functioned as a provocation to participants regarding how we might image this emerging around the most familiar and ordinary landscapes of our cities. It did not provide answers to predefined questions, but instead tried to open up a space for discussion. Working through Space Studio as artist in residence also conferred the advantage of framing the map as art and not 'truth'. As Harmon writes: 'Geographers submit to a tactic agreement to obey certain mapping conventions… artists are free to disobey.'[48]

The edible map presents both a distortion and an interpretation of the space mapped, relative to specific situations of 'spatio-temporal practices'.[49] The drawn map effaced the streets, roads and pavements – as if it had snowed. This unlocked the landscape normally 'striated by walls, enclosures, and routes between enclosures'.[50]

One pleasant surprise for me, something that eluded walkers, was watching the landscape change subtly over the duration of the walks as the fruit ripened and was harvested; the verdant summer growth rapidly giving way to the ochre of autumn. I doubt there has been an urban phenological study of food growing on housing estates. It should be stressed that this paper is an investigation into UA from the viewpoint of the resident

walker, and not the gardener. Gardeners will have their own stories.

A walker remarked that, despite living locally for several years, he had never stopped to consider the open space, it was 'simply there'. Our conversations about food growing break the cohesion of architectural space. Skoller makes a similar point describing the attempts by avant-garde films of the 1960s and 1970s to fracture traditional forms of passive cinematic consumption, breaking the seamless cinematic space by confronting viewers with 'the film medium as a phenomenon' of a 'highly developed illusionistic nature'.[51] In this instance, the illusion of architectural space being 'simply there' is confronted, critiqued and revised.

Ultimately, food growing has to happen somewhere. Therefore the context of landscape, territory and control over resources is important to understand. We use various words to describe food production, for example we use 'farm' or 'fields' for rural food, or 'allotments' for planned spaces to grow food privately. These words also predict our understanding of what we expect from practice. Olwig writes that the landscape 'of earth, fields, pastures, country… engenders a sense of belonging that generates landscape as the place of dwelling and doing in the body politic of a community'.[52]

The territory used for this research is not the open field of the allotment or private garden but the prescribed yet unnamed space of the 'estate' that constantly declares its embodied functioning.[53] Latterly, the declaration for food growing is also being heard, yet the reverberations from these social enunciations last only too briefly with the loci. Through participation I have been able to observe and listen for these reverberations, which begin to create an understanding of food gardening that takes into account its multiple everyday engagements of daydreaming, talking and gardening while also interacting with the urban blueprint. Understanding this is important because currently little research has been done in the global north about how residents need to change and engage with space to create food gardens and how this might influence local production-orientated priorities so vital to the feeding of cities.

** Editors' comment: Against our standard editorial practice and grammatical revision suggestions to the author, all interview responses as here transcribed have been retained precisely as submitted due to the insistence of the author.*

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Biography

Mikey Tomkins is a PhD student at the University of Brighton. His research looks at community food growing as a contribution to both everyday space and urban agriculture. The edible map project formed part of the scoping phase for the PhD research helping to explore people's reaction to the idea of urban food growing through visualization.

Haecceity, Drawing and Mapping

Anne Katrine Hougaard

Introduction

In this paper I will relate the notion *haecceity* or 'thisness' to architectural drawing, mapping and method in architectural practice-based research. The notion of haecceities connected to architectural drawing opens up an understanding of architectural drawing distinct from 'merely' representing built or buildable, optimized architectural space. That the architectural drawing *represents* building and space is inherent, but, for the same reason, the architectural drawing's power to *produce* space and building is sometimes diminished. Another obvious reason for understanding drawing as a capacity in its own right is that many architectural projects are never built, but live their life as drawings and produce a large effect and affect as such. They serve as inspiration, they teach, and are sometimes even canonized as pieces of art. The graphical formations in the architectural drawing, which ultimately produce space and building, belong to a space in its own capacity, a space that supports the manifold processes of individuation. The haecceity of drawing makes it possible for these processes of individuation to take place. The productive properties of drawing can be exploited in design practice as well as practice-based research, because the drawing enables us to create real problems:

> The truth is that in philosophy and even elsewhere it is a question of finding the problem and consequently of positing it, even more than of solving it. For a speculative problem is solved as soon as it is properly stated. By that I mean that its solution exists then, although it may be hidden and, so to speak, covered up: The only thing left to do is to uncover it. But stating the problem is not simply uncovering, it is inventing.[1]

Whether a problem is speculative, like the posing of a hypothesis, or embedded in an object as an actual or virtual construction (in a drawing, for example), it is the process of creation that is of interest here, and how that process is enabled by haecceities. Understanding problem creation as a working method[2] makes it possible for architects to make use of their practice-based skills in architectural research.

Affect and Ethics

Deleuze and Guattari present an understanding of individuation and haecceities as dynamic, producing relations between ethics and art,[3] which co-produce *affects*. In Deleuze affect is a key notion, and has many connections with other concepts. Affect is a force that acts out in the way people live; in the life-world, with which architecture is inherently connected. Affect is also a force that is acted out on the drawing plane. It is the link between art and ethics: art as producing affects, and ethics as a way to live as affected by and affecting back a particular milieu.[4] Affects, of course, do not only stem from art, in general affect can be said to drive behaviour.[5] Inspired by Spinoza, Deleuze and Guattari propose the understanding of ethics as an ethology,[6] which is the science of how humans and animals behave in their milieu. Ethics as ethology is a way to live, which is inter-related with affect.[7] The connection between ethics, art and affects enables the emer-

gence of novel modes of creation,[8] modes that are not subjugated to *moral* rules, but are directly engaged with living. Thus, affect is at stake both in drawing and in life. If we connect architectural drawing to this rhizome of concepts, we have an approach to drawing which does not stem from building, but concerns the drawing in itself, engaged with producing frames for life, both on the drawing plane and on the plane, which the drawing represents.

Inspired by Bergson, Deleuze elaborates a line of thought on evolution in which instinct is a means to act and an embodiment of thought. For instance, the eye is *both* a construction (a problem created) *and* the solution to a problem posed in terms of light,[9] and therefore an embodiment of already organized thought. Intelligence, on the other hand, is the organization of thought. This line of thought can be seen in parallel to the multiple capacities of drawing. As both an act/activity and as an object in different states of transformation in time, drawing is well-known to enable the architect to organize thoughts and let instinct act. When drawing, the architect is confronted with what could be called the ethics of drawing: In order to draw, something must be drawn.[10] This cannot happen without some kind of affect. The Deleuze and Guattarian concept of haecceities, which is at the heart of the connection between ethics and art,[11] enables an understanding of architectural drawing as inevitably interrelated with life-worlds. Drawing, as both act and object, is directly connected to a here and now of life, and when drawing in relation to a site, the drawing is furthermore connected to the life of that site. The drawing's haecceity is the simple fact that the drawing is there – either as a piece of paper or a file in the computer – as a plane for the architect to work upon and to affect in a process of individuation. On the one hand, life unfolds on the drawing plane, it populates and individuates the drawing; on the other, life unfolds on the plane of a site.

Analogue and Digital Notational Systems

In architectural practice and research today there is great interest in computational technology with two different aims: the one is to optimize building processes and enlarge the register of architectural construction; the other is to use the computer to produce spectacular, fascinating and surprising form. The computer has the capacity to simulate evolutionary processes found in nature, like the becoming of an anthill. While this is truly fascinating, rethinking the analogue and the digital may enable a fertile meeting between determinism and indeterminism in site-specific drawing. The analogue and the digital are opposites in the sense that digital means discontinuous and analogue means continuous. A vinyl record is analogue. It has a continuous groove, an imprint, produced by physical sound waves. Like an 'old-fashioned' camera, which records light waves on film, analogue devices are able to record physical events, as opposed to digital devices, which depend on input from an analogue device translated into digital code.

It is tempting to describe the computer as a determinate, digital machine, but because architectural computer programs have a user interface, which mimics working procedures traditionally done by hand, I think we can talk about 'handmade computer drawing',[12] which then also contains the indeterminate. 'Handmade computer drawing' does not use the full potential of the computer as a calculator, but nevertheless benefits from some abilities of the computer. On the other hand, there is also hand drawing, which is strictly digital because it communicates via digital code. We usually understand computer drawings as digital and hand drawings as analogue. In order to change this understanding and open up towards an already existing but less emphasized architectural practice of analogue and digital mixtures,[13] we can separate the physical drawing *tools* from the more abstract graphical *notational systems*. The tools are typically the hand and the computer, and the nota-

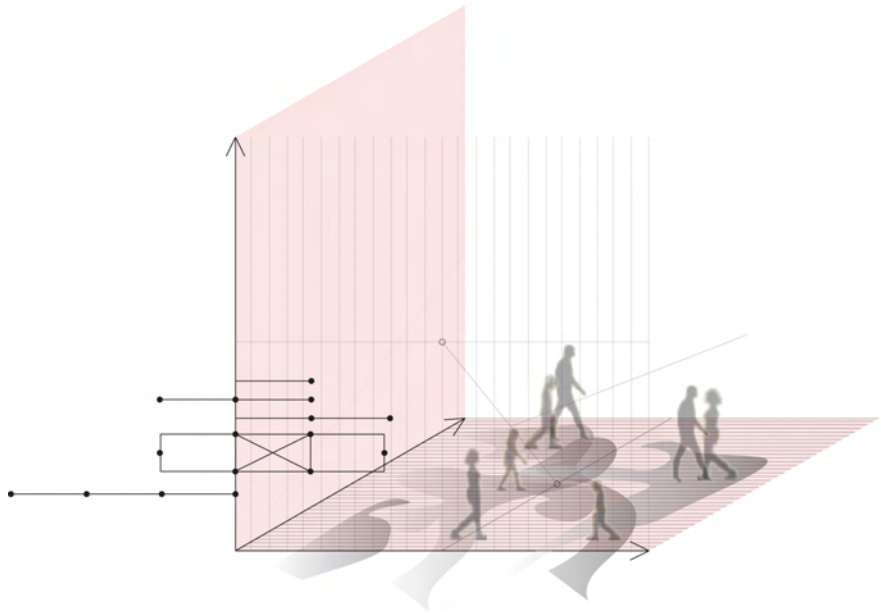


Fig. 1

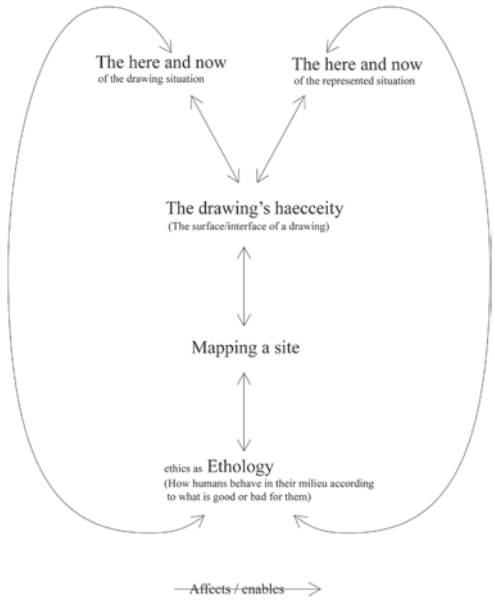


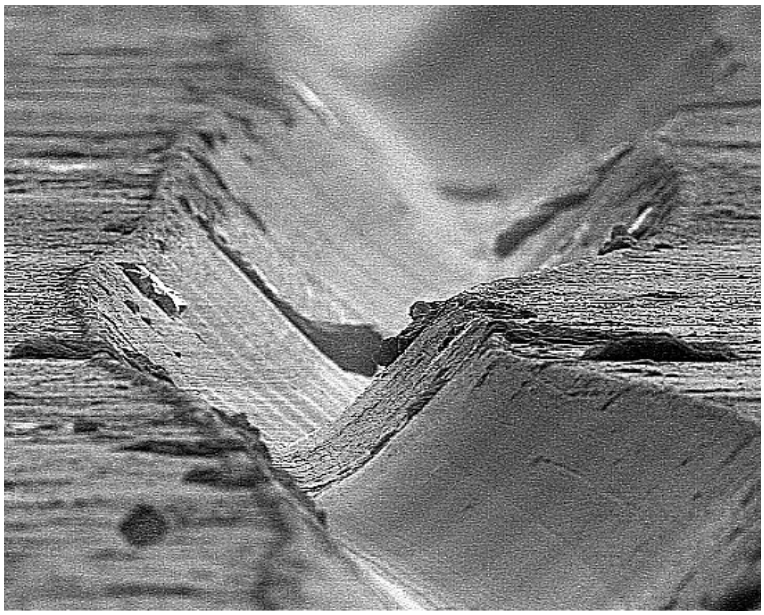
Fig. 2

Fig. 1: Points, lines, life
Fig. 2: Diagram of connections which meet in drawing

tional systems are the graphical systems used to put down configurations in the drawing. Obviously, the hand is an analogue tool, and the computer is a digital tool. But no matter if we deal with hand or computer drawing, analogue and digital notational systems are used. In *Languages of Art*, Nelson Goodman investigates the symbol systems of different art forms and their amenability to a notational system. He proposes that if an art form is amenable to a notational system, it is digital, notational and *allographic*,[14] whereas if it is not, it is analogue, non-notational and *autographic*. Basically, Goodman uses the two categories as means to determine authorship:[15] Painting, for example, is non-notational and is only regarded to be original when a direct connection to the author can be traced; hence painting is an autographic art form. Music, on the other hand, *is* amenable to a notational system, and a piece of music is original as an instance of a work, hence music is an allographic art form.[16] Both digital and analogue systems should have meaning and should not be redundant.[17] But the meaning of an analogue system is related to a physical event in a continuum, whereas meaning in a digital system is relative. Objects such as a seismograph, a counter, and a watch make use of an analogue, a digital, and a mixed system, respectively.[18] A seismograph measures the trembling of the earth, and the graph produced by a seismograph is directly connected to a physical event, and therefore analogue. A counter counts and is in a relative relation to that which it counts, like a cash register, and is therefore digital. A watch is also counting, but is read in relation to how long a day lasts, not to the beginning of all time. The lasting of a day, however, is determined by the position and rotation of the earth and the sun, which is a physical connection that describes a location in a continuum, and because the watch is both counting in a relative relation (the lasting of a day) and in an absolute relation (the globe's location in a continuum), it is a mixed case. The same goes for roadmaps,[19] because they contain information of the land they represent (analogue), and information of a relative, topological kind (digital).[20] As in roadmaps, analogue and digital notational systems mix in architectural drawing, which is able to represent both kinds of information. Projective, analogue information, like tracings of the earth's contours, and digital information, like measurements and topological relations.

It seems meaningful to talk about digital and analogue notational systems rather than notational or non-notational systems, like Goodman does. We can still use Goodman's definitions of the analogue and the digital, but instead of seeking to separate them; it could be more fruitful to see these apparent oppositions as interrelated and interdependent. As graphical formations the notational systems are used to both unify and retain differences of analogue and digital kind in the same drawing. This move can be seen as a 'Deleuzefication' of Goodman, because Deleuze (inspired by Bergson) presents an approach to the world, where the world is a multiplicity of orders that are distinguished by difference, rather than by negation.[21] A negation involves a general idea of *less and a more*[22] and implies hierarchy instead of juxtaposition.

I agree with Goodman that *diagrams* can engage both the digital and the analogue,[23] but that an architectural plan is a 'digital diagram',[24] as Goodman hesitatingly concludes, is too narrow a definition. It is rather simply a diagram with both analogue and digital information. Goodman himself has difficulties categorizing the 'mixed and transitional case'[25] of architecture, but concludes that architecture is prevalently allographic, because elements and measurements in the architectural drawing mostly indicate relative location, and not location in a continuum. Drawings of a house are digital because elements in the drawing comply with elements in the house, and, in principle, the house can be placed anywhere.[26] The mapping and the site plan, however, are good examples of the opposite, namely that situatedness and location are



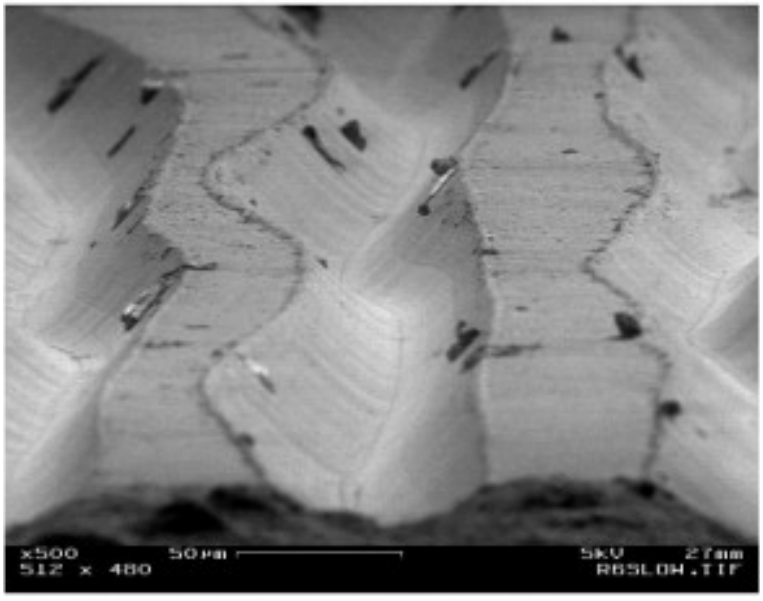


Fig. 3: Analogue system for storing sound (top), close up of record groove (bottom)

factors that affect architecture. That the digital is non-situated or generic in character is a tendency often seen in designs that are bred strictly in digital, generic environments. An understanding of the analogue and the digital as distinct but interdependent notions may open up for a way to approach a site, and create a meeting between digital, generic production and analogue, non-generic, milieus. This meeting could advantageously take place in drawing, which has a transversal capacity to make use of both analogue and digital tools and notational systems, no matter if it is made with pen, ruler and set square or computer scripting.

Haecceity

Haecceity is the becoming individual from having been undifferentiated.[27] It is something very concrete, a thisness, like *a* drawing, and describes a process of individuation, like *when* drawing.

> Etymologically speaking, an haecceity is a *thisness* (from the Latin haec). The idea is that among the properties of an object, there is the property of being that very object.[28]

> [A haecceity is] the quality implied in the use of *this*, as *this man*; 'thisness'; 'hereness and nowness'; that quality or mode of being in virtue of which a thing is or becomes a definite individual; individuality.[29]

The concept stems from the medieval philosopher John Duns Scotus,[30] and is further elaborated by Deleuze and Guattari,[31] who use it to describe a change between states, the becoming individual by becoming different from what was before in a process of change or division. To them haecceities regard almost anything, not just objects and subjects.

> A season, a winter, a summer, an hour, a date have a perfect individuality lacking nothing, even though this individuality is different from that of a thing or a subject. They are haecceities … capacities to affect and be affected.[32]

Deleuze and Guattari draw on Scotus, Spinoza and Bergson[33] when linking haecceities, art and ethics. In order to shed some more light on what the role of haecceities is, I will unfold the concept *intensity*, which plays a parallel but not completely similar role.[34] Intensity can be traced back to Deleuze's elaboration of Bergson's conceptualization of time and space.[35] Originally, Bergson distinguishes between time, or duration as he calls it, as that which divides only by changing in kind,[36] whereas space is divided by changing in *degree*. When dividing space, which in Bergson is defined as an *objective quantity*, we find equivalence between the divided and the number of divisions.[37] A change in kind, on the other hand, is caused by a *subjective, qualitative* difference, which is 'susceptible to measurement only by varying its metrical principle at each stage of the division.'[38] In Bergson, time or duration presents the 'right side', because Bergson thinks of space as a mere location for duration, whereas duration is that which spawns qualitative differences and changes.[39]

> Take a lump of sugar: It has a spatial configuration. But if we approach it from that angle, all we will ever grasp are differences in degree between that sugar and any other thing. But it also has a duration, a rhythm of duration, a way of being in time that is at least partially revealed in the process of its dissolving, and that shows how this sugar differs in kind not only from other things, but first of all from itself. This alteration, which is one with the essence or the substance of a thing, is what we grasp when we conceive it in terms of Duration.[40]

The sugar is conceived *both* as a 'mere' spatial object that can be described in terms of external measurements, *and* as a piece of matter, which enables a change of state caused by intensive differences. Deleuze turns Bergson's distinction between differences in kind and differences in degree into an interrelationship between the two. He observes that Bergson himself indirectly claims that differences ultimately occur by virtue of *intensity* of contraction

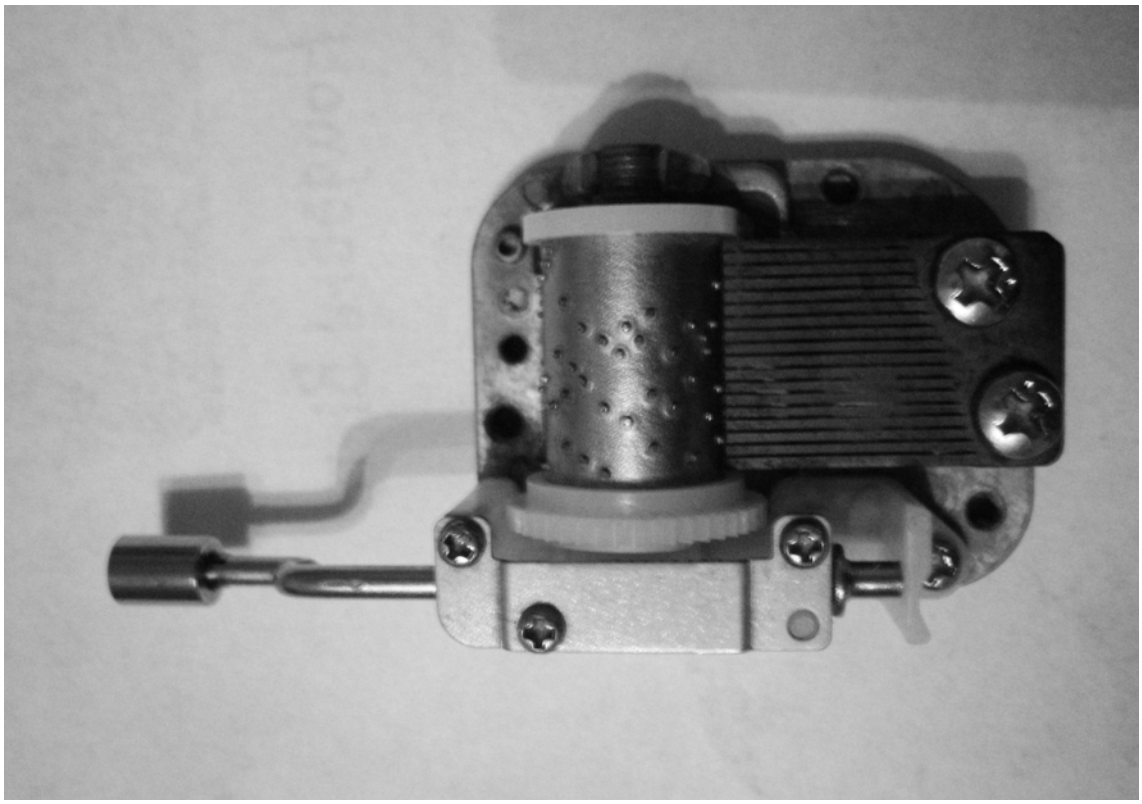


Fig. 4: Digital system for storing sound, musical box

Fig. 5: Captions from the top down:
1: Dismantling the Mercator world map its analogue information: 2: Projective manipulation of the drawing plane: 45 degrees rotation of time zones: 3: Another Pangaea.

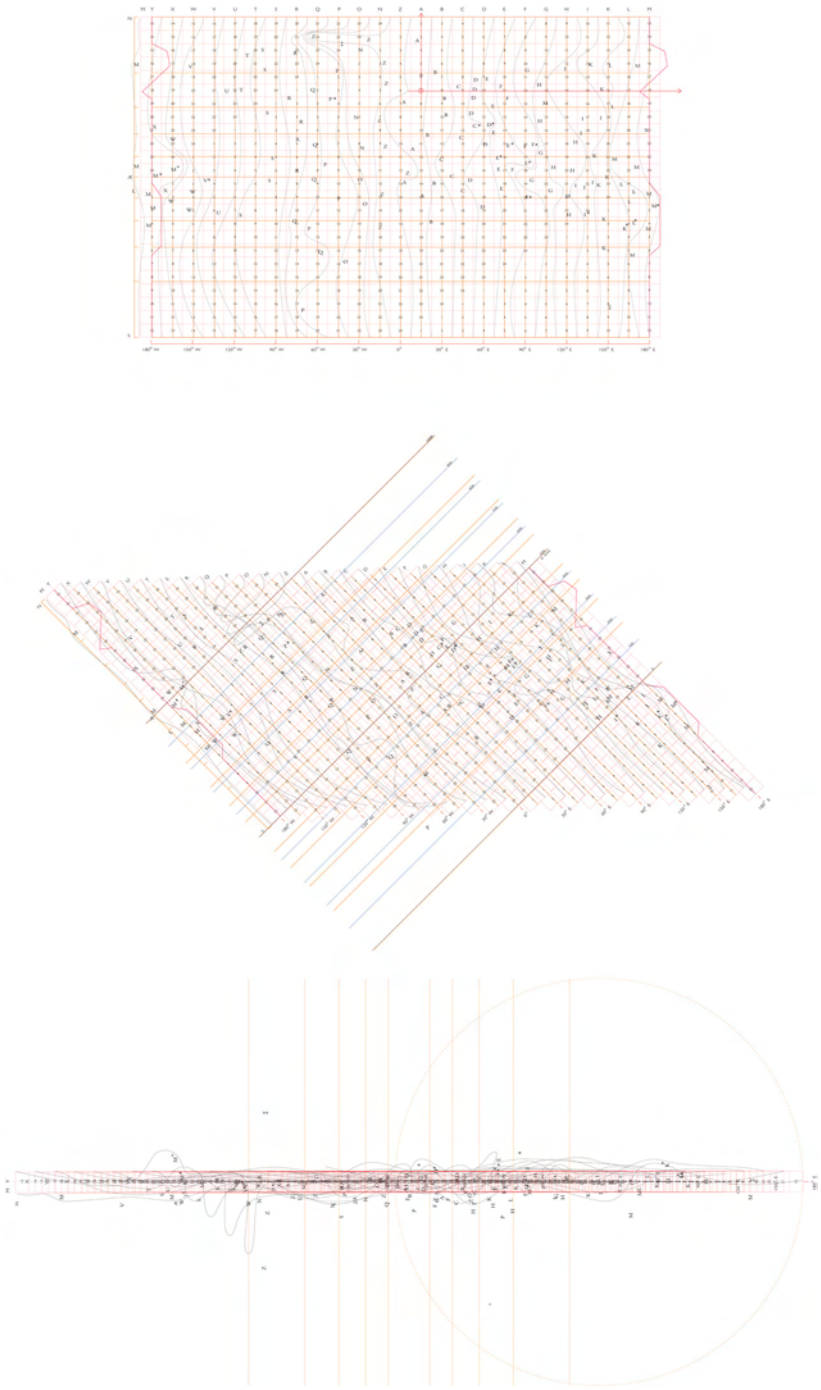


Fig. 6: Captions from the top down:
1: Digital information: Degrees, latitudes, longitudes and time zone systems: 2: Projective manipulation of counting systems: 3: A new intensity.

or relaxation. Thereby Deleuze gathers that it is ultimately a question of interrelation between time and space in terms of intensity, and not a clear-cut distinction, but rather a fluent transition between the two.[41] By observing this, Deleuze changes Bergson's original distinctions between kind/time and space/degree into an interrelationship of intensities and extensities, where intensive processes produce the extensive form.[42] A haecceity makes a meeting possible where an alteration of intensity can be produced. Like a fractal, this process may potentially happen again and again in all kinds of different connections. Intensities, then, as 'drivers of' dynamic processes of evolution, such as embryogenesis,[43] produce not only the measurable world, but are also co-producers of affect and sensation.[44]

> What, in fact, is a sensation? It is the operation of contracting trillions of vibrations onto a receptive surface. Quality emerges from this, quality that is nothing other than contracted quantity. This is how the notion of contraction (or of tension) allows us to go beyond the duality of homogeneous quantity and heterogeneous quality, and to pass from one to the other in a continuous movement.[45]

The notion of affects and sensations, which are caused by intensities, haecceities and processes of individuation, is the link between ethics and art, because, in understanding ethics as an ethology, life is a product of *affecting* and *being affected* in a milieu,[46] both with instinctive, bodily acting and organizing, 'mindly' thoughts.

Ethics and the Production of Affect

Because haecceities enable the production *of* affect and are produced *by* affect, they open up a kind of creation, which does not follow moral rules, but ethical ones. Ethics is distinguished from moral in the sense that moral is concerned with rules to govern the behaviour of the body, and with determining categories of 'Good and Evil', whereas ethics is concerned with 'good and bad' in the sense that we should live in accordance with 'that which agrees with our nature or does not agree with it'.[47] On the one hand, this is an unclear guideline, because who is to judge what agrees with our nature? On the other hand, this approach gives resistance to conventions. Ethics holds a connection to instinctive acting in life in accordance with sense and affect, and poses questions such as: 'What can a body do?'[48]. This relates to art, because, firstly, art creates affects, and, secondly, art 'can create the consistency necessary to understand interrelations that are real but difficult to conceive' by putting things together that are 'only apparently incompatible (and that are in fact connected)'.[49] So, we have the opening question 'What can a body do?', and to prevent the answer from being 'everything' (complete relativism), we have a situated milieu, which affects behaviour in a certain direction. In nature organisms, animals and plants act in accordance with their milieu, not due to intelligence but due to instinct.[50] Bergson understands instinct to be knowledge of matter, an 'acting on things', a kind of thought which has already been organized and embodied, like we see in the body forms of living beings. Intelligence, on the other hand, is knowledge of form, an 'organizing of thought'.[51] Thought, organized or not, 'allows for the development of instruments which will serve to effect the environment in a certain way'.[52]

Bergson's ideas sketch out a methodical approach in architectural practice-based research, because the organization of thought and the acting out of instinct can be a method to develop concrete tools, objects, techniques, technologies, as well as to motivate a way of conducting research with architectural tools, such as a ruler, a set-square, the hand and the computer, as 'body extensions' with properties embedded in them.

Fig. 7: Scanimation of the changes in the Berlin street net from 1945 until 2010. A scanimation is a technique, known from children's books, which can show changes over time. It is an interesting representational form because it can mix analogue and digital notation and information. In order for the scanimation to work properly, a transparent piece of folio with black stripes corresponding to the stripes in the drawing should be slid over a drawing like the one shown here.

Intuition and Abduction

In Bergson instinct and intuition go hand in hand, and his intuitive method seeks to crack a hole in conventions and make way for novelty to emerge.

> *There are things that intelligence alone is able to seek, but which, by itself, it will never find. These things instinct alone could find; but it will never seek them.*'[53] (emphasis in original).

Charles Sanders Peirce describes something similar under the title abduction or hypothesis (later retroduction). Abduction, as opposed to intuition, is related to 'traditional science', as the first stage of a scientific process, the posing of a hypothesis: the construction of a qualified guess. In Peirce logic marks the scientific process, and because there is logic behind abduction, it is a method in line with induction and deduction. The posing of a hypothesis obviously bears some similarities with the creation of a problem. As opposed to Karl Popper, who thought that the posing of a hypothesis was unscientific,[54] Peirce thought that abduction describes a logical, systematic inference. He thought of abduction as being simultaneously the 'highest' and the 'lowest' class of inference.[55] Low, because the logic behind abduction is vague, and high, because, as opposed to induction and deduction, abduction is the only kind of inference that can open up new ground.[56] Abduction is low on security, but high on *uberty*, richness or fruitfulness, and has a tendency to be affirmative.[57]

> A mass of facts is before us. We go through them. We examine them. We find them a confused snarl, an impenetrable jungle. We are unable to hold them in our minds. We endeavor to set them down upon paper; but they seem so multiplex intricate that we can neither satisfy ourselves that what we have set down represents the facts, nor can we get any clear idea of what it is that we have set down. But suddenly, while we are poring over our digest of the facts and are endeavoring to set them into order, it occurs to us that if we were to assume something to be true that we do not know to be true, these facts would arrange themselves luminously. That is *abduction*.[58]

Apart from the assumption of truth, which is difficult to apply to architectural design, the process described here is one of creation and invention. That facts, thoughts and lines eventually 'arrange themselves luminously', when working intensely with a certain material, is a well-known phenomenon in the architectural drawing process.

Drawing and Haecceity

What takes place in architectural drawing can both be understood as the creation of a problem and as an ever-emerging posing of hypotheses, which succeed and overwrite each other. In drawing these processes are in discussion with a material consisting of both facts and fiction, and are put down by means of physical tools, materials and notational systems. Architectural drawing taps into the generative, explorative and epistemological resources of art, where new relations between objects and concepts are created by arranging and composing a material. As a methodical way of orchestrating instinct and intelligence, drawing enables the creation of a problem, and can contain a problem and a solution to it. And as an activity conducted over time and an object in a process of transformation, drawing is many simultaneous processes of individuation. In a very basic way, drawing is a state of simultaneously doing, being and representing. On the one hand, the drawing takes place here and now and refers only to itself. It is concrete and present. On the other, the drawing represents something else, and is an actualizing field where differences are grown.[59] Architectural drawings function as epistemic objects[60] in concrete form, which enable exchanges between real and imagined worlds in symbiosis with notational systems and physical tools. In its manifold capacity the drawing makes it possible to negotiate with the world at a distance and to let new worlds emerge at the same time, clarifying processes of thought and producing

Fig. 8: Work in progress: Writing, mapping and cutting up the urban tissue, Berlin Mitte

architectural space while communicating it. The haecceity of architectural drawing is at the heart of drawing's methodical function in both design and research practice. Drawing works in both practices to drive a process forward, and is not only a piece of 'material evidence'. Just as drawing can coproduce architectural objects it can coproduce architectural thoughts, and when the two hold a part of each other we have a situation of reciprocal pollination between design and research practice.

Mapping and Haecceity

Architectural mapping is a meeting point between life-worlds and ethics. Maps of cities and maps of the globe obviously represent life-worlds; they can express both fact and fiction.[61] Maps can represent the 'real world', like a projection of the curved surface of the earth onto a flat drawing plane, or a 'fictive world'. In both cases, though, maps are constructed and artificial,[62] they are not that which they represent, but as exploratoriums they enable a meeting between the real and the fictive. Exactly by being different from that which it represents, a mapping is an exploratorium for the emergence of new possible worlds.[63] Because mappings have a contact-surface with the life-world they represent, as a potential plan of action, and a contact-surface with the 'here and now', as concrete objects, they are able to be affected by life and affect back life more obviously than a detail drawing, for example (although a detail can have a large impact on life as something well or poorly working, maps are grounds for playing out scenarios). Apart from helping us orientate and navigate in the world, maps are tools for dividing up the world and for making decisions; they can have a strategic function, for example when used in military campaigns.[64]

Along with being strategic tools (to overlook information from the top down), maps are selected projections of actual ground conditions onto a surface[65] (a way to receive information from the bottom and up), which depicts chosen aspects of our environment. Even if maps are fact-based, they are artificial and non-objective, both because of the situated cultural context of the mapper, and because of the techniques of cartography (mathematical formulas) that are used to project the curved and three-dimensional ground conditions onto a two-dimensional, flat surface (which doesn't mean that maps or drawings have to be two-dimensional[66]). The cartography's projection distorts the one or the other aspect of the depicted ground conditions. This distortion becomes very obvious when it comes to world maps, because their purpose is to show the whole, round globe unfolded at once.[67] When zooming in on a piece of the globe, a city for example, the distortion becomes smaller, but the image that the map gives is still a selection. Hence, when we examine maps of the earth as architectural drawings, their 'double-sided' character[68] and artificiality becomes a property to exploit. The mapping receives information from two sides: from the physical surface, which the map represents, and from the working surface of the mapper.[69] Even if mapping (especially master planning, which has a bad imperialist sound to it) is often considered to be a 'top-down' practice, it is really something which, again, is in the middle, right there where 'top-down' and 'bottom-up' meet. Or at least it can be. As drawings, maps represent life-worlds, and like an exploratorium that investigates how bodies can behave and how they are limited, mappings make it possible to scrutinize the connection between behaviour and the different processes of affect that produce a certain milieu.

A Mapping Strategy

Then, what should be mapped? Is it possible for a 'loose fit' between the determinate and indeterminate to emerge by mapping a piece of contemporary urbanity?

Goodman mentions a composition by John Cage [fig. 13], which he calls an 'autograph diagram'. In contrast to traditional musical scores, which are

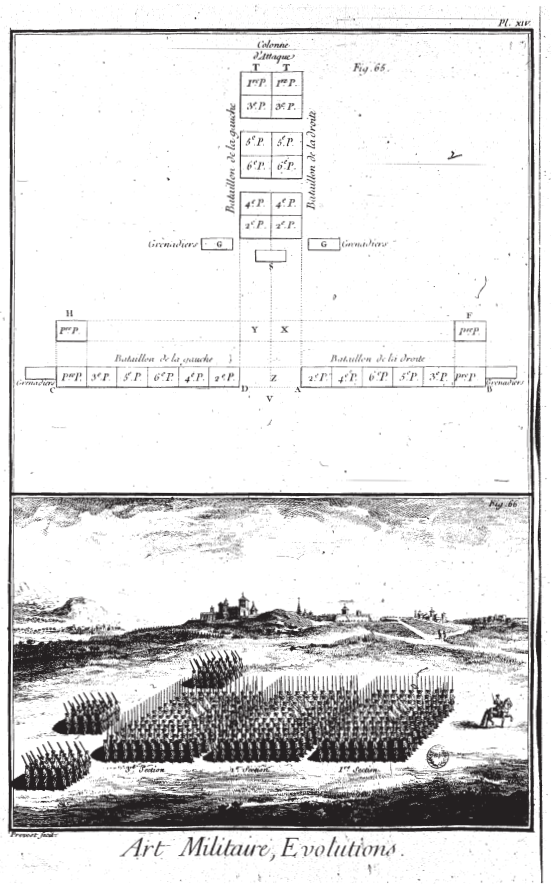


Fig. 9

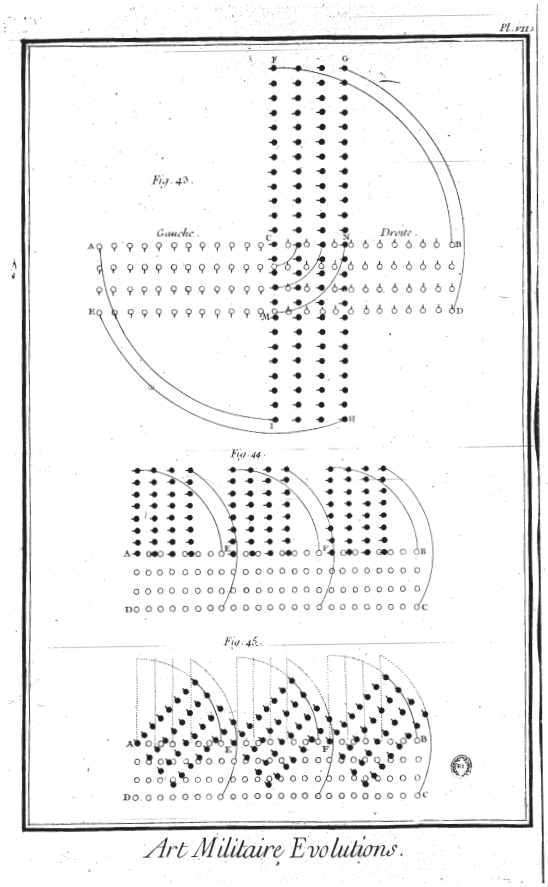


Fig. 10

Fig. 9: Diderot's Encyclopedia: Art Militaire, Evolutions
Fig. 10: Diderot's Encyclopedia: Art Militaire, Evolutions

Fig. 11

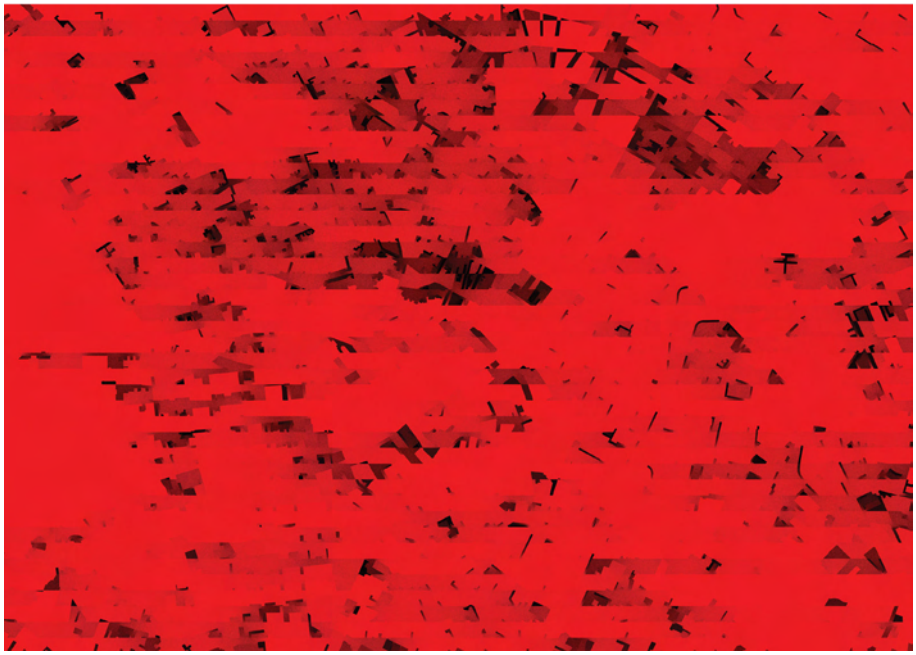


Fig. 12

Fig. 11: Work in progress: Quantitative mapping of Berlin Playgrounds. The ones with a purple dot emerged due to damage on buildings caused by bombings in the Second World War.
Fig. 12: Work in progress: Qualitative mapping of Berlin building typology.

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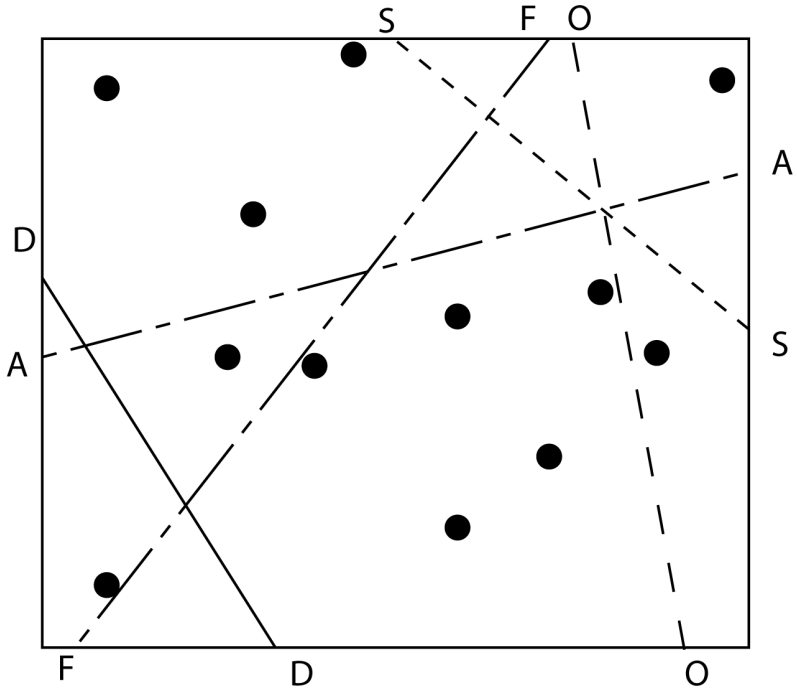


Fig. 13

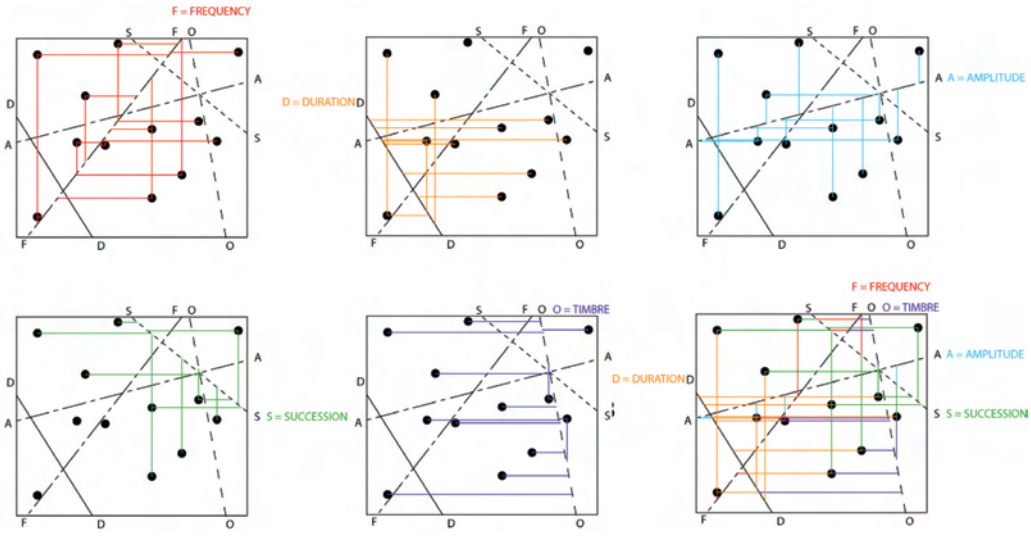


Fig. 14

Fig. 13: John Cage, musical notation, taken from: Nelson Goodman, “Languages of Art” p. 188. “Concert for Piano and Orchestra, Solo for Piano” (NewYork, Henmar Press, Inc., 1969), p. 53, figure BB. Redrawn by the author
Fig. 14: John Cage composition with guidelines made graphically visible by the author.

digital and allographic in Goodman, this composition is open to interpretation to an extent that makes it impossible to distinguish whether it is the same piece we are listening to every time it is played. Hence, in Goodman's definition it is analogue and autographic.[70] I think, however, that the piece is a nice example of a mapping in between the deterministic and the indeterministic, which includes the influence of affect in its proscription of a musical behaviour. The composition namely does have guidelines:

> … dots, for single sounds, are placed within a rectangle; across the rectangle, at varying angles and perhaps intersecting, run five straight lines for (severally) frequency, duration, timbre, amplitude, and succession. The significant factors determining the sounds indicated by a dot are the perpendicular distances from the dot to these lines.[71]

To use a musical composition in relation to architecture holds some difficulties, because music is inherently more ephemeral, fleeting and less physical than architecture. But there are some principles or tendencies in the composition that may be useful. In regard to notational systems the composition is a mixed case, like a map or a diagram. The dots and the distances have a certain meaning, relative to each other (digital). And music is a physical event – think, for example, of the notion of amplitude (analogue). The composition is not bound to a specific place and the way the piece is composed graphically, is, like in a painting, hard to dismantle in relation to meaning (at least for a non-musician). The composition, however, handles complex relationships of influences between musical means of affect and the transposition of them into the physical world. What the architect might use from this musical notation is the way non-deterministic and yet rule-based influences of that 'which agrees with our nature' (in this case the nature of the musician) can be transposed into physical, situated life-worlds via drawing with digital and analogue notational systems.

Conclusion

It may seem like a lot to ascribe to drawing the ability to intervene with the way that we live, but the drawing does this in at least two ways: drawing works with affect in the sense that in the process of drawing we are affected by it and affect it back. Thereby the drawing is in a constant process of individuation, or of being continuously produced anew, it differs both from itself and from other things, like Bergson's lump of sugar. This is a sensuous property, which calls attention to the drawing's doubleness of being in contact with the here-and-now and with that 'something else' that it both represents and produces. And, because there is a difference between the drawing itself and that which it represents, drawing enables us to experiment with the represented and thus we can arrange and compose registers for action that could not be proposed and eventually tested otherwise. The extensive world is represented in our drawings as depictions of existing buildings, cities, etcetera and, simultaneously, the graphical configurations on the drawing plane calls forth intensive affects and fosters sensuous inferences. In yet another way, the drawing represents architectural space as a plan of action, and when this plan is put into effect, it affects our lives. In drawing we find a mixture of instinct/intuition and intelligence, which interacts and binds together the extensive, measurable world, and the intensive, sensuous world, facts and fiction.

> So haecceity provides a means of determining an individuation which, *at the same time*, maps a differentiation *and* unity of being.[72]

Notes

1. Here Deleuze quotes Bergson (Henri Bergson, *The Creative Mind*, 58-59 (1293, 51-52), Translated by Mabelle L. Andison, Westport, Conneticut: Greenwood Press, 1946. *La pensée et le Mouvant,* 1941) in Gilles Deleuze, *Bergsonism*, trans. by Hugh Tomlinson and Barbara Habberiam, (New York: Zone Books,

1988), p. 15.

2. See the work of Peter Bertram on intuitive method in relation to the architectural process, for example: Peter Bertram, *Frembringelse* (Copenhagen, Kunstakademiets Arkitektskoles Forlag, 2011).
3. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. by Brian Massumi (Minneapolis and London: University of Minnesota Press, 1988), pp. 279-80.
4. Anthony Uhlmann, 'Deleuze, Ethics, Ethology, and Art', in *Deleuze and Ethics,* ed. by Nathan Jun and Daniel W. Smith, (Edinburgh: Edinburgh University Press Ltd, 2011), p. 159.
5. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. by Brian Massumi (Minneapolis; London: University of Minnesota Press, 1988), p. 283.
6. Gilles Deleuze, *Spinoza: Practical Philosophy*, trans. by Robert Hurley (San Francisco: City Light Publishers, 1988), p. 27.
7. Gilles Deleuze, *Spinoza: Practical Philosophy*, trans. by Robert Hurley (San Francisco: City Light Publishers, 1988), p. 27; and Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. by Brian Massumi (Minneapolis and London: University of Minnesota Press, 1988), p. 283.
8. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. by Brian Massumi (Minneapolis; London: University of Minnesota Press, 1988), p. 280. Please note that this point is being put forward by Anthony Uhlmann, 'Deleuze, Ethics, Ethology, and Art', in *Deleuze and Ethics,* ed. by Nathan Jun and Daniel W. Smith, (Edinburgh: Edinburgh University Press Ltd, 2011), p. 156.
9. 'The construction of an eye, for example, is primarily the solution to a problem posed in terms of light.' Gilles Deleuze, *Bergsonism*, trans. By Hugh Tomlinson and Barbara Habberiam (New York: Zone Books, 1988), p. 103.
10. On the paradox of drawing a hole, for instance, see Anette Højlund's PhD dissertation *Mind the Gap!*, The Royal Danish Academy of Fine Arts, School of Design, Copenhagen, 2011. pp. 48-59.
11. Anthony Uhlmann, 'Deleuze, Ethics, Ethology, and Art', in *Deleuze and Ethics,* ed. by Nathan Jun and Daniel W. Smith (Edinburgh: Edinburgh University Press Ltd, 2011), p. 164.
12. For a somewhat similar understanding see Claus Peder Pedersen's essay 'Digital Imperfection – Polemic Outline of a Digital Form of Drawing', in *Cartography Morphology Topology,* ed. by Cort Ross Dinesen (Copenhagen: Publishing House of Royal Danish Academy of Fine Arts, School of Architecture, Kunstakademiets Arkitektskoles Forlag, 2009.), pp. 80-4.
13. On such practices see for example: Stan Allen, *Practice: Architecture Technique + Representation* (Abingdon and New York: Routledge, 2009), p. 84-92.
14. Nelson Goodman, *Languages of Art*, (Indianapolis and Cambridge: Hackett Publishing Company, inc., Second Edition, 1976), p. 113.
15. Goodman, *Languages of Art*, p. 160. Goodman defines the digital/notational/allographic and the analogue/non-notational/autographic according to syntactical and semantical *density*. If 'dense throughout' a system is analogue, if 'differentiated throughout', a system is digital. '… a *system* is analog if syntactically and semantically dense. Analog systems are thus both syntactically and semantically undifferentiated in the extreme … . A system of this kind is obviously the very antithesis of a notational system.'

    Goodman, *Languages of Art*, p. 161: 'A digital scheme, in contrast, is discontinuous throughout … To be digital a system must be not merely discontinuous but *differentiated* throughout, syntactically and semantically. If, as we assume for systems now under discussion, it is also unambiguous and syntactically and semantically disjoint, it will therefore be notational.'
16. Goodman, *Languages of Art*, p. 128.
17. Goodman, *Languages of Art*, p. 159.
18. Goodman, *Languages of Art*, pp. 157-58.
19. Goodman, *Languages of Art*, p. 170.
20. Goodman, *Languages of Art*, p. 170: 'Topological diagrams are purely digital in the sense that only dots or junctures connected by lines in the right pattern'

matter, and not 'the size and location of the dots and the length and shape of the lines'.

21. Gilles Deleuze, *Bergsonism*, trans. by Hugh Tomlinson and Barbara Habberiam, (New York: Zone Books, 1988), p. 46.
22. Deleuze, *Bergsonism*, p. 17.
23. Nelson Goodman, *Languages of Art*, (Indianapolis and Cambridge: Hackett Publishing Company, inc., Second Edition, 1976), p. 170: 'Diagrams, whether they occur as the output of recording instruments or as adjuncts to expository texts or as operational guides, are often thought -because of their somewhat pictorial look and their contrast with their mathematical or verbal accompaniments – to be purely analog in type. Some, such as scale drawings for machinery, are indeed analog; but some others, such as diagrams of carbohydrates, are digital; and still others, such as ordinary road maps, are mixed. The mere presence or absence of letters or figures does not make the difference. What matters with a diagram, as with the face of an instrument, is how we are to read it. For example, if figures on a barogram or seismogram indicate certain points the curve passes through, yet every point on the curve is a character with its own denotation, the diagram is purely analog, or *graphic*.'
24. Goodman, *Languages of Art*, p. 219.
25. Goodman, *Languages of Art*, p. 221.
26. Goodman, *Languages of Art*, p. 219.
27. <http://plato.stanford.edu/entries/medieval-haecceity/>. 'At issue is something like this: what explains the fact that (e.g) a clone of me is not an instance of me, but an instance of human nature? Haecceities, in addition to explaining distinction, also explain non-instantiability.' [accessed 11 November 2012].
28. 'Haecceity' in 'A Companion to Metaphysics', ed. by Jaegwon Kim, Ernest Sosa and Gary S. Rosenkranz (Blackwell Publishing Ltd, 2009).
29. Anthony Uhlmann, 'Deleuze, Ethics, Ethology, and Art', in *Deleuze and Ethics,* ed. by Nathan Jun and Daniel W. Smith (Edinburgh: Edinburgh University Press Ltd, 2011), p. 164.
30. 'Haecceity' in 'A Companion to Metaphysics', ed. by Jaegwon Kim, Ernest Sosa and Gary S. Rosenkranz (Blackwell Publishing Ltd, 2009).
31. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. by Brian Massumi (Minneapolis and London: University of Minnesota Press, 1988), pp. 287-92.
32. Deleuze and Guattari, *A Thousand Plateaus,* p. 288.
33. Deleuze and Guattari, *A Thousand Plateaus,* pp. 257-341.
34. Deleuze and Guattari, *A Thousand Plateaus,* p. 287.
35. Gilles Deleuze, *Bergsonism*, trans. by Hugh Tomlinson and Barbara Habberiam, (New York: Zone Books, 1988).
36. Deleuze, *Bergsonism*, p. 40.
37. Deleuze, *Bergsonism*, p. 41.
38. Deleuze, *Bergsonism*, p. 32.
39. Deleuze, *Bergsonism*, p. 40.
40. Deleuze, *Bergsonism*, pp. 31-2.
41. Deleuze, *Bergsonism*, p. 31: 'Isn't Bergson now in the process of restoring all that he once dismissed? What difference can there be between relaxation (**détente**) and contraction except for the differences of degree, of intensity?'
42. In evolutionary processes changes of intensity in pressure or temperature, for example, produce extensive changes in form. If we divide a cup of boiling water into two halves, the extensive property, which is the volume of the water, will be divided as well, whereas the intensive property, that is the temperature, stays the same. See for example Peter Bertram, *Den Animerede Bygning* (Copenhagen: Kunstakademiets Arkitektskole, 2008), pp. 57-8.
43. Manuel De Landa, 'Deleuze and the use of the Genetic Algorithm in Architecture', downloadable at http://crisisfronts.org/wp-content/uploads/2008/08/deluze_genetic-algorithm.pdf, pp. 2,3 [last accessed 11 November 2012].
44. Peter Bertram, *Den Animerede Bygning* (Copenhagen: Kunstakademiets Arkitektskole, 2008), p. 59.
45. Gilles Deleuze, *Bergsonism*, trans. by Hugh Tomlinson and Barbara Habberiam, (New York: Zone Books, 1988), 74.
46. Gilles Deleuze, *Spinoza: Practical Philosophy*, trans. by Robert Hurley (San Francisco: City Light Publish-

ers, 1988), p. 27: 'Consideration of genera and species still implies a 'morality,' whereas the *Ethics* is an *ethology* which, with regard to men and animals, in each case only considers their capacity for being affected.'

47. Deleuze, *Spinoza: Practical Philosophy*, p. 22: 'There is no Good or Evil, but there is good and bad… . Hence good and bad have a primary, objective meaning, but one that is relative and partial: that which agrees with our nature or does not agree with it. And consequently, good and bad have a secondary meaning, which is subjective and modal, qualifying two types, two modes of man's existence.'
48. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. by Brian Massumi (Minneapolis and London: University of Minnesota Press, 1988), p. 283: 'To the relations composing, decomposing, or modifying an individual there correspond intensities that affect it, augmenting or diminishing its power to act; these intensities come from external parts or from the individual's own parts. Affects are becomings. Spinoza asks: What can a body do? We call the *latitude* of a body the affects of which it is capable at a given degree of power, or rather within the limits of that degree. *Latitude is made up of intensive parts falling under a capacity, and longitude of extensive parts falling under a relation.* In the same way that we avoided defining a body by its organs and functions, we will avoid defining it in Species of Genus characteristics; instead we will seek to count its affects. This kind of study is called ethology, and this is the sense in which Spinoza wrote a true Ethics.'
49. Anthony Uhlmann, 'Deleuze, Ethics, Ethology, and Art', in *Deleuze and Ethics,* ed. by Nathan Jun and Daniel W. Smith (Edinburgh: Edinburgh University Press Ltd, 2011), p. 159.
50. Uhlmann, 'Deleuze, Ethics, Ethology, and Art', p. 163.
51. Uhlmann, 'Deleuze, Ethics, Ethology, and Art', p. 162.
52. Uhlmann, 'Deleuze, Ethics, Ethology, and Art', p. 161.
53. Uhlmann, 'Deleuze, Ethics, Ethology, and Art', p. 162.
54. Ole Fogh Kirkeby, 'Abduktion', *Videnskabsteori og metodelære*, ed. by Heine Andersen (Copenhagen: Samfundslitteratur, 1990), p. 124.
55. 'abduction' (Carnegie Application (L75), NEM 4:37-38, 1902), as listed in: Mats Bergman and Sami Paavola, eds., *The Commens Dictionary of Peirce's Terms: Pierce's Terminology in His Own Words*, available online at <http://www.helsinki.fi/science/commens/dictionary.html> [accessed 10 November 2012].
56. 'retroduction' (A Letter to J. H. Kehler, NEM 3:206, 1911), as listed in: Mats Bergman, Sami Paavola, eds. *The Commens Dictionary of Peirce's Terms: Pierce's Terminology in His Own Words*, available online at <http://www.helsinki.fi/science/commens/dictionary.html> [accessed 10 November 2012].
57. 'retroduction' (A Letter to F. A. Woods, CP 8.385-388, 1913) <http://www.helsinki.fi/science/commens/dictionary.html> [accessed 10 November 2012].
58. 'abduction' (Harvard Lectures on Pragmatism, a Deleted Passage, PPM 282-283, 1903) <http://www.helsinki.fi/science/commens/dictionary.html> [accessed 10 November 2012].
59. A point made by my supervisor, Peter Bertram, in a conversation.
60. For an elaboration of this see: Jan Bovelet, *Drawing as Epistemic Practice in Architectural Design*, published in *Footprint* 7, Volume 4, Number 2 (Autumn 2010), pp. 75-84.
61. Fiction in the sense that an architectural project is fictive as long as it is not actually built, this, however, does not mean that a project that is not built is not concrete or actual.
62. James Corner, 'The Agency of Mapping: Speculation, Critique and Invention', in *Mappings*, ed. by Denis Cosgrove, (London: Reaktion Books, 1999), pp. 213-52; and Denis Wood, Ward L. Kaiser and Bob Abramms, *Seeing through Maps: Many Ways to See the World* (Amherst: ODT, Incorporated, 2001).
63. James Corner, 'The Agency of Mapping: Speculation, Critique and Invention', in *Mappings*, ed. by Denis Cosgrove, (London: Reaktion Books, 1999).
64. Corner, 'The Agency of Mapping', p. 215.
65. Corner, 'The Agency of Mapping', pp. 214,15.
66. On three-dimensional drawing see for instance: Nat Chard, *Drawing Indeterminate Architecture, Indeter-*

minate Drawings of Architecture (Vienna: Springer Wien and New York, 2005).

67. Denis Wood, Ward L. Kaiser and Bob Abramms, *Seeing Through Maps: Many Ways to See the World* (Amherst: ODT, Incorporated, 2001).
68. James Corner, 'The Agency of Mapping: Speculation, Critique and Invention', in *Mappings*, ed. by Denis Cosgrove, (London: Reaktion Books, 1999), p. 214.
69. Corner, 'The Agency of Mapping', pp. 214,15.
70. Nelson Goodman, *Languages of Art*, (Indianapolis and Cambridge: Hackett Publishing Company, inc., 1976), pp. 187,88.
71. Goodman, *Languages of Art*, p. 187.
72. Anthony Uhlmann, 'Deleuze, Ethics, Ethology, and Art', in *Deleuze and Ethics,* ed. by Nathan Jun and Daniel W. Smith (Edinburgh: Edinburgh University Press Ltd, 2011), p. 165.

Biography

Anna Katrine Hougaard was Born in 1979 in Copenhagen, Denmark. She holds a diploma in architecture since 2007 from the Royal Danish Academy of Fine Arts, School of Architecture. In 2011 she received a Ph.D. scholarship from the same school. She is currently living and working in Berlin.

Bridging:
The Spatial Construction of Knowledge in Architectural Research

Klaske Havik

This contribution proposes an interdisciplinary approach to architectural research, and states that composition is a methodological act of research. I will first argue that architectural research and practice can gain from a multi-perspectival approach, bringing in knowledge from different fields – in this case the field of literature. Then I will make clear that bringing together knowledge from different fields requires an act of composition. I argue that knowledge can be seen as a spatial construction rather than a linear one, and that the mediating capacity of the architect offers researchers with a background in architecture the possibility to develop such spatial research compositions.

I base this proposal on my recently finished dissertation, *Urban Literacy. A Scriptive Approach to the Experience, Use and Imagination of Place*,[1] in which I developed a literary view on the experience, use and imagination of place. My quest for the formulation of another approach to architecture and the city derived from a critique on the relative absence of these themes in the architecture discourse, education and practice, which tend to foreground formalistic and visual aspects of architecture. Looking for a way to find a richer perspective from which to address the complexity of lived experience, I arrived at literature. Through literature, my work proposed another way of thinking about architecture and the city, and offered tools to practice and educate their analysis and design. As a writer and reader of both architectural and literary texts, I had come to realize that in literature, the experiences of space and spatial practice are often much more accurately described than in professional writings on architecture and cities. Indeed, the relationship between humans and their environment is often described with great accuracy and detail in novels and stories. Space in literature, as seen from the point of view of literary characters with their own memories and emotions, is almost by definition *lived* space.[2] Literary writing confronts us with a certain ambivalence concerning subjectivity and objectivity, author and reader, and reality and fiction. This ambiguity of literature, I argue, is the strength of a literary approach: the gaze of the literary writer enables us to momentarily resolve these seemingly binary oppositions, and to illustrate that in fact, the lived experience of architecture is a matter of both. If existing literature can provide such insights, a literary approach using instruments from literature is conceivable within the domain of architectural research and even of architectural design.

The theoretical construction that I proposed to connect the idea of urban literacy to architectural research and practice can be visualized as a *threefold literary bridge* addressing important aspects of urban literacy by means of three interrelated 'scriptive' concepts: description, transcription and prescription – three different concepts that offer the possibility to introduce the gaze of the literary writer in the domain of architecture and urbanism. While the three concepts are also 'literary', I chose the term scriptive since this addresses the *active use* of a literary gaze: writing, *scribere*, is the most

essential activity of the writer. The term scriptive can also be related to architecture: architecture 'scripts' spaces and spatial sequences, as it were. Each of the three branches of this bridge provides a different perspective by connecting to different theoretical discourses and examples of architectural and literary practices. The terms description, transcription and prescription supply a framework to structure knowledge and develop literary tools for research, education and design concerning architecture and the city. First, I propose with the notion *description* that the descriptive capacity of the literary writer is a skill that can help architects to develop a sensitivity to perceptual and poetic aspects of places. Here, the ambiguous relation between subject and object is at stake. Then, *transcription* focuses on the crossing of disciplinary borders, and on the investigation of the interactive relationship between author and reader and, consequently, between architect and user. Finally, *prescription* deals with the field of tension between reality and imagination, as indeed architects and planners are involved with the making of a not yet existing situation. Literary approaches that deal with indeterminacy and creatively use the relationship between reality and imagination offer tools to deal with this relation in design.

Within each of these branches the same path of research has been followed in order to construct the spatiality of the bridge of urban literacy. First, the concept at stake is defined in terms of etymology and connotation. Fragments from novels and poems serve as illustrations of these definitions. Second, a critical reading of relevant theoretical sources provides a basis on which to connect each concept to a specific architectural discourse. Third, an analytical model is presented in the form of an analysis of the work of an architect, which is argued to be exemplary for the approach, while a number of exercises in architecture education show how the approach can be taught and further developed.

Triads as Methodological Puzzles

The threefold structure of this work is exemplary for the methodology by means of which it came about. Knowing that my quest for a literary approach to the experience, use and imagination of place would bring me to a wide variety of literary and spatial notions, I chose not to focus on one specific notion, but rather to explore a larger field to test my initial hypothesis. Not only did I introduce three notions, I also travelled parallel paths in order to explore my field, deepen my thoughts and elaborate my concepts. The use of three interconnected notions, a so-called triad, is a methodological choice for a dialectic approach. In *Thirdspace,* the book in which Edward Soja offers a contemporary reading of Henri Lefebvre's work, the term 'thirding' is introduced, or more precisely 'Thirding-as-Othering'.[3] Soja states that, rather than thinking in binary opposites, it is intellectually productive to add a third term, which provides a new balance, another perspective, 'a third possibility' or 'moment'.[4] Soja shows, for instance, how social space in Henri Lefebvre's writing is distinguishable from mental and physical space, yet it also encompasses them. In *The Production of Space*, Lefebvre indeed continuously brings up such triads: mental-physical-social space, conceived-perceived-lived. As for Soja's own work, his key triad concerns the theoretical notions of social-spatial-historical, while his term 'Thirdspace' indeed is intended to break open the common ways space is thought. This third position, according to Soja, is not a simple addition to the two others, it belongs to both of them and therefore breaks the oppositional composition. It does, in this way, provide an 'open alternative'.[5] This idea of methodological openness created by a third moment is crucial to be able to address the ambiguities that I have intended to bring to the fore in this work. Indeed, I did not want to discuss the subject-object, reader-writer and reality-fiction pairs as opposites, but rather as active relationships. Especially when such two seemingly opposite notions start to work together, a third condition arises, and as I will

argue further in this work, precisely this moment, this productive exchange, this *bridging moment* is the very moment of architecture – or of literature. The third condition is not just another, next to the previous two, it is a bridge that connects them. In regard to the relationship between architecture and literature, a third condition may be at stake as well, as Angelika Corbineau-Hoffmann states: 'Similar to how the writer brings truth and untruth together in a "third", architecture as well builds, when entering literature, a third …'[6] Architectural motives in literature, she claims, can in their richness address many different aspects at once, thereby indeed constructing a third, an alternative – not by denying such categories, but rather by explicitly confronting them.[7] The exact nature of such a third condition remains vague on purpose, she explains, because its function is to trigger the curiosity of the reader, who is challenged to rethink his habit of thinking in binary oppositions. Indeed, when thinking of the connections between architecture and literature, and when trying, in this work, to make such connections operational, it is not the two disciplines themselves that are the key topic, but precisely the unnameable that lies in between, a third condition, which offers alternative possibilities to describe, understand and practice architecture.

Similarly, I have worked with triads as a sort of methodological puzzles, helping me to obtain an open gaze within my project. In the first phase of the research process, I ordered my work in three interconnected fields: the *theoretical positioning*, concerning the formulation of my ontological and epistemological perspective, the particular *context* that I wished to address, and, as a third category, the related *activities* in education and practice. Under the first heading, the theoretical positioning, I noted as a starting point: 'Architecture is not only a practice concerned with physical, measurable construction. Architecture deals with human experience of the physical environment. The ontological perspective of this work concerns the experiential aspects of architecture, and relates to the discourse of phenomenology of perception.' I stated that place is a complex stratified phenomenon, a physical structure bearing layers of history, atmosphere and lived space. With that in mind, I stated that my contribution to knowledge would be to address the need to develop different ways to measure and analyse place, and to explore different instruments. Second, to frame the context of the current urban and architectural debate that I wished to contribute to, I formulated the following themes: the debate on urban regeneration approaches, as an urgent and topical context in which the need for new approaches was expressed; the public realm, as the social dimension of architecture and the city – precisely the place of intersection between the individual and the collective, the subject and the object, the author and the reader; and the third, but overarching theme of literature as a source for instruments and inspiration. These themes, together with the theoretical positioning, have been present throughout the whole process of this work, and have played a role as a filter for the third part: the selection of related activities in education and design practice. These activities, such as workshops with students, design studies or participation in conferences, allowed me to explore themes, methods and ideas.

The parallel paths I have followed in the course of the work (theoretical positioning, thematic explorations and related activities; academia, teaching and practice) have indeed led to another triad of parallel paths: description, transcription and prescription. This triad is more than an organizational model alone; it has become a method of research in itself, a sequence that allowed me to make the necessary steps in the process, while the literary tools discussed in this sequence of chapters were simultaneously used in the process of the writing itself. If the notion of description is linked to observation, in the process of the research it has been the first step of reading and observing the

field upon which I wished to operate. In this phase, the related literary skills of meticulous observation and evocative description were carried out in relation to the sources read and the themes explored. Observation can be understood as a form of close reading – this entailed the very precise observation of detailed information while mapping out the field of possible connections. Meanwhile, rather than limiting my reading to the field of theory, I literally went out to observe the social and spatial context of this work: observing the spaces, scenes and processes of urban regeneration. In this phase, it was important to use different forms of making notes: both using the flow of associative writing and making detailed lists of the observed spatial and social phenomena.

Transcription, then, was the step to transcribe the knowledge from this first step to the specific task at hand – for instance, to link the literary instruments that I had studied to architectural questions. While I have discussed narrative as one of the key notions in the chapter entitled Transcription, precisely this notion of narrative – the composition of sequences, of the structure along which events take place – was crucial in the second phase of my work. Here, the storyline was composed – not as a singular narrative, developing a linear argument, but as an essentially *spatial* construction, which can be viewed from different perspectives, offering multiple narratives. This act of composition has strongly been characterized by an aspect of play, or rather, by the playful use of constraints. The structure of the chapters, the order of the paragraphs, the titles and the amount of space used for each fragment were all consciously defined and positioned as in a juggling game: carefully playing with weight and speed while balancing suspense. In the final phase of my project, steps towards the possible implications had to be considered.

The notion of Prescription was defined as the act of imagining a new situation, rather than as the literal writing of a recipe. In literature, the chronotope as the intellectual construction of a worldview has been a useful notion to discuss such imaginations, as well as the concept of scenario writing. In my research project, I indeed had the task to imagine how new, possible realities could be based on the knowledge that had been acquired and on the transcriptions that had been undertaken from one discipline to the other. Through on-site case studies with students in my Delft University of Technology seminar and design studios, I have been able to test the techniques and insights developed in this work, thereby developing scenarios appropriate for the tasks at hand.

Bridging as a Spatial and Intellectual Composition

I have explicitly chosen *bridging* as a method: the bridging between literary and architectural insights, between different fields and approaches. A bridge is more than a mere connector of two sides, it also defines the banks and their hinterland more clearly, and the bridge is a place, a unity in itself. In *Building, Dwelling, Thinking* Martin Heidegger made use of the bridge to explain how a building 'gathers' the seemingly contrasting notions earth and sky, the mortals and the divine:

> 'The banks emerge only as the bridge crosses the stream … With the banks, the bridge brings to the stream the one and the other expanse of the landscape lying behind them. It brings stream and bank and land into each other's neighbourhood. The bridge *gathers* the earth as landscape around the stream. Thus it guides and attends the stream …'[8]

According to Heidegger, the bridge, even if it is an object, a *thing* in itself, allows a location to come into existence. A bridge is practical, in that it allows us to cross from one side to the other, but it is also an intellectual construct: it is through the

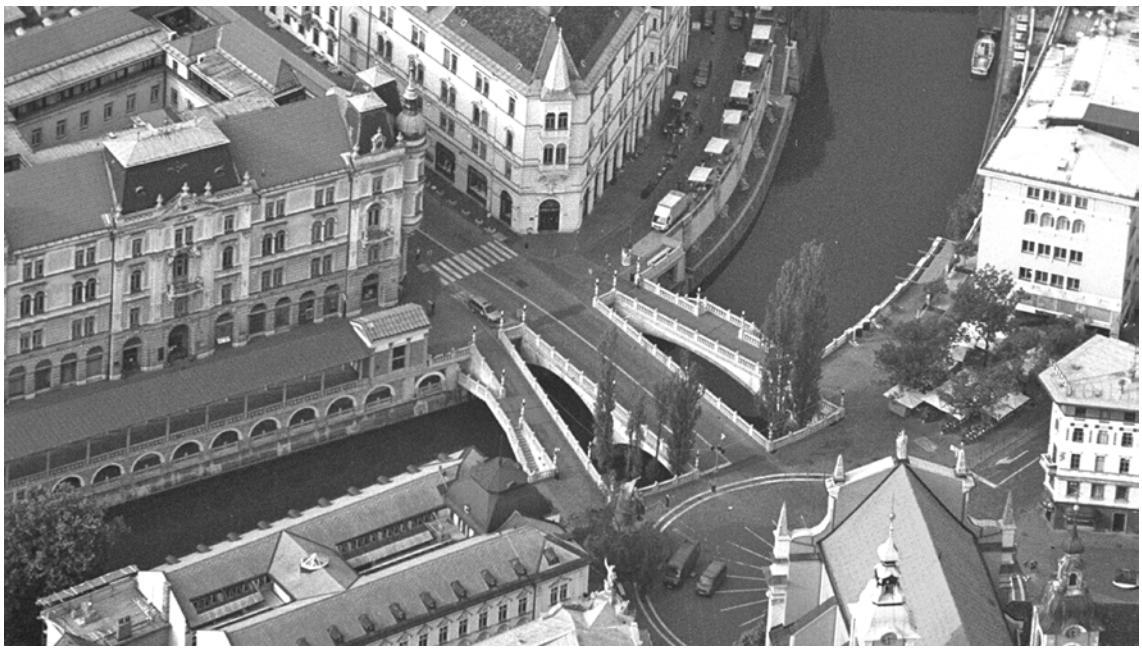


Fig. 1: The triple bridge Tromostovje in Ljubljana, Slovenia, Jože Plečnik, photo D. Wedam.

bridge that the ambiguity of connectedness and separation becomes visible. As Georg Simmel put it even before Heidegger in his seminal essay *Bridge and Door,* this gives the bridge an aesthetic value in itself: 'The bridge gives the eye the same support for connecting the sides of the landscape as it does to the body for practical reality.'[9] Indeed, a bridge is both a mental and a physical construction; it gives meaning to both sides while it is experienced by the body that uses it to cross a river or an abyss. This work can be seen as a bridge, a conceptual bridge, that is, but one that in its very essence concerns architectural experience in all its aspects. This bridge of 'urban literacy' does not only connect two banks or bridge one gap; rather, it opens up a field for architecture to explore, beyond the banks, but also the space of the bridge itself. The threefold bridge that I have constructed refers to a physical urban place: the Tromostovje (three bridges) in Ljubljana, Slovenia, designed in the 1930s by Jože Plečnik [fig.1]. This bridge, consisting of three branches with slightly different characters and directions, has been a highly inspirational reference. While offering a model for my project, discussing three different perspectives of a literary approach to architecture, it also accommodates Lefebvre's triad of social space: the conceived, the perceived and the lived. The image of this bridge can be seen as an intellectually conceived composition, looked at in bird's-eye view from the castle in Ljubljana; meanwhile it is a built reality in stone and concrete upon which the inhabitants and visitors of Ljubljana have traced out their paths and constructed their memories and stories. In the final composition of my dissertation, I have devoted special attention to this bridge: it is the bridge itself that, in the form of the prologue and epilogue, forms the opening and closure of the work. The triple bridge has been simultaneously structure, method and metaphor of this work, and as such, the composition has been a leading principle to guide the intellectual decisions made throughout the process. The composition in three parts reappears throughout the work: not only in the description-transcription-prescription triad, but also in the tripartite division of each chapter and subchapter, and ultimately in the composition of the whole work.

The ambition to bridge the gap between theory and practice, between architecture as a product of the mind and as an experienced and 'lived' reality, implies that yet another gap had to be bridged: the one between scientific research and the more artistic approach of literary writing and architectural design. If I indeed choose to present literary references and literary techniques, I have to acknowledge their explicitly subjective nature and recognize the value of this subjectivity. Subjectivity, in my view, is not the opposite of objectivity: while a claim for objectivity can be made in the natural sciences, in architecture, as well as in literature, both notions are at stake simultaneously, and it is in fact the very reversibility of subject and object that makes for a *lived* experience of architecture. This is not to say, however, that my methodology as such totally breaks with scientific research, as French philosopher and scientist Gaston Bachelard suggested in the introduction to his seminal book *The Poetics of Space.* Here, he describes a need to let go of rational, intellectual reflection in his search for a theory of the poetic imagination: 'Little by little, this method, which has in favour its scientific prudence, seemed to me an insufficient basis on which to found a metaphysics of imagination'.[10] He argues even that the philosopher 'must forget his learning and break with all his habits of philosophical research, if he wants to study the problems posed by the poetic imagination'.[11] Also Henri Lefebvre, whose notion of lived space has been one of the foundational concepts of my work, warns against all too narrow scientific thinking. It seems that Lefebvre himself, as an author and thinker, in some ways applied a rather 'literary' viewpoint, in the sense that he tells different story lines, looks from multiple perspectives, and 'explores' his field of study by traveling through it rather than pretending to be 'scientific'.[12]

While indebted to the positions of Bachelard and Lefebvre, I do not attempt to escape the methods of scientific research. As any work of scientific research, architectural research of this kind intends to reveal connections between matters or ideas that are not usually connected. It should be based on a rigorous reading of relevant sources in the different fields that one intends to connect. However, the topic to be addressed, such as experience, use and imagination of places, are indeed difficult to measure or verify. The looking glass of literature, the art of observing and imagining, of setting scenes and making narratives, offers a means to address these topics in another way. It is therefore that I have searched for the formulation of such an in-between approach by means of literature. The work itself, however, is not literary, nor should it be entirely defined as a study in architectural or spatial theory. In this project, architectural research can be understood as the reinterpreting and re-ordering of knowledge from various disciplines, ultimately bridging all the different aspects at stake in a mediating composition. The work may best be characterized as critical theory, in the words of Jane Rendell: '… critical theories are forms of knowledge [that] differ from theories in the natural sciences because they are "reflective" rather than "objectifying" – they take into account their own procedures and methods… . Critical theories aim neither to provide a hypothesis nor to prescribe a particular methodology … Critical theory is instructive in offering many different ways of operating between "two".'[13]

And indeed, the way of operating between 'two' has in this case become a triad: a continuous shifting between three similar, but simultaneously very different paths. In my quest for tools and insights from literature, composition has never been a theme as such – in fact, composition might be regarded as a skill that literary writers borrow from architects, rather than vice versa. However, I have found that in terms of research methodology, the crucial moment of design has been the very composition of the work as a threefold structure, discussing three diverging perspectives, together forming a bridge between both sides of the paradox that I intended to address. If in an architectural design process, composition can be seen as a *moment of autonomy* of the architect within the heterogeneous setting that each project entails, one might argue that the composition of a work of architectural research is an act of design as well. A crucial skill for practicing architects is the capacity to mediate: between different actors, between reality and the imagination of a future situation, between different scales and between different fields of knowledge. In the complexity of a building process, architects have to mediate between different actors: they have to be capable of switching between different languages, as it were, to communicate with clients, technicians of various fields, and users. By definition, architects operate between times, between the present and the imagination of future spatial situation – while aspects of historicity may also play a part in a design process. Within each project, a balance is also sought between various scales: the detail and the urban setting, the parts and the whole. Architects continuously mediate between material, technical, structural, cultural, social and economic fields of knowledge. We might argue that architects operate as generalists, rather than as specialists. Their 'specialism' is the capacity to make connections between the different fields, scales, actors and time frames, and to productively address the ambiguities that are at stake in each and every architectural project. Architect and theorist Juhani Pallasmaa has described architecture as an 'impure' discipline, not only in that it is in many ways related to other fields and disciplines, but also because numerous seemingly opposite notions are at stake within architecture itself: 'Architecture is simultaneously a practical and a metaphysical act: a utilitarian and poetic, technological and artistic, economic and existential, collective and individual, manifestation of our being.'[14] This impurity, as Pallasmaa calls it, is by no means to be understood as a weakness of architec-

ture. On the contrary, I would argue that the nature of architecture to always address two sides of the matter should be considered its richness. The bringing together of such different perspectives is the very essence of architectural design. The moment of a design decision is thus a moment *bridging* all the different aspects and perspectives involved. The bringing together of these notions is by definition an act of composition. Indeed, as architects are compelled to find a balance between various fields and approaches, a researcher in the field of architecture is confronted with the task of balancing between the conceptuality of academic discourse and the experience of architecture's physical reality; especially when addressing themes such as poetic experience, the user's perspective and indeterminacy, which are difficult to express in scientific terms. The underlying structure, threefold in this particular case, may not be brought to the fore as content of a work of research, but it is the very composition that allows all the different components to be read and interpreted. In this way, architectural research thus addresses ways of mediating, and uses a mediating approach to do so: it offers a reading, interpretation and new organization of various architectural perspectives.

Notes

1. This text is strongly based on the introductory chapter of my dissertation 'Urban Literacy. A Scriptive Approach to the Experience, Use and Imagination of Place', Delft University of Technology, 2012.
2. Lived space as defined by Henri Lefebvre in his triad of social space: conceived-perceived-lived, Henri Lefebvre, *The Production of Space*, (London: Blackwell Publishing, 1991) [*La Production d'espace,* Paris: Editions Anthropos, 1974].
3. Edward Soja, *Thirdspace, Journeys to Los-Angeles and Other Real-and-Imagined Places* (Massachusetts: Malden, 1996), p. 60.
4. Soja, *Thirdspace*, p. 61.
5. Soja, *Thirdspace*, p. 61.
6. Angelika Corbineau-Hoffmann, 'Architekturen der Vorstellung. Ansätze zu einer Geschichte architektonische Motive in der Literatur.' in: Winfried Nerdinger (ed.) *Architektur wie sie im Buche steht, Fiktive Bauten und Städte in der Literatur,* (Munchen: Architekturmuseum der Technische Universität München/ Verlag Anton Pustet, 2007), pp. 27,8 (translation from German KH).
7. Corbineau-Hoffmann, 'Architekturen der Vorstellung', p. 38.
8. Martin Heidegger, 'Building, Dwelling, Thinking', originally published as 'Bauen, Wohnen, Denken' in 1951, in: Neil Leach (ed.), *Rethinking Architecture. A Reader in Cultural Theory* (London/New York: Routledge, 2003 [1997]), p. 104.
9. Georg Simmel, 'Bridge and Door', originally published in 1909, in: Neil Leach (ed.), *Rethinking Architecture. A Reader in Cultural Theory* (London/New York: Routledge, 2003 [1997]), pp. 66,7.
10. Gaston Bachelard, *The Poetics of Space* (Boston, MA: Beacon Press, 1994), p. xviii.
11. Bachelard, *The Poetics of Space*, p. xv.
12. For an account of Lefebvre's literary approach, see also: Edward Soja, *Thirdspace, Journeys to Los-Angeles and Other Real-and-Imagined Places* (Massachusetts: Malden, 1996), pp. 54,5.
13. With these lines, Rendell refers to Raymond Geuss's definition of critical theory (Raymond Geuss, *The Idea of Critical Theory: Habermas and the Frankfurt School 1981),* Jane Rendell, *Art and Architecture. A Place Between* (London/New York: I.B. Tauris, 2006), pp. 8,9.
14. Juhani Pallasmaa, 'Landscapes of Architecture- Architecture and the Influence of Other Fields of Inquiry', 2003, published in: Peter Mackeith (editor), *Encounters. Architectural essays by Juhani Pallasmaa* (Helsinki: Rakennustieto Oy, 2005), pp. 335,36

Biography

Klaske Maria Havik (The Netherlands, 1975) is assistant professor at the Faculty of Architecture, Delft University of Technology. She studied architecture in Delft and Helsinki, and literary writing in Amsterdam. She writes regularly for architecture journals in the Netherlands and Nordic countries and is editor of the Dutch-Belgian architecture journal *OASE*. As an architect and critic, she has been involved in a number of harbour redevelopment projects in Amsterdam, The Hague, Helsinki and Tallinn. She co-edited the anthology *Architectural Positions: Architecture, Modernity and the Public Sphere*, SUN Publishers 2009.

An Antipodean Imaginary for Architecture+Philosophy: Fictocritical Approaches to Design Practice Research

Hélène Frichot, Julieanna Preston, Michael Spooner,
Sean Pickersgill, Zuzana Kovar, Ceri Hann, Megg Evans

As a collective of PhD researchers (past and present) provisionally gathered within the Architecture+Philosophy Research Group, RMIT University, we will present a series of design explorations that are representative of our design practice research.1 With the conjunctive capacity of architecture and philosophy we emphasize the ongoing importance of the relay between these disciplines, also activated in our work through the productive relations between critical theory and practice. We assume an expanded definition of architectural design practice, which includes digital immersive environments, unbuilt (even unbuildable) architectures, installation and participatory performance-based works, and also, importantly, includes the critical and creative practice of writing-architecture, often through the deployment of fiction. These are all means by which other possible worlds, including new forms of subjective and collective expression are speculatively brought into existence through the conjunctive synthesis of the thinking-doing of architecture. These imagined worlds also allow us to frame speculative ethico-aesthetic questions. What this group does not engage in is the direct and unmediated reformulation of professional architectural project work into descriptive or anecdotal research.

While our collected research tropes are diverse, for the purposes of this essay we will foreground the critical and creative usefulness of fiction in the construction of other possible worlds. Specifically, a return to the literary theoretical methodology of fictocriticism will be ventured and reframed for architecture. This approach will be elaborated by Hélène Frichot who has had the opportunity to offer supervisorial guidance to researchers presenting their design research below. Fictocriticism for architecture assumes the constructive, creative and critical situatedness of the thinking-designer in the midst of their problematic field.2 We place an emphasis on critical and creative invention and the structured indeterminacy that manifests in the wild association of images and ideas that procure innovative as well as politically engaged minoritarian architectures. There endures an engagement with minorities, and minor literatures (including sub-canonical architectures), feminist approaches, queer intertextualities, as well as teratological mixtures of the natural and the cultural. We argue that fiction is the powerful means by which we can speculatively propel ourselves into a future, and that criticism offers the situated capacity to ethically cope with what confronts us. The power of conjoining these terms across the linking punctuation of the hyphen, that is, as a fictocritical practice, manifests in diverse projects, as we will demonstrate below.

In his book *After Criticism*, Gavin Butt identifies a newly located critic, one who admits that an objective, external point of view cannot be achieved, but instead suggests that the critical location is always embroiled in the midst of a situation. From the vantage of a newly located critical point of view, Butt proposes to rediscover criticism and its agency ‘within the very mode of critical address

itself'.[3] By dismissing the fantasy of objectivity, new expressions of critical response that are more performative, that employ fiction and autobiography, that multiply voices and points of view, and that 'deviate from established modes of critical behaviour' can be fostered. The critic is in the midst of the work, contributes to the work, and even creates the work, for the critic is also the creative practitioner. As Australian theorist Anna Gibbs writes, in direct reference to fictocritical approaches: 'The researcher is implicated in what is investigated.'[4] The critical stance in architecture is deeply embedded in the pedagogical and design research context; it is the means through which a project proceeds, that is, through critical interrogation. The critic, while brought in from the outside, can also be the creative actor undertaking research through design. As Brian Massumi argues, 'critique is not an opinion or a judgment but a dynamic "evaluation" that is lived out in situation',[5] which is to say, critique should not be about imposing preconceived attitudes, opinions or judgements, but needs to respond immanently to the problem at hand. That the practitioner is also in turn the critic of her own work allows criticism its creative turn and purposively puts it to work immanently in the creative act. A productive elision is suggested in this argument between architectural design researcher and critic, which could be seen to operate much like the shuttle that scoots backwards and forwards between theory and practice. Practitioners as they proceed need to achieve both a close vision, as well as vision from a distance of their work, and this mobility across points of view, as their practice is assessed and further propelled forward, can manifest in the emergence of fictional and creative voices.

Fictocriticism can be associated with the influence of French thinkers, such as Roland Barthes, Michel Foucault, Jacques Derrida and Julia Kristeva, and the rise of theory in the 1980s through to the 1990s, which infected the humanities, as well as architecture, in productive as well as destructive ways.[6] This was a halcyon period just prior to the onset of theory fatigue, before the end of the millennium when theory fell into crisis and even disrepute, especially in the discipline of architecture. I am wary then of what might appear to be an anachronistic, nostalgic return to a theoretical territory, but I proffer the fictocritical approach here as a mode of conceptual recycling that accepts that new methodologies can arise out of conjunctions of old concepts. Even more specifically, a story can be told of the emergence of fictocriticism out of a specifically Australian context, with the work of such writers as Stephen Mueke, Anna Gibbs, Gail Jones and others, which offers the term a peculiarly local inflection, giving rise to what can be called an Antipodean imaginary.[7] Simply defined, fictocriticism enables the productive conjunction of fiction and criticism. It can evince a Barthes-like *jouissance* in the materiality of the text, a text which can be extended to include the live materials of architecture. Fictocriticism also assumes the disruption of the authority of the author, whose voice comes to be splintered across diverse points of view, or else who comes to be completed by his or her many readers.[8] Fictocriticism is also inspired by the uptake of French feminist philosophers such as Hélène Cixous and Luce Irigaray, who powerfully called out for new modes of writing within which woman's voice, and I would add, women's spatialities could be recognized and heard. It is a hybrid form and methodology, which I would like to call Franco-Australian, but this would be to limit the heterogeneous voices that join the throng, and who can be associated by other calling cards.[9]

Gibbs writes: 'The heterogeneity of fictocritical forms bears witness to the existence of fictocriticism as a necessarily performative mode, an always singular and entirely tactical response to a particular set of problems – a very precise and local intervention, in other words.'[10] So fictocriticism, as I have suggested above, owns a minoritarian voice, both queer and feminist, but is also localized, operating in response to immediate problems and places. In

addition, it accepts that even philosophy can be undertaken as a form of fiction, and here inspiration arrives from that notorious pair, Gilles Deleuze and Félix Guattari. By engaging in the creative philosophy of Deleuze and Guattari, Eric Alliez explains: 'The concept thus becomes narrative and philosophy a new genre of story in which description takes the place of the object, in which the point of view replaces the subject.'[11] What becomes clear in Deleuze and Guattari's final collaborative work, *What Is Philosophy?,* is the constructive capacity of philosophy, and the productive relations that can be construed between philosophy, art (and architecture) and science.[12] The role of fiction and immanent critique is also explored in the series of essays Deleuze collects in *Essays Critical and Clinical*, where this mode of creation promises to inaugurate new kinds of worlds. Thought and art, when organized in certain ways, can also become sufficiently real that they disturb 'reality, morality, and the economy of the world'.[13] Fictocriticism is not frivolous, but facilitates new critical imaginings.

In what follows I will orchestrate a number of such voices, all of which are engaged in design practice research in the Australian and New Zealand context, and all of which contribute to a collective Antipodean imaginary between architecture and philosophy. The representative projects will draw on PhD research by Julieanna Preston, Michael Spooner, Sean Pickersgill, Zuzana Kovar, Ceri Hann and Megg Evans. Each of these researchers, I suggest, have employed fictocritical devices of various means, from the seemingly random association of images towards the construction of tall tales of architecture, to the exploration of science fiction as a critical tool that enables ethical consideration of possible futures, to the power of horror in fictional architectural constructions. In the first instance none of these researchers have necessarily identified fictocriticism as a methodology, and so I risk undertaking a form of violence in curating their research according to this approach. And yet when the work is gathered, what can be found are productive interlacings between theory and practice, both being supported by implicit and explicit uses of fiction. Preston's visual essay project, 'Airing', speculates on political events, real and imagined, using fictional writing and imagery, as well as sculpted objects. Preston's work has also developed as a series of site specific installations where she deploys her recreated performing body as one medium amid many. Spooner commences from an association of images that allow him to conjoin a well-known Melbourne architectural icon, Edmond and Corrigan's RMIT Building 8, and an ocean liner taking leave of its mooring. He proceeds into a queering of local architectural space through the appropriation of motifs from interdisciplinary sources. Pickersgill designs immersive digital environments based on computer game platforms, as well as simple montage sequences and installations to explore the affective relations between architecture and horror. He begins with the story of an Adelaide house in which a woman is said to have committed suicide, though the evidence suggests she may have been murdered. Kovar also turns to the power of horror and abjection in the assemblages formed between bodies and buildings, and further speculates on these relations by creating fictional architectural contracts supported by conventional sections that can be deployed in an instructional fashion. Hann uses participatory approaches to explore the intersubjective potential of public space, inventing games that disrupt expectations and which inspire collective storytelling. Evans deploys science fiction to speculate upon the ethical issues surrounding semi-living architectures and argues for the realism of fiction. It is evident that across these diverse projects, all following the relay between theory and practice, or else pursuing the interplay between philosophy and architecture, different preoccupations are made manifest. At the same time, the work gathered here shares an approach that foregrounds the powers of critical fictions. To summarize, when conjoined with

design practice research, fictocriticism enables the expression of minor voices, feminist, queer, other; it is performative in the employment of multiple voices and the expression of multiple points of view amid a world; it empowers fiction as a critical approach that can assist in the development of a design project; it allows for an expanded definition of what design can do.

‘Airing’, Latent Voices and Mute Surfaces, a Visual Essay in Three Part Dissonance

Julieanna Preston

This visual essay considers two supposedly unrelated and dissonant voices and finds a third. [fig. 1]

The first voice cites the occurrence of a 1971 feminist protest staged in Auckland by a group of activists rallying against the lack of progress in gender equity since winning the right to vote in 1893. This historic event casts a critical lens on the subject; it is one of the few on public record in recent decades to bring feminist issues into the New Zealand public arena. Yet the report of the protest lends an air more akin to a funeral than a political rally. Years later, the impact of the event remains questionable and the issues unresolved. Where is feminism today? What are its voices? Where can they be heard? What traces do they leave?

The second voice is found in the ongoing evidence GEONET produces as it measures New Zealand’s twenty-two active volcanoes. Seismic movement and pressure for each site is measured one hundred times every second and recorded on a drum chart. The data, described as noise, is being collected in anticipation, as a precaution, of what could be, of what might happen. An extensive network of scientists and machines stand alert to each rumbling, each grumbling. Though ‘heard’ by sensitive monitoring devices, these shifts of the underground, these threatening eruptions often go unnoticed in everyday life on the surface.

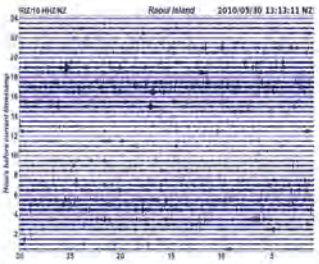
‘Airing’ is a sculptural object that materializes a critical and fictive event that did not occur on the fortieth anniversary of the feminist protest and did not register on the seismograph. As a performative prop, it operates at the confluence of these two latently seething and quietly fuming mute forces to speak a story:

> Fourteen pairs of slender spikes amble in black unison towards the cold and rigid monarch.
> On a pedestal, with her head in the long white cloud, she watches over her colony with an unflinching gaze, monitoring the resistance of all things with cones and calderas.
> The gaggle huddles amongst the folds of her unyielding bronze skirt against the prevailing gales of sheepish convention and apathetic comfort.
> A wreath adorning the coffin that they carried suckles the moisture-laden air.
> Without warning, it spews an ashen plume ripe with the heat of an interior toxic breath, a mixture of carbon, hydrogen and sulphuric gas.
> Particulates hang heavy as a fog that chokes visibility but eventually settles as a thin film in the aftermath, an afterbirth.
> Though covered with oxides that threaten her robust stature, the Queen stands staunch. The marks on the drums go unheeded, unheard. The subjects wipe the soot from their eyes and, with affirmative tenacity, write this fiction upon her surface.

This visual essay engages fictocriticism as the ‘self reflexivity, the fragment, intertextuality, the bending of narrative boundaries, crossing of genres, the capacity to adapt literary forms, hybridized writing, moving between fiction (invention/speculation) and criticism (deduction/explication) of subjectivity (interiority) and objectivity (exteriority)’. It operates as a stimulus to affective-invested social relations represented in the objects and scenes and their

airing, latent voices and mute surfaces, a visual essay in three part dissonance

Julieanna Preston



"On 17 September 1971, hundreds of Aucklanders gazed in disbelief as forty women, all dressed in black and carrying a coffin, marched in a mock funeral procession to Queen Victoria's statue in Albert Park, to mark Suffrage Day by mourning the lack of progress women had made since getting the vote in 1893.

This was the first widely publicised women's liberation protest, and the spectacle of female militancy, after several generations of quietude, seemed almost as shocking as what women's liberationists were saying.

Their message was a simple one, but it touched people's nerve ends, for it was aimed at the emotional foundations of society --the traditional relationship between the sexes, and male and female roles. There was no equality between the sexes they said, because the traditional sexual relationship was unequal and oppressive to women. Women were still expected, in 1971, as they had been last century, to subjugate themselves and their lives to men, and to exchange their sexual and domestic services in return for men's financial support.

New Zealand men still treated women as if they were an inferior and menial sex and mistook their male privileges and advantages for natural rights. This was why, although New Zealand had led the world in granting women the vote in1893, ninety years later women still lagged behind men in every respect: politically, economically and socially. The aim of women's liberation was to change all that;
to free women from the deeply embedded image of their own inferiority and from their immaterial dependence upon men.

This was a startling claim to make about a relationship between the sexes which had been accepted for centuries, much like the caste system of India, as if it were biologically based and theologically sound. So it is not surprising that many New Zealanders were as much dismayed by the message as they were by the messengers."

Kedgeley, Sue (1985). "In Queen Victoria's Shadow" in The Sexual Wilderness: Men and Women in New Zealand, Auckland [N.Z.]: Reed Methuen, p. 1.

New Zealand's North Island contains a number of active and potentially active volcanoes. Although the probability of an eruption affecting a large area of the North Island is relatively low in any one year, the probability of an eruption occurring in the future is high. The Institute cannot determine exactly when the next eruption will occur, but we can advise you on its likely effects. Our scientific analysis provides the vital information needed for thorough planning and will help minimise the impact of future volcanic eruption. We maintain permanent surveillance at active and potentially active volcanoes - the best way to detect the early signs of increasing seismic and volcanic activity. Scientists from the Institute have developed computer programmes to estimate the ash that may fall from a volcanic ash plume. To model these ash falls one has to know the eruption column height, volume of ash erupted and information on the wind at various altitudes. Each day at about 7 am, we are modelling a typical eruption from both White Island and Ruapehu volcanoes. They are made using wind data supplied by Metservice. The eruption model includes the erupted volume, the maximum eruption column height, and the settling velocity of ash particles of different sizes.

**GNSwebsite>
http://www.gns.cri.nz/what/earthact/volcanoes/ash/index.html accessed 14 April 2010**

17 September 2011

Fig. 1: Julieanna Preston, Airing, 2011

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performed engagement through a hybrid script, a site-writing.[14] Though it is posing fictocriticism as a spatial and materially-induced text, it is indeed what Kari Edwards names as a '"haunted writing": traced by numerous voices which work now in unison, at other times in counterpoint, and at others still against each other, in deliberate discord. The problem of haunted writing comes to the fore in academic discourse when disciplinary authority and discursive protocol function as the voice of the dead stalking the present so as to paralyse it with terror, or else as a kind of watchful superego as resistant to modification as if it were a text inscribed in stone.'[15] Intertwining these two matter-of-fact voices and projecting them into fictive suspension generates a space where the exterior site of gender inequity and the interior site of fear are enunciated and emancipated from their obligation to merely report what happened as if it were dead matter. It is a demonstration for feminism to find its contemporary voice in New Zealand and a criticism that it has not. It demonstrates cultural norms and geological anomalies figured at best as volatile stability.

A Clinic for the Exhausted

Michael Spooner

A Clinic for the Exhausted emerges from the midst of the idiosyncrasies of an Australian architecture by way of the local architectural scene of Melbourne. By means of design-based research it examines an exemplar of Melbourne architecture, Building 8 RMIT University designed by Australian architects Maggie Edmond and Peter Corrigan and completed in 1993.[16] Building 8 is a prominent addition to Melbourne's civic spine, and remains a significant built elaboration of Melbourne's architectural discourse. It has acted as the benchmark for the further development of RMIT University's central city campus,[17] and remains the platform for design discourse in that it houses the School of Architecture and Design.[18]

This design research project, *A Clinic for the Exhausted*, claims its point of departure in a letter published in Leon van Schaik and Nigel Bertram's monograph on Building 8.[19] Written by one Melbourne architect to another, the letter, dated 22 December 1993, is addressed to Peter Corrigan from Howard Raggatt, the director of the Australian architecture practice Ashton-Raggatt-McDougall (ARM).[20] At the time, ARM was commencing the redesign of the now well-known Storey Hall, adjacent to Building 8, into a new university conference hub. The letter outlines Raggatt's hopes for the extension and refurbishment to the late nineteenth-century building against the backdrop of Building 8's own theoretical concerns and public notoriety. Raggatt, who admits the influence of alcohol in the letter, describes his nocturnal apprehension of Building 8's illuminated interior from Swanston Street, and then tenders the image of Building 8 as it 'began to lift off as though released from its anchors, or set free from its foundations, now departing like a P&O liner'.[21]

A Clinic for the Exhausted examines how the discourse of a lyrical subjectivity such as Raggatt's might establish and cultivate an expression that could launch Building 8 from its concrete foundation upon an ocean of images and ideas. Raggatt's letter is used as evidence of a difficult architectural knowledge that does not concede to empirical models of research production. This brief account will survey the conjunction of this letter, inspired by Raggatt's drunken vision, with the series of projects that form *A Clinic for the Exhausted*. To aid the audience in the movement between these associations I will touch upon what Paul Zumthor has posited as the provisional territory of *mouvance.* Zumthor situates his term within the tradition of troubadour poetry. The lyrics of troubadours' songs come down to us through multifarious translations by different scribes who collated their own transcriptions of lyrical works in song-books. In each case the scribe has prospected the lyrics of the troubadour

Fig. 2: Edmond and Corrigan, Building Eight, RMIT University, Melbourne

in such a way that they establish each version of the transcribed song, every resulting composition, as their own. It is only the impetus of contemporary scholarly examination which collects and collates known songs into groups based on each composition's digressions from or towards a constellation of possible variants, that a lone troubadour's voice can be attributed, by some degree of coherence, to any one collection of works. Zumthor stresses that *mouvance* displaces the intention of any scholar who would assign a particular individual lyrical identity to the production of a text produced well after the event of an identified troubadour's voice that it resembles. To recognize *mouvance* is to recognize the provisionality of the troubadour's own voice as that which displaces the authority of the original voice of a sole troubadour, allowing instead for a song to be transported and transformed through the varying intonations and alterations of a long lineage of troubadours. *Mouvance* exemplifies the drifting of the troubadour's voice as it is poised on the threshold of any number of translations, brought about by the work of incessant interpretation. Hence, while interpretation of the troubadours' oeuvre can be considered a scholarly activity, any interpretation cannot avoid the possibility of being overcome by the medieval voice of the troubadour, which eludes closure.[22]

This project contends that the formulation of *mouvance* as a design stratagem that could allow for multifarious modes of spatial expression to be brought into both forced and serendipitous contact toward the generation of new architectural tropes, which first promise and then elude a singular point of authorial origin, is advanced in the conception of the clinic. As Michel Foucault states: 'Before it became a corpus of knowledge, the clinic was a universal relationship of mankind with itself.'[23] Hence, *A Clinic for the Exhausted* claims the pre-individuating void of a *mouvance* that exhausts not just the varied voices of the troubadours, but the community as a whole. The Clinic derives a *mouvance* that in the very moment of its emergence seeks its dissolution in the image of its exhaustion. The 'exhausted', contends Gilles Deleuze, is not an image of tiredness, but an image that 'exhausts the whole of the possible.'[24] It is not a failure to reach one's potential. Exhaustion is a question of how the possible is exhausted; a radical sense of plentitude in the momentary state of living the very condition of being without, not just subjects or objects, but without all. Hence, the Clinic is pervaded by something like the troubadours' *mouvance*, which stretches it out to meet the edges of the possible, moves it along the horizon of the impossible, to claim an architecture in excess of any nameable condition, a creative voice that gathers *all* voices as its own.

Covertly, under the permanent guise of another's authority, this project ventures forward. The illicit implication of Corrigan's passing silhouette narrating the conditions by which Raggatt's associative powers gives way to the free play of the contraband bestowed in a letter back to Corrigan, the key testimonial as to the incarnational powers of Raggatt's convergence with the swell. Raggatt warns you from the outset that it is his inebriation that spills everywhere. But, let me pre-empt those who would understand Raggatt's moment of enthusiastic complicity with a liquid excess, or the humour that derives from it, as the result, quite literally of one too many drinks. No amount of liquor, however strong, would be, purely on its own, enough to push Building 8 from its foundations. It is as if he has excessively borrowed, or too frequently appropriated; his *incipit* an honest invitation to an exigent audience to join him, to partake of the same excess, to appropriate his aesthetic, his voice, his uneven gait, his gestures, with the same, if not similar conflicting sense accorded to a man impartial to the conviviality of an alcoholic beverage.[25]

Thus, what was initially an unattributable sleight of hand in *A Clinic for the Exhausted* is ordained by Raggatt's conspiratorial wink. The *Clinic* estab-

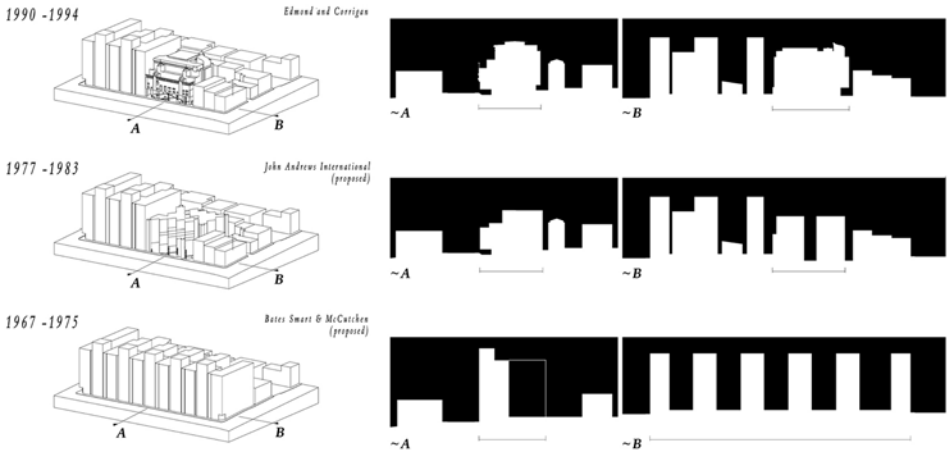


Fig. 3

Fig. 4

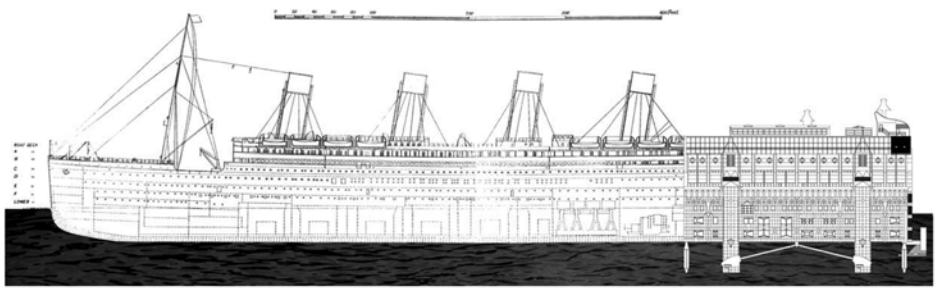


Fig. 5

Fig. 3: Michael Spooner, Building Eight genealogy, 2008.
Fig. 4: Letter, Howard Raggatt to Peter Corrigan, 22 December 1993
Fig. 5: Michael Spooner, Building Eight released from its concrete foundations, 2008.

lishes his letter as a sort of instruction and his vision as a sort of evidence of an intoxicating malady. That is, *A Clinic for the Exhausted* is not without reserve to any and all of the circumstantial evidence that might be traced across the dispersion of its images, but neither does it surrender its logic to Raggatt's letter or any other. At the same time, Raggatt's vision becomes but another subtle deceit sustaining the gestures of *A Clinic for the Exhausted* that place Building 8 and an ocean liner on the same page. In some sense, the impeding ocean is both the cause and result of the transfiguration of Raggatt's conceptual oedema; it is his liquid intake that exceeds him; it is his intoxication that keeps the narrative afloat and what spills out into the street, picking up Building 8 in his ensuing depiction of an ocean liner launch. It is Raggatt's letter that masks the considerable instability of his narrative vision, and his gestures. But, his letter is not a mirror *A Clinic for the Exhausted* can be held up to, nor from which can be drawn a referential correlation between boat and building that is materialized in his vision. The letter, as it is, gives the audience the satisfaction of knowing how Raggatt allowed himself to be deceived.

Ambiguous liaisons such as Building 8 and ocean liner constituted by Raggatt's letter, are in this project descriptive of not so much the carnivalesque body of the Medieval period regaled by the troubadours, but rather the appearance of a *corriganseque body;* a body wherein Building 8 and Raggatt cannot but be indulged a little further. We might think here of Raggatt's letter accompanied by the lewd gestures of Corrigan dressed in the garb of piety, briefly exalting not an abstinence, an architectural Asceticism, but the opposite, a claim to the over-indulgent, terrifically lusty, and perhaps profoundly accommodating of any and all excesses which may befall the architect Peter Corrigan. *A Clinic for the Exhausted* draws comparisons with the reported founding of 'a mock monastery of prostitutes, complete with abbes and liturgical song' by troubadour Guillaume IX at Niort, in Western France, 'a real place that also means "no where" according to a playful etymology (ni-ort)'.[26]

Mouvance permits this research to operate in an improvised manner with the purpose of acknowledging an architecture that is yet to come, the limitless void of such an approach implicating the realm of the *Clinic* and the surfeit, or excess that the proposition encounters: exhaustion. A life underscores the intention of this project; to sequester a particular way of existing in excess of any particular architecture or any particular person: a no-where that is particular to no-one. In trying to do so the research contends that the task of those who claim the specularity of the clinic, that is an audience from which no-one is exempt, lies in extending the life such a practice and its procedures harbour. In doing so it articulates the importance of making in the present as concomitant to the realization of architecture in excess of the question of architecture or an architect. Furthermore, this research outlines how those who have yet to come could realize a share in our contemporary condition – the *corriganesque* was in this way the means by which we could all end up on the street as giddy conspirators soliciting unfathomable acts through as yet undetermined means. *A Clinic for the Exhausted* is set out with the intention of not only enabling an answer that is not complete, that still remains difficult, but also of generating the 'how' which we could minister to such an outcome; how we all might go on into the night on unsteady legs, voyagers intent on realizing the infinite expanse of our floating world. Might then the 'how' of an architecture that cannot forsake a passage *between* ocean liner and Building 8 be foregrounded in the *mouvance* of a drowning man? The proximity of Raggatt's enduring drunkenness, that which permits Building 8 and ocean liner to enter a becoming, grasps every untoward movement of the drowning man's vital oedema, a movement from which no-one is exempt. [figs. 2-8]

Fig. 6

Fig. 7

Fig. 8

Fig. 6: Michael Spooner, The Swimming Pool Library, *A Clinic for the Exhausted*, 2009
Fig. 7: Michael Spooner, The Landscape Room, *A Clinic for the Exhausted*, 2010
Fig. 8: Michael Spooner, The Landscape Room, *A Clinic for the Exhausted*, Stereolithographic print, 2010.

Architecture and Horror: Analogical Explorations of Architectural Design

Sean Pickersgill

This PhD work resulted from the simple question of how to spatialize and represent horror. While there are a number of conventions for embedding the experience of horror within fictional environments as part of narrative conventions of cinema, the authentic engagement with this sense is more problematic when it encounters the still image or textual reproduction. It is even more complex when we consider what is the 'place' of horror, where is it enacted? Further, if we are to account for the way in which certain genre-conventions in visual media manage the *mise en scène* in which the un-'speakable' is shown, there is a clear sense in which these encounters are spatially managed. [fig. 9]

The relationship between the indexical experience of horror, the encounter with events that test the limit of ontological security and the preservation of the self have a complex genealogy. From the descriptions of the dehumanizing aspects of concentration camp experience to the presence of unidentified malevolent forces in narratives, the place of the event is, arguably, '(sus)stained' by its role as being the 'right there' where things occurred.

The project work for the PhD explored this relationship and proposed a series of environments that sought to make tangible the placed-ness of extreme events their objective. Often the actual event of horror was absent, leaving the designed work as a kind of functionless dividend of events. The work employed aspects of Derrida's ideas on the parergon from The Truth in Painting[27] in which his analysis of Kant's Critique of Judgment points to a mise en abyme at the centre of aesthetic experience. The PhD exegesis aligned this state with the encounter of horror.

Maelstrom

The project presented here concerns the exhibition and curatorial work done for the 2006 exhibition *Maelstrom: Gazes Into the Digital Abyss*.[28] The exhibition was co-curated with Greg More of RMIT University and exhibited work done by myself, Greg More and John Power, also of RMIT University. The shared interest of the three exhibitors or artists was in the creative use of game engines, the software employed to make computer games work within an apparent three-dimensional space, as a design environment. Having some experience in both the use of these spaces as locations for constructing environments to be explored and incorporating the environments into our respective teaching programmes, the exhibition sought to give form to a mode of practice that sequentially worked from the digital to the analogue.

The project involved the simultaneous screening of four game environments made by the exhibitors, three by Pickersgill (although only two were exhibited at any one time), one each by More and Power. These environments had been constructed to explore the qualities of digital media as a vehicle not just for an alternate or contemporary form of representation, but as a distinct aesthetic environment in itself. These environments could be interacted with by accessing controls in the gallery space, the user was then able to 'walk' through the environments and view them from a first-person point of view. Visitors were able to enter into the spaces, explore the breadth of the environments, triggering effects, interacting with sound and text-rich landscapes. In addition to the immersive game environments, there were exhibited, on a facing wall, a series of images. These were a series of small paintings by Power, three digital prints and a model by More, and three panoramic prints of digital environments by Pickersgill.

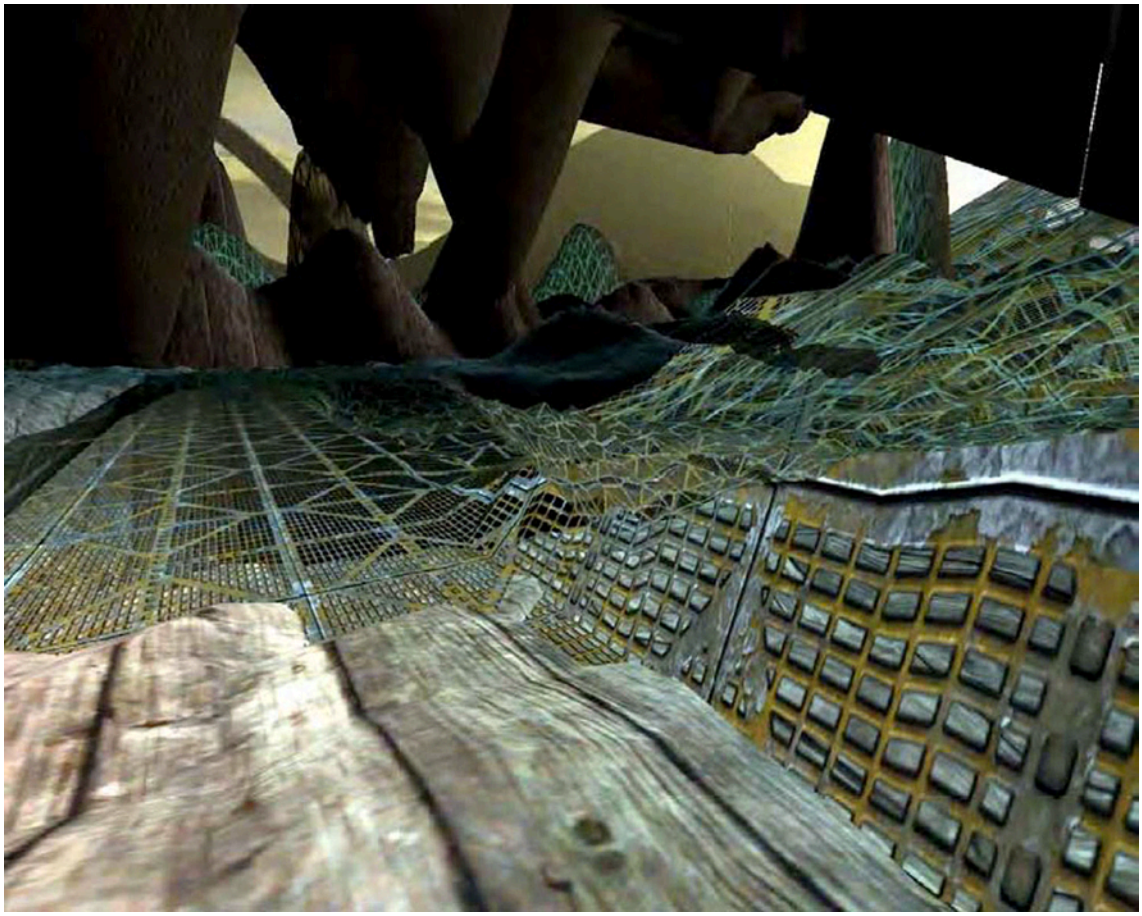


Fig. 9: Sean Pickersgill, Maelstrom: Gazes into the Digital Abyss, 2006

The text from which all three exhibitors were working was an extract from Edgar Allen Poe's short story, *A Descent into the Maelstrom*, describing a moment when the centripetal forces of the monumental whirlpool were holding the narrator, what remained of his boat and all manner of flotsam and jetsam in a stasis of apparently arrested motion.[29] The text was chosen because it described a physical effect in which apparent motionlessness and the threat of annihilation had come together. At this moment, the narrator looks down into the whirling void and sees the possibility of destruction within the nothingness of the maelstrom interior.

Mimetic Functions in Architectural Representation

In the quest for an increasingly vivid experience of the presence of architecture, digital means of representation have achieved significant successes. It is a matter of record that processes made available by the computational strengths of parametric modelling software and the use of dynamic animation have produced new models of the 'possible' in architecture. This mode of thinking remains enmeshed in the idea that modes of representation have the ultimate aim of being realized in a material form. Interestingly, there remains the opportunity to consider modes of digital realization as being sufficiently material within their mode of delivery, that is, as digital media. A more radical, but still robust, proposition might be that a mode of architecture that is principally delivered within the attenuated sensibilities of the digital might nevertheless be ontologically full in its apperception. It is tempting to think of the material of digital exploration as an imago of some ultimate realization in the real world, but that is to ignore the philosophical complexity of the digital and the fact that, courtesy of the territorializing processes of digital environments, the digital architectural model can exist *sui generis* in this location.

A parallel issue is the nature of the experience itself. Whether we consider the haptic content of augmented-reality (AR) and virtual-reality (VR) technology, pursued though the development of head-set, controller and other technology, or the optic issue of digital embodiment through forms of telepresence, the embodiment of the digital experience is considerably varied. For some, the nature of this question is pivotal as the search for seamless connectivity, whether by 'touching' the digital in some fashion or developing acute emotional sensitivity to the avatar, is paramount. Even the relationship between avatars, the philosophical question of sentience and sapience in digital actors, is crucial. In all of these instances the appetite for a 'full' kinaesthetic experience is intended to support a transition between normal bodily experience, a kind of empirical datum, and the incorporation of data sets that impart a spatialized experience.

Instead, it is important to concentrate on the relationship between the representation of architecture, the expectations of vividness that may emerge from this process and the opportunity to see unique thematic experiences in digital environments that may emerge and contest our understanding of the 'real', experiences that may be investigated and discussed independently of the debate concerning the digital body.

Game Engines

Game engines, as a form of code that traverses modelling, texturing, lighting and an animated scenographic view, rely on the workflow pipeline of 3D modelling applications such as 3DStudio Max, Maya, and so forth, but then place the content within first-person immersive environments. There are a number of questions that emerge from this process: How does this application differ, in architecture, from others in terms of its representative or mimetic role? How does it cater for issues of ontological vividness in comparison with AR and VR applications? How may the use of game-engine

software be of use for the creation of architecture as end location, a site, in itself?

In the material prepared for the *Maelstrom* exhibition, using the technology of first-person engines, the exhibitors explored the idea of what constitutes the presence of the self within the digital. Computer games consistently achieve levels of vividness that describe a position without precedent. And it was the intention of the *Maelstrom* project, and in the work created by me, to explore the degree to which this vividness could be conjoined to a sense of what might be termed a 'real' and ontologically rich encounter. In commercial games these spaces are influenced by narratological issues internal to specific tasks that are a part of a game, but in exploratory architectural work they are able to simultaneously act as a representation of a possible real and as a developed *mise en scène* of potential actions. They are both suffused with an aesthetic particular to the mechanics of the engine, how it delivers the idea of the 'real', and the potential to act within this space. It is this last condition, the relentless need to consider the environments as persistent and transitive, that indicates the genuinely novel potential for digital environments. Put simply, if one could inhabit Piranesi's *Carceri* or Tarkovsky's *Solaris*, how would one act? These alternatives are qualitatively different, and mark a shift between architectural representation as an obsessive development of the architectural process of form-making, versus the spatialization of experience within the montage logic of film.

Digital environments, gamespaces, have the capability to offer an experience of the real that has both the frisson of mimetic fidelity; they look and sound real, while also permitting a vast array of counterintuitive events that may question the unfolding of experience. In a manner similar to the structural opportunities of film, both diagetic elements and non-diagetic elements can occur. Beyond the debate of the interrelationship between form and effect, and the subtext of where the autonomous effects of design practice take place, the experientially full opportunity of the Unreal world is one place for future architecture.

Productive Leakages: Architecture in Abject(ion)

Zuzana Kovar

Abject(ion), a term popularized by Julia Kristeva, has drawn little attention beyond considerations of dust, sewage and architectural detritus in the discipline of architecture. The term has been considered as the negative counterpart to the clean and proper body, fundamentally lacking its own language and any consideration in its own right. My research departs from these literal readings of abject(ion) in relation to architecture in order to explore the potentialities of abject(ion) at a productive level in design practice research. From this perspective I draw on further philosophical work, that of Gilles Deleuze's concept of *event,* which moves us away from individual expelling human or spatial bodies to *assemblages,* and also Bernard Tschumi's equation *space + event = architecture*, which enables an understanding of abject(ion) as an *event* that constitutes architecture. It is at this point that abject(ion) manifests a series of potentialities, that it climaxes in excess and leads to an affective intensity.

My current project work concentrates on the notion of abject(ion) as event. Where event is 'an indeterminate set of unexpected outcomes. Revealing hidden potentialities or contradictions in a program.'[30] This work is informed by architectural practice, and takes the form of an architectural contract. Each contract is composed of a program and a drawing(s), typically a section, as sections can be perceived as violent cuts. They dissect space, allowing us to probe the interior. The sectional drawing cuts open the whole, it opens up the boundary between the interior and the exterior,

and hence activates the potential for something to escape. This potential for escape is exactly what we find in Kristeva's analysis of *Holbein's Dead Christ*, where Christ's 'hand protrudes slightly from the slab'[31] – it spills over the sectional cut. The methodology is thus directly architectural, the drawings are conventional yet expose the realm of the abject. A certain tension is set up between the clinical architectural drawing and the event that it describes. The aim here is to repurpose architectural methodology in order to contemplate abject(ion). [figs. 10-11]

What is critical to note is that abject(ion), through its volatile and leaky nature, inevitably comes to encompass more than one body. For the menstrual blood of a woman does not remain bound to her body but comes to invade adjacent bodies, whether human or spatial. As such, abject(ion) is a discussion of bodies in relation to assemblages. The contracts take the most violent of assemblages in order to attain an affective intensity – an expelling body in a decomposing space. Such juxtapositions or minoritarian architectures may be clearly seen in select filmic works of director Catherine Breillat and artist Matthew Barney, the paintings of Francis Bacon, and the novellas of Georges Bataille. Here the spaces are rotting, used and exhibit signs of degeneration at the same time as the human bodies within them are expelling themselves from the inside out. For it is precisely the moment where the event of the abjecting human body occurs concurrently with the abjecting body of space that a zone of indiscernibility is created and the assemblage of body and space becomes evident. Here something passes from one body to the other, 'something that is undecidable between them'.[32] This for Deleuze is a *becoming.* Bodies violate space and space violates bodies.[33] It is the isolation of one body, which for architecture is the expelling building, that short-circuits the potential of abject(ion), which only reveals the full power of its workings within a larger assemblage. The condition of the spaces within the architectural contracts I have proposed is thus highly specific. [figs. 12-13]

The project work draws heavily from the above exemplars, all of which work with fictional scenarios, and where fiction allows for a study of highly temporal events. Fiction, which has previously been fruitful for architecture (if we consider examples such as Archigram or Superstudio), has therefore become a way of exploring ideas about space and the event of abject(ion). Within the project work, each contract (but one) consists of a fictional event, the space however is actual, as an architect requires a physical site. This necessity of real space is likewise referred to by Tschumi in *The Manhattan Transcripts*: 'The architectural origin of each episode is found within a specific reality and not in an abstract geometrical figure.'[34] Each site is specifically chosen, documented and drafted. It then informs the abject event – this event is a potentiality of the space, it is one of a certain number of possible events. What the juxtaposition of a non-fictional space and a fictional event manifests, is an immediate and palpable threat to our bodily boundary, as it suggests that any number of real spaces have the capacity to support a violent act of abject(ion). Hence we may not only make a cup of tea in the kitchen but uncontrollably vomit on the floor, not only sleep upon our white bed sheets but menstruate on them, and not only walk across a public square but piss in it. This degree of fiction in the architectural contracts is productive, as it allows for the contemplation of transgressive scenarios that may not be planned and re-enacted in real life (without losing their effect), but that nevertheless have the possibility of occurring – of being provoked. Here architecture is pushed towards and over its limits, to the point that it is no longer architecture as we know it but an anticipation of an architecture to come.

What these contracts do not do is attempt to represent abject(ion). Rather they act as a medium that allows for its discussion. The actual process of abject(ion) resides in the physically enacted work.

the sewing room

"The Room: 1) A small room of odd proportions, no larger than a sleep-out or sunroom. Four large windows in the western wall - two operable, two fixed. The room must be on a western elevation, with the windows large enough for all the rays to penetrate through. 2) The room is hot. The dust pink paint is blistering. Before you even enter the room, turn the light on. Bring three different lamps in: a floor lamp with 2 adjustable heads, an old heat lamp and a small telescopic task lamp. These should be sat on the floor, all directed toward the workstation on the floor and turned on immediately. 3) Now place a table under the operable windows, hard against the wall and with it, bring a chair upholstered in vinyl. Open the two windows. 4) You will also need a sewing machine and sewing basket, place these on the table. First phase: 5) Your task, to sew one continuous curtain for the four windows. Layout the material on the floor, the room is precisely not big enough for this task, you will need to kneel on the material, mark it, hem it, pin it, then pull it under you and move onto the next section, mark it, hem it, pin it. The fabric is strenuously long. The light waves from the lamps and western sun overheat your body. You will have already started to sweat behind your knees and on the palms of your hands, rubbing it into the fabric as you work. And every so often you will brush against the pins you have put in place, as you are crawling on the fabric. Tiny perforations into your body. Your body oozing out of its skin onto the material - Now you go on to the second phase: 6) You sit on the vinyl chair, the sweat causing you to slide backwards and forwards, drape the material over your lap, so that it slowly starts to saturate with you - it extends to the floor, curled up like a massive shit. 7) You need to move the three lamps, two onto the table - direct them at your body, redirect the heads of the floor lamp. 8) Now add another light source, the sewing machine. 9) You start to sew. A stop and start motion. The material slides over your wet lap as it enters the machine. Sew along the length - stop - turn 90 degrees - sew - stop - run the machine forwards then backwards to finish the stitch - cut the thread. Next, leave a gap for the curtain hook, start again - sew - stop - turn 90 degrees - sew - stop - turn another 90 degrees - sew - stop - run the machine forwards then backwards. You repeat this motion from one end to the other. The machine running at full speed. 10) You sit in the one spot for the entire task, the material lapping up the oozing liquid as it slides past your body, through the machine and emerges a curtain at the other end. Soon there will be no excretions left to soak up. Stop and drink some water. There needs to be a constant input of liquid for there to be an output. Third phase: 11) Sliding on the vinyl chair, insert the curtain hooks into the holes. This will take awhile. 12) Now move the chair up to the window and begin hanging the curtain. Let your bodily excretions dry in place."

Fig. 10

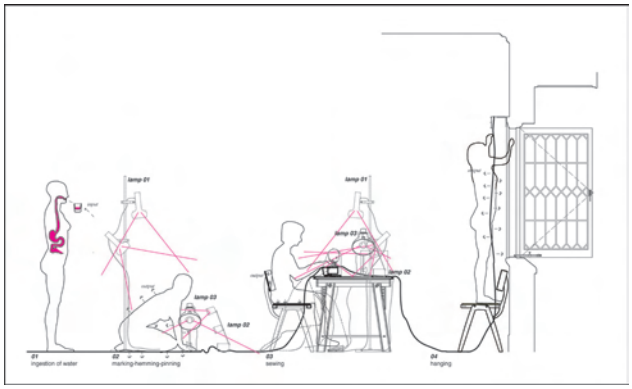


Fig. 11

the wall cavity

"The Room: 1) A simple white tiled bathroom within an expanded wall cavity. The bathroom is incredibly narrow, the width of a corridor. The fixtures are lined up, one next to the other, as if on a conveyor belt - the basin, the shower, the w.c.. The cavity remains intact - the existing skins of horse-hair plaster nailed into reused studwork and the opening to the roof void. Only the cross walls at either end, the new walls, created by the expansion of the cavity are tiled. Two new holes have been drilled into the pine floor; one for the w.c., the other for the sink waste. The gaps in and between the floorboards typically take care of the rest (make sure though to pull out the corks that fill the existing holes). Two bulbs light the room, one hanging above the w.c., the other, a batten holder within the roof cavity. 2) This is a space into which both you and the building expel your respective abjects. Use the bathroom. First Phase: 3) Grab the scissors from the third nogging on the right and stand infront of the small wall hung basin. Fully extend the tarnished accordion mirror so that it hangs over the basin. Comb your fringe straight. You begin to cut, from right to left, the hair collecting in the basin. Cut about an inch (a single motion with the scissors) - stop - comb your fringe straight - cut another inch - stop - comb again. You repeat this motion from one end to the other. Now cut into the hair. Run the comb through several times to make sure you haven't missed any part, the cut hair floating through the air and settling on horizontal surfaces. Turn the tap and wet your hand. Move your hand over the entire basin, the hair collects on top of the waste. Turn the tap off, you can clean the waste later. Second Phase: 4) Take off your clothes. Shake them out and lay them aside. Naked, walk into the middle of the cavity and turn the simple brass taps. The exposed plumbing gives a shudder and begins to jerk as the first spits of water come down. Pull the shower curtain around, the full semicircle. Carefully and thoroughly begin to scrub away your dead skin cells from the top down. Often, before the steam begins to rise, the banging of the pipes as they expand causes the dust from the cavity above to float to the floor. (You might have to wash some parts several times). Eventually, the steam rises until it expands horizontally into the roof cavity, every night settling on the accumulated dust and dampening it. The house begins to sweat. And somewhere, under the cupped floorboards down there, you can hear the water full of dust, dirt and dead skin cells soaking into the ground. Grab the towel from the white powdercoated rail. (Shake the towel out and use the reverse side). Dry yourself and re-hang the towel. Repeat tomorrow. Tomorrow, cut your nails on the toilet bowl."

Fig. 12

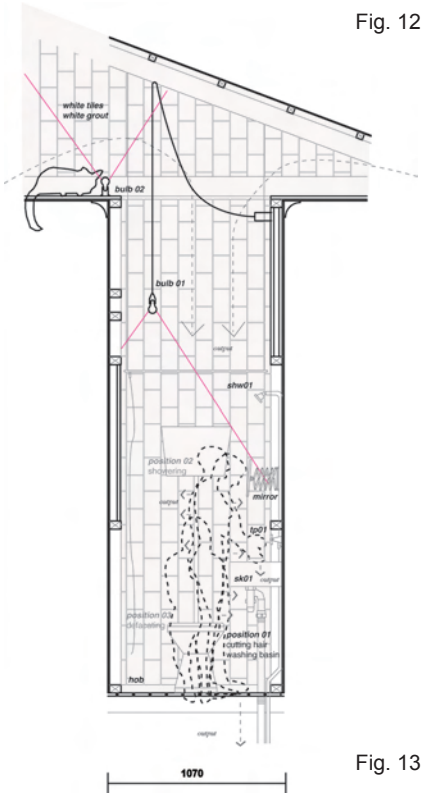


Fig. 13

Fig. 10: Zuzana Kovar, The Sewing Room (Instructions), 2011
Fig. 11: Zuzana Kovar, The Sewing Room Section One, 2011
Fig. 12: Zuzana Kovar, The Wall Cavity (Instructions), 2011
Fig. 13: Zuzana Kovar, The Wall Cavity, 2011

The drawings thus do not attempt to capture an event as in Tschumi's work. However, when read together in line with the programme, one is able to get a detailed description of not only the space but the event that is to occur. In this way, the contracts become instructional, with the possibility of realization, and find a foothold in both instructional art and the Deleuzean programme designed by a masochist for his or her master. The point of distinction that arises, however, is that if one was to realize any of the contracts, one would be engaging with a choreographed form of abject(ion) that significantly differs from an uncontrollable and unexpected event of abject(ion). It is only unplanned abject(ion) that has the capacity to lead to excess and result in affect. For this reason, the contracts remain unrealized, fictional and serve purely to contemplate the possibility of such events. It is only the final contract that presents a point of difference, in that both space and event are non-fictional and it is included here to illustrate the physical potential of such events.

Performative Hermeneutics

Ceri Hann

The research I am conducting is based on project work that seeks to develop techniques for the collaborative interpretation of the subtle architecture of social relations, rendering its influence perceivable through performative actions in architectural space. [fig. 14]

There are multiple aspects to the art practice that has shaped the current research, in order to establish a context I will briefly outline the most influential. An ongoing collaborative practice with Lynda Roberts, known as 'Public Assembly', has so far ventured from site-specific video and sound installations to investigations of relational aesthetics through the production of wearable artefacts in highly public places. We have enabled what we describe as ephemeral social architectures through the unscripted connectivity of people as they become aware of others also wearing our micro sculptures. The crafted object becomes the subject of conversation and the dialogical and performative process of producing these objects the genesis of a social construction that begins to design itself. Our favourite collaborative activity is wheeling the two vintage supermarket trolleys that we have converted into jewellery-making workstations down to the local trash and treasure market, finding objects to reconfigure, and striking up conversations with people who are drawn to what we are doing.

The affection I have for electronically generated sound has also led me to investigate an area that is popularly known as 'circuit bending', the basic principle of which is that through deconstructing and short-circuiting sound-producing kids' toys, it is possible to adapt the way they sound and claim a degree of control beyond their prescribed use. The method of 'hands-on' short-circuiting the electron flow affects an almost immediate feedback loop and provides a practical way of guiding an intuitive exploration of sound. By playing the 'mad scientist' role in delivering lectures I was able to approach the instruction of how this might be done in a form of didactic performance. Mixing mythological fictions with scientific fact has provided a way of drawing on the capacity of the imagination to actively construct a model of reality. The staging of performative lectures has been central to teaching what I know, but also a valuable process for learning more about what I teach. The key insight gleaned from the approach of 'doing as a way of thinking' has been the great potential of analogical models for explaining complex ideas; the learner literally completes the circuit in both a physical and psychological way.

Another strong precedent has been the development of group activities for the spontaneous comprehension of paradoxical ideas. My initial aspirations were to devise a suite of what might be described as experiential equivalents to zen koans

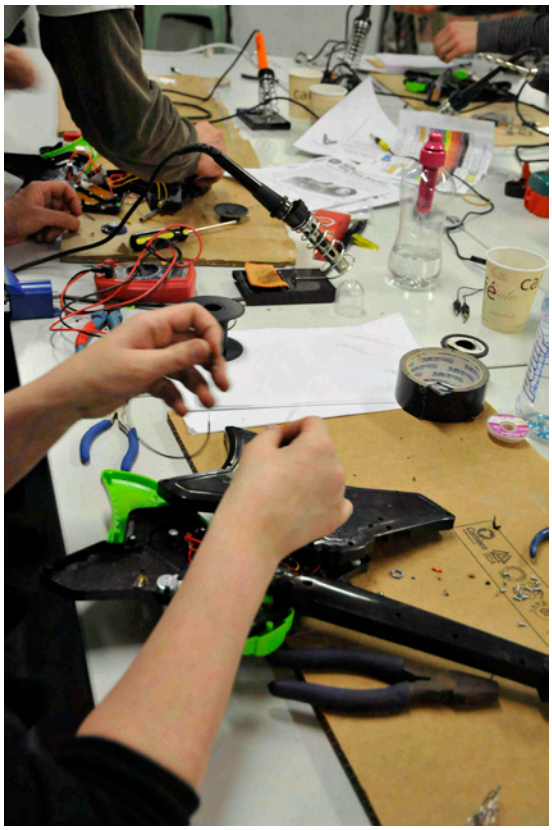


Fig. 14

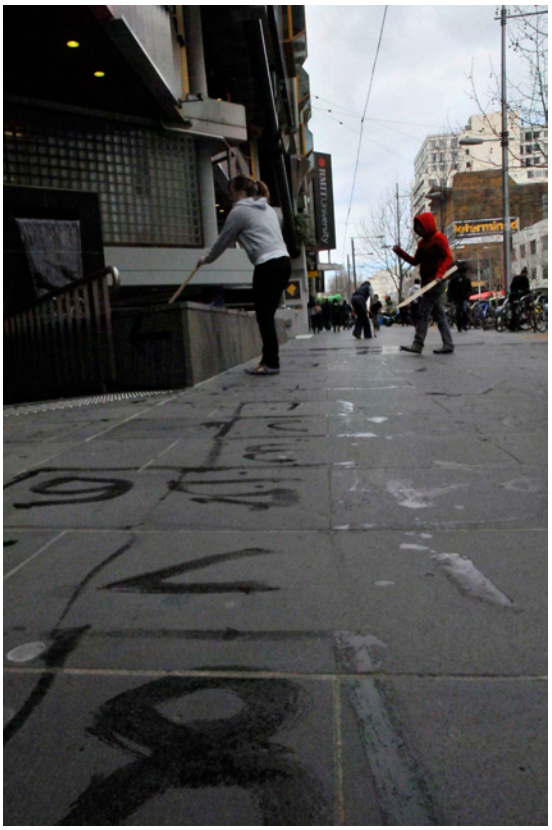


Fig. 15

Fig. 16

Fig. 14: Ceri Hann, Circuit Bending, 2011
Fig. 15: Ceri Hann, Watermark 2010
Fig. 16: Ceri Hann, Blank Check, 2012

intended to provoke a deeper reading of architectural, and more specifically public, space.

In an attempt to utilize the city as an expanded studio I have developed many group-orientated activities, these have enabled the enhancement of an awareness of public space and the relationship of people mediated through architectural space in preparation for making art in the public arena. Multiple iterations have been developed over time into specific learning activities intended to foster performative, collaborative and participatory actions in the constructed environment. With each successive activity I would seek to reduce the necessity for added material. The various sets of tools I have devised include large chalk compasses made from beach umbrellas, giant chalk pens using baby powder and a tea strainer, and water brushes each consisting of a simple stick with a sponge taped to the end, ready to be dipped into the nearest public fountain and used to mark up the city at 1:1 scale. It soon became apparent that the issuing of these tools and venturing into familiar space to perform an unfamiliar act was closely contouring the classic structure of a ritual. Removing a group from a stable social structure, flattening its hierarchy through a mutually agreed activity in unfamiliar territory, and returning with significantly greater awareness of the original structure were all findings that arose out of my practice. [fig. 15]

My current research project is housed in a thought experiment entitled ‘Knowledge Casino’. Upon the questionable field of risky subjects the architecture of our imagination is (re)built by word of mouth. It may be that to win insight from others it is a requirement that we first risk our sense of certainty about what we really know. This might be best achieved through the collaborative questioning of assumptions in a playful yet challenging way. I intend to structure this research around the use of chance-based gaming operations as an organizing principle for the sharing of knowledge. Rapid changes in the accessibility of information by electronic means calls into question the traditional processes of academic knowledge production and distribution. The title ‘Knowledge Casino’ is a name that I have applied to a group of works that use familiar gaming structures in an absurd and unfamiliar way to elicit spontaneous vocal formulations of tacit knowledge. I have used the term ‘counter knowledge’ as a way of simultaneously describing the gaming tokens and the semiotic loading already embodied in these counters as discrete objects. The game structures are intended to provoke a sense of partially stabilized uncertainty, a lattice across which complex ideas might be exchanged between participants by the use of metaphor. The use of metaphor enables makeshift semiotic assemblages to be used where knowledge systems have developed specialized language. Game play provides objects upon which the collective concentration of an audience can be entrained towards an alternative mode of comprehending abstract ideas. The game pieces, which might consist of small plastic toys and other such cultural artefacts, have an embodied meaning, which can be used to improvise conceptual inflection across the ebb and flow of rhythmic conversation. The game structure becomes an operational field of metaphor much like the tacitly understood structure of jazz where a mutually agreed theme defines a field in preparation for individually guided exploration of it. It is through the provision of many partial and deliberately unresolved patterns that the capacity of human imagination can be activated and expressed in a dialogical way.

The etymology of casino is derived from ‘casa’, meaning house; my aspiration is to house connections in the metaphorical tree of knowledge in the form of a social architecture based on the collaborative pursuit of mutual understanding and shared meaning. The use of fiction that inverts the orthodox and generally accepted interpretation of facts is one way of destabilizing the limiting influence of pre-conception. I intend to employ the aggrega-

tion of fiction into elaborate meta-narratives that closely parallel generally accepted scientific explanations of our world yet reveal logic paradoxes when analysed more closely. The function of these fictional webs is to draw on the intuitive desire of the human psyche to find resolution in patterns. I propose these gaming abstractions as dynamic inkblots for the collaborative questioning and refining of a consensus Gestalt. Is it possible that the human tendency to quest for pattern recognition is also the driver of innovative thinking and provides impetus to problem solving? Developing ways of accessing this tendency for the advancement of art and design creative processes is the key driver of this inquiry. This process bears similarities to the 'sand box' psychoanalytic technique developed by Carl Jung, which entails the physical movement of symbolic objects into different configurations within a defined space. The difference with the activities I am proposing is that the field be open to being simultaneously accessed by a larger number of people for the purpose of knowledge sharing. The use of randomly generated interaction procedures such as dice, shuffled cards or spinning wheels is intended to democratize participation. There are a number of antecedents that have shaped the development of this idea. My fascination with Marcel Duchamp and his influence on John Cage led to investigations of Zen and the philosophical parallels with deconstruction. Intrigued by the generative capacity of paranoid thought I have explored Dali's 'paranoid critical method', Rem Koolhaas's use of this method in writing Delirious New York, and I have subsequently traced the influence Jacques Lacan had on Dali's creative process. Ludwig Wittgenstein's theories of language and game structures are another significant influence on the development of this project. The Glass Bead Game by Hermann Hesse is possibly the closest description of what the 'Knowledge Casino' is aspiring to achieve. [fig. 16]

Is it possible that when life is considered a performance it reveals architecture as staging for an elaborate group repertoire scripted by mass media and articulated by the illusion of agency? How useful can questioning the limits of our individual autonomy be when so closely contoured by the risk of eclipsing the one's sense of self? Will the inter-subjective mappings of reality require a more dynamic system of revaluation to avert a personal implosion of the global knowledge economy? Perhaps the acceleration of data flow is not as dangerous to the human psyche as slowing down too quickly. The development of performative ways to render perceivable the limits of personal knowledge by using fiction as a temporary formwork for mapping the structure of collective knowledge is the process through which I am attempting to address such questions.

Semi-Living Architecture: Biological Possibility Meets the Architectural Imagination

Megg Evans

Semi-Living Architecture is concerned with exploring the application of biological techniques, knowledge and materials to the architectural arts. I am interested in challenging prevailing architectural acts that seek to defend against natural forces and instead turn attention to a world populated by architectures that grow, self-assemble, get sick, heal, die and may even reproduce. The work requires a novel approach to architectural research, one that involves both laboratory skills and a far-flung architectural imagination that can critically review its creations. In an effort to develop and grow semi-living architecture, care and caution must be taken for it is alive, or at least partly so.

Due to such an engagement, where the very material being manipulated for architectural use is living, many ethical, moral, social, cultural,

economic and even political concerns are raised. The creatures I create in the laboratory cannot survive the current architectural landscape; they're not conceived or designed for it. They need a different lifestyle sensibility, a shift in the way we think and interact with nature, and most importantly a new paradigm for thinking about architecture and design. Instead my semi-living architectures must exist, both for research and design purposes, within an altogether other world. This world is science fiction.

Science fiction is a written topography dealing with innovative, imaginary, but possible scenarios. Generally set in the future, science fiction considers alternative, scientifically plausible worlds where the technology, principles, social systems and abilities of its subjects are key elements in illustrating an alternative view or a critical response to the current predicament.

However, science fiction has also given birth to actual characters, products and scenarios. We may not have jet packs, ray guns or teleportation machines, but we do have 'video-phones', carbon nano-tubes, cyborgs and the atomic bomb. It is not unreasonable for the plausible to become real given time, and this is precisely where the power of science fiction has the ability to effect the present. It is also the safest place for the improbable to become possible. In this way science fiction becomes the crucible in which the research of semi-living architecture has room enough to grow and experiment and its progeny have a chance to leap from fiction into fact.

Part of the project is to distort time and space, fact and fiction, through manifesting proof of just such a leap. Science fiction is the 'literature of ideas' and is prone to developing its futurist worlds with the support of future histories. These are histories of the future, fictions in waiting, so to speak, employed as signs of proof for the science-fiction present. The projects I bring to life in the laboratory are the future histories of the science-fiction landscape my semi-living architectures seek to populate. They are the stepping-stones that help the reader or viewer cross the imaginative waters that separate fact from fiction.

The semi-living architectures I am investigating employ cell and tissue cultivation techniques to produce living skins to grow over pre-engineered self-defining and self-assembling structures. The cell type I am currently working with is found in the tentacle skin cells of the Australian upside-down jellyfish native to north-eastern waters. This jellyfish is one of the rare animals that enjoy a mutually beneficial symbiotic relationship at a cellular level; it has algae in its tentacle skin cells that produce carbohydrates upon which it feeds and oxygen as a by-product of photosynthesis. In return the jellyfish swims upside-down, effectively sitting on the bottom of the waterway to pump fresh water over the tentacles, to allow the algae access to sunlight and fresh nitrogen from the water.

The jellyfish has no brain; instead it uses a rudimentary nervous system to take in and respond to information about its environment. It has, as part of its normal skin cells, 'ocelli' which are light-sensitive cells that allow it to register light from dark. Since it cannot 'compute' the information its nervous system simply responds to ensure light is always kept away from its direction of travel, that is, to keep its tentacles directed towards the light.

These two cellular characteristics aid the imaginative possibility of an architectural skin that can grow, practice photosynthesis, regulate its position with regard to the sun, heal itself and produce both its own fuel and oxygen for its environment. The cellular genetics can also be engineered to express particular traits at different depths, ages, reproduction or metabolic rates. With the discovery of 'jumping genes', the architectural skin also has the

Fig. 17: Megg Evans, *Helix Tower*, 2011

ability to mutate, defend itself from possible biological attacks and, in response to stressors, create novel gene expressions of its own.

Other bio-architectural products of the future, for which I can cultivate proof-like examples now, include microbial-induced calcite precipitated sand structures, DNA chains that can lay themselves out to reveal the 'blueprint' of the structure they code for, and even structures biologically profiled from the bodies of their inhabitants. The architectural possibilities they offer are numerous.
Architecture has a responsibility to develop its imagination in response to burgeoning biological advancements and the biotechnologies currently under development. It has a history of challenging the future with visions beyond the present, asking for engineering beyond the understood, materials beyond the manufactured, and designs beyond the inhabitable or practical. Architecture has, as part of its canon, an imperative to extend its vision beyond the probable to the possible.

One of the key research outcomes that semi-living architecture offers up for consideration is the means to communicate the realism of fiction. In architecture such things as plans, models and renderings bring the reality of a design into focus. For biology, the test tube, petri dish, incubators, specimens and laboratory reports bring the potential of an experiment and its results closer to the real. Such things may be considered indexical, signs that are linked to their real occurrence or object. Indexicality is a kind of certificate of authenticity, a material trope that ushers belief through the double doors of doubt. For if things have their architectural or biological fragments and records preceding them, it is not hard to make a transhistorical leap to their reality. Just as painters in the fifteenth century produced impossible still lifes, paintings that defied nature, time and logic, so too can the bio-architectural communication and mediation strategies I'm developing disrupt, influence and persuade my audience to not only suspend disbelief, but go so far as to believe in the inevitability of semi-living architecture.

Jens Hauser calls this 'hyperskindexicality'. He understands the indexical role of the cipher to act as a skin between the signifier and the signified, connecting them through a material presence or representation of which prints, traces and fragments can stand as records of the real. For example the hyperskinindexicality of my *Helix Tower* [fig. 17] is the test-tube and the performance of a sterile and mediated environment for the semi-living architecture to 'live' in.

Semi-living architecture relies on a transdisciplinary platform from which to strategically realize this thesis. Architecture and biology meet in the land of science fiction and assume the identity of new media; new media that ethically, morally, socially, culturally and economically find a home in each other's company. The object of this thesis is to draw the architectural imagination and design thinking across the threshold of this skin and to tread carefully in a world where architecture doesn't defend humans from nature and the biological, but becomes a mediator and responsible educator of our symbiotic relationship with it.

Notes

1. Architecture+Philosophy began as a public lecture series in 2005, co-curated by Hélène Frichot and Esther Anatolitis, and developed into a postgraduate research stream in the School of Architecture and Design, RMIT University in 2009. Hélène Frichot has subsequently left RMIT University and now holds a position in Critical Studies of Architecture, in the School of Architecture and Built Environment, KTH, Stockholm, Sweden. See <http://architecture.testpattern.com.au> [accessed 1 November 2012].
2. With respect to a relation between fictocriticism and architecture, Rendell also touches briefly on this approach in her book Site-Writing. Jane Rendell, *Site-*

Writing: The Architecture of Art Criticism (London: I.B. Tauris, 2010), p. 16. The conference, *Writing Architecture*, the second of two similarly themed events convened by Naomi Stead, listed fictocriticism as an area of research engagement. *Writing Architecture: A Symposium on Innovations in the Textual and Visual Critique of Buildings*, Thursday 22 and Friday 23 July 2010, The State Library of Queensland and the Gallery of Modern Art Brisbane, Australia. See <http://naomistead.com/2010/03/10/call-for-papers-for-second-writing-architecture-conference/> [accessed 17 July 2012].

3. I would like to thank Jane Rendell for drawing my attention to this reference. Gavin Butt, 'Introduction: The Paradoxes of Criticism', Gavin Butt, ed., *After Criticism: New Responses to Art and Performance* (London: Blackwell, 2005), p. 6.
4. Anna Gibbs, Fictocriticism, Affect, Mimesis: Engendering Differences, unpaginated.
5. Brian Massumi, 'On Critique' in *Inflexions 4: Transversal Fields of Experience* (December 2010), pp. 337,8. <www.inflexions.org> [accessed 13 February 2011].
6. Michael Speaks has spoken ill of the relationships that were generated between architectural theory and literary theory, and thence the importation of 'watered down' philosophical contexts. Michael Speaks, 'Which Way Avant Garde', in *Assemblage*, no. 41 (April 2000), p. 78.
7. Muecke in particular argues that fictocriticism is a peculiarly Australian approach to the combination of fiction and non-fiction, including forms of creative non-fiction. He suggests that examples are frequently to be found in the Australian journal *Cultural Studies Review*, of which he is an editor. In her PhD thesis, undertaken at Murdoch University, Western Australia, Helen Flavell also argues, following Muecke, that fictocriticism is a specifically Australian term. She cites Scott Brooks who claims 'it's no secret FC [fictocriticism] was first employed in Australia in Stephen Muecke and Noel King's 1991 ABR essay-review'. Discussions and examples of fictocritical writing are also common in the Australian journal *Text*. See Anna Gibbs, 'Fictocriticism, Affect, Mimesis: Engendering Differences', University of Western Sydney, *TEXT*, vol 9, no. 1. <http://www.textjournal.com.au/april05/gibbs.htm> [accesssed 28 November 2011]; Stephen Muecke, 'The Fall: Ficto-Critical Writing, in Parallax, 8:4, 2002, pp. 108-16; Helen Flavell, *Writing-Between: Australian and Canadian Ficto-cricism*, PhD manuscript (Murdoch University, Western Australia, 2004), p. 4. See Scott Brook, 'Does anyone know what happened to 'fictocriticism'?: Toward a fractal genealogy of Australian fictorcriticism' in *UTS Review*, 8.2 (2002), pp. 104-18; See <http://www.textjournal.com.au/>.
8. Anna Gibbs, 'Fictocriticism, Affect, Mimesis: Engendering Differences', in *Text Journal* (April, 2005), <http://www.textjournal.com.au/april05/gibbs.htm>.
9. In *Architecture and Field/Work*, for instance, Jérémie Michael McGowan discusses the 'critical potential of fiction writing for architecture' when introducing an essay by Catharina Gabrielsson. He presents this in relation to ethnographic fiction and fieldwork fiction, both of which operate with the assumption of the embedded researcher who transforms her field at the same time as her field transforms her. See Jérémie Michael McGowan, 'Field/work Practice: Introduction', in Suzanne Ewing, Jérémie Michael McGowan, Chris Speed, Victoria Clare Bernie, eds, *Architecture and Field/Work* (London: Routledge, 2011), p. 9.
10. Anna Gibbs, 'Fictocriticism, Affect, Mimesis: Engendering Differences.' Unpaginated. See also the work of Katja Grillner, for instance, where the specificity of subject position (even in the transformative midst of becoming) and place are crucial. See Katja Grillner, 'A Performative Mode of Writing Place Out and About the Rosenlund Park, Stockholm, 2008-2010,' in Mona Livholts, ed., *Emergent Writing Methodologies in Feminist Studies* (London: Routledge, 2011).
11. Eric Alliez, *Signature of the World: What Is Deleuze and Guattari's Philosophy?* (New York: Continuum, 2004), p. 5.
12. Muecke also discusses the creative role that concepts take up in philosophy, as well as the role of the percept as it pertains to art. Furthermore, it is interesting to note that both Muecke and Gibbs make reference to

the philosophy of Deleuze, so demonstrating a strong connection between fictocritical practices and the methodologies of a creative philosophy as discussed by Deleuze and Guattari in *What Is Philosophy?*. See Mueke, 'The Fall: Fictocritical Writing', p. 108.

13. Gilles Deleuze, *The Logic of Sense* (New York: Columbia University Press, 1990), p. 60. See also Daniel W. Smith, 'Introduction: 'Apure Life of Immanence': in Deleuze's 'Critique et Clinique' Project,' in Gilles Deleuze, *Essays Critical and Clinical* (London: Verso, 1998), p. xxvii.
14. <http://www.aawp.org.au/what-can-fictocritical-writing-do-workshop> [accessed 1 November 2012].
15. <http://transdada3.blogspot.com/2006/06/fictocriticism-affect-mimesis.html> [accessed 1 November 2012].
16. Edmond and Corrigan worked in conjunction with Demaine Partnership, a Melbourne based practice founded in 1938. Peter Corrigan had gone through the University of Melbourne Architecture course with a director of Demaine, Dominic Kelly during the early 1960s.
17. This development is ongoing. Significant projects currently under construction include Building 80 by Lyons Architects due for completion in 2013 and the Design Hub by Sean Godsell Architects due for completion in 2012.
18. The School of Architecture and Design includes the disciplines of Architecture, Landscape Architecture, Fashion Design, Industrial Design and Interior Design. See: <http://www.rmit.edu.au/architecturedesign> and <http://www.architecture.rmit.edu.au/> [accessed 1 November 2012].
19. Leon van Schaik and Nigel Bertram, eds., *Building Eight: Edmond and Corrigan at RMIT*, 3 volumes (Melbourne: SchwarzTransition Monographs, 1996). The three volumes document the procurement and design development of Building 8, include specially commissioned essays examining Building 8, and collect the writings of both Maggie Edmond and Peter Corrigan. The fullest documentation of Edmond and Corrigan's contribution to architectural discourse can be found in: Conrad Hamann, *Cities of Hope: Australian Architecture and Design by Edmond and Corrigan*, *1962-92*, (Melbourne: Oxford University Press, 1993). A reissue and update of this important publication entitled, *Cities of Hope Revisited* and *Cities of Hope Rehearsed* is currently being prepared by Edmond and Corrigan.
20. Howard Raggatt, Ian McDougall and Stephen Ashton are the founding members of the Melbourne architecture practice of Ashton Raggatt McDougall. ARM came about in 1988 as the result of the various early partnerships between the respective directors. ARM has produced some of the most controversial public buildings in Australia, most notably Storey Hall at RMIT University in Melbourne, The National Museum of Australia in Canberra, and more recently, the Melbourne Recital Hall. Both Raggatt and McDougall completed their Masters of Architecture in the initial Masters by Invitation programme inaugurated by Professor Leon van Schaik at RMIT University to facilitate a critical review of work undertaken in practice. This was a major turning point in architectural education in Australia, and also directed an emerging stream of architectural practices to engage and prospect the causes of their respective practices. Both Raggatt and McDougall were instrumental in furthering the early architectural culture in Melbourne. Most notably, McDougall and Richard Munday founded the Australian architectural journal *Transition*, published from 1979 to 2000. *Transition* was named after the eleventh chapter of J.M. Freeland's *Architecture in Australia: A History*. As van Schaik tells us, the early editions of *Transition* were put together in a kitchen in St Kilda where both McDougall and Munday were 'forced to wash up in order to work on it, all the while taking phone call messages from Peter Corrigan [who featured on the editorial board] relayed as often as not by Norman Day, from some more salubrious spot. (The house in St Kilda belonged to Peter Corrigan's mother, a territorial fact which has given rise to debate about the genesis of 'Australia's Journal of Architectural Discourse').' While the role of Peter Corrigan's mother in the advent of *Transition* and the discourse on architecture in Australia from the mid-

1970s remains circumspect, there can be no less a conspiratorial plot for *A Clinic for the Exhausted* than that achieved by relaying McDougall in an interview: 'At least the first cover [of *Transition*] was also inspired by those of the medical journal *Lancet*.' Raggatt's thesis is published as: Howard Raggatt, 'NOTNESS: Operations and Strategies for the Fringe', in, *Fin de Siècle? and the Twenty-first Century*, ed. Leon van Schaik, (Melbourne: 38South Publications, 1993). McDougall's thesis is published as: Ian McDougall, 'The Autistic Ogler' in, *Transfiguring the Ordinary*, ed. Leon van Schaik (Melbourne: 38South Publications, 1995). For notes regarding *Transition* see, Leon van Schaik, 'Ten Years of Transition,' *Transition*, No. 29, (1989), pp. 29-33; Melinda Payne, 'Reading the Journal: Moments in the History of Transition', *Transition*, No. 59/60, (1998), pp. 6-27.

21. The letter is published in volume 2 of Schaik & Bertram, eds., *Building Eight: Edmond and Corrigan at RMIT*, pp. 10,11.
22. Paul Zumthor, Towards a Medieval Poetics, trans. Philip Bennett, (Minneapolis & Oxford, London: University of Minnesota Press, 1992). See also, Simon Gaunt, 'Orality and writing: the text of the troubadour poem', in, *The Troubadours: An Introduction*, eds. Simon Gaunt & Sarah Kay (Cambridge: Cambridge University Press, 1999); and Laura Kendrick, *The Game of Love: Troubadour Wordplay* (Berkley, Los Angeles & London: University of California Press, 1988).
23. Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*, trans. A.M. Sheridan Smith (London: Vintage Books, 1994), p. 55.
24. Deleuze, *Essays Critical and Clinical*, p. 152.
25. As Deborah N. Losse points out, Medieval writers found ways of outlining to the reader their relationship to authorial figures, and to their appropriation in the text. In the prologue to Gargantua & Patagruel, Rabelais makes clear that he addresses and dedicates his writing to his friends, 'Most noble boozers' parodying the traditional dedication to the lords of the land. Further into Gargantua & Patagruel, there is the suggestion that: 'Every honest boozer, every decent gouty gentlemen, everyone who is dry, may come to this barrel of mine, but need drink only if he wishes. If they wish, and the wine is to the taste of their worshipful worships, let them drink frankly, freely, boldly, and with stint or payment.' The author Guillaume Bouchet, in the prologue to his compilation of dinner conversations believed that there was enough in the title of the publication, Les Serées, 'to suggest why this book smells more of wine than of oil'. For an examination of the shift in authorship from Medieval to Renaissance texts see, Deborah N. Loose, *Sampling the Book: Renaissance Prologues and the French Conteurs* (Lewisburg: Bucknell University Press; London & Toronto: Associated University Presses, 1994), pp. 22, 65, 70.
26. Kendrick, *The Game of Love: Troubadour Wordplay*, pp. 15,16.
27. Jacques Derrida, *The Truth in Painting* (Chicago: University of Chicago Press, 1987).
28. *Maelstrom: Gazes Into the Digital Abyss*, Greg More, Sean Pickersgill, John Power, SASA Gallery, University of South Australia, July 2006. Curated by Greg More and Sean Pickersgill.
29. Edgar Allen Poe, 'A Descent into the Maelstrom', in *Complete Stories and Poems of Edgar Allen Poe* (London and New York: Doubleday, 1984).
28. Bernard Tschumi, *Event Cities 2* (Cambridge, MA: MIT Press, 2000), p. 13.
29. Julia Kristeva, *Black Sun: Depression and Melancholia* (New York: Columbia University Press, 1989), p. 110.
30. Gilles Deleuze and Félix Guattari, *What Is Philosophy?,* pp. 19,20.
31. Bernard Tschumi, *Architecture and Disjunction* (Cambridge, MA: MIT Press, 1996), p. 123.
32. Bernard Tschumi, *The Manhattan Transcripts* (London: Academy Editions, 1994), p. 8.

Biographies

Megg Evans, a Masters graduate of RMIT, is currently researching her PhD on Semi-Living Architecture in Melbourne and at SymbioticA in Perth. She has been an educator in design at RMIT University and Monash University, and has taken up projects and collaborations in both Australia and Europe. She has published in the areas of spatial poetics, the psychology of space, social theory and the responsibility of architecture to architecture.

Hélène Frichot is an Assistant Professor in Critical Studies of Architecture, School of Architecture, KTH. She is co-curator with Esther Anatolitis of the Architecture + Philosophy Public Lecture Series, which commenced in 2005 and developed into a research group in the School of Architecture and Design, RMIT University. She is an editor of *Deleuze and Architecture*, forthcoming with Edinburgh University Press.

Ceri Hann is a Melbourne based arts practitioner with a specific interest in the social conditions of public space. Ceri is based in RMIT"s Post Graduate Art in Public Space program and also lectures in Media Arts, Interior and Industrial design and has a collaborative practice with Lynda Roberts known as PublicAssembly.

Zuzana Kovar (B.Des, B.Arch Hons I) is a PhD candidate at RMIT University, Melbourne. She teaches architectural design and theory at the University of Queensland and The Queensland University of Technology. She is a co-director with her partner of a small architectural practice in Brisbane called concretePOP.

Sean Pickersgill teaches Advanced Architectural Theory, Contemporary Design Theory, Theories and History of Architecture and Theories of Modernity in the University of South Australia. Sean's PhD artefact and thesis focused on the interrelationship between aspects of German critical theory and the idea of renovation/redemption in architecture. Currently he is exploring the use and implications of game engines in the ontology of digital architecture.

Julieanna Preston is a spatial designer recognised internationally for her trans-disciplinary creative practice research on the politics of interior environments and material surfaces. Her research navigates between theoretical inquiry and material invention explored through sculptural objects, performative installations, visual images and scholarly-based publications. Her design-writing practice includes two edited books, *INTIMUS: Interior Design Theory Reader* (2006 with Mark Taylor) and *Interior Atmospheres* (2008).

Michael Spooner completed his PhD in the Program of Architecture at RMIT University in 2011, where he is now a lecturer with a focus on teaching design across the Masters and Undergraduate. In partnership with Peter Corrigan of the Melbourne architectural Practice Edmond and Corrigan, he exhibited "A City of Hope" at the 2010 Venice Biennale as part of the Australian Pavilion.

Science for Architecture: Designing Architectural Research in Post-War Sweden

Frida Rosenberg

Like many other post-war European countries, Sweden underwent a building boom from 1945 until the early 1970s. During this period, Sweden transformed from a small-town society to a large-scale consumption society. This transformation had a major effect on how the architecture profession evolved and how strategies for the built environment developed to satisfy the demands of society. What is interesting is how this affected the academic terrain. In particular, questions about how to design the built environment became an academic research subject. The question of how to resolve and fulfil the needs of urban expansion and an increasing building industry established as a major agenda within a state-supported structure, which put a focus on developing standards for the built environment.

The link between the Swedish state and urbanism was very strong at the time, which meant that careful research investigations laid an important foundation for large, state-supported investments. What is specific for Sweden as a neutral country is that this approach was implemented already during the war, projecting future development.[1] Herein lies a specific approach to urban structure, which was established early on as a convention in Sweden. It might be asked how this approach influenced the new model for architectural research. The simple answer is that design for the built environment was already part of a model based on a scientific approach where invested interest was primarily the domain of the building industry. This article examines the development of that process in relation to what came to be called 'architectural research' (*arkitekturforskning*), a term first used in the 1980s.[2] In particular, this article examines why, in relation to architecture, this model remained so strongly scientific despite the fact that architectural education in Sweden was strongly influenced by the Bauhaus pedagogy, including a 'learning-by-doing' approach. Adopting a scientific model for research with respect to designing the built environment was not inevitable. This approach was constructed through the strategic establishment and appointments of professorships in architecture schools in 1969. These professors had backgrounds in social and cultural state-supported research that rested on a sociological engineering approach in the tradition of the pioneering social planners Gunnar and Alva Myrdal. This produced a particular kind of research where expertise was produced according to a model relying on optimization and problem-solving. In what seems to be separated from the architectural education model, this kind of post-war architectural research only lasted for a short time and quickly became outdated. This study will explain why and how this happened. One can use a timeline to explain how developments in practice turned a so-called Bauhaus modernism into a medium for ideological politics rather than an objective for design, strengthening the rules of the norm rather than allowing for aesthetic freedom.

The discussion can be structured around three aspects that trace how tendencies in research related to architecture practice and its educational

environment. First, pedagogical influences, primarily represented by Walter Gropius, turned didactic in architectural practice. I will show how Bauhaus modernism influenced both architecture education and practice to create a background for how the profession was understood in terms of educating an architect. Second, reactions against functionalism as well as the rapidly developing need for institutional facilities prompted a structuralist approach to building designs. Herein lays a specific context in which the state supported building research in order to effectively and rapidly urbanize the country. This context is important to understand how research in architecture rested on pragmatism and an understanding that research involved a problem-solving activity for society at large. Third, Sweden creates an interesting case study with regards to architectural research and perhaps the architecture profession at large because of its specific kind of sociological engineering approach, which was humanist and technocratic at the same time. To illustrate how this sociological-positivistic trend in architectural research literally imploded, I will use the architecture building at KTH Royal Institute of Technology (KTH) from 1970 to show how this model for architectural research receded into the background as it was found to be hopelessly inadequate for its purpose.

There is a strong link between architectural education as it developed in Sweden during the early twentieth century and central European philosophies, particularly the modernist design ideas of the Bauhaus. In Sweden, the Bauhaus pedagogy influenced architectural education, which in turn affected practice. Architects developed a very sincere aesthetical preference – a modernism that was understood and applied in the Swedish context that was termed functionalism. As a style, functionalism actually prompted the development of structuralism in the Swedish architectural profession. After the years of high modernism launched by the Stockholm Exhibition of 1930, architects wanted to move away from aesthetic ideals as basis for design and become even more 'functional', that is, effective, rational and objective. The Bauhaus model affected practice, but this effect was modulated by a structural condition in Sweden: urbanization. Years of increasing and intensified urbanization precipitated a shift from functionalism to structuralism. Some of the major Swedish architecture practices during these years developed into large architecture and engineering offices that had a particular organization for which a structural approach to buildings became necessary. In the background, a state-supported structure that investigated fundamental building methods strengthened its position during the post-war period. In architecture, these kinds of investigations were primarily funded and carried out by the National Board of Public Building (KBS). Setting an example and serving as a model, the KBS influenced how the academic research field of design adopted similar methods and structures. However, the model for architectural research was based on a scientific model as a result of radically changed adoption of the Bauhaus model due to other important factors such as the Swedish analytical model for urbanization, a model that emphasized educating architects that could serve the needs of society.[3]

How education and practice affected architectural research in the post-war period is especially apparent in the work of two Swedish architects, Nils Ahrbom and Eskil Sundahl. In different ways these two architects link practice and architecture education. Understanding this link plays a significant role in understanding how architectural research as a second school of thought developed. Identified as such, it is set apart from the ethnological-art historical architectural research primarily showcased by Gregor Paulsson. Both architects illustrate architectural ideology as actively being part of functionalism in their early career and then develop the profession and its design process during later years in life. Nils Ahrbom and Helge Zimdahl combined teaching and

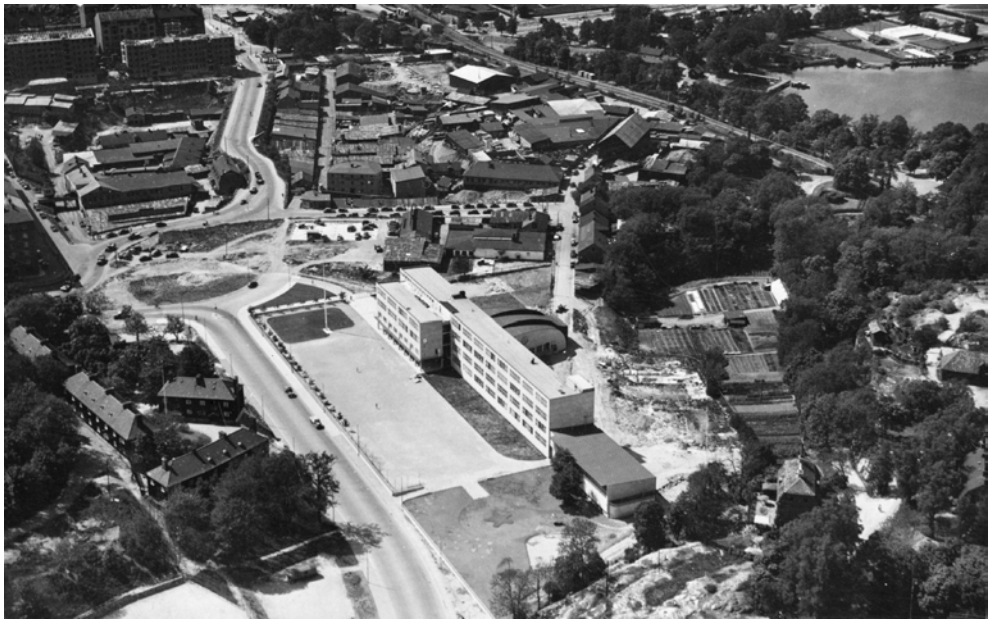


Fig. 1: *Sveaplans flickläroverk* designed by Nils Ahrbom and Helge Zimdal in 1936.(image credit: Arkitekturmuseet)

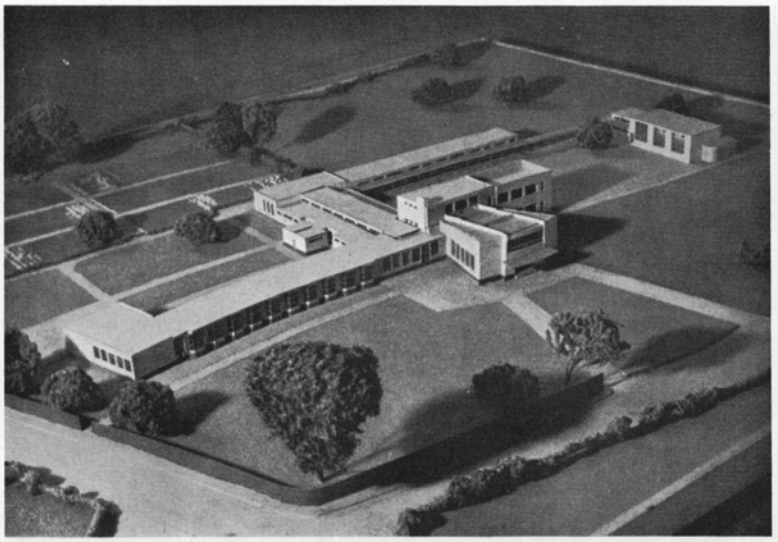
architectural practice, and show how the architectural field paradoxically developed a humanist albeit scientific model for the practice of architecture, a particularly Swedish approach.

Can the resulting praxis be humanistic? Yes, indeed. At its foundation, Swedish architecture had a human approach to design. After the Stockholm Exhibition, much of Swedish modernism did exactly this. For example, the arrangement of apartment buildings in a U-shape creating courtyards used as playgrounds in Vällingby; Alva Myrdal and Sven Markelius designed collective housing as an urban form of living; as well as the typology of *barnrikehus* – social housing for large lower-income families with small children, illustrate a humanist approach to design. In addition, what has been termed New Empiricism, which challenged purist modern aesthetics and turned to 'local materials and a homey aesthetics', was a more humanist and regional architecture than Swedish functionalism.[4] Swedish modernism, however, was designed according to a theoretical practice, theory with a social, ideological (humanist) basis for the architectural programme.[5] Many ideas that challenged modernism proclaimed to be even more humanist. As Swedish design and architecture turned modernism into an even more practical approach focused on pragmatic working methods, structuralism emerged as the dominant philosophical approach; however, as strange as it may sound, this new approach relied on a strong belief in user participation and scientific methods to develop a normative answer for a specific problem; that is, a humanist technocratic understanding of design.

Influences from Germany reached Sweden in the late 1920s. The significant architects at the time both in practice and in education were Nils Ahrbom and Helge Zimdal, his collaborator who later would become a professor at Chalmers Architecture School. Both of these influential people were deeply inspired by Walter Gropius. The Stuttgart exhibition in 1927 and the building exhibition in Berlin in 1931 brought with it a new vision for architecture, which Ahrbom termed 'the new ideology'. What he meant by this can be understood by looking at the *Sveaplans flicklläroverk* (a girls' grammar school), a project that Ahrbom and Zimdahl completed in 1936. *Sveaplans flicklläroverk* is an example of functionalist architecture influenced by Weimar modernism.[6] [figs.1,2] This white stucco building situated at the northern edge of Stockholm is almost a copy of Walter Gropius and Maxwell Fry's *Village College*. The architecture of the Swedish school had been developed via functional studies in order to determine the building plan. Movement patterns, light and acoustics had been studied 'with scientific distinction'[7] so that the programme would be environmentally satisfying. Functions were separated in different volumes so that the architecture reflected the internal organization. For example, the auditorium is an individual volume clearly distinguishable in the overall composition.

Widely seen as an example of Swedish high modernism, the school building is also a great example of how a normative design approach was based on science in order to satisfy the welfare state. How a scientific approach to design advanced may be understood by revealing some of the patterns in the Bauhaus pedagogy, which ultimately was a philosophy that penetrated all of Walter Gropius's practice. It is fairly well known that there existed a fluent transparency between his practice and teachings at the Bauhaus in Weimar and later Dessau. As today, interchange between studio projects and practice is perpetual.

Swedish architecture education was influenced by the Gropius Bauhaus legacy with on the one hand the 'learning by doing' approach and on the other the interest for measuring spatial relationships with the human body and objects people encounter. The latter methodology speaks of an understanding of height and volume as basic architectural training



178. *W. Gropius and Maxwell Fry. Village College, Impington*

179. *B. Taut. School, Berlin*

Fig. 2: *Village College* designed by Walter Gropius and Maxwell Fry. (image credit: Ludwig Hilberseimer, *Contemporary Architecture, its Roots and Trends* (Chicago: Paul Theobald & Company, 1964), p. 185.)

or the relationship between the body and an object (such as a coffee pot or a chair), a view that encourages ergonomic design.

More than the KTH architecture education, the education at Chalmers architecture school in Gothenburg remained artistic and explorative in the first year, along the lines of the *Vorkurs* at the early Bahuaus, which many of the later iconic teachers can be identified with, such as László Moholy-Nagy teaching *Gestaltungsstudien* and Josef Albers teaching *Werklehre*. The Gropius curriculum at the Bauhaus acknowledged craftsmen and apprentices instead of teachers and students: '[Gropius] envisaged two levels of education: the practical training of craftsmen as independent artists or architects . . . and impressing upon the student the spiritual mission they would carry out in the society to come.'[8] The most fundamental characteristic of the three-level course setup was the interaction between art and craft.[9]

Chalmers was headed by Helge Zimdahl, Ahrbom's former partner (they separated when Ahrbom was hired by KBS). Having visited most of the Ivy League schools, Zimdahl was heavily influenced by architecture education in the USA. He was also close friends with William Wurster, who had 'revamped' MIT's architecture education before developing UC Berkeley's College of Architecture in 1953.[10] [fig. 3]

At KTH, Professor Ahrbom believed that only a fraction of the student body would become competent architects as only a few have an eye for design. As such, creative training was isolated from teaching essential tools in the architecture education. Artistic training taught rules for how 'good design' was achieved and only 'the genius' was allowed outside these boundaries. Artistic was understood in romantic terms where a handful could ignore a reasonable sense. Despite this, some of the core courses were the same for engineers as for architecture students. Architects studied descriptive geometry, mathematics, statics and statistics.[11] Architecture education then seemingly had ties to the technical university stronger than those it has today. [fig. 4]

After Ahrbom, Eskil Sundahl was one of the most influential professors. Sundahl's artistic leadership represented the 1930s ideal that had been formulated in *Acceptera*: he had a rational approach to architecture where collaboration was valued more than the single achievement.[12] Sundahl remained influential in KTH's architecture education until the 1970s. Before becoming a professor, Sundahl was one of the chief architects at *Kooperativa förbundets arkitektkontor* (KF), an experience that may have influenced his predilection for collaboration.

At The Royal Technical University, architecture education at KTH produced a significant technocratic spirit that combined the attributes of humanistic and technical ideals. With scientific accuracy similar to the programmatic design for *Sveaplans flicklärоverk*, society at large carried out large-scale development investigations to understand how architecture could help address the needs of society. A structuralist approach to architecture permeated society at large and directly influenced architectural research methodologies. How this developed may be understood by examining large-scale governmental building projects such as the KTH Campus plan carried out by Nils Ahrbom.

During the war, Sweden prepared different areas of society to launch its most aggressive development in history. As mentioned, research laid an important foundation for large state supported investments. One of these investigations was the SOU 1943 on higher education. For the KTH campus, this resulted in 30 years of continuous expansion of departmental buildings beginning the same year. The SOU 1943 was implemented at the request of the Swedish trade industry, which demanded

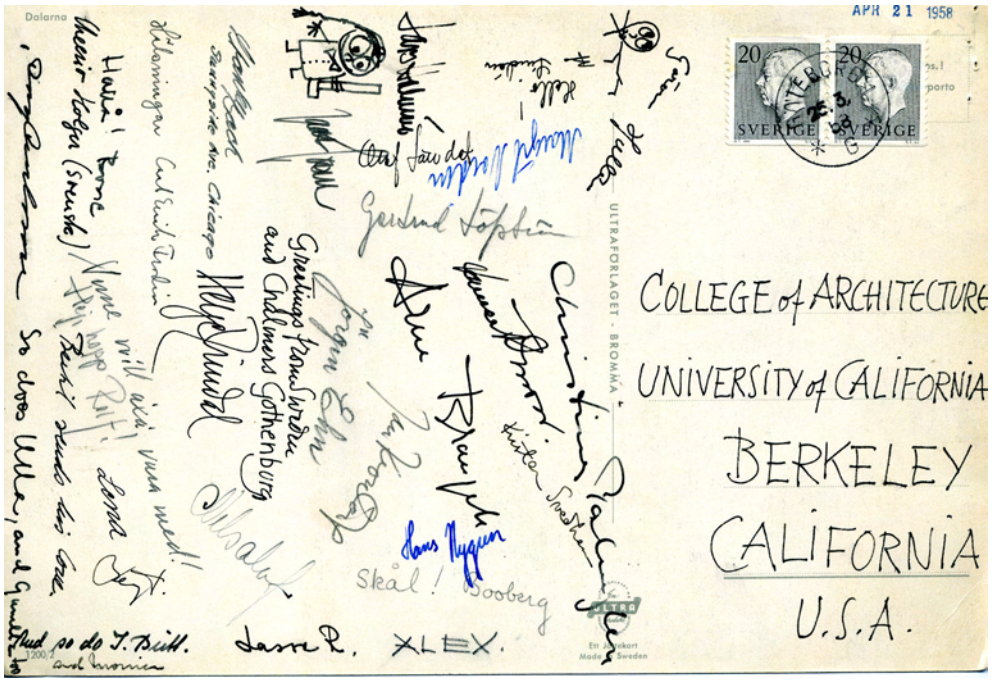


Fig. 3

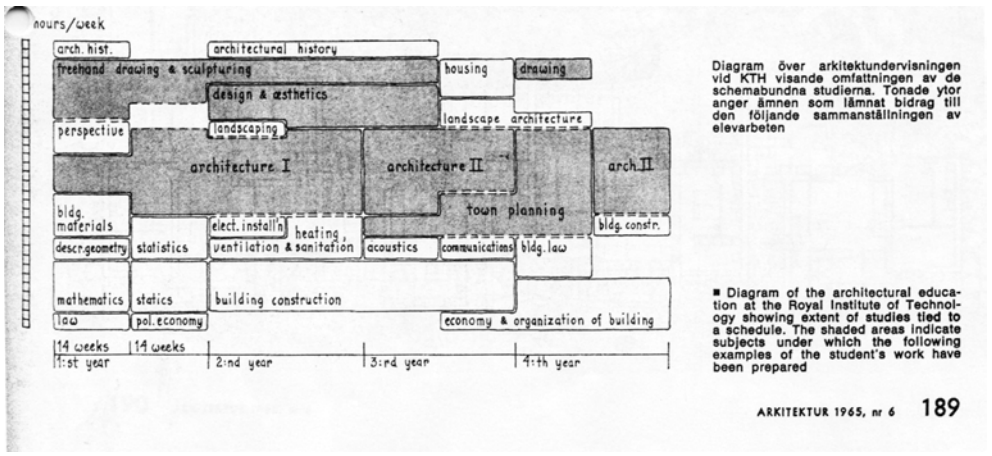


Fig. 4

Fig. 3: Postcard from Helge Zimdahl and Chalmers University to William Wurster and College of Environmental Design (image credit: Design Archives UC Berkeley)
Fig. 4: The Architecture school curriculum 1965. 'Arkitektutbildningen vid KTH', *Arkitektur* 6 (1965): p. 189.

a review of the technical education in order to increase the industry's influence. The investigation concluded that: 'The goal of all technical education is to provide the industry with skilled workers.' This identifies a higher education that, in Marxian terms, served mainly as fulfilling the purpose of the workforce machinery.

Nils Ahrbom, chief architect of the KTH Campus Building Committee, implemented the campus expansion plan according to the state's goals. He oversaw the project for two decades.[13] He had already been appointed Professor in Arkitektur II and it was within this subject that the architectural research in question would develop and be conducted.

The expansion project was reviewed under the National Board of Public Building (KBS) for which Ahrbom would later work directly while implementing his structural design ideas. Founded in 1918, KBS organized, designed and built facilities for state authorities. KBS also conducted research (published as reports) that were primarily scientific environmental studies supporting architectural and building strategies. By then, this approach was a typical way of thinking about design that merged into the university as well as being directly adopted by the figures who later became key people at the universities and who coordinated research for the built environment.

At this point, Sweden was in a state of high production of factories, apartment buildings and commercial buildings through organizations such as *Kooperativa förbundets arkitektkontor* (KF), which had a great influence on architectural practice. The KF was Sweden's cooperative movement's main architecture office contributing to developing the welfare state, and KF designed some of the highlights of Swedish functionalist architecture. As the largest architecture office in Scandinavia, KF also influenced many of the period's key architects who often worked in the organization for a few years.[14]

The path to structuralism began at KF as well as in other large architecture and engineering offices such as HSB (a cooperative association for housing) due to their specific organizations. KF, HSB and KBS not only designed buildings but also administered and managed the completed buildings.[15] After a number of years, buildings had to be rebuilt, restructured, extensions added, and so forth. Young architects grew aware that buildings would not last for long. As a result, architectural drawings were cleverly planned so that the building's programmatic organization as well as its construction made them more flexible and more easily dismantled. This led to an even more rational architectural approach: designing buildings that could be used for a variety of purposes.[16]

Historically, it has been held that structuralism in Sweden developed independently of any international, theoretical influences. Instead, planning with regards to social aspects such as the user and his/her immediate environment increased ecological awareness, and energy consumption constraints have been considered as the basis for structuralism. In some ways, this picture may be correct, as most of the architects and engineers that used structuralist methods lacked a theoretical grounding for their decisions. The user aspects resulted in programmatically planned variability, limited installations of technical equipment and adaptability in building technology. However, it seems unlikely that architects during the late 1960s would have been unaware of international tendencies. The exhibition *Arkitektur-Struktur* organized by KBS in 1968, which showcased Swedish public works over the last 50 years, formulated the new architectural view clearly distinguished as structuralism. Quite simply, this exhibition illustrates an informed view on a worldwide trend.

The Swedish rational approach to the practice of

architecture illustrates how the profession evolved and how documentation and empirical research became the foundation for political decision-making, which ultimately played a central role in how Swedish society urbanized. One familiar example of how this started is when the Swedish state set out an agenda for housing studies in 1942.[17] This empirical research, in observation and experiment, was at first primarily carried out to improve housing. Included in this kind of research were observations on movement in particular spaces, such as the kitchen environment, and the analysis of the actual work performed in these spaces. These kinds of studies, which started out as housing surveys, were sociological in nature and relied on the idea that recording human practice could establish standards for future designs.[18] [fig. 5]

In response to the increasingly large-scale building projects in Sweden, between 1957 and 1963 the student body in architecture increased from 144 to 288 students due to a parliamentary decision. This increase in enrolment resulted in a new architecture school within Lund Technical University, which was built in the 1960s. During the design process of the new architecture school a special committee was issued. Their task was charged to propose how the new architecture education should be organized. Three subjects were identified as necessary within the architecture education: Building Construction; Theoretical and Applied Aesthetics (which includes the language of architecture, creation of space, and the experience of form, material and atmosphere); and Building Function Analysis. These three 'scientific' and 'analytical' disciplines were given the same importance as construction and production. The new subjects centred on building use and aesthetical form. It was argued that empirical research could investigate user values and aesthetical form.[19] In 1964, the very first professorship in Building Function Analysis was held by Carin Boalt. She then also became the first female professor at a technical university.[20]

Carin Boalt's career started at KF. After two years at KF, where she mainly worked on nutrition issues, she moved to the National Institute of Public Health, which was an institute founded in 1944 in order to rationalize the working conditions for women in their home environment. At the institute, she continued to work on nutrition issues and one of the institute's accomplishments was identifying parameters for efficiently planned kitchens, which was mentioned earlier. Through detailed research and movement pattern studies of kitchens, the institute outlined measurements for countertop heights and organization of working stations in the kitchen. In 1957, Boalt became the head of the institute, which today is called the Consumer Agency, until she was appointed a professor in Building Function Analysis at Lund Technical University.

KTH instituted the same professorship in 1969. Most of the published research results in Building Function Analysis came out of Lund architecture school where a particular space called the full-scale laboratory was used for many of the empirical research studies that focused on people's interactions with the built environment. In an attempt to map Swedish research and its history within the architecture institution, this type of research has been characterized as follows:

This research may at large be regarded as a painstaking and tedious work of mapping 'normal science' in order to find out different user categories and particular design problems, or on the basis of methods such as full-scale experiments, video filming, etc. examining and propose design improvements in the home environment.[21] This research was phased out when the architecture profession came under the critical eye of the public as a result of the intense building period. In regards to establishing a scientific knowledge, this kind of research did not seem to have much more to offer. The methods were becoming more precise, but mimicking other scientific disciplines led nowhere.

The sociological and positivistic attitude in architectural research that was established during the 1950s and 1960s was foremost represented by Lennart Holm and Carin Boalt. Holm, who acted as an investigator and later the director of the Building Research Institute, was an entrepreneur and a leading figure in this field. He based his working methods on what he thought was a danger; that is, a typical architect has different values and uses other proportions than the individual for whom the environment is designed. In coming to terms with this issue, he searched for scientific knowledge and active individual participation in the design process.[22]

Two years after Lennart Holm presented his PhD thesis, *Familj och Bostad* (1955), at KTH, he started teaching in the subject Building Function Analysis and contributed to the education on issues regarding family and housing. Historian Eva Rudberg and others have noted that his studies resembled a typical sociological engineering approach in the tradition of the Myrdals' understanding that culture, architecture and buildings are interdependent of political decision-making.[23]

Holm's thesis includes surveys based on interviews of some 600 families. The idea was to evaluate the families' contentment with their home comfort. Holm also performed morphological evaluations from the users' perspective comparing apartments with views in different directions (thin lamella house) with apartments having views in only one direction (thick lamella house). The sociological methods used were largely modelled on American behavioural research. It is remarkable that Holm's dissertation is one of the first PhD degrees at KTH Architecture and led to a professorial appointment in Housing Design, a new subject.[24]

Holm had a significant role in developing the architecture curriculum during the 1960s; the investigation 'Building training at the technical universities' (*Byggnadsutbildningen vid de tekniska högskolorna*) - meaning the architecture education - interestingly illustrates how architecture education was understood at the time. In 1965, this investigation was the foundation for a parliamentary decision to institute the architecture curriculum A68. Holm's investigation primarily focused on increased cooperation between the Department for Road and Water, the Department for Land Surveying and the Department for Architecture. In addition, the new curriculum put a stronger focus on education on 'project management' by instituting new subjects and professorships that guaranteed a stronger knowledge in this field with respect to the architecture profession.[25]

The current architecture school building at KTH made use of the curriculum (A68) in terms of space, programme and plan. The building was designed by Professor Gunnar Henriksson (a prodigy of Ahrbom and close friend of Holm) and in use by 1970.[26] [fig. 6] It represents an inflection point in architecture education and serves as a guide that illustrates how scientific research was carried out, an approach that began in the mid-1940s. The new architecture building was programmatically divided into two volumes. One volume contained seminar rooms, offices, and studio environments. One volume is all facilities with specific requirements, such as auditoriums, ateliers and workshops, which were located around an inner courtyard connected to the entry level. Three new kinds of spaces were included for the laboratories dedicated to subject areas in line with the A68 objective to increase knowledge in project management: one laboratory for Building Function Analysis, one for Construction Design and one for testing Acoustics. In May 2011, a fire destroyed two out of three laboratories and today only the full-scale laboratory at Lund Technical University stands as a reminder of this moment in architecture education and research.

Fig. 5

Fig. 6

Fig. 5: Woman in respirator is doing the dishes. Study by *Hemmens forskningsinstitut* (image credit: Ateljé Hernried, Nordiska museet)
Fig. 6: Staircase of the architecture school at KTH designed by Gunnar Henriksson (image credit: KTH School of Architecture)

This new architecture building caused a massive revolt among the students less than a year after its completion. This was mostly related to the building's inhumane environment, but also the design in terms of facilities, spatial relationships and communication to and within the building. The building itself is brutalist in its expression, using raw materials and presenting itself as a grey, concrete mega block towards the street. Henriksson defended all of the criticism publicly in an article published in *Arkitektur* next to the students' critical review. One of professor Henriksson's most interesting rationales for the design of the facilities and the use of equipment and furnishings is found in a set of preliminary studies. These studies had been carried out as student projects in the full-scale laboratory in the Department for Building Function Analysis at Lund Technical University.[27] As a result of how KBS was organized and how state authorities wanted buildings to be designed and built, professor Henriksson was fully responsible for the programmatic description, project management and building construction. In addition, the investigation preceding the new curriculum (A68) was, as mentioned, singularly prepared by Henriksson's long-time friend Holm. All of these issues put the building's project process into question.

The architecture building at KTH showcased an implosion of how new ways of doing architectural research had been implemented, evolved and conducted. The building was programmatically strongly tied to the curriculum (A68). Appropriate laboratories had been designed and built to fill the needs of the A68 curriculum, but these laboratories were soon used for all sorts of purposes, not the least as an archive. The main reason for this change was that the A68 curriculum was implemented at a time when society was in a state of political change. Architects and their field were soon to be seriously questioned by the general public as a reaction against the large-scale urban projects accused of creating inhumane living conditions. In response, architecture culture revaluated its ambitions. The strong ideas for architecture education that were developed towards the end of the 1960s were outdated at the same time that they were programmatically implemented.

In later years, architectural research has been discussed in two different ways: developing an aesthetical objective and developing a scientific knowledge for the practice of architecture. The second school of research – a scientific environmentalism – was a continuation of the 1940s and 1950s empirical research, which was considered necessary. State authorities and university competence served as the inherited experts. Developing norms for building construction (kitchen design and housing, for example), these institutions presided over an educated knowledge that construction companies did not have nor could afford to host as research projects. However, when the building industry along with technological developments became more sophisticated, the industry itself began to develop standards and norms geared towards consumer culture. As consumer society was established, choice and preference became possible, an impossible scenario during previous decades.

Towards the end of the 1980s, design research at KTH and LTH had become outdated. The unfortunate sequence of events that made it questionable at the same time as it was carried out extensively was that finally the resources were made available for new research laboratories and new professorships. It was possible to conduct and increase this form of research and it ended up becoming repetitive and obsolete at the same time as it was instituted in full scale. This architectural research no longer contributed to new expertise; rather it became an experienced procedure.

Swedish post-war research in science was shaped by a state-supported research economy

within which the area of architecture was included because, in part, architecture education belonged to the technical university as well as Sweden's technocratic spirit that also inculcated the architecture profession, education and research. The American post-war research legacy in architecture has been re-examined on the basis of ideology, which rests on an 'enthusiastic pursuit of scientific research'.[28] Against this background, it is of interest to examine how Swedish architectural research shows a link with the same ideological basis. In addition, the history of architecture education has recently surfaced as an important scholarship.[29]

In Sweden, architectural research charted the positivistic trend in social science following the dominant position of positivism in philosophy. This research framework was extremely influential at Lund Technical University where a new architecture department was created in the 1960s. This new department and its research was concerned with home environments and public facilities using scientific methods to create normative standards. It was short-lived, culminating and phased out already in the 1980s as the result of heavy criticism from all levels in society towards the practice of architecture. Since 1942, the Swedish Committee for Building Research had been focused on issues related to industrialization and standardization. With the development of consumer culture, these issues became less relevant.

The intention of this essay is to illustrate how post-war architectural research developed out of circumstances in architectural practice, which in Sweden were directed by large-scale governmental building institutions as well as the increased construction of factories, apartment buildings and commercial buildings, the cogs of the welfare state. In addition, it is of interest to show that in the background of societal changes an argument took shape for a wider understanding of architecture as an environmental concern. Reyner Banham can be credited for writing the history of how this evolved, a history that included how technical aspects create atmosphere. In this respect, Sweden belongs to an international context. Although parallel developments in architectural research took place at other universities, such as UC Berkeley, Sweden is in most respects a unique case study, which is a result of its organizational structure.

Notes

1. Swedish research in science was shaped by the research economy. To prove this, recent scholarship has argued for financial support as an 'instrument of foreign policy' in terms of how research in science illustrates a link between the American military industrial complex and Sweden in the interest of both countries. See, for example, Carina Gråbacke and Jan Jörnmark's 'The Political Construction of the "Million Housing program"' in *Science for Welfare and Warfare: Technology and State Initiative in Cold War Sweden*, ed. by Per Lundin, Niklas Stenlås and Johan Gribbe. (Sagamore Beach: Watson Publishing International LLC, 2010), pp. 233-50.
2. In 1879, the first professorship in architecture was instituted. Beginning in 1912, according to the polytechnic development model, a number of subjects were cleaved from this original subject area. The new curriculum A68 instituted no less than eight new professorships in individual subject areas in 1969-1970. This direction in combination with a growing conception during the 1970s that the same organizational method used in technical research could be used in social and political research resulted in a revised agenda where research in subject areas under the headline of architecture were questioned towards the end of the same decade. Discussions on what the agenda for architectural research ought to be introduced the term 'architectural research' during the 1980s. See *Förslag till omorganisation av undervisning och forskning vid Sektionen för arkitektur vid tekniska högskolan i Stockholm – A68* (Stockholm: KTH, 1969); *Arkitektursektionens Forskningsprofil:FoU vid KTH/A – mål*

och medel/Sektionsnämnden (Stockholm: Sektionen för arkitektur, Tekn. högsk., 1981); Ulf Sandström, *Om den svenska arkitektur-, bostads- och stadsbyggnadsforskningens karaktär*, Arbetsrapport 2001.4.

3. Swedish architecture education is the responsibility of state supported universities. Parliament decides how many architects are needed and how they are educated.
4. Jill Perlman, *Inventing American Modernism: Joseph Hudnut, Walter Gropius and the Bauhaus Legacy at Harvard* (Charlottesville and London: University Virginia Press, 2007), p. 6. See also Sanford Andersson, 'The New Empiricism-Bay Region Axis: Kay Fisker and Postwar Debates on Functionalism, Regionalism and Monumentality', *Journal of Architecture Education*, vol. 50, 3, (February 1997), pp. 197-207.
5. Trying to capture the sequence of events in regards to the New Empiricism and the international discussion for a Swedish public, Eric Westerberg wrote in the Swedish architecture journal *Byggmästaren* that there is a sense that these buildings are designed for people rather than designed according to a theoretical practice. Eric Westerberg, 'Tre begrepp. (The New Empiricism. The Bay Region Style. Monumentalitet)', *Byggmästaren*, 24, (1948), pp. 429-35.
6. Nils Ahrbom references *Sveaplans flickläroverk* as an example of buildings in the functionalist style. See Nils Ahrbom, *Arkitektur och Samhälle, funderingar over 50 års svensk arkitektur* (Stockholm: Arkitektur, 1983), p. 41. See also Ludwig Hilberseimer, *Contemporary Architecture*, *Its Roots and Trends* (Chicago: Paul Theobald & Company, 1964), p. 185. (Photograph of Village College, Impington by Walter Gropius and Maxwell Fry, which looks like a model for *Sveaplans Flickläroverk*.)
7. Eva Rudberg, *Sveaplan: en skola i tidens funktionalism* (Stockholm: Apokromat, cop. 1997), p. 7.
8. Marty Bax, *Bauhaus Lecture Notes: 1930-33* (Amsterdam: Architectura & Natura, 1991), pp. 30,1.
9. The three-level course was set up as follows: I – a course for apprentices; II – a course for craftsmen; III – a course for young masters (a building course that also taught architecture).
10. At the time, the transatlantic influences in architecture education, which travelled from the east coast to Berkeley, were established by William Wurster's desire to develop an interdisciplinary curriculum that also encouraged research. After establishing the College of Environmental Design, a second major change was the development of a comprehensive research policy. Ezra Ehrenkrantz, who came from the Department of Building Science at Princeton, formed a committee to set up a research programme. In 1970, the Building Science programme was established at UC Berkeley to promote research. As in Sweden, this development illustrates a desire for scientific research with the intention to broaden the architectural profession. 'Architecture on the (cutting) Edge', Roger Montgomery with Peter Montgomery, in *Design on the Edge: A Century of Teaching Architecture at the University of California, Berkeley, 1903-2003,* (University of California, Berkeley, College of Environmental Design, 2009), 108-111.
11. See diagram of the architecture education at KTH in 'Arkitektutbildningen vid KTH', *Arkitektur* 6 (1965), p. 189.
12. Brunnström, *Det Svenska Folkhemsbygget,* p. 51.
13. This state-appointed committee lasted for 30 years and was the longest lasting committee of those appointed. This type of political management is no longer in use and was particular for this period in Sweden.
14. During the 1950s, KF had 81-152 employees. See Lisa Brunnström, *Det Svenska Folkhemsbygget: Om Kooperativa Förbundets arkitektkontor* (Stockholm: Arkitektur, 2004), p. 68.
15. The KBS as well as KF may have been one of the world's largest real estate owners at the time. Today, *Akademiska hus,* owner of all of the Swedish university buildings, claims they are the world's largest real estate owner in terms of university buildings.
16. *Arkitektur i förändring: A4, ELLT, Coordinator 1954-91*, ed. by Claes Caldenby (Stockholm: Svensk byggtjänst, 2000); Lisa Brunnström, *Det Svenska Folkhemsbygget: Om Kooperativa Förbundets arkitektkontor* (Stockholm: Arkitektur, 2004) and

Anders Bergström, Lars Marcus and Daniel Koch, *KI arkitektur och kunskapsmiljö: tävlingen, etableringen, förnyelsen* (Stockholm: Akademiska Hus, 2010).

17. In 1942, the state initiated Statens committee för byggnadsforskning, BFR and SIB. See *Byggnadsforskningen – en översyn och utvärdering. Slutrapport från Byggforskningsutredningen*, Ds Bo 1989:2.
18. The very first studies analysing people in relation to their home environment were made by KF architecture office in 1938. Brita Åkerman conducted a family study on behalf of *Hemkommittén* in 1941.
19. 'Arkitektutbildningen i Lund,' *Arkitektur* 2 (1962): pp. 29-31.
20. Ulf Sandström, *Arkitektur och Social Ingengörskonst, Studier i svensk arkitektur- och bostadsforskning* (Linköping: TEMA, 1989), p. 156.
21. Sandström, *Arkitektur och Social Ingengörskonst*, p. 156.
22. Sandström, *Arkitektur och Social Ingengörskonst*, pp. 136,37.
23. Sandström, *Arkitektur och Social Ingengörskonst*, p. 137.
24. Holm's thesis is the 7th doctoral thesis and the majority of these today would be distinguished as theses in the field of engineering.
25. *Förslag till omorganisation av undervisning och forskning vid Sektionen för arkitektur vid tekniska högskolan i Stockholm – A68*. pp. 1-6.
26. Plan, section, and layout as well as a description of the new building by Professor Gunnar Henriksson (1919-2006) were first published in *Arkitektur 3*, 1969. The school functioned as a department by January 1970, yet the building was not completed and fully used until May 1970.
27. During one semester, a variety of student projects testing the facility, equipment and furnishing designs were carried out at the school of architecture at Lund University. Gunnar Henriksson, 'KTH, nya A-huset,' *Arkitektur* 9 (1971), p. 13.
28. Abigail Sachs, 'The Postwar legacy of Architectural Research', *Journal of Architecture Education*, vol. 62, 3, (September 2009), pp. 53-64.
29. See *Architecture school: Three Centuries of Educating Architects in North America*, ed. by Joan Ockman (Cambridge, MA: MIT Press, 2012).

Biography

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John Hejduk's Pursuit of an Architectural Ethos

Martin Søberg

Within the past decade the visual arts have witnessed an increase in the production of artistic research. This is a type of practice-driven research that, based on creative investigation and the production of artistic work combined with processes of reflection and documentation, arguably results in the creation of new insights, recognitions, if not to say genuine knowledge.[1] Generally speaking, artistic research differs methodologically from traditional scientific research as it relies primarily on the imagination and aesthetic impetus of the artist rather than on concepts, logical thinking and transparent argumentation. In architecture this tendency has been less prominent. While much has been done to conceptualize, map and theorize the targets, history and assessment of artistic research in visual arts, similar work is still somehow absent when it comes to architecture. This prompts us to ask how we would conceptualize and assess a type of artistic architectural research that would differ from scientific architectural research since based on the development of architectural proposals, projects and prototypes such as new aesthetic models and followed by interpretation and a type of theorization specifically linked to these design practices?

Indeed, there is a recent history of investigatory, imaginary architecture that flourished particularly in the 1970s and 1980s. This includes projects that explored the specific media and language of architecture, its programmes and semantics, combined with a sense of poetic imagination that pointed to questions regarding the relationship between architecture and the world that surrounds it. The latter in particular indicates a certain depth within such projects, a desire for transgressing questions of formalism and mere aesthetics while coming to terms with fundamental principles and purposes of architecture. These objectives may be described as a pursuit of an architectural *ethos* that investigates what is architecturally proper and meaningful in a contemporary context, including architecture's symbolic potentials – and as such addresses normative questions.[2] My hypothesis is that such questions concerning the media, language, programmes, semantics, and ethos of architecture would also be relevant to a field of artistic architectural research today and that knowing more about previous projects that explored these questions, obvious differences apart, could help us to conduct artistic architectural research in a more focused manner.

Assessing investigatory, imaginary work in a historical context would include examination of its aims and methodologies, even if such work might not have been considered research proper by its authors. In this text I focus on a number of projects by American architect John Hejduk (1929-2000) – work that exists only on paper, in drawings, collages, only occasionally as scale models – as examples of a practice that spans from investigations into the specific media and language of architecture to the creation of complex schemes that even included the invention of human characters to inhabit and fulfil the purpose of each individual architectural structure.

During the late 1960s and early 1970s, Hejduk explored different spatial problems and what we might term the formal language of architecture through his imaginary work. To some extent this paralleled a structuralist tendency within the humanities, founded on theories stemming from linguistics and semiotics, and correlated as well to studies of basic spatial and geometric elements and structures in visual art, particularly in Minimal Art. Hejduk's focus on the media and language of architecture was nevertheless not an end in itself but was continuously – and particularly in his later work from the middle of the 1970s onwards – linked to a notion of imagination implying that architecture could not be reduced to formal exercises but would always entail aspects of narrative, of action, of symbolic meaning. Somewhat contrary to Peter Eisenman's idea of an autonomous exploration of pure form, to Hejduk formal gestures and manipulation such as repetition, appropriation, fragmentation and layering were therefore, as we shall see, never separable from semantic content. As such, his objective increasingly mirrored that of contemporary poststructuralist thinkers such as Roland Barthes, Gilles Deleuze and Jacques Derrida as they attempted to conceptualize topological conditions in which structure and formal language were contrasted and complemented by the decomposition of meaning and the play of signification.

To these poststructuralist thinkers, as to Hejduk, this would entail a critique of the dichotomy between form and meaning as they pointed to more complex relationships between the syntactic and semantic aspects of aesthetic production. In architectural culture, a similar critique was presented during the 1970s, particularly of the dichotomy between form and function as upheld by the modern movement. Thus Peter Eisenman in an editorial in the journal *Oppositions* in 1976 questioned the operations of functionalism and neo-functionalism and its inherent humanism whilst arguing for the advent of postfunctionalism, stating that 'the primary theoretical justification given to formal arrangements was a moral imperative that is not longer operative within contemporary experience'.[3] Eisenman then described a new dialectic consisting of two tendencies that together would constitute the basis of an architecture focused on the development and representation of form itself: one tendency presuming form to be the result of a reductionist transformation of geometric solids – the other relying on decomposition and fragmentation as a fundamental condition.[4]

Following Eisenman's description of this dialectic, Hejduk could to some degree be seen as a protagonist of a postfunctionalist agenda. Yet Eisenman's implied focus on form per se, as well as his critique of a functionalist ethos, seems to neglect the possibility of a different kind of architectural ethos – one that would rely on the decomposition of form while still insisting on the possibilities of the programme, of meaning, the communicability and symbolic potentials of architecture, even suggesting that formal decomposition could be instituted through programme and vice versa. To Hejduk, pursuing such an ethos was a challenge that led him to the question of how to generate architectural character(s) as based on the imagination of the architect, understood as the possibilities of making proposals with no regards to specific realities.[5] As such, the notion of character allowed him to overcome the functionalism of the Modern Movement while retaining to some degree its formal language. Furthermore, this emphasized the possibilities of architectural signification on a symbolic, expressive level, thus pointing in the direction of a new architectural ethos in which form and programme amalgamate. As he stated: 'I cannot do a building without building a new repertoire of characters of stories of language and it's all parallel. It's not just building per se. It's building worlds.'[6] Thus the creation of characters may not only relate to the creation of architectural representations and appearances, but simultaneously to the creation of programmes

and the combination of forms and programmes into syntheses for which Hejduk applied the term *worlds*.

The notion of character was introduced to architectural lingo during the eighteenth century – initially with reference to the use of the same notion in rhetoric – referring to the meaning and readability of a building and the appropriateness of its visual expression in relation to its functional purposes. But increasingly, particularly during the nineteenth century, it came to be identified with formal expression, with the notion of style. Hejduk and Colin Rowe touched upon the term in their studies of the American town Lockhart, published in 1957.[7] However, Rowe had already dealt with character in his essay *Character and Composition* written in 1953-1954, but not published until 1974.[8] In this essay, Rowe analysed the historical importance of the notion of character, particularly in an Anglo-American setting, as a hard-to-define term that does, nonetheless, imply symbolic content and a fusion of individual artistic expression and the expression of the purpose of a building. Though Rowe argued that this term had lost importance along with the increasing success of modernist architecture, he concluded his essay by identifying an idea of characteristic expression, described as 'emphasizing the particular, the personal, and the curious'.[9] Accordingly, rather than understanding Hejduk's architecture and its characters purely with regards to the symbolic, figurative aspects of architecture, a deeper aspect may be associated, which makes it appropriate to speak of the notion of ethos. In rhetoric, ethos is usually translated into English as *character*; however, this should not lead us to understand the notion of character in architectural discourse as equivalent to an architectural ethos per se. For, as Dalibor Vesely has argued, we might distinguish between character as related extensively to the creation of a formal aesthetic appearance, legibility, the surface of an edifice – and what he describes as ethos, 'the depth of architectural reality'.[10] As I argue, it is exactly this depth that Hejduk strived for, desired, that situation of inexhaustible layers of meaning and purposeful purposelessness unfolding in an interplay between form and programme as described by the imagination of the architect.

Building Character

The notion of character became increasingly important to Hejduk during the middle of the 1970s, a period in which he exhibited three projects in Italy, all of them, in very different ways, relating to the city of Venice. Until then Hejduk had to a large extent created work situated in undefined contexts but having to relate to the historical surroundings of Venice, the investigatory method of repetition and re-appropriation and thereby questioning of pre-existing elements, some even designed by Hejduk himself, became a still more important aspect of his work. Deleuze has pointed to the singularity of such repetition – that in a sense, Monet's first water lily comprised all the following.[11] Thus Hejduk destabilized asserted configurations and meaning through repetition, not in order to dissolve the features and significance of each project, but in order to show that even what we consider to be stable has the ability to change.

From the mid-1970s onwards Hejduk worked on several projects under the title *Silent Witnesses*, developed in various media and demonstrating an interrelationship between images, texts and models. *Silent Witnesses*, exhibited in Venice in 1976, is a project consisting of five parts, each meant to convey a '30 year generation' or 'an attempt to compress one hundred and twenty years into five distinct models; yet, they are all part of one single model, as if time zoomed back into space. The model is a representation of the abstract concepts of time and thought.'[12] Hejduk applied the architectural model to demonstrate an interpretation of specific periods of time, from 1878 until post-1998, each model paired with the name of an author who was meant to epitomize that specific period. The models illustrate technical developments symbolized by boats

and airplanes, or what he termed *conditions*, as do different materials, times of day, architecture and types of spatial organization: a panoramic narrative, a symbolic representation of a historical period of time expressed by spatial and visual means.

The final result of this presumed teleology was, according to Hejduk, nothing but grey matter with the density of butter – a conclusion which at first may seem rather pessimistic.[13] But notably the last model is also the only one that is not a representation to scale of an outer reality. The final grey cubic, supposedly buttery construction recalls the relationship between framework and fluid matter, structure and volume, geometry and movement, of the reinforced concrete construction of Hejduk's Diamond Houses. As such, *Silent Witness* is an interpretation and approximated model of history, in fact, Hejduk would call architecture in general an approximation: 'You can only be approximate. Architecture is always an edge condition.'[14] Even the chosen context of the project, a coastline between the mountains and the sea, literally represents such an edge. But moreover, the project was an attempt at interrelating different conditions, spatial as well as symbolic.

This objective was further developed in Hejduk's photo-essay *The Silent Witnesses* [fig. 1], published in 1976 in a volume of the journal *Parametro* dedicated to the 50-year anniversary of the final issue of the journal *L'Esprit Nouveau*, which was edited by Le Corbusier and Amédée Ozenfant.[15] The adjacent publication of this anniversary tribute and Hejduk's essay seems like more than a mere coincidence, bearing in mind Le Corbusier's significant influence on Hejduk's work. And as we might note, Le Corbusier described various architectural elements of the Ronchamp Chapel as 'witnesses'.[16] Hejduk's essay, consisting of images only, also demonstrates the epistemological potentials of the method of iconic juxtaposition and as such may be a tribute to Le Corbusier's visual communication skills, as indeed the argument of the articles and arguments in *L'Esprit Nouveau* were heavily supported by images and image comparisons.

The differences between Le Corbusier's and Hejduk's use of images is nevertheless significant. While Le Corbusier would primarily use image comparisons to demonstrate formal relationships or differences, the meaning of Hejduk's essay is much more symbolic, suggesting psychological and empathic content, particularly by focusing on the expressions of faces. The essay consists of various types of images: film stills, photographs of paintings, of sculpture, architectural drawings and a few realized buildings, some shown only in detail. Figuration is predominant and by placing the images side by side, Hejduk points to formal similarities, for instance between the architecture of Aldo Rossi and the representation of architecture in the paintings of De Chirico. But also to parallels between the way the human body attaches to architectural structures in Raimund Abraham's *House Without Rooms* and Michelangelo's Medici Chapel statues, suggesting a close relationship between body and building. More than just image comparisons, the essay opens with a montage of René Magrittes painting *Image of Mind* (1960) in which the elements of this image – a bird, a man and a fish – are split into separate, new images, mirrored (folded), repeated on different backgrounds (black, grey and white), while the backgrounds are also shown without the figure of the man, evoking Hejduk's later statement: 'Certain images remain fixed in one's memory.'[17]

We might think of this collection of images as a visual theory, arising from comparison and analogy, but also as a memory chart – and in that regard also differing from the agenda of the Modern Movement, which at least rhetorically renounced the importance and relevance of memory.[18] Even the graphic layout of the essay as nine square grids repeats one of Hejduk's favourite visual schemata.[19] Accordingly, we may note that memory is in itself a

Fig. 1: John Hejduk, The Silent Witnesses, pl. 2, 1976.
Image courtesy John Hejduk and Parametro. Source: Parametro, 49-50 (1976), p. 7.

sort of repetition, as when we recall past moments and experiences, but that through such repetition we also in some sense (re-)create what is recalled and represented by our imagination. In his analysis of stills from S.M. Eisenstein's films, Roland Barthes has pointed to an *obtuse* or third meaning of these images, a type of supplementary meaning that the intellect finds hard to grasp as it appears fleetingly, though persistently.[20] Or as he stated: 'The obtuse meaning is a signifier without a signified, hence the difficulty in naming it. My reading remains suspended between the image and its description, between definition and approximation.'[21] This obtuse meaning escapes representing something, it is a sort of fragmented meaning, a signification without something to signify directly. It remains in a state of openness in terms of signification, it is in 'the very form of an emergence, of a fold', that is, in an indeterminate state likened by Barthes to the Japanese haiku poem, as a gesture and ruling out of meaning as such.[22] This obtuse meaning of the image is precisely what Hejduk points to in *The Silent Witnesses* as we never fully grasp the intended logic behind each image comparison, thereby recognizing how visual media may feature inexplicable, inexhaustible layers of meaning.

Silent Witnesses returned in 1980, when Hejduk published *The Silent Witness and Other Poems*.[23] Written in 1978, almost all of these poems relate directly to the images printed in the photo-essay, potentially resulting in an intermedial combination of image and text. Written in a distinctly modern style, with no rhymes and almost no punctuation, and with complex interrelations between nouns and verbs, subjects, objects and actions, many of the poems describe situations, atmospheres and, indeed, spatial conditions. Hejduk frequently returned to Ingres' portrait of *Madame d'Haussonville*, the top row, central image of *The Silent Witnesses* photo-essay, pl. 2 [fig. 1].

> there are no reflections
> within Madame d'Haussonville
> only opacities which sink
> into the cloth and folds
> of a Fuseli monster
> the arm holds the drapes
> of a hidden birth
> the flower vase
> perpetuates the myth
> her smile shames Leonardo
> red bow the wait
> hands are suspended
> that never scratch the earth
> but tip the tongue
> for infusion
> dare that breast be held[24]

Described here are relations, oppositions, conditions, with references to fine art (Fuseli and Leonardo) and the reappearance of paradox (no reflections in an image that includes a mirror, but of course, exactly as painting, it is opaque). In an almost contemporary text describing the cross-disciplinary collaborations at Cooper Union, Hejduk further touched upon the possibilities of simultaneous singularity and relatedness, referring also to the images presented in the *Silent Witnesses* photo-essay:

> Each is his own, yet there might be some distant link… Ibid. . In most cases a part of their creations has to do with the under-real or with the aspect of void; there is an undertone and there is an opaque reflection. The state of opaque reflection can also be found in the paintings 'Countess D'Haussonville' by Ingres, 'A Girl Asleep' by Vermeer, and 'Music Lesson' by Matisse.[25]

Fabricating Form

As *The Silent Witnesses* projects attest to, Hejduk not only made heavy reference to architects and artists such as Le Corbusier, Mies van der Rohe, Van Doesburg and Mondrian, interweaving spatial conditions with symbolic content, he furthermore

rehearsed, even played with his own previous work. This layering and decomposition indirectly questions the notion of a coherent authorship by repetitively embracing and challenging *difference*, a notion relating to poststructuralist thinkers such as Derrida and Deleuze and their respective attempts to define movements between positions and positions in-between.[26] Yet Hejduk was not only interested in ambiguity, in opacity or the effect of the void, but also in the most absolute or refined conditions. Throughout his work he demonstrated this dialectic attitude, transgressing asserted differences as when he 'translated' or 'transferred' images into poems, or poems into architectural structures.

The schematic presentation of Hejduk's *The Silent Witnesses* photo-essay points to a sensibility towards the possible relation between imagination and logos. The images are, however, also a chart of possibilities of spatial representation and as such resemble the diagrammatic schematization of objects or phenomena in natural sciences or other fields inspired by the methods and ethos of science. Although he organized and systematized the images in this strict framework, Hejduk did not pretend to offer a complete mapping that exhausted the meaning and visual potentials of the images, but rather suggested the contrary by leaving some of the squares of the schema empty. Hence this imaginative presentation appears enigmatic, obtuse, as if it presents the images to us based on a certain logic which we are, nevertheless, unable to decode. As such, it is a subversion of formal language as well as of logical thinking and organization, but nevertheless a subversion that curiously explores whatever creative potential such logics and its cracks and folds might have to architecture and its representation.

In 1974 Hejduk published *Fabrications* – a collection of 12 photographs of colourful drawings [fig. 2].[27] The drawings represent a number of projects for buildings composed of simple geometric forms, coloured in primary shades and set as isolated objects in the context of rural landscapes. We might note the way the buildings are graphically represented. The correspondence between these images and some of Hejduk's earlier projects, like the Wall Houses, is clear: the Wall Houses consist of coloured shapes displayed on the background of a plain wall. Likewise, the fabrications are displayed on a white paper background, itself positioned on top of a sheet of coloured paper in a variety of shades for each plate, each photograph, orange, pink, black, red, resulting in a layered effect.

The notion of fabrication calls to mind the small follies, *fabriques*, found in French eighteenth-century landscape gardens, in a sense similar exercises in composition, style and signification, and often published in pattern books. Hejduk's style of drawing paraphrases the later more codified version of a type of representations found in these books, the *analytique*, which traditionally would assemble plan, section, elevation and detail renderings, sometimes even perspectives of a project, in one single drawing – a type of representation usually associated with the Beaux-Arts tradition. Notably, the *analytique* allows a movement between different scales of a building, different points of view and even different dimensions. Furthermore, many of Hejduk's drawings contain text, not only to indicate the name of a building, but also as words or sentences that suggest possible interpretations. *Fabrications* may well consist of a very elementary architecture, but this does not disconnect it from the semantic, as suggested by the writings on one of the drawings:

SEMANTIC ARCHITECTURE = *ELEMENTAL SYMBOLIST ARCHITECTURE*

Such statements written on the drawings, some of them even appearing as definitions, point towards a certain architectural sensibility in terms of exploring that which moves beyond given notions. Hejduk combined concepts, not necessarily in a rigid logical way, but collage-like, associatively, intuitively and metaphorically, as a poet combines words, but mirroring a logical language that relies on statements and definitions. He operated with appropriations of 'scientific' or 'logical' ways of organizing the world while simultaneously redefining our pre-existent understandings of these concepts, that is, redefining the world as such. A good example of this investigatory, but essentially poetic method is his contrast between reflection and opacity, recalling the modernist dichotomy between flatness and depth, most famously discussed through the concepts of literal and phenomenal transparency by Colin Rowe and Robert Slutzky.[28] In *Fabrications* we are no longer dealing with oppositions but rather with a transition, a dynamic relationship of becoming – reflections become opaque.

The graphic style of the *analytique* also bears resemblance to those explanatory plates that we find in eighteenth- and nineteenth-century encyclopaedias. In his essay on such plates, Roland Barthes points to how the graphic organization of the plates stems from the wish to catalogue things but that cataloguing is also an appropriation of the particular object. Or as he argues: 'To appropriate is to fragment the world, to divide it into finite objects subject to man in proportion to their very discontinuity: for we cannot separate without finally naming and classifying, and at that moment, property is born.'[29] Barthes notes the relationship between the object presented in a vignette, as part of action, a syntagmatic presentation, contrary to the presentation of the object isolated from its use and context, in a paradigmatic way. Thus Barthes' insights into the meaning of these plates are similar to how Hejduk perceived the image as something that simultaneously emits meaning and appears as semantically

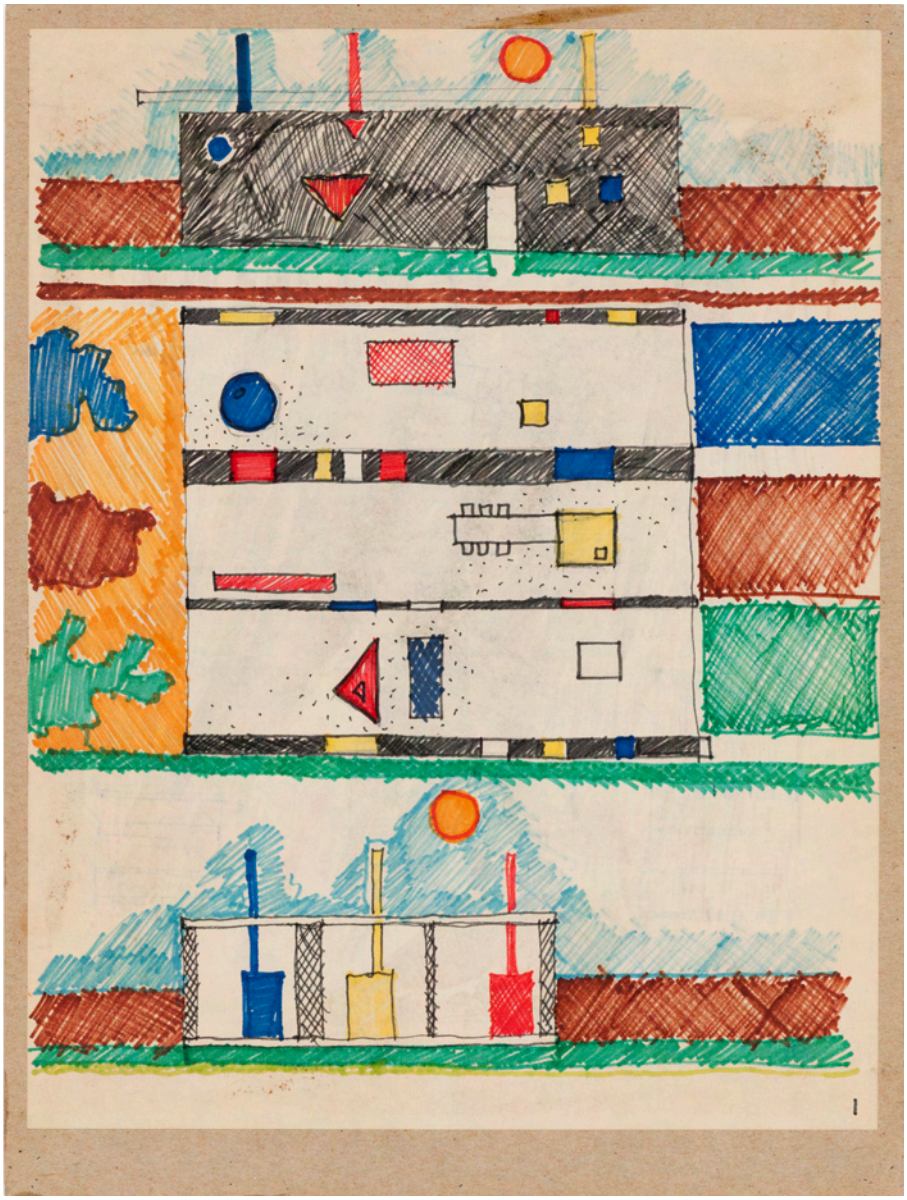

Fig. 2: John Hejduk, Fabrications, pl. 1, 1974.
Image courtesy Collection Cen¬tre Canadien d'Architecture, Montréal. Fonds John Hejduk.

opaque.

It is exactly as images that the encyclopaedia plates receive the particular ability to form a circle of meaning, rather than a logical strain, argued Barthes. The image is somewhat able to escape meaning or to turn it around. There is a certain kind of suspension in the circularity of the reading process of the image that Barthes describes as the poetic aspects of the image, its 'infinite vibrations of meaning'.[30] And this curious visual display is linked to a philosophical questioning; we will simply begin to wonder. Explanation and dissection does not lead us anywhere further, as the meaning simply spins around, multiplies for every layer that we uncover.[31] Hejduk employed and manipulated the formal schemata of scientific illustration – the table or catalogue, the diagrammatic, genealogical chart – but distorted it, inserting differences into it that point in more complex directions. Through this approach, repeating his own projects within new compositions, he questioned the nature of these formal, scientific schemata as well as the supposedly stable being of each of his own projects, but simultaneously and importantly still allowed for comparison and understanding. As Derrida stated concerning difference and the potential of playfulness:

> Play is always play of absence and presence, but if it is to be thought radically, play must be conceived of before the alternative of presence and absence. Being must be conceived as presence or absence on the basis of the possibility of play and not the other way around.[32]

According to Hejduk, such sensibility was already present in his Diamond Houses, where he employed the notion of the membrane to describe relations between what appears as opposites, stating that:

> In the Diamonds one is always talking about the edge membranes. That membrane is an edge condition, a line condition, a threshold condition. It's non-physical; it's physical in memory. There's a universal; it's an expanding universe. It's emanating from a center; it's an explosive center.[33]

This explosion, this movement, stems in part from the play between the perception of two- and three-dimensionality. When rendering a building with a diamond-shaped plan in isometric drawing, what should appear three-dimensional appears flat, two-dimensional.[34] This play is most fully explored in the Diamond House Museum:

> Explored within the Museum Project and within a Diamond Field are the problems of spatial compression and spatial tension; the interaction of curvalinear volumes, compressing the center of the space, which then explodes into taut planes moving towards the periphery of the exhibition space; all played within the frame. Sculpture would be exhibited in and about the curved walls and volumes. Paintings would be exhibited on the straight extended walls.[35]

In the plan of this project, as a mirror of its programme, Hejduk also distinguished between spaces for two-dimensional perception: paintings displayed on straight walls, and three-dimensional perception: sculptures surrounded by curved walls. Scrutinizing the possibilities of a meeting between stable and dynamic forces, he played with contained and containing elements such as the curved walls surrounding sculptures, almost as if these were little houses sheltering the bodies of each sculpture-figure-character. Rather than conceived in purely static and dichotomous terms, space is considered topological in offering the experience of simultaneous, but different conditions, in transformations of space. This even counts for the construction of the Diamond Houses, suggestively built of walls, beams and slabs as a framework for reinforced concrete: solid structure meets liquid, formless matter.[36]

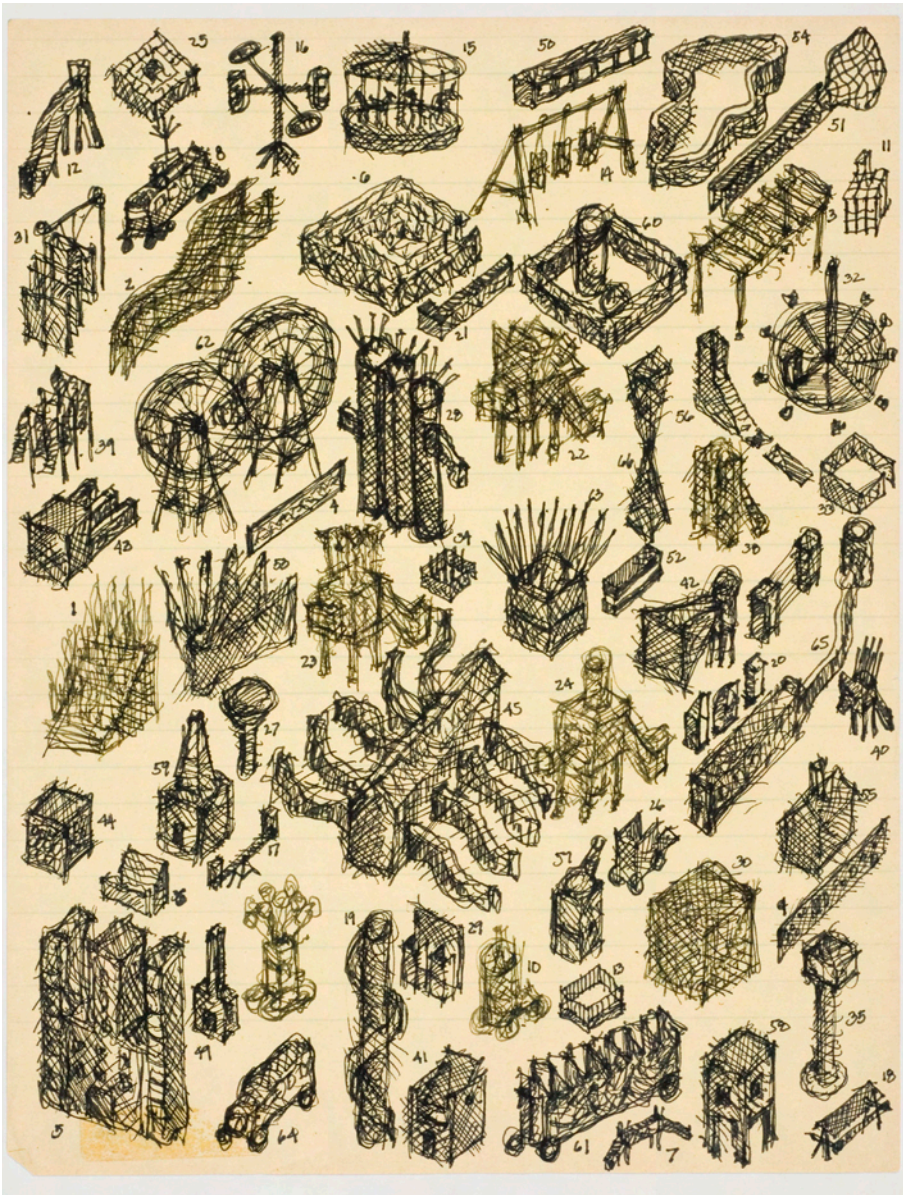

Fig. 3: John Hejduk, Victims, 1983.
Image courtesy Collection Centre Canadien d'Architecture, Montréal. Fonds John Hejduk.

The Ethos of a Masque

While Hejduk had slowly approached the notion of character during the 1970s, it would not be until the 1980s that he fully explored its potentials. The *Berlin Masque* was Hejduk's contribution to an international competition in 1980-1981. The proposal is an investigation of what a programme means as he not only created an architectural scheme consisting of 28 different structures, but moreover provided detailed descriptions of the agency of each structure, how it would perform or be handled by its inhabitant or caretaker. More aspects than the notion of the masque connect the contexts of Venice and Berlin: again, the interplay between singularities and relations. The archipelagic landscape of Venice consists of singular, but interconnected islands. Likewise, West Berlin at that time was metaphorically an island, surrounded by the German Democratic Republic. These parallels did not go unnoticed: in fact, the Berlin brief included a quote from Italo Calvino's *Invisible Cities*, a paraphrased hymn to the city of Venice. Accordingly, Hejduk – himself working on the island of Manhattan – proposed a scheme in which his structures would be situated within two island-like areas, surrounded by hedges and connected by a single bridge, thus isolated from the rest of the city.[37]

We have seen how Hejduk repeated, but also distorted and subverted the graphic techniques of scientific illustration. Parallel to this, he would refer to the schematization and rigidity of dictionaries – another type of epistemological organization – as inspiration for the *Berlin Masque*, using selected definitions from *Webster's New International Dictionary*, many of these alluding to the world of theatre but also to ancient structures and mythology. When publishing the *Berlin Masque*, he concurrently published the reproductions of a group of definitions.[38]

Arbitration
Armadillo
Capsule
Caretaker
Disappear
Dispensary
Foundation
Labyrinth
Marionette
Medusa
Pantomime
Puppet
Theatre
Tower

In the presentation of the proposal Hejduk arranged the material in a way that simulated dictionary entries, connecting sketches and descriptive texts, subjects and objects. In this way, he pointed to how the supposed representational gesture of the dictionary is in fact a repetition of the act of signification: the dictionary creates – or masks – what it proposes to signify. And by recognizing this aspect of repetitive signification, Hejduk was able to embrace the creative potential of such statements of logical thinking. Masks generally bring together different elements, a subject and an object, which amalgamate so that form and person become the same. Or as Deleuze would state: 'The mask is the true subject of repetition. Because repetition differs in kind from representation, the repeated cannot be represented: rather, it must always be signified, masked by what signifies it, itself masking what it signifies.'[39]

Hejduk perceived architecture as not only consisting of buildings, but as something that inserts itself into a much broader human culture in a dialogue between forms and characters. It means that in many instances things are not what they appear to be. During the masque, the identity of the subject and the identity, essentially the form or shape of the mask, amalgamate, equally dynamic. Like the deli-

cate relationship between the grid and the formless volume, between reason and sensation, Hejduk noted how logos might be complemented through programming of bodily action. As he stated in the *Berlin Masque*:

> So completes the masque which in a way composed into a masque in our time, for as it was necessary for the highly rational-pragmatic city of 15th century Venice to create masques, masks, masses for its time in order to function, it would appear that we of our time must create masques (programs ????) for our times.[40]

To be masked is to become someone else, the character represented by the mask. But masks also protect and shelter. In that sense, they are like houses, like architectural structures. Thus to mask is in a sense parallel to building a house. Brought into the masque, the masking of the mass turns into ritual, the carnivalesque performance that opposes but brings balance into everyday life.

Ideas from the *Berlin Masque* were further developed in the project *Victims*, presented as a programme for the creation of a place within two 30-year periods by the citizens of Berlin: 'A growing, incremental place – incremental time.'[41] Hejduk's sketches appear as the result of such an incrementally proceeding method. All the elements or structures are comprised into other drawings, shown schematically in either silhouette or perspective. Rather than applying a grid layout, Hejduk displayed the structures in a dispersed manner, constituting a field of elements rather than a geometrically ordered system. One sketch still has the structures or characters lined up in numerical order, running from the top left to the bottom right corner, while other sketches show them spread out on the paper as if constituting a small incrementally developed town [fig. 3].

With *Victims* Hejduk created a specific synthesis by combining the bodily sensibility (the character) and conceptual formalism (the grid). One element in particular, the Jungle Jim playground equipment (object/subject no. 11), in fact explicitly contrasts structure and sensation, grid and body: 'Round steel bars producing a three-dimensional grid, bent nail-pinned joint. The hierarchy of the crow's-nest, a geometric confrontation of biological parts. The armpits of the legs encompassing a tubular section. Upside down the blood rushes to the head.'[42] Hejduk's structures would connote both joyful emancipation and terror since the site chosen for *Victims* bordered the Berlin Wall where the SS and Gestapo had their headquarters during the Nazi regime.

The mask blurs the identity of the person wearing it by establishing a new character, new relations, new patterns of thought and behaviour. As such it was a suitable emblem of Hejduk's interest in establishing relations rather than identities between different media and different architectural elements. As indicated, the conceptual framework of such a method is exactly not a theoretical pursuit of logos, not autonomous formalism, but in so far as it implies situations of bodily location, of action and of force, it may be described as a matter of embracing character.

The notion of ethos emphasizes Hejduk's architectural practise as world-interpreting and thereby as world-making, that is, as expressing ideas of what the world is and could be. His silhouetted fabrications are not only characters in a world of his imagination, but also symbolic elements, partakers of a masque, and exactly as such, constitute a different world. It is this understanding of how spatial/formal manipulation and the programming of characters and actions might blend and support each other, the relationship between aesthetic expression and human behaviour, that we may associate with a notion of architectural ethos since it points in directions of certain spatiotemporal as well as social and psychological even political impli-

cations, even if it is not explicitly normative.[43]

By relying on imagination – not solely in contrast to, but frequently in fruitful dialogue with aspects of logical thinking – Hejduk's methodological approach consistently operated as a search for new forms and programmes, but first and foremost in a broader sense dynamically and dialectically relating human beings and their surroundings in and through events and actions. Thus architecture was considering more than a mere formal practice as he investigated the possibilities and limits of architectural signification through imaginary projects and thereby the possibilities of arriving at a contemporary architectural ethos. Architects today have completely different media at hand than Hejduk did three or four decades ago, in particular digital systems of notation and representation. Yet his methodological approach to architectural practice, the notion of imaginary architecture as an operative undertaking with possible philosophical, even ethical implications, may potentially guide comparable investigatory practices today and thereby contribute to the development of a specific field of artistic research within architectural culture.

Notes

1. Cf. Annette W. Balkema and Henk Slager eds., *Artistic Research* (Amsterdam; New York: L&B Series, 2004) and James Elkinds ed., *Artists with PhDs: On the New Doctoral Degree in Studio Art* (New York: New Academia Press, 2009). Most artistic research projects are located within institutional frameworks such as art schools and academies, to some degree stimulated by increasing demands for research-based education.
2. Peggy Deamer has called the notion of form as a type of knowledge the true heritage of the so-called 'White' architects, a group that included John Hejduk. Peggy Deamer, 'Structuring Surfaces: The Legacy of the Whites', *Perspecta*, 32 (2001), p. 90. My argument here is that the 'White' architects – at least in some cases and in particular in their later works – went even further by demonstrating that such formal knowledge was to be associated with questions of purpose, meaning and action.
3. Peter Eisenman, 'Post-Functionalism', *Oppositions*, 6 (1976).
4. Eisenman, 'Post-Functionalism'.
5. Note the etymological links between the building of a character and building of edifices. See Jorge Otero-Pailos, *Architecture's Historical Turn. Phenomenology and the Rise of the Postmodern* (Minneapolis and London: University of Minnesota Press, 2010), pp. 20-2.
6. John Hejduk and David Shapiro, 'John Hejduk or The Architect Who Drew Angels', *Architecture and Urbanism*, 471, 12 (2009), p. 75.
7. Colin Rowe and John Hejduk, 'Lockhart, Texas', *Architectural Record*, 121 (1957), pp. 201-06. See also R.E. Somol, 'One or Several Masters?', in *Hejduk's Chrototope*, ed. by K. Michael Hays (New York: Princeton Architectural Press, 1996), p. 105.
8. Colin Rowe, 'Character and Composition; or Some Vicissitudes of Architectural Vocabulary in the Nineteenth Century', in *The Mathematics of the Ideal Villa and Other Essays* (Cambridge, MA and London: MIT Press, 1976), pp. 59-87.
9. Rowe, 'Character and Composition', p. 80.
10. Dalibor Vesely, *Architecture in the Age of Divided Representation: The Question of Creativity in the Shadow of Production* (Cambridge, MA and London: MIT Press, 2004), p. 363.
11. Gilles Deleuze, *Difference and Repetition*, transl. by Paul Patton (New York: Columbia University Press, 1994), pp. 1, 23.
12. John Hejduk, *Mask of Medusa: Works 1947-1983*, ed. by Kim Shkapich (New York: Rizzoli, 1985), p. 81.
13. Hejduk, *Mask of Medusa*.
14. Hejduk, *Mask of Medusa*.
15. John Hejduk, 'The Silent Witnesses', *Parametro*, 49-50 (1976), pp. 5-13.
16. Alexander Gorlin, 'The Ghost in the Machine: Surrealism in the Work of Le Corbusier', *Perspecta*, 18 (1982), p. 63.
17. John Hejduk, 'Afterword', in *Solitary Travelers* (New

York City: Cooper Union School of Architecture, 1979), p. 117.

18. The analogy between image and architecture was also explored by O.M. Ungers in a similar project exhibited at the Cooper-Hewitt Museum in New York in 1976, later published in O.M. Ungers, *Morphologie = City Metaphors* (Cologne: Verlag der Buchhandlung W. König, 1982).
19. A revised version of the photo-essay was published in 1982 using a different layout. This version included 65 images while the original included only 50. John Hejduk, 'Silent Witnesses', *Perspecta*, 19 (1982), pp. 70-80.
20. Roland Barthes, 'The Third Meaning', in *Image Music Text*, trans. by Stephen Heath (London: Fontana Press, 1977), p. 54.
21. Barthes, 'The Third Meaning', p. 61.
22. Barthes, 'The Third Meaning', p. 62.
23. John Hejduk, *The Silent Witness and Other Poems* (New York: The Institute of Architecture and Urban Studies, 1980).
24. John Hejduk, 'To Madame d'Haussonville', as reprinted in Hejduk, *Mask of Medusa*, p. 103. Also in Hejduk, *The Silent Witness*, p. 10.
25. Hejduk, 'Afterword', p. 117.
26. Jacques Derrida, *Writing and Difference*, transl. by Alan Bass (Chicago: The University of Chicago Press, 1978). R.E. Somol has also pointed to the importance of the notion of *difference* in Hejduk's work. Somol, p. 118.
27. John Hejduk, *Fabrications: A Collection of 12 Projects* (New York: Cooper Union School of Art and Architecture, 1974).
28. Colin Rowe and Robert Slutzky, 'Transparency: Literal and Phenomenal', *Perspecta*, 8 (1963). K. Michael Hays has descriped Hejduk's endeavour as a further development of some of the questions examined by Rowe and Slutzky. Michael Hays, 'The Wall as Event', *Architecture and Urbanism*, 471, 12 (2009), p. 6.
29. Roland Barthes, 'The Plates of the *Encyclopedia*', trans. by Richard Howard, in *A Roland Barthes Reader*, ed. by Susan Sontag (London: Vintage, 1993), p. 222.
30. Barthes, 'The Plates of the *Encyclopedia*', p. 230.
31. Barthes, 'The Plates of the *Encyclopedia*', pp. 234-35.
32. Derrida, p. 292.
33. Hejduk, *Mask of Medusa*, p. 50.
34. John Hejduk, *Three Projects* (New York: Cooper Union School of Art and Architecture, 1969).
35. Hejduk, *Three Projects*.
36. Hejduk, *Three Projects*.
37. A few years earlier, New York had been likened to Venice by Rem Koolhaas, see Rem Koolhaas, 'Dali and Le Corbusier: The Paranoid-Critical Method', *Architectural Design*, 2-3 (1978), p. 155.
38. John Hejduk, *Vier Entwürfe* (Zurich: ETH Zürich, 1983), pp. 12-3.
39. Deleuze, *Difference and Repetition*, p. 18.
40. Hejduk, *Vier Entwürfe*, p. 51.
41. John Hejduk, *Victims* (London: Architectural Association, 1986).
42. Hejduk, *Victims*.
43. Somol, 'One or Several Masters?', p. 125, n. 17.

Biography

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Architecture's Awaking from Correlationist Slumber: On Transdisciplinarity and Disciplinary Specificity

Andrej Radman

PoMo Relativism

Slavoj Žižek's diagnosis of the struggle for intellectual hegemony between postmodern (PoMo) Cultural Studies and the cognitivist popularisers of 'hard' sciences is still relevant, a decade on.[1] The so-called Third Culture covers a vast range of theories: from evolutionary theory to quantum physics and cosmology, cognitive sciences, neurology, theory of chaos and complexity, studies of the cognitive and general social impact of digitalization of everyday life, to auto-poetic systems.[2] The theorists and scientists involved have been endeavouring to develop a universal formal notion of self-organizing emergent systems. These systems apply to 'natural' living organisms and species, as well as social 'organisms' such as markets and other large groups of interacting social agents.[3] On the other hand, there are cultural theorists whose pseudo-radical stance against 'power' or 'hegemonic discourse' effectively involves the gradual disappearance of direct and actual political engagements outside the narrow confines of academia, as well as the increasing self-enclosure in an elitist jargon that precludes the very possibility of functioning as an intellectual engaged in public debates. So, the choice, according to Žižek, comes down to either dealing with an all-too-fast or metaphoric transposition of certain biological-evolutionist concepts to the study of the history of human civilization, or – in the case of cultural studies – sharing the stance of cognitive suspension, characteristic of postmodern relativism. But as Žižek concludes, 'prohibited' ontological issues seem to have returned (with a vengeance) in the former case. In clear contrast to the strict prohibition of direct 'ontological' issues in cultural studies, the proponents of the Third Culture unabashedly approach the most fundamental pre-Kantian metaphysical issues such as the ultimate constituents of reality, time, space, the origins and the end of the universe, what consciousness is, how life emerged, and so on.

PoPoMo Correlationism

The struggle has recently been rekindled with the so-called Speculative Turn triggered by Quentin Meillassoux's *After Finitude* (2006).[4] It is also worth pointing out that we have by now drifted out of all-too-structuralist postmodernity. In the words of Claire Colebrook: 'It is [the] equivocity that engenders postmodernism, for it establishes the signifier, system, subject on the one hand, and the real or the retroactively constituted world on the other.'[5] What binds an otherwise heterogeneous group of Speculative Realists is their shared antipathy for so-called *correlationism*.[6] A correlationist accepts that we only ever have access to the correlation between thinking and being – epistemology and ontology – and never to either of the terms in isolation.[7] In other words, correlationism marks a self-reflexive loop (marked by finitude) where nothing can be independent of thought. The familiar flavour of cognitive suspension or plain agnosticism vis-à-vis the 'outside' (noumenon) is shared by most post-Kantians.[8] Kant, himself a 'weak correlationist', did in fact allow for the possibility of the 'in-itself' albeit unknowable.[9] But if the idea of the world independ-

ent of our access seems unintelligible, as another speculative realist Ray Brassier cautions, perhaps the fault lies more with our notion of intelligibility than with the world:

> The phenomenological radicalization of transcendentalism, initiated by Heidegger, found itself excavating deeper and deeper into the 'primordial' (…) uncovering the conditions for the conditions of the conditions. Yet, the deeper it digs towards the pre-originary the more impoverished its resources become and the greater its remove from things themselves. Heidegger and his successors end up striving for the pre-reflexive through increasingly reflexive means; exacerbating abstraction until it becomes reduced to (…) playing its own exuberant vacuity. This meta-transcendental problematic reaches some sort of apogee in Derrida who introduces both a healthy measure of scepticism and a fatal dose of irony into the proceedings by revealing how the immediacy of access was always already contaminated by mediation or *différance*. (…) Once the problematic of access and of the access to access has reached its ironic *dénouement* in this terminally self-enclosed spiral of reflexivity it is no surprise to see the very notion of a world indifferent to our access to it dismissed as unintelligible. Phenomenology begins with the things themselves, and ends up poring over words, nothing but words. Perhaps, this is inevitable *dénouement* of the philosophy of access [correlationism].[10]

Realism

Denying realism amounts to megalomania, according to Karl Popper. But we need to bear in mind that not so long ago a Realist 'coming out' and embracing a mind-independent reality would be met with ridicule. It would have been considered, at the very least, as naive. Still, the (new) materialism in general, and the (empiricist) Affective Turn in particular, seem to be gaining momentum to such an extent that even some of the scholars of this affiliation urge caution.[11] As it happens, many a logocentric thinker has been unjustly turned into a straw person. As Charles T. Wolfe cautions: 'The trick is to not go all the way with embodiment, so as not to end up in what Deleuze, speaking of Maurice Merleau-Ponty, called the "mysticism of the flesh".'[12] However, as far as the discipline of architecture is concerned, this otherwise healthy dose of scepticism is not only utterly premature but also counterproductive, and quite literally so. Somewhat paradoxically, architecture has historically undergone a gradual disassociation from the material realm and become an ultimate white-collar profession. The consequent withdrawal from reality ('into itself') has been seen either as (bad) escapism or as a (good) strategy of resistance: 'The withdrawal is into an idealist realm, a realm secluded from everyday life and from contamination by the unacceptable new order.'[13] The urge to ward off the givens and to continue to contemplate alternatives is most worthy. Especially in the light of the recent tendency to jump on the band wagon of ¥€$ (is more) 'pragmatic yet utopian [sic] third way'.[14] Architects seem desperate in their effort to catch up with the media. The non-normative has become the norm, writes Terry Eagleton.[15] Michael Hays, the spearhead of critical theory in architecture, laments how the most theoretically aware contemporary architects have unfortunately rejected what he sees as the most important operative concept of the theory of architecture at the moment of its re-foundation in the 1970s, namely *autonomy*.[16] But idealist bracketing also comes at a price. Architects might end up painting themselves into a corner of impotence by depriving themselves of the means to intervene which, after all, has always been the main trait of (any) materialism.[17] As Eugene Holland admits: 'Any postmodern Marxism worthy of the name will want to abandon teleology and adopt contingency and emergence as better paradigms for understanding history.'[18] This is how architects Reiser and Umemoto proclaim the new materialist position:

> We assert the primacy of material and formal specificity over myth and interpretation. In fact, *while all myth and interpretation derives from the immediacy of material phenomena, this equation is not reversible*. When you try to make fact out of myth language only begets more language, with architecture assuming the role of illustration or allegory. This is true not only of the initial condition of architecture but actually plays out during the design process in a similar way. Material practice is the shift from asking 'what does this mean?' to 'what does this do?'[19] [emphasis added]

We cannot afford to throw out the baby or toolkit with the bathwater of ideology 'precisely because it is not a matter of ideology, but of a machination'.[20] The best strategy of resistance seems to lie not in opposition but in (strategic) affirmation. To embrace naturalism is to see cognition as belonging to the same world as that of its 'objects'.[21] There is no need to postulate the existence of a more fundamental realm (transcendental 'skyhooks'). *Natura naturans* (naturing nature/creator) and *natura naturata* (natured nature/created) are inseparable. There is no ultimate foundation, but the immanence of powers, relations and bodily compositions: 'Power is not homogeneous, but can be defined only by the particular points through which it passes.'[22] The first step to break out of the pernicious self-reflexive loop is to acknowledge that – with or without us – matter does matter. This is what Charles Sanders Peirce refers to as 'firstness'. Then there are relations or 'secondness'. Crudely put, the dyad marks the difference between the (intrinsic) properties and (extrinsic) capacities. Lastly, there is also the 'centre of indetermination' or 'thirdness' where an interval between perception and action is inserted (the mind). It is crucial not to dismiss the 'pedagogy of the senses', where secondness presupposes firstness, and thirdness incorporates both firstness and secondness.[23] This is another way of saying that everything starts with the sensible or, as Whitehead's disciple Susanne K. Langer put it: 'All thinking begins with seeing.'[24] It is neither about the appearance of essence, nor about the conditions of apparition. Rather, it is about the *mutual* presupposition of the virtual – the modality with the real-yet-not-actual ontological status – and the actual, where the virtual would be utterly sterile without the actual.[25] The reciprocity of the two is crucial, as the cultural studies scholar Lawrence Grossberg explains in a recent interview:

> The distinction between possibility and virtuality is crucial, and I think that most theories of imagination have been theories of possibility. Of which, the utopian is the most obvious example. The result has been a politics that is almost never rooted in the present. But I think one must look to the present because it is in the present that you find the virtual, that you find the contingency. (…) I think it is rooted in the possibility (if one can use that word) of reconceiving the imagination as intimately connected with the analytics of the empirical. Imagination is not separate from science, analysis, or description of the actual. Imagination has to be rethought as a rediscovering of the contingent, the virtual in the actual (…) and that it seems to me is a very different notion of the imagination than what the Left has ever had.[26]

The world, after all, 'does not exist outside of its expression.'[27] Deleuze and Guattari were explicit about this often misunderstood maxim. Transcendence is always a product of immanence. One could argue that 'reification' is necessary for the expression to start 'migrating', a major precondition for the creation of an artistic style.[28] It has become somewhat common for their epigones to favour the virtual over its expression.[29] But the fact of the matter is that you cannot have one without the other. Expression is not the meaning but the torsion of both the expressor and the expressed. If 'non-organic vitality' is the content, argues Zourabichvili, then expression is its 'agrammatical syntax'.[30] Their determination is absolutely reciprocal. In any event, it is useless to seek a more substantial truth behind the phantasm (essence of appearance). Furthermore, seeking

such a truth via a confused sign leads to mere *symptomatologizing*.[31] It is equally futile to contain the truth within stable figures (sense of apparition): 'To construct solid cores of convergence where we might include, on the basis of their identical properties, all its angles, flashes, membranes, and vapors.'[32] Hence there is no possibility of *phenomenalization* either because every form, conversely, is a compound of the relationship between forces. This is how Michel Foucault sees Deleuze's countereffectuating strategy as a way of overcoming both 'bad habits', namely, symptomatologizing and phenomenalization:

> Phantasms [incorporeal events] do not extend organisms into the imaginary; they topologize the materiality of the body. They should consequently be freed from the restrictions we impose upon them, freed from the dilemmas of truth and falsehood and of being and nonbeing (the essential difference between simulacrum and copy carried to its logical conclusion); they must be allowed to conduct their dance, to act out their mime, as 'extrabeings'.[33]

Traditionally, the truth was defined as *adequation* and *noncontradiction* but as we will argue, both claims can be challenged from the perspective of a genealogical method. If there is no referent, the former loses all meaning, while the requirement for the latter is shown to depend on the illusion of the potential mastery of a wholly self-transparent discourse, namely, phenomenology.[34]

Non-Discursive

A lot of lip service has been paid to bridging the gap between theory and practice but the true imperative should be to stop regarding trans-disciplinarity, with its nomadic structure, and disciplinary specificity as mutually exclusive. It should not come as a surprise that some of the most prominent beacons of contemporary architectural theory are happily 'trespassing'.[35] What binds them is zero degree tolerance for narrow-mindedness. Another imperative is to exclude – once and for all – the law of the excluded middle. We need to get rid of this Ockhamite tendency because *not all the potentialities are an already accrued value.* In this way architecture will be able to reclaim the *medium* specificity from a genuine realist/materialist position and be treated rightfully as a non-discursive practice.[36] This will certainly not be easy as the hegemonic binary system knows no such logic. Its inherent dualism brings together the most unlikely of allies: the Cartesians and Informationists (ex-Cybernetics).[37] Regrettably, the media theorist Friedrich Kittler is right to credit the father of the information theory Claude Shannon with writing the most influential master thesis ever.[38] By Kittler's account, Shannon even 'thought digitally', which is plausible and, for that, all the more dangerous, just as any other approach that distinguishes between meaning and information. Opposing 'the static Aristotelian duality' of Form and Matter with the 'meta-theoretical trinity' of Processing (executing commands), Transmitting (requiring an address) and Storing (memory as data base) is not helpful.[39] The analogy between needing an address to retrieve computer data and an address to locate a house in a city (or even to recall memories) is as popular as it is misleading. It all seems to boil down to the following 'dilemma', as posited by Gibson:

> The issue between the two kinds of theory [primacy of language vs. primacy of perception] can be illustrated by the following question. Does a child distinguish between two physically different things only after he has learned to make different responses to each, names, for example; or does he first learn to distinguish them and then (sometimes) attach names? On the former alternative he must learn to respond to things; *on the latter he must learn to respond to the difference.* (…) The issue is deep and far-reaching.[40] [emphasis added]

Ecosophy

Indeed, what motivates the author's research is the architect's habit of taking for granted the homology between representation and 'presentation'. There is widespread consensus on this fallacy among laymen and professionals alike. As Robin Evans diagnosed: 'We are landed not only with a picture theory of vision, but with a pervasive picture method of construction for manufactured objects as well.'[41] We are also landed with the hypothesis of the five senses, the proof of Aristotle's enduring authority. The number five relates to the supposed channels of sensation running from the periphery to the centre. In the case of vision, the sequence is all-too-familiar: Object > Retinal Image > Image in the Brain > Various Operations on the Sensory Image > Full Consciousness of the Object and its Meaning.[42] Such an approach to perception – as the conscious experience of sensory input – remains in its essence Aristotelian through and through. Philosopher of mind Susan Hurley named the implicit model of the mind behind such an approach as the 'classical sandwich', with perception as input, action as output, and cognition as in-between.[43] We see with our eyes, don't we? No, Gibson was resolute, we see with saccading eyes in the mobile head on the locomotive body supported by the ground, the brain being only the central organ of an entire visual *system*.[44] According to Gibson, the brain may produce sensations, hallucinations, dreams, illusions and after-images, *but never perceptions.* You are not your brain.[45] The perceptual system is synaesthetic, that is, cross-modal and supported by proprioception, which refers to the body's ability to sense movement within joints and their position. It is therefore also kinaesthetic and, as such, inseparable from action.[46] Kinaesthesia is not like something, explains proponent of the Corporeal Turn Maxine Sheets-Johnstone, it is what it is.[47] *Neither thingness, nor essentiality*.[48] Seeing is a matter of skill and participation, and not contemplation. Perception and action are not propositions, nor are they based on a proposition and cannot, therefore, be either correct or incorrect.[49] The ecological approach to perception knows no such thing as 'sense data'. *Ecological*, it must be qualified, stands for reciprocity between the life-form and its environment.[50] Their mutual relation is not one of computing but of resonance. It is no coincidence that the School of Ecological Perception describes perceiving as *tuning in* – as in radio frequency – as opposed to the *computational* metaphor (with the brain as a computer, eye as a camera, and so on).[51] Perception cannot be considered independently of the environment since it is defined as an evolved adaptive and constructive relation between the organism and the environment. Unfortunately, experimental psychology research has relied overwhelmingly on *object* perception, rather than environment perception, with the findings of the former providing the basis for understanding the latter.[52] Architecture continues to suffer from this fallacy. Arguably the greatest feat of contemporary psychology has been to include the environment of life-forms in the study of the psyche.[53] To separate the 'cultural' from the 'natural' environment – as if there were a world of mental and a world of material products – is a fatal mistake. *There is only one world*.[54] Only recently have biologists considered the (feed-back/feed-forward) effect of the 'niche construction' on the inheritance system.[55] The theory of niche-construction proposes that an organism does not passively submit to the pressures of a pre-existing environment, but that it actively constructs its niche (genetically, epigenetically, behaviourally and symbolically). Implications for the discipline of architecture are obvious: perception is an important area of study because it provides information about the environment which is in turn intimately related to the life of life forms. Architecture ought to reclaim its vanguard position within the Epigenetic Turn, which embraces technology in general terms (*tekhne*) as constitutive of humanity, and not merely the other way around.[56] It is high time to complement the passive principle of natural selection (logical argument) with the active princi-

ple of self organization (natural argument).[57] The principle of *exteriorization* – the city as an exoskeleton is a good example – is evolution continued by other means. This is beautifully illustrated in the opening scene of *2001: A Space Odyssey* (1968) by Stanley Kubrick, compressing 4.4 million years of tool evolution from the bone to the spaceship.[58] The epigenetic structure of inheritance and transmission is, as the very term suggests, external and non-biological. As such it transcends our particular existence. It extends beyond our biological finitude. Moreover, as Guattari claims: 'Man and the tool are *already* components of a machine constituted by a full body [socius] acting as an engineering agency, and by men and tools that are engineered (*machinés*) insofar as they are distributed on this body.'[59] [emphasis in the original] The long-lasting legacy of privileging *episteme* over *tekhne* needs to be rethought, as the philosopher of technology Bernard Stiegler urges.[60] The 'what' (tekhne) invents the 'who' (the human) at the same time that it is invented by it. Strictly speaking, architecture, as a *sedimented* epi-genetic (mnemonic) device, has an even higher order of autonomy, which makes it epi-phylo-genetic.[61] If epigenetics is the concept of non-genetic heritability (such as language acquisition), then epiphylogenetic means that the rhetoric of 'We Build our Cities and in Return They Build Us' is to be taken literally.[62] Stiegler explains:

> Epiphylogenetics, a recapitulating, dynamic and morphogenetic (*phylogenetic*) accumulation of individual experience (*epi*), designates the appearance of a new relation between the organism and its environment, which is also a new state of matter. If the individual is organic organized matter, then its relation to its environment (to matter in general, organic or inorganic), when it is a question of a *who*, is mediated by the organized but inorganic matter of the *organon*, the tool with its instructive role (its role *qua* instrument), the *what*. It is in this sense that the *what* invents the *who* just as much as it is invented by it.[63]

It is time for the discipline to awaken from the slumber of anthropocentrism and shake off the baggage of old dualisms. Deleuze and Guattari propose that we drop anthropomorphism for geomorphism, which defies (all-too-human) interpretation.[64] In the same vein, Keith Ansell-Pearson calls for a major reconfiguration of ethology: 'Behaviour can no longer be localised in individuals conceived as preformed homunculi, but has to be treated epigenetically as a function of complex network systems which cut across individuals and which traverse phyletic lineages and organismic boundaries.'[65] Relation comes before that which it places in relation.[66] In Heideggerian parlance, it is dwelling that precedes both building and abstract or subjective thought.[67] In contrast to binary logic, one should always proceed from the middle or the *milieu*, both conceptually and literally.[68] As explained by philosopher of science Isabelle Stengers, Deleuze deliberately plays on the double meaning of this French term, which stands for the middle and the surrounding.[69] Proceeding from the middle is arguably the best way to undo the habit of thinking in terms of formal essences and sensible formed things. As philosopher Gilbert Simondon was well aware, the tradition tends to forget a sort of middle, an intermediary. And it is at the level of this intermediary that everything gets done.[70]

The complementarity between the animal and its environment was a life-long project of psychologist James Jerome Gibson. His (unwitting) affiliation with Deleuze and contribution to radical empiricism in general is still underappreciated.[71] The most notable point of convergence between the two thinkers is their more or less overt theory of 'passive synthesis', with which they vehemently oppose, or better yet complement, the active synthesis of representation.[72] Passive syntheses fall outside of the jurisdiction of an ego whereby a living present is a multiplicity of 'contemplations'.[73] Deleuze describes passive synthesis as one which 'is not carried out by the mind, but occurs in the

mind'.[74] As a discipline architecture has more often than not sought legitimacy from without. The irony is that it felt embarrassingly inadequate because of its heuristic, that is, anexact (yet rigorous) modus operandi.[75] The two thinkers stress distinctness and obscurity in opposition to scientism based on Cartesian distinctness and clarity. No less than a genuine change of heart – triggered by the realist/materialist impetus – is required for the architecture of conjecture to (continue to) resist becoming the architecture of canons. The modernist divide between materiality on the one hand and design on the other is vanishing, according to sociologist Bruno Latour: 'The more objects are turned into things – that is, the more matters of fact are turned into matters of concern – the more they are rendered into objects of design through and through.'[76] This is to say that one can no longer indulge in the idea that there are, on the one hand, objective material constraints and, on the other, symbolic human subjective values. As philosopher Henk Oosterling puts it, *Dasein ist* design.[77] When a society modulates its matter it is not a reflection *of* culture, it *is* culture.[78] Therefore, the discipline should regain self-confidence and do what it does best, in the words of architecture theorist Mark Wigley: 'Architecture neither houses nor represents culture, neither precedes nor follows culture. Rather it is the mechanism of culture.'[79] What distinguishes architecture from simple handicraft and makes it a 'material practice', according to Stan Allen, is the interplay between abstract tools and concrete ends.[80] It requires both the intellectual and practical tools to work effectively in this paradoxical environment, 'at once immersed in the world of images and abstract notations, yet intimately connected to the hard logics of matter and forces'.[81] However, if taken separately, both perspectives continue to embody correlationist conceit.[82] Practice is to be considered neither as an application of theory nor as its inspiration but as action. In the words of Foucault and Deleuze: 'There's only action – theoretical action and practical action.'[83] To appropriate this battle cry is to have done with representation.

Notes

1. Slavoj Žižek, 'Lacan Between Cultural Studies and Cognitivism', in *UMBR(a): A Journal of the Unconscious*, 4 (2000), pp. 9-32.
2. *The Third Culture* was written by John Brockman in 1995. Brockman has continued to challenge the supposed incommensurability between humanities and sciences – C.P. Snow's Two Cultures – on the homonymous website. <http://www.edge.org/3rd_culture/> [accessed 22 June 2012].
3. Chaos theory works from the simple to the complex, while Complexity theory works from the complex towards the simple. Two highly readable, nonmathematical treatments that capture the paradigm-breaking nature of dynamic systems are Prigogine and Stengers' *Order Out of Chaos: Man's New Dialogue with Nature* (1984) and Gleick's *Chaos: Making a New Science* (1987).
4. Quentin Meillassoux, *After Finitude: An Essay on the Necessity of Contingency* (London and New York: Continuum, [2006] 2008). See also: Levi Bryant, Nick Srnicek and Graham Harman, *The Speculative Turn: Continental Materialism and Realism* (Melbourne: re.press, 2011).
5. Claire Colebrook, 'Postmodernism Is a Humanism: Deleuze and Equivocity' in *Women: a cultural review*, 15, 3 (2004), pp. 288, 292.
6. By the proponents' own account, speculative realism does not really exist, rather it is a generic term for a group of thinkers that advocate very different ontologies and epistemologies that are often opposed to one another. The two features that unite them is 1) a commitment to some variant of realism and 2) refusal to privilege the world-human correlate.
7. Gregory Bateson, 'The Cybernetics of 'Self': A Theory of Alcoholism' in *Psychiatry*, 34, 1 (1971), pp. 1-18.
8. Manuel DeLanda, 'Materialism and Politics' in *Deleuze: History and Science,* ed. by Wolfgang Schirmacher (New York and Dresden: Atropos Press, 2010), p. 29.
9. Erwin Schrödinger, *What Is Life? The Physical Aspect of the Living Cell.* (Based on lectures delivered under

the auspices of the Dublin Institute for Advanced Studies at Trinity College, Dublin, 1943).

10. Keynote lecture by Ray Brassier, 'The Pure and Empty Form of Death: Deleuze and Heidegger', *A/V Journal,* 2 (2006).<http://www.hssr.mmu.ac.uk/deleuze-studies/journal/av-2/> [accessed 22 June 2012].
11. Keynote lecture by Claire Coolebrook at the *7th European Feminist Research Conference: Gendered Cultures at the Crossroads of Imagination, Knowledge and Politics* (Utrecht June 4-7, 2009). Under the title 'Sexuality and the Politics of Vitalism', Colebrook declared a recent shift in knowledge paradigms away from linguistic, intellectual and cognitive approaches and towards experience accompanied by a turn to embodiment, affect, vitality and the dynamism of knowledge. According to her, many of these vitalist appeals for corporeal and transhuman life – for all their claims to radicalism and posthumanism – harbour highly normative masculinist, organicist and Western presuppositions regarding proper life. By examining the ways in which the crisis of our imagined future has enabled a return to life, Colebrook advanced the case for a counter-vitalism that is also anti-organicist.
12. Charles T. Wolfe, 'De-ontologizing the Brain: From the fictional self to the social brain', in *CTheory*, ed. by Arthur and Marilouise Kroker (2007). <http://www.ctheory.net/articles.aspx?id=572> [accessed 22 June 2012].
13. Tahl Kaminer, *The Idealist Refuge: Architecture, Crisis, and Resuscitation* (Delft University of Technology Doctoral Dissertation, 2008), p. 9.
14. Bjarke Ingels, *Yes Is More: An Archicomic on Architectural Evolution* (Köln: Evergreen, 2010).
15. Terry Eagleton, *After Theory* (New York: Basic, 2003), pp. 16-7.
16. Michael K. Hays, 'Ideologies of Media and the Architecture of Cities in Transition', in *Cities in Transition*, ed. by Deborah Hauptmann (Rotterdam: 010 Publishers, 2001), pp. 262-73. 'The aspiration to an autonomy of disciplinary forms and techniques as a way of creating and measuring the distance between a critical practice and the degraded status quo of consumer culture.' Hays sincerely admits that he is not yet fully able to account for this new attitude but wants to reflect on it and on 'the ideologies it has replaced'. The ideologies he is referring to were written almost in a form of a manifest and were issued by coincidence ('or perhaps not') in 1966: Rossi's *The Architecture of the City* and Venturi's *Complexity and Contradiction in Architecture*.
17. 'Fit for the boudoir, and not for the street.' See: Arie Graafland, 'On Criticality', in *Crossover: Architecture, Urbanism, Technology* (Rotterdam: 010 Publishers, 2006), p. 698. Cf. Manfredo Tafuri, 'L'architecture dans le boudoir', in *The Sphere and the Labyrinth: Avant-gardes and Architecture from Piranesi to the 1970s* (Cambridge, MA: MIT Press, 1987) pp. 267ff.
18. Eugene W. Holland, 'Nonlinear Historical Materialism and Postmodern Marxism', in *Culture, Theory & Critique*, 47, 2 (2006), p. 184. For an overview of the range of topics that New Materialism concerns itself with, see: Diana Coole and Samantha Frost, *New Materialisms: Ontology, Agency, and Politics* (Durham and London: Duke University Press, 2010).
19. Jesse Reiser and Nanako Umemoto, *Atlas of Novel Tectonics* (New York: Princeton Architectural Press, 2006), p. 23. See also Geoffrey Scott, *The Architecture of Humanism* (New York: W.W. Norton, [1914] 1974), p. 168.
20. Félix Guattari, 'Balance-Sheet for "Desiring-Machines"', in *Chaosophy*, ed. by Sylvere Lothringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 115.
21. Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 2001), p. 73.
22. Gilles Deleuze, *Foucault* (Minneapolis: University of Minnesota, [1986] 1988), p. 25.
23. Charles Sanders Peirce, 'The principles of Phenomenology', in *Philosophical Writings of Peirce,* ed. by Justus Buchler (New York: Dover Publications, 1955), 74-97.
24. Susanne K. Langer, *Philosophy in a New Key* (Cambridge, MA: Harvard University Press, 1957), p. 95. See also: James Jerome Gibson, *The Ecological*

Approach to Visual Perception (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 250.

25. 'Virtuality' – from the Latin *virtualis*, or that which exists potentially but not actually – is a form of physical modality, distinct from possibility and necessity to account for the double status of singularities which are real in their effects but incapable of ever being actual. Manuel DeLanda, 'Deleuze in Phase Space', in *Virtual Mathematics*, ed. by Simon Duffy. (Manchester: Clinamen Press, 2006.), p. 150. See also: Daniel W. Smith, 'Deleuze's concept of the virtual and the critique of the possible', in *Journal of Philosophy: A Cross Disciplinary Inquiry*, 4, 9 (2009), pp. 29-42.
26. Lawrence Grossberg, 'Affect's Future: Rediscovering the Virtual in the Actual (in an interview by Gregory J. Seigworth & Melissa Gregg)' in *The Affect Theory Reader*, ed. by Gregory J. Seigworth and Melissa Gregg (Durham, NC: Duke University Press: 2010), p. 320.
27. Gilles Deleuze, *The Fold: Leibniz and The Baroque* (London and New York: Continuum, [1988] 2006), p. 152.
28. We refer here to the 'specialized lines of expression' such as (one-dimensional) genes or (epi-genetic) words. See: Manuel DeLanda, 'Deleuze, Materialism and Politics', in *Deleuze and Politics*, ed. by Ian Buchanan and Nicholas Thoburn. (Edinburgh: Edinburgh University Press, 2008.), p. 165. 'While before the rise of living creatures all expression was three dimensional – the geometry of a crystal, for example, was what expressed its identity – genes are a one-dimensional form of expression, a linear chain of nucleotides, and this linearization allows material expressivity to specialize.'
29. As Bernard Cache cautions, the key is not to repeat the mistake of the avant-garde at the beginning of the twentieth century who, with the onset of new technologies, immediately dismissed the older techniques and ideas as outmoded and anachronistic: 'Listening to architects describing how we were living in a non-Euclidian, virtual space. I just couldn't stand it any longer and had to respond.' See: Bernard Cache, 'George L. Legendre in Conversation with Bernard Cache', in *AA Files*, 56 (2007).
30. François Zourabichvili, 'Six Notes on the Percept (On the Relation between the Critical and Clinical)', in *Deleuze*: *A Critical Reader,* ed. by Paul Patton (Cambridge, MA: Blackwell, 1996), p. 202.
31. A near synonym of symptomatology is 'interpretosis', 'the 'despotic' legacy of any discourse whose primary pivot is the signifier'. See: Jeffrey T. Nealon, 'Beyond Hermeneutics: Deleuze, Derrida and Contemporary Theory', *in Between Deleuze and Derrida*, ed. by Paul Patton and John Protevi (New York: Continuum, 2003), p. 160.
32. Foucault's Review of Deleuze's *Logic of Sense* (1969) and *Difference and Repetition* (1968) T*heatrum Philosophicum*. The essay originally appeared in *Critique*, 282 (1970), pp. 885-908.
33. Michel Foucault, 'Theatrum Philosophicum' in *Critique*, 282 (1970), pp 885-908. 'The Logic of Sense can be read as the most alien book imaginable from *The Phenomenology of Perception* [by Merleau-Ponty].'
34. Luc Ferŕy and Alain Renault, *French Philosophy of the Sixties: An Essay on Antihumanism* (Amherst: University of Massachusetts, [1985] 1990), p. 9. 'Which [i.e. phenomenology] the hypothesis of an unconscious, or more generally of an exterior that motivates all discourse without the speaker's knowledge, specifically excludes.'
35. For example, 'street philosopher' DeLanda, 'physicist' Kipnis, and 'literary theorist' Kwinter. Kwinter firmly believes that the question of space 'can no longer be thought fruitfully within the domain of language or even within its broader analytical paradigm, but only through the minute study of our physical, material and technical milieus – of which language is little more than a subset.' See: Sanford Kwinter, 'On Vitalism and the Virtual' in *Pratt Journal of Architecture: On Making* (New York: Rizzoli, 1992), p. 185.
36. The insistence on medium-specificity arose in the era of modernism and has become associated with the art critic Clement Greenberg. The concept, however, can be traced back to Gotthold Ephraim Lessing's 1766 essay, *Laocoon*. Lessing dismantles Horace's famous claim *ut pictura poesis* [as is painting, so is poetry],

arguing that these media are inherently different. While poetry unfolds in time, painting exists in space. By contrast, architecture, we suggest, exists in space-time. In this we side with McLuhan in that the medium is specific through its effect and not its content. As Henry Moore wrote: 'Rodin of course knew what sculpture is: he once said that sculpture is the science of the bump and the hollow.' See: Philip James, *Henry Moore on Sculpture* (New York: Da Capo Press, 1992).

37. Hayles discusses the regime of computation (complexity to complexity) as an alternative to classical metaphysics (simplicity to complexity). See: Katherine Hayles, *My Mother was a Computer: Digital Subjects and Literary Texts* (Chicago: The University of Chicago Press, 2005), p. 15.
38. The recently deceased media guru Kittler represents a stream of media theory which came out as an alternative to the Marxist and hermeneutic theories dominating the German discourse in the latter part of the twentieth century. Shannon's paper drawn from his 1937 Master's thesis, 'A Symbolic Analysis of Relay and Switching Circuits', was published in the 1938 issue of the *Transactions of the American Institute of Electrical Engineers*.
39. Also known as the triad of making, storing and transmitting. The attempt to 'fix' dialectics by introducing a third term is a well known yet futile exercise.
40. James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 282.
41. Robin Evans, *The Projective Cast: Architecture and Its Three Geometries* (Cambridge, MA: MIT Press, 1995), pp. 359, 370.
42. This fallacy has become commonplace. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 252.
43. Susan. L. Hurley, *Consciousness in Action* (Cambridge, MA: Harvard University Press, 1998).
44. J.J. Gibson rejects a snapshot/apperture conception of vision in favour of the ambient/ambulatory one. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p.1.
45. The substitution of the *brain* for the Cartesian *spirit* is known as the 'Francis Crick Fallacy'. As Crick wrote in the journal *Nature*: 'Scientists need no longer stand by listening to the tedious arguments of philosophers perpetually disagreeing with each other. The problem of consciousness is now a scientific problem [sic].' See: Interview with Alva Nöe by Gordy Slack, *You are not your brain* (2009), <http://socrates.berkeley.edu/~noe/an_interviews.html> [accessed 22 June 2012]. See also: Charles T. Wolfe, 'De-ontologizing the Brain From the fictional self to the social brain', in *CTheory,* ed. by Arthur and Marilouise Kroker (2007), <www.ctheory.net/articles.aspx?id=572> [accessed 22 June 2012].
46. The 'perceptual system' thesis was set out by Gibson in an earlier book: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966). For a contemporary account of proprioception see: Brian Massumi, *Parables for the Virtual; Movement, Affect, Sensation* (Durham: Duke University Press, 2002).
47. Maxine Sheets-Johnstone, *The Primacy of Movement* (Aarhus: Aarhus University, Department of Philosophy, 1999), pp. 139, 146-150. See also: Maxine Sheets-Johnstone, ed., *The Corporeal Turn: An Interdisciplinary Reader (*Exeter: Imprint Academic, 2009).
48. Gilles Deleuze, *Cours Vincennes*: 'Anti Oedipe Et Mille Plateaux' (February 27, 1979), <http://www.webdeleuze.com/php/texte.php?cle=186&groupe=Anti%20Oedipe%20et%20Mille%20Plateaux&langue=2> [accessed 22 June 2012]. 'Essentiality is the property of formal, fixed essences, the circle. Thingness is the property of sensible, perceived, formed things, for example the plate or the sun or the wheel.'
49. Claire F. Michaels and Claudia Carello: *Direct Perception* (Englewood Cliffs, NJ: Prentice-Hall, 1981), p. 109.
50. The word *ecology* comes from the Greek *oikos*, a house. But it can also mean household, family, milieu, vicinity, habitat or environment.
51. The animal may change as a consequence of experience, but we view that change not as an accumulation

of knowledge, but as a keener ability to detect the affordances of the environment. According to Gibson, learning becomes the education of attention. See: James Jerome Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966), p. 270.

52. William H. Ittelson, 'Environment Perception and Contemporary Perceptual Theory', in *Environment and Cognition* (New York: Seminar Press, 1973), p. 142.
53. Chemero and Silberstein provide a comprehensive taxonomy of the two most important debates in the philosophy of the cognitive and neural sciences. The first debate is over methodological individualism: is the object of the cognitive and neural sciences the brain, the whole animal, or the animal-environment system? The second is over explanatory style: Should explanation in cognitive and neural science be reductionist-mechanistic, inter-level mechanistic, or dynamical? Our thesis unequivocally sides with the dynamical animal-environment system approach which we name Gibsonism. See: Anthony Chemero and Michael Silberstein, 'After the Philosophy of Mind: Replacing Scholasticism with Science', in *Philosophy of Science*, 75 (January 2008), pp. 1-27.
54. James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 130.
55. John Odling-Smee, 'Niche Inheritance: A Possible Basis for Classifying Multiple Inheritance Systems in Evolution', *Biological Theory,* 2, 3 (2007), pp. 276-89. The 'epigenetic turn' calls for a re-examination of the status of Lamarckism. In contrast to Darwinism, Lamarckian inheritance is the idea that an organism can pass onto its offspring characteristics that it acquired during its lifetime.
56. 'Epigenesis' is the term used to describe the relatively mysterious process of how form emerges gradually but dynamically out of a formless or homogeneous environment or substrate. See: Sanford Kwinter, 'Soft Systems' in *Culture Lab*, ed. by Brian Boigon (New York: Princeton Architecture Press, 1993), p. 214.
57. Against the second law of thermodynamics: *negentropy* (negative entropy).
58. It is a difference in degree before it is a difference in kind. See: Stanley Kubrick, 2001: *A Space Odyssey* (1968).
59. Félix Guattari, 'Balance-Sheet for "Desiring-Machines"', in *Chaosophy*, ed. by Sylvere Lothringer (Los Angeles: Autonomedia/Semiotext(e), 1995), p. 110.
60. Bernard Stiegler, Technics and Time 1: *The Fault of Epimetheus* (Stanford, California: Stanford University Press, 1998).
61. Bernard Stiegler, 'Who? What? The Invention of the Human', in *Technics and Time, 1: The Fault of Epimetheus* (Stanford, CA: Stanford University Press 1998), pp. 134-79. Biologist Conrad Waddington (1905-1975) is often credited with coining the term epigenetics in 1942 as 'the branch of biology which studies the causal interactions between genes and their products, which bring the phenotype into being'. The extent to which we are pre-programmed versus environmentally shaped awaits universal consensus. The field of epigenetics has emerged to bridge the gap between nature and nurture.
62. A real-socialist slogan also attributed to Churchill. Ontogeny: development (developmental and organismic scales). Phylogeny: descent and branching (reproductive and evolutionary scales).
63. Bernard Stiegler, 'Who? What? The Invention of the Human', in Technics and Time, 1: *The Fault of Epimetheus* (Stanford, CA: Stanford University Press 1998), p. 177.
64. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), pp. 318,19.
65. These developments call for a major reconfiguration of ethology. See: Keith Ansell-Pearson, *Germinal Life: the Difference and Repetition of Deleuze* (London: Routledge, 1999), p. 171. For Gibson the formula is neither *mentalism* nor conditioned-response *behaviourism*, but *environmentalism*. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 2.

66. Gilles Deleuze and Félix Guattari, *A Thousand Plateaus* (London, New York: Continuum [1980] 2004), p. 350.
67. Martin Heidegger, 'Building Dwelling Thinking' in *Poetry, Language, Thought* (New York: Harper and Row, [1951 lecture] 1971), pp. 145-61.
68. This is in contrast to deconstructivist Jacques Derrida who does not start from the middle but rather 'from the limits'. Mathematician Arkady Plotinsky offers a comparative analysis between the two contemporaries Deleuze/Derrida as follows: Middle/Limits, Geometry/Algebra, Thinking/Writing. See: Arkady Plotinsky, 'Algebras, Geometries and Topologies of the Fold: Deleuze, Derrida and Quasi-Mathematical Thinking (with Leibniz and Mallarmé)', in *Between Deleuze and Derrida*, ed. by Paul Patton and John Protevi (New York: Continuum, 2003), pp. 98-119.
69. The former means without grounding definitions or an ideal horizon, while the latter is meant to indicate that no theory gives you the power to disentangle something from its particular surroundings. See: Isabelle Stengers, 'An Ecology of Practices', in *Cosmopolitics* (Minneapolis: University of Minnesota, 2010).
70. Gilbert Simondon, 'Genesis of the Individual', in *Incorporations* (New York: Zone Books, 1992), pp. 297-319. See also: *A Short List of Gilbert Simondon's Vocabulary*. <http://fractalontology.wordpress.com/2007/11/28/a-short-list-of-gilbert-simondons-vocabulary/> [accessed 22 June 2012].
71. James Jerome Gibson's major works are: *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986); *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966); *The Perception of the Visual World* (Boston: Houghton Mifflin, 1950).
72. Beneath active syntheses of thought there are passive syntheses of perception and beneath them still there are passive organic syntheses of metabolism. See: John Protevi, 'Deleuze, Jonas, and Thompson: Toward a new Transcendental Aesthetic and a New Question of Panpsychism' (Montreal: SPEP, 2010). <http://protevi.com/john/research.html> [accessed 22 June 2012].
73. As used by Franz Brentano and then Husserl, 'intentionality' means that mental states like perceiving are always *about* something, that is, directed towards something. By contrast, for Deleuze intentionality does exist but it is always multiple. In other words, there is never a single originator of the intention. Desire itself is a multiplicity of competing drives. See: Gilles Deleuze and Félix Guattari, *Anti-Oedipus: Capitalism and Schizophrenia* (New York: Penguin, [1972] 2008).
74. Gilles Deleuze, *Difference and Repetition* (New York: Columbia University Press, [1968] 1994), p. 71. The distinction between passive and active syntheses is not dissimilar to the one recently made by the Nobel Prize laureate Kahneman between the 'automatic System 1 and effortful System 2'. See: Daniel Kahneman, *Thinking: Fast and Slow* (New York: Farrar, Straus and Giroux, 2011).
75. J.J. Gibson draws on Polanyi's notion of 'tacit knowledge'. See: James Jerome Gibson, *The Ecological Approach to Visual Perception* (New Jersey: Lawrence Erlbaum Associates, [1979] 1986), p. 22. 'Everything (…) has long been known implicitly by practical men – the surveyors of the earth, the builders, and the designers of the environment. It is tacit knowledge.' Cf. Michael Polanyi, *The Tacit Dimension* (Garden City, NY: Doubleday, 1966).
76. Bruno Latour, 'A Cautious Prometheus? A Few Steps Toward a Philosophy of Design (with Special Attention to Peter Sloterdijk)', Keynote lecture for the *Networks of Design* meeting of the Design History Society (Falmouth, Cornwall, September 3, 2008). 'Humanists are concerned only about humans; the rest, for them, is mere materiality or cold objectivity…. By treating human life supports as matters of concern, we pile concerns over concerns, we fold, we envelop, we embed humans into more and more elements that have been carefully explicitated, protected, conserved and maintained …This little shift in the definition of matter modifies everything: it allows practitioners to reuse all of the notions of materiality and of artificiality, by freeing them from the restrictions imposed by the older style of modernist matters of fact.' pp. 7,8,

http://www.bookpump.com/bwp/pdf-b/9429063b.pdf [accessed 24 October 2012].

77. Henk Oosterling, 'Dasein as Design; Or: Must Design Save the World?' *Premsela.org* lecture (2009), <http://finzhao.wordpress.com/2010/09/22/what-is-relational-design/> [accessed 22 June 2012].
78. 'From representation to things' is the core thesis of Scott Lash and Celia Lury, *Global Culture Industry: The Mediation of Things* (Malden, MA: Polity, 2007), pp. 7, 19. 'For Horkheimer and Adorno, culture (…) was still in the superstructure. (…) our concern was with how things actually move, how they 'transition' between many states, how they are (self-)organised as temporal, rhythmic morphologies or coherent behaviours.'
79. Mark Wigley and Jeffrey Kipnis, 'The Architectural Displacement of Philosophy', in *Form, Being, Absence* (Pratt Journal of Architecture, 1988), p. 7.
80. Stan Allen, 'Pragmatism in Practice' (manuscript from *Pragmatist Imagination* Conference, Museum of Modern Art, New York, November 1999).
81. Stan Allen, 'Commentary in response to "Stocktaking 2004: Nine Questions About the Present and Future of Design"', in *Harvard Design Magazine,* 20 (Spring/Summer 2004), p. 44.
82. Ian Boogst, *Alien Phenomenology, or What It's Like to Be a Thing* (Minneapolis: University of Minnesota, 2012), p. 14. 'The scientist believes in reality apart from human life, but it is a reality excavated for human exploitation. The scientific process cares less for reality itself than it does for the discoverability of reality through human ingenuity. Likewise, the humanist doesn't believe in the world except as a structure erected in the interest of human culture.'
83. Michel Foucault and Gilles Deleuze, 'Intellectuals and Power', in *Language, Counter-Memory and Practice*, ed. by Donald F. Bouchard (Ithaca, NY: Cornell UP, 1977), pp. 205-07.

Biography

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The Tradition of *Spatial Writing:* The Case of the Palindrome in Between Literature and Architecture

Sotirios Varsamis

In his paper *The History of the Lipogram* (1970), Georges Perec (1936-1982) talks about a tradition of 'writing as practice' that has been overlooked in dictionaries and respectful editions of literary history. Referring to the lipogram as a kind of writing under constraint consisting of writing paragraphs or longer works in which a particular letter or group of letters is avoided, and by consequence to all sorts of anagrams, observes that this tradition is not considered as important as other forms of literature. According to Perec:

> This lexicographical ignorance is accompanied by a critical misappreciation as tenacious as it is contemptuous. Exclusively preoccupied with its great capitals (Work, Style, Inspiration, World-Vision, Fundamental Options, Genius, Creation, etc.), literary history seems deliberately to ignore *writing as practice, as work, as play*. Systematic artifices, formal mannerisms (that which, in the final analysis, constitutes Rabelais, Sterne, Roussel…) are relegated to the registers of asylums for literary madmen, the 'Curiosities': 'Amusing Library', 'Treasury of Singularities', 'Philological Entertainments', 'Literary Frivolities', compilations of a maniacal erudition where rhetorical 'exploits' are described with suspect complaisance, useless exaggeration, and cretinous ignorance. Constraints are treated therein as aberrations, as pathological monstrosities of language and of writing; the works resulting from them are not even worthy to be called 'works': locked away, once and for all and without appeal, and often by their authors themselves, these works, in their prowess and their skillfulness, remain paraliterary monsters justiciable only to a symptomology whose enumeration and classification order a dictionary of literary madness.[1] [emphasis added]

But constraint writing and, in particular for this paper, palindromes, seem to have existed since writing itself, and until the nineteenth and twentieth centuries were considered important poetic compositions. For example, in ancient Greece palindromes were related to Orphic poetry and to the famous poet Sotades (palindromes are also called Sotadic verses). In Byzantium, palindromes were spiritual texts related to religious architecture and often seen in church fountains, as at Agia Sofia in Constantinople and Mount Athos in Greece, and in arches and domes. There are also numerous examples of anagrams, lipograms, pangrams, acrostics, chronograms or palindromes specially composed for kings and collected in beautiful and expensive editions,[2] or in religious texts, such as the Cabala.[3]

But palindromes have also been very powerful incantations.[4] According to a book about magic that is attributed to medieval philosopher and theologian Albertus Magnus (1193-1280), palindromes could be written in various ways in grids and triangles, folded in paper and cloth, and even eaten to:

> … extinguish Fire without the aid of Water…
> for the fever…
> an excellent way to Prove wether a Person is a Witch or not …

> When a Cow has Calved or has the Fever and to prevent that her Milk be taken during that year …
> An Amulet for the Colic …
> For Poisonous Air and Pestilence …
> For all sorts of Sorcery of Man and Beast … [5]

Possibly it is this connection to religion, mysticism and magic that determined the palindrome's eventual demotion from poetry to linguistic oddity, as lamented so vividly by Perec.

Mathematical and literary constraints underlined most of Perec's work. He wrote *La Disparition* (1969), a 300-page novel, without using the letter 'e' (apart from in the author's name), which is the most common vowel in French. Then he wrote another shorter novel as an answer to the previous one in which the only vowel used is the 'e'. He is credited with one of the longest and most fascinating palindromes ever written, *L a Grande Palindrome* (1969), comprised of 1,247 words or 5,566 letters. But his most well-known novel *Life A User's Manual* (1978) is also structured on a system of superimposed mathematical and linguistic constraints. The three main ones are: a) the 10´10 bi-Latin squares that determine the distribution of characters, stories and other elements in each chapter, b) the Knights move on the chessboard that determines the movement from chapter to chapter and c) a building with its façade removed.

Another thinker and philosopher who demonstrated interest in the anagram and particular the palindrome is Jean Baudrillard (1927-2007). Baudrillard, continuing Saussure's linguistic theory, uses the anagram to denote the arbitrariness of the signified/signifier relations, claiming that it is a mechanism of destabilizing symbols, dispersing them in an invisible but experiential world of a non-linear discourse between cause and effect. This poetic space hidden or revealed by the 'poetic form' and manifested by the anagram and the palindrome is where the solid structure of language is 'exterminated'.[6] Baudrillard, referring to linear notions of history that are no longer able to characterize or criticize social phenomena at the turn of the twentieth century, talks about a 'retroactive form of history'. This 'reversion of history'[7] is a non-linear history that has the ability to move in multiple directions 'in loops and curls, in tropes, in inversion of meaning'. Baudrillard turns to 'poetic form' in the anagram and, more particularly, to 'poetic reversibility' to provide an insight into such a history as well as to suggest how to deal with the events and periods it outlines and analyses. Baudrillard suggests that the palindrome provides an important tool to 'serve in this time of retroversion of history' and he uses the word 'palindromology' to introduce a rhetoric method, a kind of lecture that could express his concept:

> Are there social spoonerisms, an anagrammatic history (where meaning is dismembered and dispersed to the four winds of the earth, like the name of god in the anagram), rhyming forms of political action, events that can take on either this or that meaning? *The palindrome* [A word, verse or sentence that reads the same backwards as forwards. Ex.: HannaH.], this poetic and rigorous figure of palinode [recantations] would do well to serve in this time of retroversion of history with a burning lecture (perhaps Paul Virilio's dromology could eventually be replaced with a *palindromology*?).[8] [emphasis added]

By following Perec's or Baudrillard's references in the past it is easy to recognize that anagrams and constraints have been employed throughout history not only as magic spells to 'extinguish fire without water' or as word puzzles for someone's entertainment, but also as a powerful theoretical tools by very important thinkers, philosophers, architects writers and poets, including Cicero (106-43 BC), Vitruvius (c. 80/70-c. 15 BC), Giordano Bruno (1548-1600) and more recently in Ferdinand de Saussure (1857-1913) and Stéphane Mallarmé (1842-1898). In architectural constraints Cicero found a tool to distinguish and define the materiality of language

and memory within a linguistic system that could be called Latin sign theory. He once claimed that he could not make a proper argument indoors, away from the repository of signifiers that was the city with its buildings: 'One can use words [Cicero said] to reply to an argument made with words. But how does one reply to the self-evident fact of a building?'[9] This repository of signifiers that is the city needs its signified material to be expressed; words cannot stand by themselves and their body needs to be moulded in matter either in stone or memory – as matter needs words – otherwise they cannot speak, or at least cannot speak the same. Vitruvius, following Cicero's theory as well as Platonic influences, constructed his seminal work *Ten Books on Architecture* as a unified body and he used the Pythagorean building block of the world, the tetraktys, to provide the reader with the spatial coordinates to orientate him/herself within the ten books/scrolls that recreate the unified body of architecture.[10] Bruno in one of his poems/emblems provides the image of the palindromic tree as a non-linear or branch-like argument that generates a continuous process of 'two-member bipartite divisions'.[11] This process of divisions creates a 'growth' of pairs that enlarges constantly, pushing the multiplicity of these pairs to their 'extreme differences', until infinity. From that point and onwards and by squaring or growing the circle of this palindromic tree's shadow, together with its divisions, Bruno slowly starts to create the universe, the sun, the moon, the stars, the planets and the explanations of things. It is interesting in Bruno's image that a palindromic sequence made of pairs of extreme differences of concepts like 'light and shadows, cold and hot … thick and thin the foundation of rhetoric, language and the world itself, like a Pythagorean or a poststructuralist. Saussure developed his semiotic theory by looking back and studying ancient poetic anagrammatic forms like the Saturnine Verses. Similar research took place in the circles of the Parnassians and Symbolist poets, as for example in Paul Verlaine's (1844-1896) *Poèmes Saturniens* (1863), a collection of sonnets he wrote based on the study of the ancient Latin poems dedicated to Saturn.[12] Mallarmé, possibly influenced by the same circle of thinkers and writers, constructed his famous poem *Un Coup de Dés* (1897) as a textual cube employing a number of mathematical and linguistic constraints. Using very careful mathematical and geometric calculations, mirror symmetry in the centre of his poem, different fonts and sizes he scattered seemingly in random words, images and meanings in the text's space, transforming the poem into the die itself. The outcome of this process is that the reader produces meaning by random outcomes of strictly defined gestures; like throwing dice.

The main intention of this paper is not to create a comprehensive history of anagrams or palindromes, but instead to examine possible spatial relations between this form of poetry and architecture. Returning to Perec's idea of 'writing as practice, as work, as play', as he describes literature in the *History of the Lipogram*, is of great interest for architecture because it suggests that the architectural text might be more than an element complementary to design; that is, something that simply describes a project, tells a story behind a project or creates a project as a narrative. Recently there is a growing interest in the direction of writing as 'practice' in architecture and architectural theory, as in the work of architectural critic Jane Rendell who, having as a starting point 'the possibilities opened up for criticism by art- and site-writing', defines 'architecture-writing' as an interdisciplinary 'critical-spatial practice'. According to Rendell: 'Architecture-writing also demands that we consider the modes in which we write, as well as the medium in which we practice criticism, to be more than a description of content, but to define critical positions … '[13]

'Writing as practice', according to Perec, and 'architecture-writing', according to Rendell, bring text into the very heart of the creative architectural process. In this model text could be used

as a design tool inviting the designer to take into consideration not only how writing unveils, as Perec claims, 'Work, Style, Inspiration, World-Vision, Fundamental Options, Genius, Creation, etc.', but also how it becomes a 'critical position', a 'formal mannerism', or a drawing itself; an architectural text that takes into consideration both text's and architecture's formal values, their ability to create spatial experience and space.

In the example [fig. 1] from poet Publilius Optatianus Porfirius (fourth century AD), the poem takes the form of an altar.[14] The poem, following the ancient Greek example of Dosidas's altar poem, was likely written to be inscribed on an architectural feature but also, as a kind of formal writing, was carefully calculated to share the similar form and principles of the object it was meant to represent and be represented on. Such writing was not meant to be part of an edition, poetry collection or book and was not written to express solely, as Perec noted, 'Work, Style, Inspiration, World Vision, Fundamental Options, Genius, Creation, etc.', but formed as a writing for architecture, a writing like (or on) architecture and as part of an architectural feature. The poem was not treated separately from the object, the altar in this case, but together with the object on which it was written; text became the object itself. Such an idea is reinforced by the content of the poem, which reveals that it is an altar to Apollo. In other words, we can view the poem as an architectural drawing made with words.

Such examples of formal writing, a category in which palindromes also belong, demonstrate a form of tradition. This tradition is related not only to literary theory but also to architecture, architectural writing or 'architecture-writing'. These examples of formal writing operate as objects in which a poem's geometry and materials function together and can be experienced through reading, looking and touching. Some kinds of formal writing were specially composed and carefully calculated for buildings and architectural elements, and it is not coincidental that we find them there. For example, it is not coincidental that when used in architecture, palindromes were traditionally placed on thresholds, domes, arches and fountains. In that sense palindromes could be considered very literally as a sort of architectural writing, in that letters shared similar values to the buildings blocks on which they were inscribed: the threshold, the stairs, the dome, the arch or the fountain itself.

This kind of writing, which can be expressed spatially in text and textually in architecture, I call *spatial writing*. *Spatial writing* includes examples from both text and buildings.

There are examples of *spatial writing* from different periods under the name of either pattern, visual, formal, concrete poetry, combinatory literature or literature under constraint. In the examples of *spatial writing* analysed from literature or poetry, this text-space is organized more like a building-space; it is multilayered, three-dimensional, temporal, based on movement, and the geometric characteristics of its elements can transfer forces, create bodies and as a result be experienced retrospectively over time, like a building. Such a context explains why, of all literature, types of *spatial writing* have been widely used as inscriptions written on buildings and architectural features; it is because the meaning of the text, its visual impact and spatial structure combine with the physical elements and spatial structure and work together to create a whole, an object, the building itself. When *spatial writing*, or in particular a palindrome, is written in a book taking a triangular or cyclical form, it is not only decorative but consists of a spatial structure that shares the same principles with architecture and helps to create and keep together the space of the book. In these examples of *spatial writing*, text and drawing, books and buildings are organized and experienced similarly.

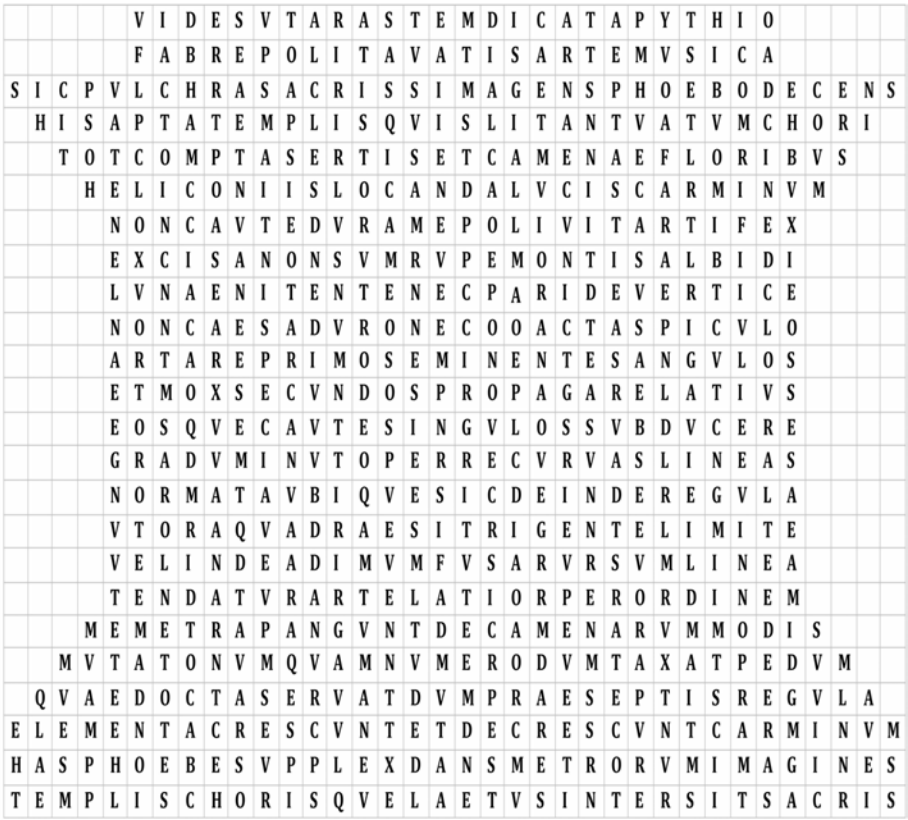


Fig. 1: Optatianus poem in the form of an altar. Reconstruction based on: Porphyrius, *Publilius Optatianus*, Encyclopædia ad aram Pythiam Publilii Optatiani Porphyrii (Patavij, 1630).

It seems plausible that such examples of *spatial writing* in poetry and literature were initially composed as objects or 'bodies', closely related to the physical values of the materials as well as to the structures on which they were supposed to be written. Carved in stone or written with metal as architectural features and other objects, their purpose was to create powerful images, signs, which would teach, convey easily remembered directions or demonstrate something from the external reality of the gods and their divine logic. With the invention of printing, such kinds of *spatial writing* were categorized and classified in printed works and anthologies, but they carried something from their original material characteristics. It seems that *spatial writing* was used in printed works to transfer something from the solidity, credibility and experience of other objects or 'bodies' to the page or the book. Later, in structural and poststructural linguistics, *spatial writing* was used to express the abstract and material character of language and its ability to be used as an independent system capable of creating its own space: the space of language.

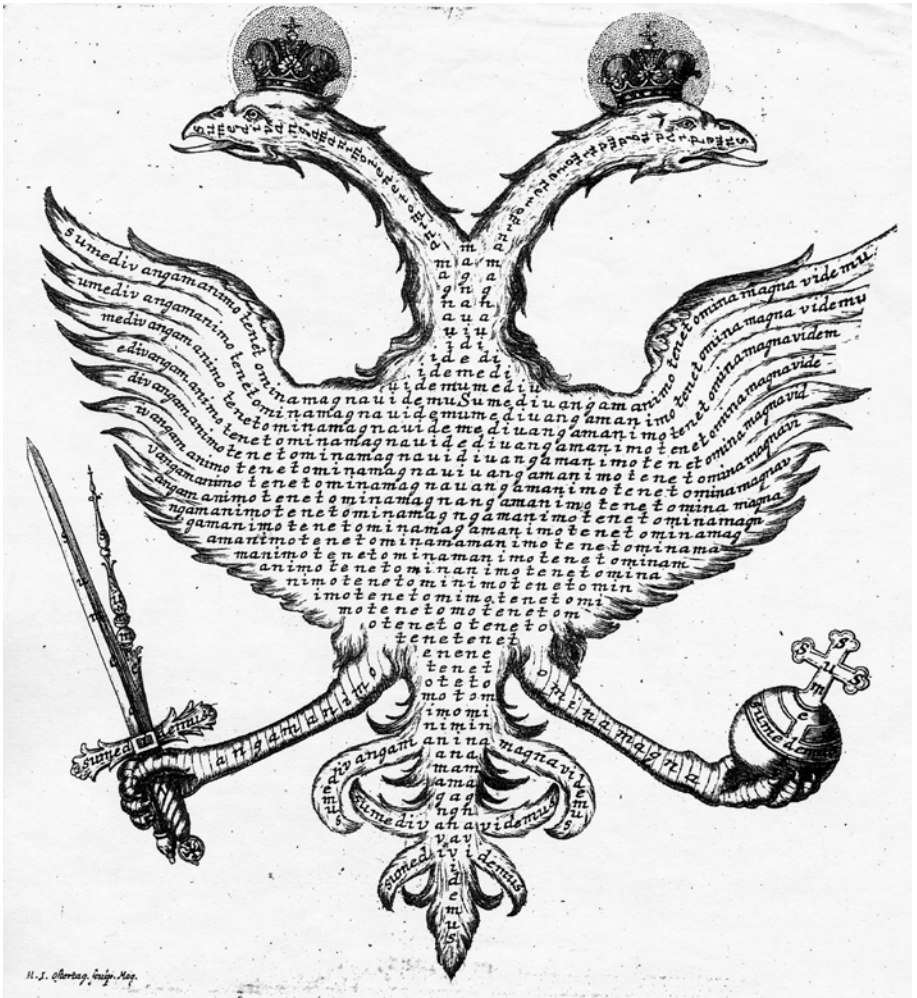
In an attempt to contextualize palindromes and demonstrate how *spatial writing* operates, let us examine a case where the practice of writing palindromes becomes an image-poem-book, or in different words a literary object. 'Playing' the palindromic game and looking towards one direction I call these examples *Spatial Palindromes* as intrinsic spatial structures of texts and their relation to architecture.

Through such examples this research aims to study how the act of writing could relate to the architectural object, or to take the opposite direction in the next example and see a *Palindromic Space*, how an architectural object (or the object of architecture) could become an act of writing and what the actual experience of space in text and architecture is. The terms *Spatial Palindromes/Palindromic Spaces* could refer to both literary and architectural objects and here I am going to examine one from each discipline.

As an example of a palindromic space in a book, let us examine the image and palindrome [fig. 2] from a 1745 pamphlet entitled *Coelum Orbis Teutonici*,[15] which is part of a bigger collection of Latin poems gathered under the general title *Tracts*. This anthology of pamphlets collects poems from 1650 to 1778, a time span of 128 years. The link between them is that they all consist of anagrams, cabalas, chronograms or other types of constraints, either religious or dedicated to important religious figures or rulers. In the pamphlet there are, among other anagrams and chronograms, seven illustrations of Latin palindromes.

The first image [fig. 2] is the double-headed eagle crowned and holding a sceptre, a sword and an orb. The double-headed eagle was the symbol of the Byzantine Empire: later used by the Russians and popular in the rest of Europe, it is still the symbol of the Christian Orthodox Church. In general the double-headed eagle is a symbol of royalty translated as one body that looks in two different directions. In the case of Byzantium, it symbolized an empire that existed geographically, culturally and politically in between the West (Rome) and the East (Constantinople). Like the eagle, another symbol of the palindrome in the past has been Janus, the Roman god who simultaneously looks in two different directions, east and west; from the beginning to the end of the day.

If we focus mainly on the images and how the poem is structured, the double-headed eagle carries a crown, a sword, a sceptre and an orb, each of which becomes an individual palindromic poem, object or image [figs. 3-6]. In all of the following images, the palindrome is written on the object itself, as well as left to right and mirrored underneath.



CLAVIS.

Habetur hac in aquila carmen literaliter cancrinum sive, ut alii vocant diabolicum, variè divisum & distributum, potest enim legi vel incipiendo à litera majuscula *S* in medio pectore posita aut deorsum aut sursum aut dextrorsum aut sinistrorsum, vel incipiendo in utrolibet capite pergendo usque ad *S* in pectore, vel in utriuslibet alæ pennâ superiore pergendo aut ad *S* in pectore, aut pennatim descendendo ad unguem, vel incipiendo in cauda pergendo iterum ad *S* in pectore aut per unguem in pomum aut per unguem in gladium & sceptrum &c. plura curiosus lector inveniet. Estaurem carmen cancrinum i hoc:

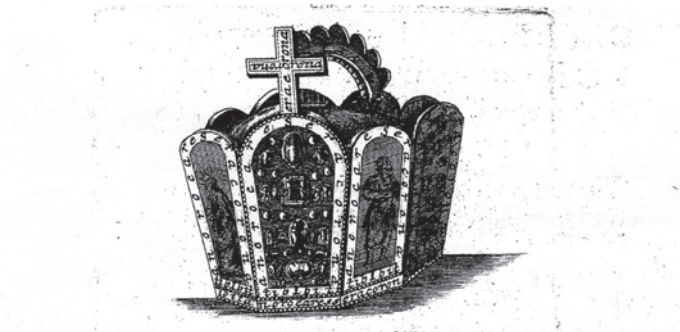
Sume, diu angam, animo tenet omina, magna videmus:
sumᴇ,diu angam ,animo tenet omina ,magna vidᴇmus

Exegesis.

Sume FRANCISCUM generosa *Patrum*
Turba! qui nunquam dedit omen atrum
Gentibus, regis solium Parato,
*Hùnc*que levato.
Tum meus sternet Jovis ignis Hostes,
Hoc Jove Hostiles superabo postes,
Et *Diu* tales nociturus *angam*,
Fulmine tangam.

Sume FRANCISCUM, speciale nomen
Fausta jam spondet, tenet almus *omen*
mente, lux pacis recreans redibit,
Hostis obibit.
Magna spectamur, populi, salutis
Publicæ, faustus status ecce! tutis
Stat locis, ergò huìc solium paremus,
Magna videmus.

Fig. 2: Palindrome in the form of a double-headed eagle. From *Coelum Orbis Teutonici*, 1745. (C) British Library self mark: 1605/223.(3.)



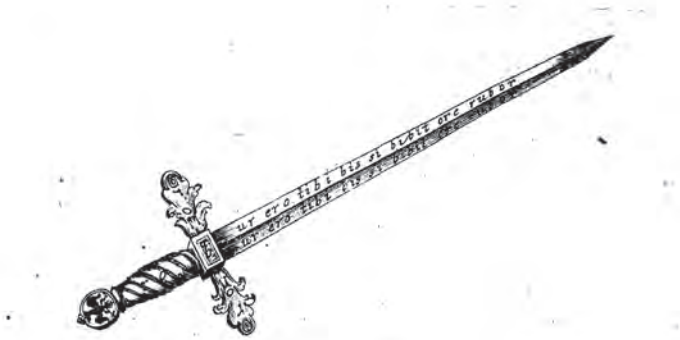
CLAVIS.

Carmen hac in corona eſt cancrinum literaliter tale, poteſt enim immediatè infrâ coronam legi antrorſum & retrorſum, ſicut & in cancellis, ubi tamen medians litera *S* majuſcula repeti debet, in medio autem & maximo cancello à litera majuſculâ *S* poteſt aſcendi in crucem ex hac in coronidem deſcendendo incipitur ſemper à litera majuscula I & finitur &c. carmen autem eſt iſthoc:

ibit (an oro cares?) ſera corona tibi.

ibit (an oro cares?) ſera corona tibi.

Fig. 3



CLAVIS.

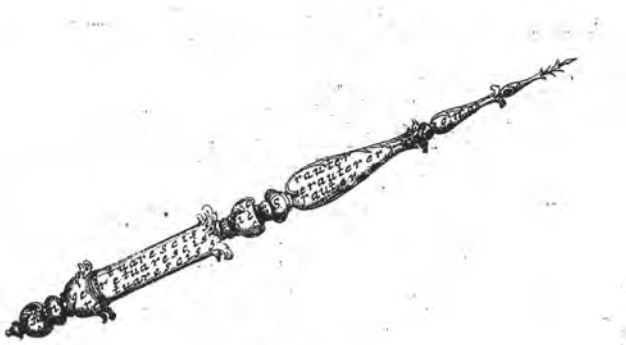
Carmen hîc iterum eſt literaliter cancrinum potéſtque legi vel incipiendo in capulo vel in cuſpide, eſt autem carmen hoc:

Robur ero tibi bis, ſi bibit ore rubor.

Robur ero tibi bis, ſi bibit ore rubor.

Fig. 4

Fig. 3: Palindrome in the form of the crown. From *Coelum Orbis Teutonici*, 1745.
Fig. 4: Palindrome in the form of the sword. From *Coelum Orbis Teutonici*, 1745.



CLAVIS.

Carmen eſt cancrinum in hoc ſceptro & lectu facillimum, eſt autem hoc:

Angere re tua reſcis, fic ſera utere, regna.

Fig. 5

CLAVIS.

Hoc etiam in pomo carmen eſt retrogradum, legendo incipitur ſemper ab I. vel in cruce vel in pomo, in omni autem lectione debet procedi ad literam A majuſculam in medio pallæ pomi poſitam ab hac pergendo ſurſum vel, ſi in cruce incipiatur, pergendo aut deorſum aut dextrorſum aut ſiniſtrorſum carmen eſt hoc:

It ne rem ala metem, ſummus! mete mala merenti.

Fig. 6

Fig. 5: Palindrome in the form of the sceptre. From *Coelum Orbis Teutonici,* 1745.
Fig. 6: Palindrome in the form of the orb. From *Coelum Orbis Teutonici,* 1745.

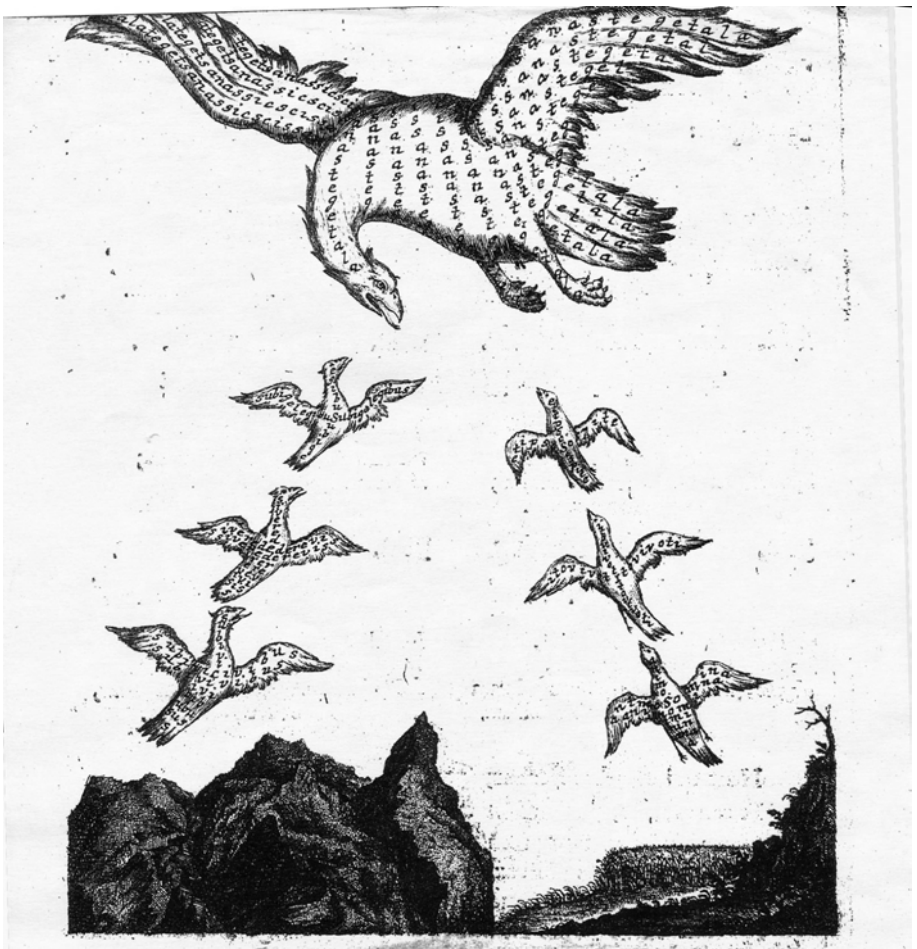
The anthology starts with the image of the eagle-palindrome that splits in two – one body that looks in two different directions. Afterwards the image breaks into its basic structural elements – the objects-symbols the eagle carries, each of which is in the form of a palindrome [figs. 3-6]. In the next image [fig. 7], all of those elements seem to return to their origins, taking the form of smaller birds-palindromes that come from two different directions to meet again under one body of one eagle, once more in the form of the palindrome.

Each image folds into itself and all of them fold into each other. Each palindrome is written on the body of the eagle, sword, sceptre or orb, becoming one with the object itself. All palindromes meet in the middle of each object and unfold in two directions, written in either a line, a triangular form, a curve or a circle. But also the synthesis of all poems as a whole begins from a centre to return again to a centre, as an attempt to keep all the images-palindromes together as a complete concept or as a unified body, in this case the eagle. For example, the centre of the palindrome on the body of the double-headed eagle is the letter S [fig. 8] positioned exactly on the chest of the bird; from there the rest of the letters develop and expand in a triangular form. In the other image of the eagle [fig. 9], the letters of the palindrome are written so that they form a triangle focusing again on the letter S. At the bottom of each illustration, the palindrome itself is reflected in its reverse image as in a mirror [fig. 10], which already provides the text with a vertical surface of reading in relation to the page, a mirror surface that cuts through the page and reflects its elements.

At the end all images, from their different directions, come back to meet at the point where they have begun: the body of the eagle or the letter S. This is an easier way to remember the poem than if these images-poems were disassociated, a process that relates to mnemonic techniques in the Middle Ages and Renaissance. Instead of having to remember random poems and images, the reader keeps in mind only one coherent image-poem, for example that of the eagle, but with all its fine details. The reader just has to be careful about where to place these details, how to break them into individual elements and, at the end, how to bring them back together. This way of structuring the pamphlet-poem turns reading into an 'active' process. To reconstruct a poem that is experienced in a non-linear way, the reader has to move within the space of the book and memory, forwards and backwards, between the pages, and see, perceive, remember and recollect the letters-images, poems-objects. Consequently, reading becomes an operation that involves a movement within the space of the book: first of the eye, which reads the words-images, and then of the mind, engaging both memory and imagination to recombine letters and images as a meaningful whole. The imagined mirror of the palindromes demands that the reader reflect the letters in imagination to read the reversed palindrome. There is no mirror there: the reader must imagine one.

But palindromes are also used here to keep the space of the book together as a coherent whole. Otherwise there is the danger that these poems will be dispersed and lost within the space of the book or someone's memory. Palindromes provide the necessary force to keep letters, words or concepts together both in the space of the book and in the space of someone's memory. They operate like the binding of the book, the reflective surface of the mirror or like the forces of the stones that keep together the arches and domes that palindromes are traditionally inscribed in in architecture.

The last palindromic image of this pamphlet is one of a dog holding a wheel [fig. 11]. The palindrome is written both on the body of the dog and on the wheel. As a concluding image the dog, possibly symbolizing fidelity and loyalty, is giving directions as to how these words and images operate or



CLAVIS.

Carmen in aquila majore retrogradum eſt; poteſt enim legi vel incipiendo in capite & aſcendendo in utramlibet alam ſive ad literram *S* majusculam in medio tergore poſitam & ab hac deſcendo vel in utrumvis unguem vel caudam aut incipiendo in ala dextra & deſcendere ad roſtrum vel in ſiniſtra pergendo ad literam *S* majusculam in tergore vel etiam ex utralibet penna ſuperiore pennatim deſcendendo &c, carmen eſt hoc:

Ala teget ſanas, ſic ſcis, ſanas teget ala.
Ala teget ſanas, ſic ſcis, ſanas teget ala.

Exegeſis.

Noſtra vos omnes *teget ala ſanas*;
Regis eſt, gentes ſibi ſorte canas
Usque ſervare & gremio tenere,
Atque fovere.
Tale tu præſtans modò turba *noſcis*,
Sueta *ſic* umbram modò rite poſcis
Sub meis alis, ibi nunc quieſce,
tuta lateſce.

Tros idem nobis *Tyriúsque* præſtat;
Alitum nobis ſua quæque geſtat
Munera, & novit, venerando legem,
me quoque Regem.
Ergò *ſic ſanas teget ala* cunctas,
In meo regno gremióque junctas;
Ergò jam veſtrum clypeum ſubite,
ite, venite.

H

Fig. 7: Palindromes in the form of a flock of eagles. From *Coelum Orbis Teutonici,* 1745.

should be held within the mind; like a wheel or a circle, whatever direction you might take, it returns to itself. The reader, in order to be loyal to the operation of the text and to the meaning of these words, should use them as a wheel, and this should be his or her navigation tool within the images, poems and concepts. But this key or lock for memory possibly refers also to the memory wheels developed by philosopher Ramon Llull[16] (or Raymond Lull) (1232-1315) [fig. 12] and used widely by other philosophers such as Bruno and Gottfried Wilhelm Leibniz (1646-1716). Memory wheels are combinational textual machines operating within memory. They were made by concepts, letters or numbers arranged circularly, which could rotate around a centre and create a space of rhetoric comprising multiple combinations of meaning.

The aim of this example is not to analyse further the meaning or content of these *Orbis Teuctoni*, (tectonic rings, circles or spheres), but to show how poetic devices, such as the palindrome, can create a spatial experience of reading which moves in more than two dimensions. It is worth noting that we find in literary history and in linguistic studies terms like *Orbis Teuctoni*, architectural mnemonics, concrete poetry, structural linguistics, which all borrow from an architectural language. For an architect, it is fascinating to examine how these terms (teutonic, architectural, concrete, structural) are used in another discipline. If architectural language is used to describe poetry, and books are organized as spaces, then what kind of relations emerge when architecture uses language or text to organize space?

As an example of a *Palindromic Space* in architecture, let us examine the palindromic rock and fountain. The next example of the palindromic rock [fig. 13] comes from an eighteenth-century edition with anagrams, chronogram, palindromes and cabalistic poetic arrangements that is part of the same collection mentioned above.[17] In this case we have the image of a perennial fountain from which palindromes emerge like streams of water from a rock. And palindromes, like water, have the ability of returning to their origin: to the place where they started, their source. Water becomes steam becomes water again, endlessly running, flowing, in a palindromic movement. These verses possibly were thought of as a spell against the flow of time in nature, or against oblivion in the flow of history.

There are six palindromes coming out of the fountain, or two triads in their eternal movement to perfection mediated by the Muses. This specific example is dedicated to the fifth Muse, Melpomene, the songstress and Muse of Tragedy, often represented holding or wearing a tragic mask. In the same way, the palindrome borrows the form – wears the mask – of water.[18] On these streams of water are written the palindromic words:

Animo – Omina
Sitimus – Sumitis

These words are placed at the edges of the page in columns that reflect each other. For example, on the right we have the word Animo and on the left the word Omina. In the centre is positioned the image of the rock.

In many ancient ideologies the rock was a symbol of the centre either of the sacred city or of the building, the point where everything starts and everything returns again – we still use the expression 'the foundation stone'. According to Eliade: 'The fountain in this case, the rock, becomes the bond between the cosmos and myth. Between the real lower world and the terrestrial … And it has the mystical power of regeneration.'[19] And like the centre point of palindromes, this rock is the bond between real and mythical time. 'Finally because of its situation at the center of the cosmos, the temple or the sacred city is always the meeting point of the three cosmic regions: heaven, earth and hell.'[20]

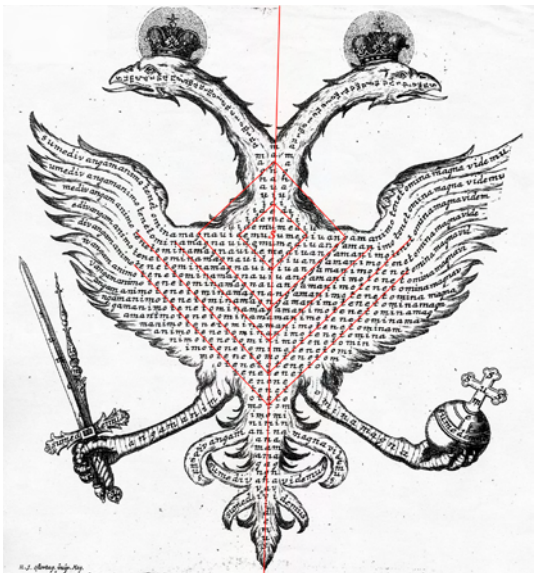


Fig. 8

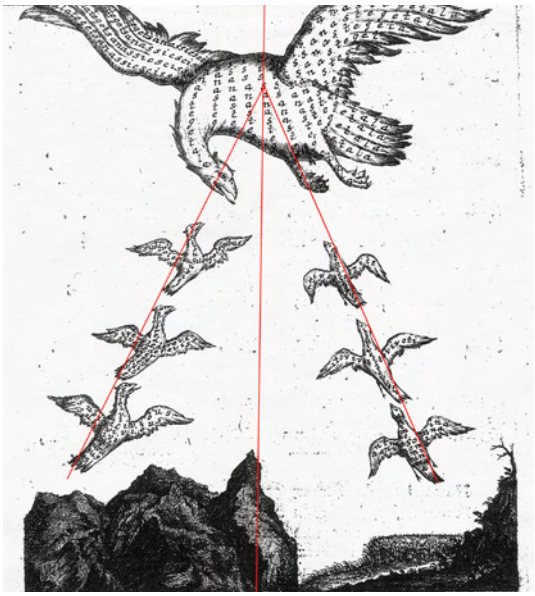


Fig. 9

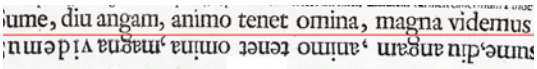


Fig. 10

Fig. 8: Axes of symmetry and development of letters in the image/palindrome of double-headed eagle demonstrating the dissemination and re-collection of meaning in the poem's space. Produced by author.
Fig. 9: Axes of symmetry and development of letters in the image/palindrome of flock of eagles demonstrating the dissemination and re-collection of meaning in the poem's space. Produced by author.
Fig.10: Axes of symmetry and development of letters at each palindrome beneath the images. Produced by author.

CLAVIS.

Pentametrum Canis hic gentilitius Oſteinianus retrogadum continet, legi poteſt ſemper incipiendo ab O finali pergendo ad literam S majusculam in medio corpore poſitam, illam ſemel lectam repetendo, ab hac pergendo quocunque placet, carmen eſt tale.

Ore ſitim ô jures, ſervio mitis ero.

Fig. 11

Fig. 12

Fig. 11: Palindrome in the form of a dog holding a palindromic wheel. From *Coelum Orbis Teutonici*, 1745.
Fig. 12: Ramon Llull, memory wheel, 1305-1307. From *Ars generalis ultima* (Ars Magna), Turnholti,1986.

Fig. 13: Illustration of spring with palindromes. '… atlas excelsus on the same subject, many curious devises … chronograms'. From *Tracts,* 1743.

Water since antiquity has been linked to the ideas of transformation, purification and cleansing, in both a literal and a metaphorical sense. It is not coincidental that the most celebrated ancient Greek palindrome, ΝΙΨΟΝ ΑΝΟΜΗΜΑΤΑ ΜΗ ΜΟΝΑΝ ΟΨΙΝ (wash your sins, not only your face), refers exactly to those allegorical qualities of water.

In the Greek example, meaning and poetic structure are combined in an exceptional way and palindromic qualities are immediately related to those of water. A first reading of the Greek palindrome reveals a relation to the procedure of cleansing and purification with the mediation of water. But the palindromic arrangement of the letters also relates to the temporal, motional and metaphorical qualities of water. Like water, palindromes have the symbolic meaning of death and rebirth. In their mirrored function and reversible procedure, they have the ability to consume their own image and meaning (like the surface of water consumed Narcissus or the periodic rebirth of Phoenix in successive circles). And as water cancels its form in nature's reversible procedure, the palindromes are characterized by their ability to cancel meaning in their own reversible motion. Water has often been used as an illustration of time in space to represent flow of time or periodic repetition of time in recurrent events. In nature we meet the horizontal movement of water in relation to time (the waxing and waning of the sea according to the periodic movement of the moon) or its vertical movement as water changes form, from ice, to liquid, to vapour, in circles, returning to its origins. The stream of the river was also related to the flow of time as first claimed in philosophy by Heraclitus: 'This River is the river of Time. It casts souls only upon its bank; it carries away everything else without effort.'[21]

The above example (ΝΙΨΟΝ ΑΝΟΜΗΜΑΤΑ ΜΗ ΜΟΝΑΝ ΟΨΙΝ) was often inscribed on fountains cyclically around the structure or in arches and domes. In these cases the mechanism of the palindrome and the structure of the fountain or spring are combined in a remarkable way. Apart from the mental effort and imaginary movement between palindromes' distinct elements, these examples require physical movement in three-dimensional space in order for the palindrome to reveal its meaning.

The following two pictures [fig. 14, 15] show typical examples of monastic Byzantine architecture from Greece. The one on the left [fig. 21], from 1854, is from the medieval monastery of St Prodromos in Souli.[22] On the arch on top we note the inscription: ΝΙΨΟΝ ΑΝΟΜΗΜΑΤΑ ΜΗ ΜΟΝΑΝ ΟΨΙΝ. The fountain is a container for the 'holy water' used every year in the ritual of the Consecration of Waters. It follows the pattern of St Sophia in Constantinople where, according to testimonies, in the yard of the church was a spring running 'holy water', over which was built a circular fountain with the same palindromic inscription. That example does not survive today but similar buildings exist all over the regions of Byzantium. The second picture [fig. 15] comes from the monastery of the Genesis of Theotokou (mother of God) in Kuparissia.[23] According to myth, the monastery was established around a spring that was discovered by accident. The water was believed to be holy because on the same site an icon was buried depicting the Virgin Mary. On top of this spring we can observe the same palindromic inscription (as on St Prodromos. Those cases follow the ancient Greek tradition, which continued in Byzantium and in the Orthodox religion. But similar fountains with the palindromic inscription are found all over Europe, as for example in London's St Martin within Ludgate.

The palindrome is a linear text, a 'chain', which can be expressed circularly as it connects elements in a circle first to last, second to second to last, and so on, and each element has its corresponding element in the chain. Domes, vaults and arches are the forms that relate most to the palindromic text

Fig. 14: Container for the ‘holy water’, Monastery, Genesis of Theotokou (mother of God), Kuparissia, Greece, 1854.

because each block on one side needs its corresponding block at the other side. Each element of the construction is unique but is mirrored, both in position and in shape. If the law is broken then the structure, both of language and of space, will collapse.

To conclude, the palindrome, under a tradition of *spatial writing*, could be viewed more as an object that operates in close relation to the building itself. Very simply, when an architect or technician wants to construct a dome, an arch or a staircase, he or she has to mark stones in a palindromic way: stone A left to match stone A right, stone B left to stone B right, and so on. These stones could easily form a palindromic sequence, either marked on stone or in the architects memory, and could very easily adapt to develop poetry's form: a poem both for the mind and for the site and which at the end, engraved on stone, would become inseparable from the object itself. The experience of the dome, arch or staircase would carry something from the experience of the palindrome and vice versa, like the poetic composition with the double-headed eagle examined before.

As it concerns palindrome's poetic space in reference to Baudrillard, the palindromic values in word chains focus on the links rather than the elements themselves. Palindromes are links with the ability to open up to a poetic space of experience. Similarly, in architecture built 'chains' such as domes, arches, thresholds, passages and stairs could be considered as the spaces of combination that contain potentially all possible connections between elements, those expected and those not, and that is why palindromes are often associated with them. Their structure is, like text, a sequence of elements that can contribute an infinite multiplicity of combinations to the creation of the spatial experience. Thresholds and passages have the ability to link spaces as well as to link the links between spaces, in all different directions. Stairs and corridors are made of distinct elements that reflect themselves and always have a centre of balance, a mirrored surface where are reflected moments in their temporal and motional repetition. In simple words, thresholds, passages and corridors *look* simultaneously in two, or more, different directions exactly like the palindrome or like the example of the eagle mentioned above.

This paper started from a subject like the palindrome, that at first sight seems to be overlooked, forgotten, a curiosity or even a folly. But it seems that the palindrome is just a small part of a much wider subject, a very rich tradition of *spatial writing* that directly relates writing to architecture by using the same compositional or design methodologies. This tradition of *spatial writing*, although ancient, has not yet been researched properly in either architecture or literary studies. Each of the examples analysed here could be taken much further both in theory and in practice. Under a constantly developing concept like Rendell's site-writing, which sees writing as an active and critical practice for architecture, the study of a tradition of *spatial writing* – in which the palindrome plays only a very small part – could provide an insight in how to use design and text as analytical and creative tools for both literature and architecture.

Notes

1. Georges Perec, 'History of the Lipogram', in *OuLiPo a Primer of Petential Literature,* ed. by Warren F. Motte Jr. (Lincoln, NE and London: University of Nebraska Press, 1986), p. 98.
2. For example, the eighteenth-century pamphlet *Cœlum Orbis Teutonici Excellenti Rursus Luce Sua Nitescens Quando Augustissimus Potentissimus Ac Invictissimus Dom. Dominus Franciscus Stephanus … 13tia Septembris Electus Romanorum Imperator Semper Augustus (Romanorum Imperator Esset Coronandus) [Verses, Anagrams, Chronograms and Similar Pieces, with Illustrations]* (Moguntiæ: Per Johann Leonardum Ockel, 1745). In collection of anagrams under the title:

Fig. 15: Spring with palindromic inscription. From St Prodromos, Souli, Greece.

Tracts. (C) British Library self mark: 1605/223.(3.).

3. *Kabbala Denudata, Seu Doctrina Hebræorum Transcendentalis Et Metaphysica Atque Theologica: Opus ... In Quo Ante Ipsam Translationem Libri … Cui Nomen Sohar Tam Veteris, Quam Recentis, Ejusque Tikkunim ... Præmittitur Apparatus*, ed. C. Knorr von Rosenroth, 2 vols., *Zohar* (Francofurti: Sulzbachi, 1677-1684)
4. For more information on the magical tradition of palindromes see: Mare Kõiva, *Palindromes and Letter Formulae: Some Reconsiderations*, <http://www.folklore.ee/Folklore/authors/mare.htm> [accessed 19 July 2003].
5. Refences to palindromes and especially the ROTAS square could be found on pages 39, 43, 62-64, 91, 96, 98, 101, 143. Magnus Saint Albertus, *Albertus Magnus: Being the Approved, Verified, Sympathetic and Natural Egyptian Secrets; or, White and Black Art for Man and Beast … Translated from the German, Etc* (New York: 1880).
6. For more information on anagrammatic poetic form and the space it generates: Jean Baudrillard, 'The Extermination of the Name of God', in *Symbolic Exchange and Death* (London: Sage, 2002), pp. 195-243.
7. 'Could it be that deep down there may have never been a linear unfolding of history, there may have never been a linear unfolding of language? Everything moves in loops and curls, in tropes, in inversion of meaning, except for numeric and artificial languages which, for this very reason, have neither of these … ' Jean Baudrillard, 'Hystericizing the Millennium', in *L'illusion De La Fin: Ou La Greve Des Evenements* (Paris: Galilee, 1992).
8. Baudrillard, 'Hystericizing the Millennium'.
9. Indra Kagis McEwen, *Vitruvius: Writing the Body of Architecture* (Cambridge, MA: MIT Press, 2003), p. 82.
10. For a detailed analysis refer to: McEwen, *Vitruvius.*
11. Giordano Bruno, *On the Composition of Images, Signs & Ideas*, ed. Dick Higgins, trans. Charles Doria (New York: Wills, Locker & Owens, 1991), p. 250.
12. Verlaine sent a copy of *Poemes Saturnien* to Mallarmé in 1866, as we can witness in their correspondence. Stéphane Mallarmé, *Selected Letters of Stéphane Mallarmé*, ed. Rosemary Lloyd, trans. Rosemary Lloyd (Chicago and London: University of Chicago Press, 1988), p. xvi.
13. Jane Rendell, 'Architecture-Writing', *Journal of Architecture* 10, no. 3 (2005), 263.
14. For more information look at: Publilius Optatianus Porphyrius and Giovanni Polara, *Publilii Optatiani Porfyrii Carmina* (Turin: In aedibus Paraviae, 1973).
15. On the first page of this anthology there is a small description of the pamphlet as 'Coelum Orbis Teutonici. Election of Francis Consort of Maria Theresa, as Emperor 1745. Many curious cabalas, devices, and calculations. 45 Chronograms', obviously characterized as such much later than the date of their printing, possibly by those who collected and organized the contents of the whole volume. *Tracts*. (C) British Library self mark: 1605/223.(3.)
16. Memory wheels like the ones described could be found in: Ramon Llull, *Ars generalis ultima [Ars Magna]* (Turnholti, 1986).
17. '… atlas excelsus on the same subject, many curious devises … chronograms', 1743, *Tracts*. (C) British Library self mark: 1605/223.(3.).
18. The idea of the mask as a surface of reality in poetry could be examined in relation to Baudelaire and the Parnassians. Parnassians looking back at ancient poetic forms believed in the importance of form and surface; if reality manifests itself through form (structure and its surface), then studying it as an object is the only way to reach the concept of ideal beauty in poetry. This concept originates in Charles Baudelaire (1821-1867) and the following line from 'L'Amour du mensonge' [the love of the lie] inserted in the 1861 edition of the *Fleurs du Mal*: 'Masque ou décor, salut! J' adore ta beauté' ['Mask or prop, I hail you! I love your beauty']. Robert T. Denomme, *The French Parnassian Poets* (Carbondale, Edwardsville: Southern Illinois University Press, 1972), pp. 30,1.
19. Mircea Eliade, *The Myth of the Eternal Return: Cosmos and History*, trans. William R. Trask (London: Arkana, 1989), p. 8.

20. Eliade, *The Myth of the Eternal Return*, p. 15.
21. Heraclitus (fifth century BC), who was called the philosopher of fire and water, was the first to introduce this metaphor to Western philosophy. One of his most famous quotes is: 'On those who step in the same river, different and different waters flow', meaning that we cannot enter the same river twice as time (the waters) will be different. Translation based on Kostas Axelos, *Héraclite et la Philosophie* (not translated into English). Kostas Axelos, *Héraclite et la Philosophie: La première saisie de l'être en devenir de la totalité* (Paris: Éditions de Minuit, 1962). Also available in Greek: Κώστας Αξελός, *Ο Ηράκλειτος και η Φιλοσοφία* (Αθήνα: ΕΞΑΝΤΑΣ, 1976), p. 58.
22. Picture and information obtained from the site of municipality of Souli: <http://gym-n-souliou.ser.sch.gr/axiotheata/prodromou.htm> [accessed 6 August 2005].
23. Picture and information obtained from the monastery's website: <http://www.monastery.gr/monastery.htm> [accessed 6 August 2005].

Biography

Sotirios Varsamis is an architect (PhD, MSc, Dipl.-Ing, TCG) with a long and diverse background in architectural design, product design and interdisciplinary research with a specialisation in Architectural History & Theory. He holds a PhD in Architecture and a MSc in Architectural History & Theory by the Bartlett School of Architecture, UCL completed with a full time scholarship for post-graduate studies in Architectural History by the Hellenic State's Scholarship Foundation (IKY). He has presented and exhibited his design and theory work at various seminars and conferences in the U.K. and abroad.

Thesis-Building: Architecture, Alchemy and the Constructive Moment(s) of a Doctoral Dissertation

Willem de Bruijn

To D.H.

Introduction

The writing of a PhD thesis has, so this paper argues, its 'moments' – of discovery, of despair, of truth, of revelation and even, as some claim, of Barthesian *jouissance*. These 'moments' are fairly self-explanatory to anyone who is, or has been, going through the process of writing a doctoral dissertation. Yet, it must be noted that these 'moments', for whatever they're worth, do not usually extend beyond a writer's internal experience: they lose much of their peculiar, emotional intensity once they have passed through experience and become absorbed in the text. And yet, who will deny that such moments – particularly those of discovery – also drive academic research? To want to think seriously about these instances of impassioned engagement – the 'highs and lows' of a PhD – may strike some as ever so slightly *pathetic* (I will come back to the use of this term later), especially in an academic context. And surely, the significance of these 'moments' to a thesis can appear highly significant and meaningful from one point of view, but entirely trivial and arbitrary from another. But let us, for now at least, persist in our task and ask: How is a thesis constituted around these moments?[1]

Benjamin's 'Constructive Moment'

Now, when it comes to talk about key 'moments' in the writing of a doctoral thesis, it is worth recalling what cultural theorist Walter Benjamin referred to as the 'constructive moment' with regard to his famous *Passagen-Werk*, known in English as *The Arcades Project*.[2] For in this 'moment', time and space intersect in almost mystical fashion to reveal the author's ambition. The reference appears in a letter to Gretel Adorno dated 16 August 1935, in which Benjamin writes: 'This much is certain: the constructive moment means for this book what the philosophers' stone means for alchemy'.[3] Benjamin's allusion to alchemy and the philosophers' stone is intriguing. For, what does alchemy, the art of transmuting base metals into gold, have to do with constructing a book? To be sure, Benjamin's reference to alchemy has not gone unnoticed among scholars and some take it as evidence of an 'alchemical element' in Benjamin's work.[4] It is certainly true that references to alchemy and alchemists abound in Benjamin's work, but commentators have never seemed to interpret them as anything other than a metaphor. Hannah Arendt, for one, seems to have been somewhat puzzled by a comparison Benjamin makes (in his essay on Goethe's *Elective Affinities*) between the task of the literary critic and the work of an alchemist:

> The critic as an alchemist practising the obscure art of transmuting the futile elements of the real into the shining, enduring gold of truth… whatever we may think of this figure, it hardly corresponds to anything we usually have in mind when we classify a writer as a literary critic.[5]

If the figure of the critic-as-alchemist seems a little unusual to Arendt, we should perhaps remind

ourselves that the popular perception of alchemy during the twentieth century was, and still is, heavily tainted by nineteenth-century Romantic visions of solitary alchemists working away amid their crucibles and retorts in badly lit laboratories. A closer look at the historical context in which actual alchemists operated shows, however, that alchemists were often prolific writers and, far from living an isolated life, associated with some of the most powerful courts in early seventeenth-century Europe. This insight must be attributed in good part to the pioneering work of Frances Yates, who has brought to light the crucial role writing and publishing plays in the work of alchemists like Robert Fludd and Michael Maier.[6] More recent scholarship has also shown the importance of alchemy in the rise of the laboratory as a new space for scientific experimentation in the same period.[7] But how could this historical 'moment' also be 'constructive' of a thesis? Here, Benjamin's idea of a 'constructive moment' may offer a means to understand how different temporalities (historical time, thesis-time, etcetera) intersect in the pursuit of a PhD. As the editors of a special issue of *New Formations*, devoted to a revaluation of Benjamin's *Arcades*, put it:

> It follows… that what is most crucial about the 'constructive moment' is the relationship between the structural principle and the moment of its actualisation; and at this point we, as contemporary readers, must take full account of the passing of Benjamin's moment.[8]

Needless to say, the passing of Benjamin's moment is a particularly tragic one, as Benjamin died before seeing the *Arcades Project* published. But here also lies a challenge, as the actualization of Benjamin's *Arcades* now depends entirely on our ability, as readers, to reconstruct the *Arcades* in some way.[9] Benjamin left to posterity a collection of fragments: bits of text – quotations from a broad selection of historical sources – for which the organizing principle was never fixed. Hence, it may even be better to remove the 're' before 'construct', when referring to our task as readers. Still, the word construction may seem a little too learned for our purpose; it is a good metaphor, but it doesn't capture the material reality of the task at hand. Which is perhaps why Rolf Tiedemann, editor of the *Passagen-Werk* in German, speaks in terms of 'building': 'The fragments of the *Passagen-Werk* can be compared to the materials used in building a house, the outline of which has just been marked in the ground or whose foundations have just been dug.'[10]

To speak in terms of building (and digging) is clearly much more down to earth and partly recovers the material status that the *Arcades*, as architecture, have. In a melancholy reflection on the unfinished aspect of Benjamin's project, Tiedemann further notes that: 'Perhaps even the building Benjamin did not manage to build will delineate itself before the imaginatively speculative eye in shadowy outlines.'[11]

With Tiedemann's reference to building we are approaching Benjamin's *Arcades* in a way that suggests a different kind of 'project': one that is architectural as well as literary. This interpretation can be related to the word Benjamin uses in reference to his 'Early Drafts' for the *Passagen-Werk*, which he calls *Frühe Entwürfe*, since the German *Entwurf* can mean *design* as well as draft. Yet, to see Benjamin's *Arcades* as a work of architectural design requires an adjustment of our conventional conceptions of architecture, writing and the PhD (regardless of the distinction between the 'PhD in Architectural Design' and the 'PhD in Architectural History and Theory').[12] For, if Benjamin can be said to *write* arcades, just as some are said to 'write' books, architecture can take any form, including that of a suitcase filled with manuscript notes, a box containing index cards or, indeed, a book.[13]

Moreover, the notion of 'outline', as invoked by Tiedemann, is one that ties design and writing together, for we draw the outline of buildings, not

their mass or their weight. 'Outline' is also the word by which we refer to the overall structure of a doctoral thesis and, as such, one that never ceases to haunt the doctoral student, as it is constantly under review and never quite fixed in the process. But if the 'Thesis-Outline' is always under review and changing, and never quite so stable as we might like to think, how can we speak of a 'constructive moment' in the singular? Do we not run the risk of putting too much weight on something that is still waiting to 'actualize'? Personally, I find it extremely difficult, if not impossible, to locate the equivalent of a constructive moment *in time* that could apply to the actual construction, which my thesis *is*. I find it equally difficult to identify a 'moment of conception' that would mark the birth of the thesis as the product of a conscious intellectual effort. Then again, to what extent does the 'constructive moment' of a thesis not lie hidden in its conception? And: Is the structure of a thesis not already present in its conception – a conception *as of its structure*? Or does, on the contrary, construction, as process, compromise or alter conception in ways that cannot be foreseen? These are questions I'd like to explore further in the following five segments, each of which looks at one particular 'moment' in the genesis of my thesis, entitled *Book-Building: A Historical Investigation into Architecture and Alchemy*, which was submitted for a doctoral degree in 2010.

Conception

There is a rather curious image of (male) conception that can be found in a so-called book of emblems by German alchemist Michael Maier (1568-1622), entitled *Atalanta Fugiens* (1618).[14] In this book the visual and verbal discourse of alchemy is both eroticized and gendered in the extreme. The very first emblem in the book shows a naked man with outstretched arms and hands that turn into turbulent air [fig. 1]. He is visibly pregnant with a child, which is confirmed in the accompanying motto: 'The Wind carries it in its belly.' According to Maier's explanation that accompanies the emblem, this image is an allegorical expression of the volatile element Sulphur that is contained by Argent Vive (quicksilver) in the alchemical vessel. All of Maier's emblems are in this way allegorical expressions of chemical procedures.[15]

In recent studies of *Atalanta Fugiens*, Michael Maier's emblems have prompted a number of critical feminist readings that interpret the first emblem from a psychoanalytic point of view as an expression of 'womb envy'.[16] According to this interpretation, the man represents the figure of Hermes Trismegistus, mythical founder of alchemy, whose pregnancy symbolizes 'the inseminating role of the male and, even more explicitly, the desire to appropriate the function of maternity'.[17] By implication, the alchemist, who is always male, thus metaphorically appropriates an aspect of motherhood at the expense of women, who are often shown in either a nursing capacity or as engaged in domestic work.[18]

I have, at times, wondered whether the thesis, this 'brain child' of mine, is similarly expressive of a case of 'womb envy'. The centrality of Maier's *Atalanta Fugiens* in the thesis certainly suggests that my encounter with the emblems was, quite literally, pivotal to the thesis and the PhD as a whole. Yet, the above interpretation also seems problematic. Its dismissive tone and promise of hermeneutic closure certainly seem somewhat premature. Having said this, I do suggest in the Preface to the thesis that there is a way in which the thesis might fulfil a psychical function in transforming an early memory of motherhood. I must have been about 10 years old, or younger, when I produced a number of little pamphlets containing poems and short stories, which I was proud to show to my mother, who, it will be noted, had been pregnant twice since my birth. My mother, who worked as a translator, had her office in the room next to mine, where she was working on her master's dissertation (in comparative linguistics). My most vivid memory of this time relates to the sound of typing that came from my

mother's study late in the evening after I had gone to bed. As I listened to her typing away on her grey Olivetti, I must have dreamed of one day typing away myself, no matter what. And when my mother gave me her typewriter, after she had bought a new one, my writing must have felt like an appropriation of her (intellectual, rather than biological) creativity – embedded as it seemed in the technology that the typewriter represents.

In invoking this childhood memory, the Preface of the thesis aims to convey the pleasure I experienced as a child in creating works using the humble means at my disposal, including a ball of blue wool which I found in my mother's knitting basket and which I used to bind my stories. The Preface thus brings a child's pleasure to bear on something as potentially dry and cerebral as a piece of academic writing. The 105 plates interspersed in the text of the thesis further fulfil the ambition I had as a child to treat word and image as equally important (I drew my own illustrations). Yet, in providing a founding myth for the thesis, this childhood memory does not in any way mark the 'birth' of the thesis as idea, for which we need to fast forward in time, to another beginning.[19]

Discovery

Let's pretend for a moment that there was a true beginning, where the idea of the PhD ignited like a spark. Prior to this moment I had no, so to speak, conscious idea of what a 'PhD' is, let alone of what it might mean to write one. What I had was an intuition. I had just entered my second year at the School of Architecture in Delft. During this year, and the following years, I was closely connected to one of my paternal uncles, a notary and painter, whom I often visited at his home in the east of the country. It was during one of these visits, while browsing the shelves of my uncle's library, that I came across Carl Gustav Jung's *Collected Works* in a Dutch translation. I remember being struck by some of the illustrations appearing in the volume entitled *Psychology and Alchemy* showing alchemical laboratories. One of the illustrations shows three men looking at a glass vessel on top of a small kiln [fig. 2]. In his discussion of the image, Jung draws attention to the curious division of the space in which the scene is taking place:

> On the right is a laboratory where a man, clothed only in trunks, is busy at the fire; on the left a library, where an abbot, a monk, and a layman are conferring together. In the middle, on the top of the furnace, stands the tripod with a round flask on it containing a winged dragon… .[20]

According to Jung the dragon here symbolizes 'the visionary experience of the alchemist as he works in his laboratory and "theorizes"'. Jung further interprets the spatial division of the picture as 'a graphic illustration of the double face of alchemy', whereby the laboratory and the library represent two sides to the *opus alchymicum*: one practical, the other theoretical. While the practical side of alchemy consists of 'a series of experiments with chemical substances' performed in the laboratory, the theoretical side is speculative and consists of building 'a more or less individual edifice of ideas', with books.[21]

I did not engage critically with Jung's interpretation until the moment came to decide what to do after graduating from Delft. As I considered my options and toyed with the idea of doing research, the image of the alchemist's laboratory came back into view. It was at this time that the idea of a PhD was formulated through a research proposal linking my fascination with alchemy to architecture. In the first year at the Bartlett School of Architecture in London, where the PhD was undertaken, it quickly became clear, to my surprise, that, however esoteric the subject might have seemed, *alchemy* enjoyed great popularity as a metaphor in the discourse of architectural design.[22] Another noteworthy fact, which gave the thesis a strong sense of urgency,

Fig. 1

Fig. 2

Fig. 1: Conception, or, Emblem I: 'The Wind pregnant with a child'. Source: Michael Maier, Atalanta Fugiens (Oppenheim: Johann Theodor de Bry, 1618; repr. Kassel: Bärenreiter, 1964). Reproduced with permission from Bärenreiter Verlag, Darmstadt.
Fig. 2: Discovery, or, Figure XIV: 'Three Possessors of the Philosophers' Stone'. Source: Daniel Stoltzius von Stoltzenberg, Chymisches Lustgärtlein (Frankfurt: Lucae Jennis, 1624; repr. Darmstadt: Wissenschaftliche Buchgesellschaft, 1964). Reproduced with permission from the Stadtbibliothek Ulm.

was the global trend in naming spaces of architectural experimentation 'labs' or 'laboratories' of some kind – *Spacelab Cook-Fournier*, responsible for the design of the Kunsthaus in Graz, Austria, being a case in point. In response to this phenomenon I wrote 'that all these references to the laboratory are indicative of a tendency to want to situate architecture somewhere between magic and science – historically the realm of alchemy'.[23]

In order to make sense of the current 'alchemic' conception of architecture, the thesis had, in other words, to look at architecture and alchemy historically as well as theoretically. And so, the PhD began with a trip to the British Library, where many of the key alchemical texts – the same that Jung had looked at and collected – can be found. It was on this trip (and others that followed) that an important discovery for the thesis was made. For, through my encounter with some of the primary sources, it first became clear that alchemists had a special interest in architecture, as evidenced in their use of metaphors such as the 'THEATRE', the 'MUSEUM', the 'CABINET' and the 'PLEASURE GARDEN'. This did not, however, constitute original knowledge.[24] The real discovery, so to speak, concerns the way in which these metaphors relate to an architectural conception of writing, publishing and the making of books.

Take the image of the three men in the laboratory. This engraving originates in the title-page of a book by German alchemist Michael Maier entitled *Tripus Aureus*, or *Golden Tripod*, published in Frankfurt in 1618.[25] The subtitle of the book makes clear that the 'tripod' of the title is a reference to three texts by three different authors (Basil Valentine, Thomas Norton and John Cremer) which Maier translated, edited and collated.[26] This means, however, that the tripod depicted in the engraving refers not just to an actual piece of equipment in a laboratory, but also to the literary equivalent of a tripod in the medium of print, where each individual text (by Valentine, Norton and Cremer) forms one 'leg' supporting the vessel that is the book. The title-page of the *Golden Tripod* thus confers upon Maier's book the status of an alchemic experiment in writing and in publishing, based on the works of others.

My encounter with Michael Maier's work in the British Library prompted a series of case studies centring on the published works of three alchemists: Heinrich Khunrath (1560-1605), Michael Maier (1568-1622) and François Béroalde de Verville (1556-1626). This doctoral equivalent of a 'tripod' is introduced at the start by a theoretical chapter and complemented at the end by a chapter on the work of Italian architect Antonio Filarete (1400-c1469), whose interest in architecture was alchemical. Historically, then, the thesis looks at two key moments: the heyday of alchemical publishing during the first two decades of the seventeenth century and the rise of the architectural treatise during the Italian Renaissance. This conjunction of moments might seem a bit odd from a chronological point of view, but serves to underscore the importance of a spatial connection between the works of Khunrath, Maier, Béroalde de Verville and Filarete, for they all constitute the space of books as one of architectural and alchemical experimentation, for which the library and laboratory are the double-faced manifestation in built form.

Despair

Among the many emblems that alchemists published during the first decades of the seventeenth century, there is one that depicts a somewhat eerie landscape, or seascape perhaps, battered by rain, hail and snow [fig. 3]. Flashes of lightning flare up in a clouded sky. There is no sign of life, which is unusual, because emblems nearly always contain figures in human, animal or vegetal form. This lack of recognizable figures lends the elements of nature a strange allegorical power. It is as if the stormy weather, caught in a momentary flash, is no longer what it represents, but the image of an inter-

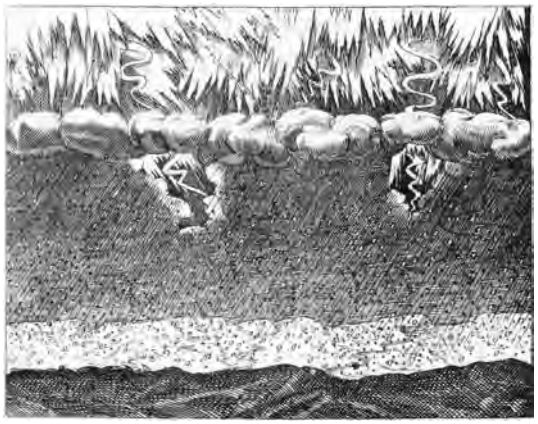


Fig. 3

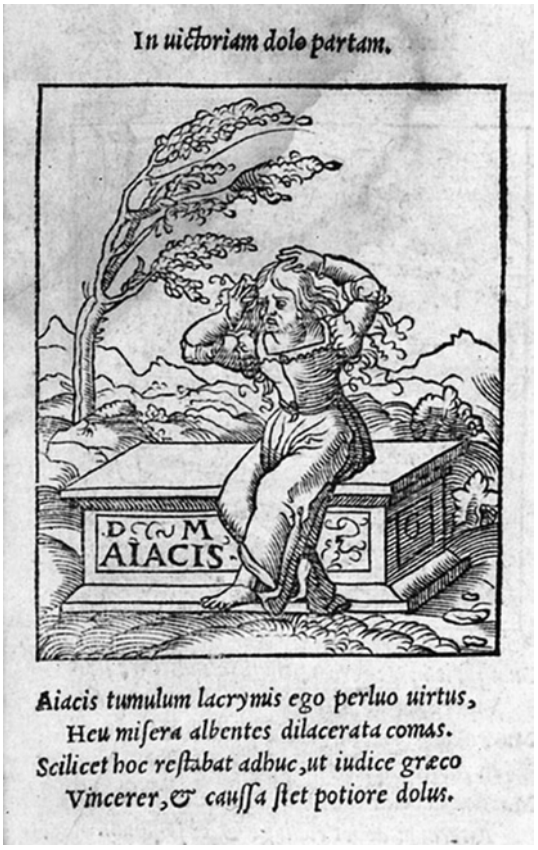


Fig. 4

Fig. 3: Despair, or, Figure XXVIII: 'A Meteorological Thing'. Source: Daniel Stoltzius von Stoltzenberg, Chymisches Lustgärtlein (Frankfurt: Lucae Jennis, 1624; repr. Darmstadt: Wissenschaftliche Buchgesellschaft, 1964). Reproduced with permission from the Stadtbibliothek Ulm.
Fig. 4: 'In victoriam dolo partam', from Andrea Alciato, Emblematum liber (Paris, 1534). Reproduced with permission from University of Glasgow Library, Special Collections.

nal experience, more specifically: a state of mind. The PhD, so this image suggests, can be your own mental tempest: it is the Shakespearian 'sea-change' you seek to bring about through writing. But not without suffering. For, in contrast with the euphoric sensation that moments of discovery can bring, there are times when the writing of the thesis is downright painful. These are moments when you find that your sentences do not work (however hard you try) and that the mere look of your own writing suffices to make you nauseous.

Writing in general can be a painstaking and, indeed, painful process. The PhD, in a sense, champions the most painful of all. It institutionalizes it. How? Through rules of conduct. Take the practice of referencing, for example. Now, referencing can be a real pain. Virtually everything you say must be traceable to, and verifiable in, other sources. This requires great discipline. To be sure, there is nothing to be critical of here. A PhD is a PhD. Even printing the thesis can be a pain, especially if a printer has to be fed manually, which can be very torturous when things go wrong (and things *do* go wrong). But this is all endured in the good faith of getting something done. There are, however, moments when the writing plunges you into a deeper kind of despair.

An image that I find particularly emphatic in this regard appears in Andrea Alciato's *Emblematum liber* (1534), which founded the emblem book as a genre combining three elements to construct an emblem: a picture (in the form of a woodcut), a motto (at the top) and a caption, usually in verse, placed below the picture (also known as an epigram), all of which are generally understood to unite in one, often moralizing, verbal-visual message.[27] The picture in question shows a woman, symbolizing Virtue, seated on a tomb *tearing her hair out* [fig. 4]. In the background we see a mountainous landscape and to the left a solitary tree bent by a strong wind, looking like it is about to snap. The woman's hair flows wildly in the wind. Her torments, we learn in the caption, are caused by the unjust fate of Ajax who killed himself after having failed to convince a jury that he, rather than the cunning Odysseus, should be given the shield of Achilles in reward for the toils that he suffered in battle. On the tomb is inscribed the name 'AIACIS' (Ajax), which contains the auditory sign of the hero's suffering (Ai!). An earlier and somewhat cruder version of the woodcut appearing in the *editio princeps* of Alciato's *Emblematum* (1531) presents an even starker and arguably more powerful image of the woman, standing next to the tomb of Ajax (whose name does not appear on the stone) and pulling out her hair with both hands [fig. 5]. More poignantly, the absence of any inscription on the tomb can be read as an invitation to project and inscribe the cause of one's own despair. But whichever emblem we look at, it is the gesture that counts: pulling your hair out. There is nothing allegorical about that. It is what you do when you despair.

Alciato's emblem of Virtue might be understood, then, as a metaphor for the unsung heroism that is required in the battle for a doctoral degree. But the tale of Ajax and his failure to win the contest also suggest that there is a danger in glorifying the labour involved. The thesis is not a mere flexing of muscles. The heroic aspect of a PhD must be weighed against the cunning it takes to pull off an original argument. After all, Odysseus shows that 'victory' may come through a form of tactful deceit, which questions accepted ways of understanding the world. The same, we could argue, applies to received and tried methods of research in relation to the PhD. It is, one might say, a question of 'cheating' that is the very opposite of plagiarism. Which is what the thesis does in proposing a concept – *book-building* – that overturns two saturated domains of knowledge (architecture and alchemy) by linking them, unexpectedly as it were, through a series of practices (printing, publishing, binding, typesetting, etcetera), each of which receives separate attention in the case studies.

Fig. 5

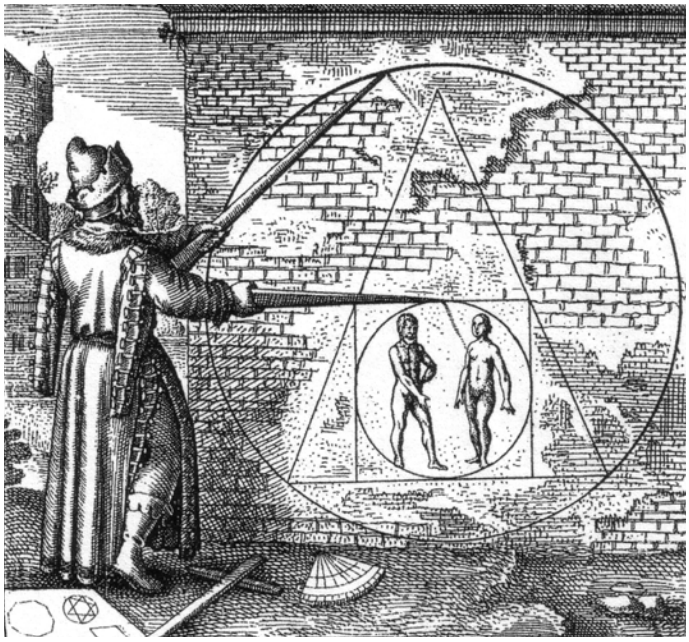


Fig. 6

Fig. 5: 'In victoriam dolo partam', from Andrea Alciato, Emblematum liber (Augsburg, 1531). Reproduced with permission from University of Glasgow Library, Special Collections.
Fig. 6: Revelation, or, Emblem XXI: 'Draw a circle out of the male and the female; next draw a square and from this a triangle; draw another circle and you will have the Philosophers' Stone'. Source: Michael Maier, Atalanta Fugiens (Oppenheim: Johann Theodor de Bry, 1618;
repr. Kassel: Bärenreiter, 1964). Reproduced with permission from Bärenreiter Verlag, Darmstadt.

Truth

In constructing the thesis around a number of case studies, there may have seemed little room for error. The truth is that an entire chapter, devoted to a study of Jean-Jacques Boissard's *Topographia urbis Romae* (1681), had to be excised in the process of writing up the thesis.[28] It was in the course of a tutorial that the inclusion of a chapter on Boissard and his book on Roman antiquities was questioned and eventually dropped. Abandoning Boissard was not a pain-free operation, but certainly made easier by the prospect of publishing a conference paper on the subject.[29] Also significant was the fact that some space was created in a thesis that was in danger of exceeding the maximum number of words (100,000). Moreover, in focusing on the works of three alchemists and one architect, the thesis appeared more structurally sound.

Yet, what had seemed as steady as a rock and perfectly formed, was to be threatened with a potentially deathly blow, the significance of which may be understood by turning to one of Michael Maier's most striking emblems, which depicts 'Mars smiting an egg with a fiery sword', as the motto of Emblem VIII in *Atalanta Fugiens* tells us [fig. 6]. In this moment full of suspense, a literal *'coup' de théâtre* is about to take place, any instant from a never-ending now, as the figure of Mars raises his sword above a large egg resting in upright position on a table. The scene takes place in an enclosed courtyard that, although clearly outdoors, contains a fireplace in which a fire is burning. The wall at the back has a rectangular opening offering a view down into a long corridor ending in a portal. Whatever we may think of *this* image, it hardly corresponds to what we usually have in mind when we think of the alchemist at work.

The use of a single-point perspective in the construction of the tiled floor and, by extension, the corridor in the back wall, has prompted some to suggest that the raking lines are meant to draw the viewer into the space of the representation, like indexes, so that a form of alchemy could take place in the act of viewing.[30] Although it is possible that this was indeed the intention of the artist who produced the drawing for the engraving, it must be noted that such a reading of Maier's emblem seems somewhat contrived. For, in providing an explanation (however erudite and academically justified), this reading reduces the emblem's allegorical power to near-nothing by condemning the engraving to continue its life as an illustration to a theory, for which better examples could be cited.[31]

To rescue Maier's emblem we must bring the picture 'back' in relation to something other or different (*allos* in Greek) that forms part of public life (*agora*) and which is spoken (*agoreuein*), if we wish to remain close to the etymological meaning of allegory. Here, then, the image of Mars raising his sword above an egg opens a view onto an aspect of the PhD that is quintessentially dramatic and performative: the *viva*, proverbial hour of truth for the thesis. My own experience of the *viva* could certainly not wish for a better visualisation. The examination took place in a confined space (my supervisor's office) and included, most crucially, a low table on which rested the thesis. The spatial set-up could not have been more symbolic. My attire, meanwhile, smacked of alchemy's obsession with turning lead into gold: I wore a combination of grey shirt and grey trousers contrasted with yellow shoes and a golden Liberty tie – my own version, in other words, of an allegorical outfit (just as Mars, 'bringer of war', is dressed in a Roman soldier's armour).

Not exactly a war-zone, perhaps, the *viva can* be a battle, though less between you and your 'opponents' (as examiners are sometimes called) than between you and the monster that you have created, that is, the doctoral equivalent of Ladon, the hundred-headed dragon. But was my thesis sporting one head too many? When my examiners questioned the presence, in the thesis, of the final

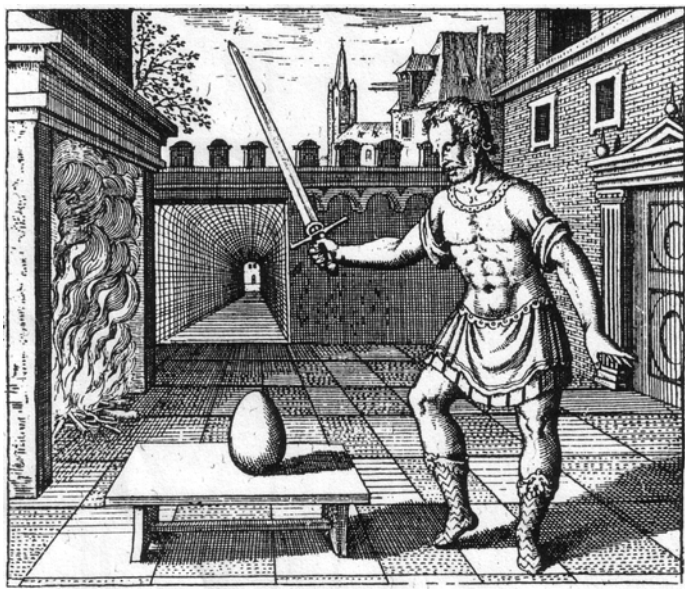


Fig. 7

Fig. 8

Fig. 7: Truth, or, Emblem VIII: 'Mars smiting an egg with a fiery sword'. Source: Michael Maier, Atalanta Fugiens (Oppenheim: Johann Theodor de Bry, 1618; repr. Kassel: Bärenreiter, 1964). Reproduced with permission from Bärenreiter Verlag, Darmstadt.
Fig. 8: Jouissance, or, Emblem L: 'The dragon kills the woman, and she kills it, and together they are bathed in the blood'. Source: Michael Maier, Atalanta Fugiens (Oppenheim: Johann Theodor de Bry, 1618; repr. Kassel: Bärenreiter, 1964). Reproduced with permission from Bärenreiter Verlag, Darmstadt.

chapter on Filarete's *Trattato di Architettura* (1460-1462), it seemed like a sword was raised above the proverbial academic egg. I could, however, instantly see their point. If there was any truth to what my examiners were saying, it was this: that the thesis could have focused exclusively on alchemists, whose work fitted neatly in a tight timeframe spanning the period between 1595 and 1618… My initial response, therefore, was that, yes, the final chapter could have been omitted, but I argued in defence of the thesis that Filarete's interest in architecture was alchemical and that his *Trattato* constitutes a unique example of book-building and the first to take the form of an 'architectural book' (*libro architettonico*).[32] A thesis without Filarete, as imagined by my examiners, would, in some sense, have been too good to be true.

Revelation

There are emblems in the stock of emblematic material published during the sixteenth and seventeenth century that confuse scholars more than others. Michael Maier's Emblem XXI is one of these [fig. 7]. The engraving shows an alchemist with a giant pair of dividers in his hands, demonstrating the construction of a geometrical figure on a wall. The epigram below the picture reads as follows:

> *Around the man and woman draw a ring,*
> *From which an equal-sided square springs forth.*
> *From this derive a triangle, which should touch*
> *The sphere on every side: and then the Stone*
> *Will have arisen. If this is not clear,*
> *Then learn Geometry and know it all.*[33]

Maier's reference to geometry (and to Plato in the two-page 'Discourse' accompanying the emblem) has led scholars to interpret the emblem as being related more closely to the world of symbols than to allegory. As one art historian writes, Maier's Emblem XXI 'does not contain such a narrative-based allegory' as can be found in most other emblems, 'but functions rather as a mandala'.[34] The picture, according to this interpretation, is a 'revelatory image' that must be understood as the product of a 'momentary intuition which, all of a sudden, enlightens the observer' – in contrast to allegorical images, which take time to interpret.[35]

Now, for an emblem to perform as a 'mandala', it is necessary that the three constituent parts of the emblem are in complete agreement with each other. Any kind of disagreement between picture, motto and epigram would, after all, distract the observer and delay any form of enlightenment. Yet this is precisely the case, for there are aspects of the picture in Emblem XXI that cannot be 'explained' by the epigram (and *vice versa*). It can be noted, for example, that the top of the triangle in the geometrical figure fails to touch the outer circle, leaving a gap that is too big to ignore or qualify as a 'mistake'. This incongruent detail contradicts what the epigram tells us, namely, that the triangle 'should touch / the Sphere *on every side*'. This inconsistency between picture and epigram is completely meaningless, but no less significant as an imperfection in what aspires to be perfect, that is, the kind of totality associated with a symbol or 'mandala'. Henceforth, sudden enlightenment gives way to an endless and potentially fruitless staring at a fundamental 'non-correspondence' between motto, picture and epigram.[36]

Ironically, then, Emblem XXI marks a moment of revelation after all, for the thesis that is, but it is a revelation arrived at gradually, through time-consuming analysis and comparison. As for enlightenment, nothing is more shadowy and potentially deceptive than allegory. Benjamin, in his study of the German *Trauerspiel*, already noted with great insight how allegory only ever aims to give a 'false appearance of totality'.[37] Behind this false appearance of totality, Benjamin observes, everything crumbles and disintegrates according to the laws of a temporality specific to allegory emphasizing the transience of all things.[38] In view of these insights, it

is curious that Benjamin's acute analysis of German emblematic literature remains largely overlooked in the field of emblem studies.[39] The same may be noted in regards to Benjamin and the figure of the alchemist, which may have its origin in his friendship with Gershom Scholem, who was an authority on the subject of Cabala and alchemy.[40] More importantly, perhaps, Benjamin's interest in the work of Johann Wolfgang von Goethe, who was intimately familiar with the alchemical emblem books of the Baroque, fails to be recognized as an important link between Benjamin and the 'alchemical element' in his work.[41] Awaiting deeper analysis, these connections at least suggest that Benjamin's figure of the critic-as-alchemist is not fully abstracted from history, however unusual it may have seemed.

Jouissance

In view of the transitory character of the 'moments' which we are considering here, it may seem strange to consider the lasting effect they have on the thesis. Yet, in passing, a moment also lingers (on), sometimes to devastating effect. An issue of *Times Higher Education* (29 October 2009) calls attention to the potentially traumatic effects a PhD can have on those who undertake one, as when a student is given major amendments at the *viva*, or worse still, fails the *viva* altogether. The article suggests, however, that the potentiality of these events should not deter anyone from undertaking a PhD, if only because the PhD provides true occasions for Barthesian *jouissance*, that is, 'rare moments of intense "orgasmic" pleasure in intellectual achievement', which allow us to endure the process.[42] But what should we understand *jouissance* to mean exactly? One thing we can be sure of: *jouissance* does not occur when you hand in a copy of the final thesis, at least not in the sense attributed to the term by cultural theorist Roland Barthes. For, the kind of pleasure that Barthes associates with *jouissance* is one primarily related to writing and so cannot occur 'after the fact', so to speak. *Jouissance*, according to Barthes, involves an idea of play where words are divested from their attachment to the world of things (their gravity if we wish): it is a potentially infinite play with, and of, signifiers floating freely in the ether of what Barthes calls the 'Text'.[43]

It is sometimes hard to picture what an intellectual like Barthes actually imagines *jouissance* to be, that is to say, concretely, as a sensation, rather than abstractly as an idea. Once again, an image borrowed from Michael Maier's *Atalanta Fugiens* might be of help. This might also allow us to recover some of their didactic character, as emblems were always the domain of a dual interest in 'pleasure' and 'profit'.[44] The emblem in question is the last in the series: it shows a woman lying in a shallow grave, entwined with a winged dragon [fig. 8]. The scene takes place against a backdrop of scattered ruins, taken over by nature (proof of the transience of a civilization). The maiden appears to be lifeless or near death, as the dragon tightens his grip around her. Yet, her half-opened mouth suggests a strange state of bliss, which can only result from her embrace with the scaly creature.

Perhaps we should picture *jouissance* in the likeness of this image: as a kind of lovemaking where reader and writer, at the source of their encounter, are as inseparable as only lovers can be. As Barthes writes, *jouissance* is a 'pleasure without separation'.[45] But separation from what? From the works of authors who are long dead and buried:

> Certainly there exists a pleasure of the work (of certain works): I can delight in reading and re-reading Proust, Flaubert, Balzac, even – why not? – Alexandre Dumas. But this pleasure, no matter how keen and even when free from all prejudice, remains in part… a pleasure of consumption; for if I can read these authors, I also know that I cannot *re-write* them (that it is impossible to write 'like that') and this knowledge, depressing enough, suffices to cut me off from the production of these works.[46]

If Barthes felt separated from the production of great works of literature by the mere knowledge, worthy of a melancholic, that he could not '*re-write* them', it must seem strange that he should continue to identify them with the names of their authors ('Proust', 'Balzac', etcetera). For, in naming them thus, Barthes upholds a rather conventional notion of authorship that he elsewhere aims to overturn.[47] After all, why should it not be possible to rewrite Proust, Balzac, even – why not? – Alexandre Dumas? Examples to such effect exist, as shown in a recent work by artist Sharon Kivland, who reduced Émile Zola's novel *Nana* (1880) to a mere paragraph citing only passages that talk about light, lighting effects and metaphors of light as they appear in the original text.[48]

The thesis shows that this type of rewriting and reworking has a precedent in the work of alchemists like François Béroalde de Verville (1556–1626), who offered contemporary readers an alchemical reading of a famous fifteenth-century text that is all about pleasure (at once erotic and architectural), entitled *Hypnerotomachia Poliphili* (1499). By tracing the long history of reception and translation related to the *Hypnerotomachia*, from its reception in France during the sixteenth century down to Charles Ephrussi's translation in the late nineteenth century, entitled *Étude sur le Songe de Poliphile* (1888) and, later still, Alberto Pérez-Gómez's *Polyphilo or the Dark Forest Revisited* (1992), the thesis shows that, in the course of several centuries, translators, readers, commentators and editors were doing precisely that which Barthes thought impossible: *rewriting* books.[49] Reading the *Hypnerotomachia*, in other words, was not a mere act of consumption; it implied a complete transformation of the book, including the recutting and casting of letters used in typesetting the text. If some commentators found the *Hypnerotomachia* 'unreadable' (Charles Ephrussi for one), it was for this very reason: that reading demanded a rebuilding of the book, from cover to cover. And here, in the context of Béroalde's interpretation, *jouissance* arises as a term to denote a play between covers that is 'without separation' between words and things or content and form.

Conclusion: The PhD-pathos

This paper has singled out a number of key 'moments' in the process of writing a PhD – moments of discovery, of despair, of truth, of revelation and of *jouissance* – that are rarely discussed in any depth outside the conversations we have with friends and fellow-academics. In what constitutes another one of such moments – of reflection – this paper argues that these moments structure a thesis internally and, beyond the mere instant it takes to experience them, qualify the time necessary to complete the work. The paper suggests, therefore, that we cannot speak, in the way Benjamin does, of a 'constructive moment' in the singular, but only of constructive moments in the plural. Constructive moments, then, are moments of change and mutation as much as moments of consolidation and fixation in the structuring of a PhD. For Benjamin, the metaphor of the philosophers' stone encapsulates the paradox of this process because it is both a fixing agent and a transmutative force in what alchemists refer to as the *magnum opus*, or 'Great Work'.

One may even ask whether the same is not also true for Benjamin's own *magnum opus*, *The Arcades Project*. For is the principle by which the whole is constructed – as an assemblage of quotations – not also the principle by which the whole constantly changes, is destroyed even? Plus, there may be a danger in attributing too much importance to one, mystical moment of construction. As the editors of *New Formations* observe, we should not dwell upon the passing of Benjamin's 'constructive moment' with 'monumental pathos', which they contend 'could only be a fundamentally conservative, canonizing and non-dialectical response to the residual energies and after-effects of *The Arcades Project*'. In other words, we should be suspicious

of the moment's rhetorical power. However, the pathological aspect cannot be ignored. After all, Benjamin's 'constructive moment' is, if anything, filled to the brim with pathos. The letter to Gretel Adorno makes this clear: for, when Benjamin tells his friend that 'one thing is certain', we grasp the moment as one in which discovery, despair, truth, revelation and *jouissance* are all present at once, not least because outside this moment everything is steeped in uncertainty.

The constructive moments of a PhD are ostensibly less monumental than Benjamin's unique 'constructive moment', but taken together they do, nonetheless, form a certain 'pathos'. Recalling Aristotle's tripartite, thematic division of the art of Rhetoric into *ethos*, *logos* and *pathos*, it is possible to identify a similar triad for the PhD: alongside a PhD-ethos (I shall not commit plagiarism, etcetera) and a PhD-logos (the argument will be between 80,000 and 100,000 words long) we call PhD-pathos the ensemble of psychic energies that drive the PhD. The PhD-pathos, then, merely characterizes (without caricaturizing) the PhD as a pathological condition of its own, for which writing is a cure as much as a curse. The PhD-pathos must be understood, in other words, beyond the derogative and disdainful meaning of the word 'pathetic' as the positive expression of a psychic investment in the work.[50] Which is to acknowledge, perhaps, that one has to be a little mad to do a PhD.

It may, therefore, seem even crazier to want to waste more words on a PhD than necessary by publishing a paper on the subject. However, the aim of this paper is to show that writing a thesis can be understood as a potentially on-going process of construction and of change, which may seem contradictory concepts – in the same way that architecture and alchemy, the dual focus of the thesis, may be situated at two polar ends of a scale: the one traditionally concerned with stability (think of the Vitruvian *firmitas*), the other with its opposite, that is, a fundamental instability and mutability of form, matter and mind. Yet, it is in this tension between an architectural principle of construction and an alchemical principle of change that *thesis-building* is located.

Notes

1. I wish to thank Deborah Hauptmann for inviting me to submit a paper on the theme of the PhD and also for her early encouragement in my pursuit of a doctoral degree. For the thesis, see Willem de Bruijn, *Book-Building: A Historical and Theoretical Investigation into Architecture and Alchemy* (University of London: Unpublished Doctoral Thesis, 2010). Copies of the thesis are kept in the libraries of the University of London and the Warburg Institute.
2. Walter Benjamin, *The Arcades Project*, Rolf Tiedemann, ed. Transl. Howard Eiland and Kevin McLaughlin (Cambridge, MA: The Belknap Press of Harvard University Press, 1999).
3. As quoted in: Merrick Burrow, Gary Farnell and Mick Jardine (eds.), '"Construction Site": On Reading Benjamin's *Arcades*', in David Glover and Scott McCracken (eds.), *New Formations: A Journal of Culture/Theory/Politics* (Winter 2004/2005), n. 54, pp. 7-12, p. 7.
4. Burrow, Farnell and Jardine (eds.), '"Construction Site": On Reading Benjamin's *Arcades*', p. 7. See also Michael W. Jennings, *Dialectical Images: Walter Benjamin's Theory of Literary Criticism* (Ithaca and London: Cornell University Press, 1987), Chapter 4: 'The Critic as Alchemist: The Truth Content of the Work of Art', pp. 121-63.
5. Hannah Arendt, 'Introduction', in Walter Benjamin, *Illuminations* ed. and with an Introduction by Hannah Arendt, transl. by Harry Zorn (London: Pimlico, 1999), pp. 7-55, pp. 10-11.
6. Frances A. Yates, *The Rosicrucian Enlightenment* [1972] (London: Routledge, 2002).
7. See Peter Galison and Emily Thompson (eds.), *The Architecture of Science* (Cambridge, MA: MIT Press, 1999).

8. Burrow, Farnell and Jardine (eds), '"Construction Site": On Reading Benjamin's *Arcades*', p. 9.
9. Burrow, Farnell and Jardine (eds), '"Construction Site": On Reading Benjamin's *Arcades*', p. 9.
10. Rolf Tiedemann, 'Dialectics at a Standstill: Approaches to the *Passagen-Werk*', in Benjamin, *The Arcades Project*, pp. 930-45, p. 931.
11. Tiedemann, 'Dialectics at a Standstill: Approaches to the *Passagen-Werk*', p. 932.
12. See Jonathan Hill, 'Introduction: Opposites that Overlap', in *The Journal of Architecture* (Summer 2003), v. 8, n. 2, pp. 163-64.
13. My work here builds on an argument put forward by architectural writer and theorist Jane Rendell (who supervised the thesis) regarding the ability of writing to be architecture. See Jane Rendell, 'Architecture-Writing', in *The Journal of Architecture* (2005) v. 10, n. 3, pp. 255-64.
14. Michael Maier, *Atalanta fugiens, hoc est, emblemata nova de secretis naturæ chymica, etc.* (Oppenheim: Johann Theodor de Bry, 1618).
15. On the scientific value of Maier's work, see Ulrich Neumann, 'Michael Maier (1569-1622): "Philosophe et Médecin"', in Jean-Claude Margolin and Sylvain Matton (eds), *Alchimie et Philosophie à la Renaissance: Actes du Colloque International de Tours, 4-7 Décembre 1991* (Paris: Vrin, 1993), pp. 307-26.
16. Sally G. Allen and Joanna Hubbs, 'Outrunning Atalanta: Feminine Destiny in Alchemical Transmutation', in *Signs* (Winter 1980), v. 6, n. 2, pp. 210-29.
17. Allen and Hubbs, 'Outrunning Atalanta', p. 211.
18. See M.E. Warlick, 'The Domestic Alchemist: Women as Housewives in Alchemical Emblems', in Alice Adams and Stanton J. Linden (eds.), *Emblems and Alchemy* (Glasgow: University of Glasgow, 1998), pp. 25-48. See also Allen and Hubbs, *Outrunning Atalanta*, pp. 213-14.
19. Let it be noted that, in calling attention to the affective aspects of the PhD, this paper is indirectly indebted to the work of writers such as Julia Kristeva, Hélène Cixous and Giuliana Bruno, among others.
20. Carl Gustav Jung, *Psychology and Alchemy*, transl. by Richard F.C. Hull (London: Routledge and Kegan Paul, 1968), pp. 290-91.
21. Jung, *Psychology and Alchemy*, p. 288.
22. See, for example, Neil Spiller, *Digital Dreams: Architecture and the New Alchemic Technologies* (London: Ellipsis, 1998).
23. De Bruijn, *Book-Building*, p. 61.
24. See György Szönyi, 'Architectural Symbolism and Fantasy Landscapes in Alchemical and Occult Discourse: Revelatory Images', in *Glasgow Emblem Studies*, 3 (Glasgow: University of Glasgow, 1998), pp. 49-69.
25. Michael Maier, *Tripus Aureus* (Frankfurt: [n.pub.], 1618).
26. Jung, *Psychology and Alchemy*, p. 291.
27. Andrea Alciato, *Emblematum liber* (Augsburg, 1531; Paris 1534). See also Andrea Alciato, *Emblemata* (Lyons, 1550), transl. and annotated by Betty I. Knott; with an Introduction by John Manning (Aldershot: Scolar Press, 1996) and Konrad Hoffman, 'Acliato and the Historical Situation of Emblematics', in Peter M. Daly and Daniel S. Russell (eds.), *Andrea Alciato and the Emblem Tradition: Essays in Honour of Virginia Woods Callahan* (New York: AMS Press, 1989), pp. 1-45.
28. Jean Jacques Boissard, *Romanae urbis topographia et antiquitates* (Frankfurt: Theodor de Bry, 1597-1602).
29. Willem de Bruijn, 'Anticipating Antiquity: Jean-Jacques Boissard's Topographia Urbis Romae and the Reworking of Rome', in *The International Journal of the Book* (2007), v. 4, n. 3, pp. 45-57.
30. See Urszula Szulakowska, *The Alchemy of Light: Geometry and Optics in Late Renaissance Alchemical Illustration* (Leiden: E.J. Brill, 2000).
31. See, for example, Georg-Philipp Harsdörffer, *Frauenzimmer Gesprächspiele*, Hersg. von Irmgard Böttcher (Tübingen: Max Niemeyer Verlag, 1963).
32. For the use of this term see Luisa Giordano, 'On Filarete's *Libro Architettonico*', in Vaughan Hart and Peter Hicks (eds.), *Paper Palaces: The Rise of the Renaissance Architectural Treatise* (New Haven: Yale University Press (1998), pp. 51-65.
33. Michael Maier, *Atalanta Fugiens: An Edition of the*

Emblems, Fugues and Epigrams, ed. and transl. by Joscelyn Godwin; with an Introductory Essay by Hildemarie Streich (Grand Rapids, MI: Phanes Press, 1989), p. 93.

34. Szönyi, 'The Powerful Image', pp. 253-54.
35. Szönyi, 'The Powerful Image', p. 255.
36. On the notion of 'non-correspondence', see Thomas Althaus, 'Differenzgewinn: Einwände gegen die Theorie von der Emblematik als synthetisierender Kunst', in Wolfgang Harms and Dietmar Peil (eds.), *Polyvalenz und Multifunktionalität der Emblematik: Akten des 5. Internationalen Kongeresses der Society for Emblem Studies / Multivalence and Multifunctionality of the Emblem: Proceedings of the 5th International Conference of the Society for Emblem Studies* (Frankfurt: Peter Lang Europäischer Verlag der Wissenschaften, 2002), pp. 91-110.
37. Walter Benjamin, *The Origin of German Tragic Drama*, trans. by John Osborne (New York: Verso, 1998), 'Allegory and Trauerspiel', pp. 159–235, p. 176.
38. Benjamin: '… an appreciation of the transience of things, and the concern to rescue them for eternity, is one of the strongest impulses in allegory'. Benjamin, *The Origin of German Tragic Drama*, p. 223. Susan Buck-Morss characterizes the temporality of allegory as an 'eternal fleetingness'. See Susan Buck-Morss, *The Dialectics of Seeing: Walter Benjamin and the Arcades Project* (Cambridge, MA: MIT Press, 1991), Chapter 6: 'Historical Nature: Ruin', pp. 159-201, p. 167.
39. See, for example, Peter M. Daly, *Emblem Theory: Recent German Contributions to the Characterization of the Emblem Genre* (Nendeln: KTO Press, 1979).
40. Gershom G. Scholem, *Alchemy and Kabbalah*, trans. by Klaus Ottmann (Putnam, CT: Spring, 2006).
41. See Ronald D. Gray, *Goethe the Alchemist: A Study of Alchemical Symbolism in Goethe's Literary and Scientific works* (Cambridge: Cambridge University Press, 1952) and Susan Sirc, 'Goethes Wahlverwandtschaften und Soltzius' Chymisches Lustgärtlein', in Harms and Peil (eds.), *Polyvalenz und Multifunktionalität der Emblematik*, pp. 333-54.
42. See Melanie Newman, 'Doctorate doom? Don't forget the PhD's moments of "orgasmic" pleasure', in *Times Higher Education* (29 October 2009). The article reviews a paper by Christina Hughes, professor of gender studies at the University of Warwick.
43. Roland Barthes, 'From Work to Text', in Roland Barthes, *Image, Music, Text* trans. by Stephen Heath (London: Fontana Press, 1977), pp. 155-64, p. 164.
44. Mario Praz, *Studies in Seventeenth-Century Imagery* (Rome: Edizioni di Storia e Letteratura, 1964).
45. Barthes, 'From Work to Text', p. 164.
46. Barthes, 'From Work to Text', p. 163.
47. Roland Barthes, 'The Death of the Author', in Barthes, *From Work to Text*, pp. 142-48.
48. See Tiffany Jow, [Review of] Sharon Kivland's *Je suis malade de mes pensées*, in *Aesthetica*, March 16, 2011, <http://aestheticamagazine.blogspot.com/2011/03/sharon-kivlands-je-suis-malade-de-mes.html> [accessed 21 January 2012].
49. Alberto Pérez-Gómez, *Polyphilo or the Dark Forest Revisited: An Erotic Epiphany of Architecture* (Cambridge, MA: MIT Press, 1992).
50. Georges Didi-Huberman, 'Foreword', in Philipe-Alain Michaud, *Aby Warburg and the Image in Motion*, transl. by Sophie Hawkes, with a Foreword by George Didi-Huberman (New York: Zone Books, 2007), pp. 7-19.

Biography

Willem de Bruijn studied architecture at the TU Delft and at KTH Stockholm. In 2010 he obtained a PhD in History and Theory of Architecture from the Bartlett School of Architecture, UCL. Alongside his academic work as a tutor and researcher, Willem collaborates with Ana Araujo on the design of books, wallpaper, curtains and exhibitions. Together they founded Atelier Domino, a practice concerned with the integration of art, craft and design.

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