

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

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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 reevaluation 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,

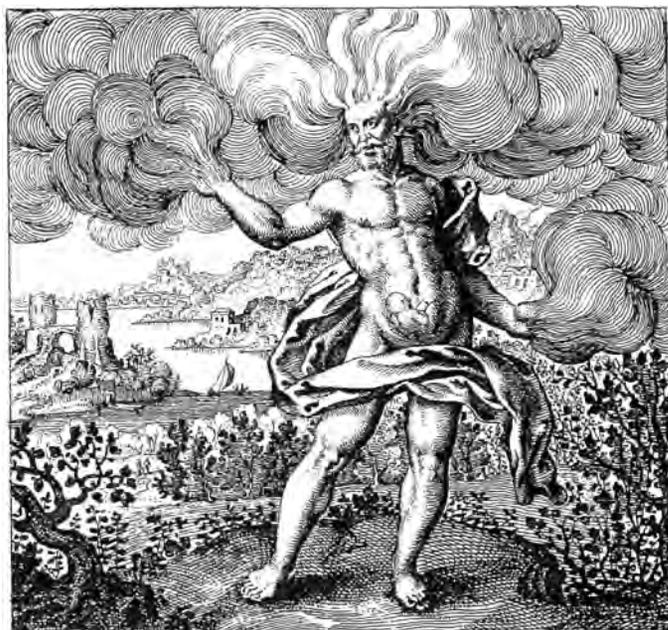


Fig. 1



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 Kunsthhaus 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-

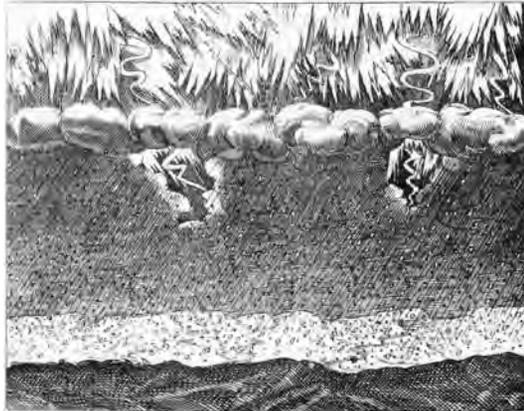


Fig. 3

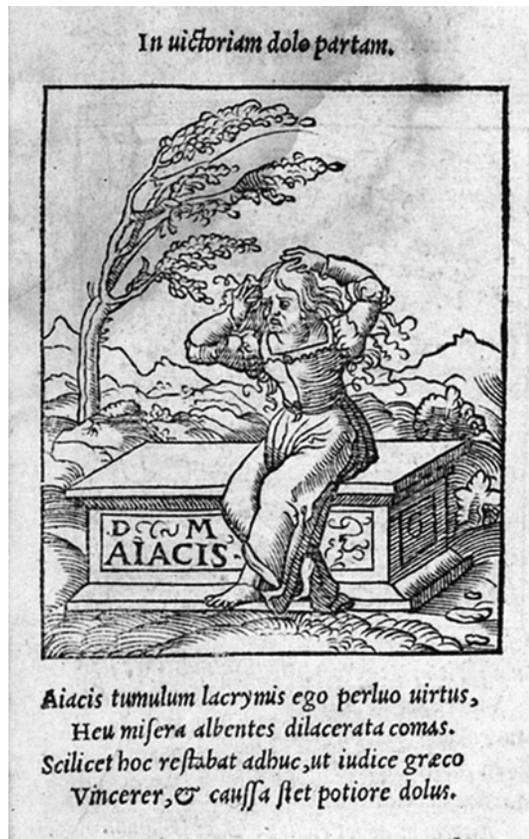


Fig. 4

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 uictoriam 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 Alciati, *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* (Op-penheim: 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

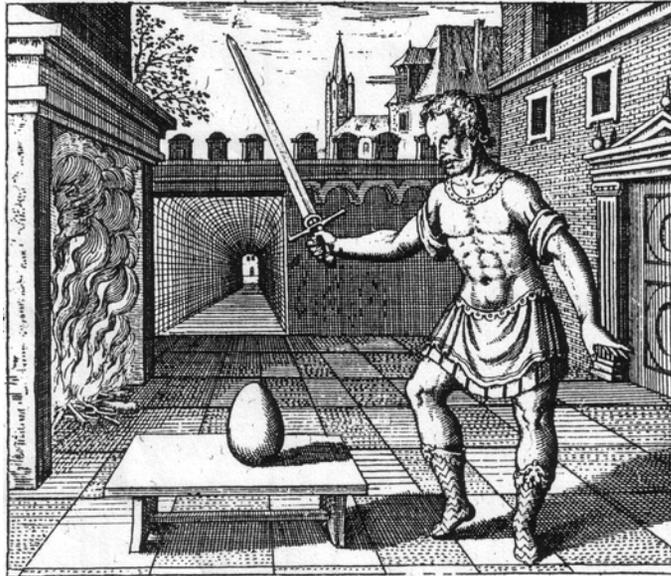


Fig. 7



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 architetonico*).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

de'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, 'Alciato 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*, Herg. von Irmgard Böttcher (Tübingen: Max Niemeyer Verlag, 1963).
32. For the use of this term see Luisa Giordano, 'On Filarete's *Libro Architetonico*', 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 Kongresses 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 Philippe-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.

