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**DRAWING THE LINE:
A WORKING EPISTEMOLOGY FOR THE STUDY
OF ARCHITECTURAL DRAWING**

PETER WOOD

A thesis submitted in partial fulfilment of the requirements for the degree of
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For my parents
Who were not offered the opportunities of higher education
But who have never questioned my decision to make so much of it

And to Lisa

ABSTRACT

The conventional view of architectural drawing presents it as a paradigm for architectural knowledge based on a visual relationship between an idea and a built work where the drawing operates as a neutral and passive vehicle for the transformation of architectural thought into architectural practice. In this model the drawing is merely a utilitarian convenience for the passage of the architect's imaginings. Coded into this relationship is the accepted authority of our visual faculties to mediate and interpret the communicative aspects of drawing.

This work questions the hegemonic role of vision in the execution and interpretation of architectural drawings, and proposes instead a more complex and discursive model for the transmission of architectural knowledge through a drawn medium.

With reference to three case study drawings circa 1980 (Aldo Rossi: *Interno con il del mondo*, 1981; Morphosis: *Venice III*, 1982; Peter Eisenman: *House X*, 1976) this period is identified as the end of a tradition of manual drawing for architects, that has historically defined the practice of contemporary architecture. It is argued that architects have depended upon a visual paradigm for the operation of drawing to organize their relationship to architecture, and that this has in turn prohibited comprehensive analytical critique of the drawing and its place in wider architectural production. Each case study offers a point of departure for a critical reappraisal of the role played by drawing in the relationships that exist between the idea and the work in architecture. In particular the function of touch is proposed as a counter sensory knowledge that is coded into architectural drawing, but whose presence is then repressed as unconstitutional to the idea/project relationship. In making this argument a series of figures are introduced (consisting principally of the hieroglyph, the hand and touch, and blindness) to produce an epistemological framework for further discussion on the subject.

It is suggested in conclusion that although the development of digital technologies has shifted architectural representation away from traditional manual practices that this should not be viewed as a representational paradigm shift since the ideological framework that organizes our relationship to the screen is the same one that has existed with the page, and perpetuates the same ideological problems.

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PREFACE

Generally, the object of architectural drawing is the representation of architecture.

Reginald Blomfield¹

The title of this project is deliberately argumentative. To evoke a ‘working epistemology’ calls into question, not only the architectural drawing as a site of existing architectural knowledge, but also the integrity of the drawing as a principle factor in the construction of architecture as a discipline. There is also a risk in the exploratory tone of the title that this work presents itself as a solitary voice on the subject. This is not the case, and indeed I would not have been able to conduct this research had it not been for the scholarship of Robin Evans, Marco Frascari, Alberto Pérez-Gómez, and Werner Oechslin, or the work of many others to whom I refer throughout this thesis. I am attempting here to bring together these varied threads of thought into, if not a rope, then at least a ‘yarn’. To this end what I am challenging in the title is the manner in which most (not all) writing on architectural drawing typically discusses it as an aspect or characteristic of the discipline of architecture, rather than as a disciplinary architectural discourse in itself. If, as Robin Evans has argued, we are to take architectural drawing seriously as a condition of architectural foundation,² then we must be prepared to address it as a centre of, and not simply an adjunct to, all architectural study. This is not the same as simply proving the integrity of a foundation. Architects have traditionally treated the drawing as a necessary and reliable tool, and with this assumption they have rarely felt obliged to test the limits of drawing, but merely accepted its advantages.³ It is not my intention to destabilize the role that architectural drawing plays in the production of architecture, but it is of concern to me that architects generally treat the drawn medium as an impartial tool that facilitates the transmission of architectural thought into architectural action with the minimum of interference, and that in doing so certain attributes and characteristics of architectural production have been suppressed that are dependent on the act of drawing. These characteristics have the potential to offer insight into the advancement of idea/project relationships in architecture. This work then is conceived of as a working epistemology for the strategic purpose of identifying some of these subversive factors. It is an epistemology motivated less by philosophical scepticism than by personal interest in the place of drawing in the production of architecture. Why, and how, architects should have avoided such questioning for so long are recurrent motifs of this work.

¹ Blomfield, R. (1912): 5.

² Evans, R. (1995)

³ “They [architectural drawings] are expected to be absolutely unambiguous to avoid possible (mis)interpretations, as well as functioning as efficient neutral instruments devoid of inherent value other than their capacity for accurate transcription. Professional architects generally see architectural drawing in this light.” Pérez-Gómez, A. and L. Pelletier (1997): 5.

Argument structure

The problem of architectural drawing can be characterised as the problem of the line – or more correctly, linearity, and how linearity is maintained in a drawn medium. Architectural drawing has been defined by linear relationships, be they from idea to execution, architect to building, or thought to expression. Linearity is a particular characteristic of the architectural drawing's representational system.⁴ However, I will argue that this linearity is also a form of insidious censorship that actively denies other forms of architectural knowledge a place in the representational process of drawing. In presenting such 'otherness' in thesis form there is a risk that it will assume the prominence of an alternative discourse rather than a complementary one. With this in mind the argument given here resists a strict linear expression of its own, and instead wanders on a more rhizomatic course. Writing on the rhizome, Deleuze and Guattari have shown that concepts are already lines.⁵ This is particularly true of the architectural drawing where the representational systems are coded by mimesis as the very principle of architectural linearity, and architectural concepts are translated into practice by these same codes. Thus, in order to reveal 'other' knowledge suppressed in, and by, architectural drawing it is necessary to pursue a second kind of line where:

The line no longer forms a contour, and instead passes between things, between points. It belongs to a smooth space. It draws a plane that has no more dimensions than that which crosses it; therefore the multiplicity it constitutes is no longer subordinated to the One, but takes on a consistency of its own.⁶

The One, in this case, may be read as the existing orthodoxy of architectural drawing. This thesis is a 'reading between the lines', and it is intended that this phrase signify more than a fanciful pun. It should not need to be emphasised that an architectural drawing is not a building, yet the traditional relationship between architects and their drawings often assumes such an association. The premise of this relationship is a visual correlation between those lines that are the drawing, and those lines that are the building. This is the point made by Pérez-Gómez and Pelletier when they call for a radical revision of architectural ideation:

In architecture, an uncritical acceptance of transparent communication as a dominant requirement (over potential meaning) has reinforced the use of projections to function as surrogates of buildings. When sets of drawings attempt to provide us with a "picture" of an architectural place or object, the buildings produced by such techniques necessarily reflect the predictive quality of their conception: the possibility of a revelatory dimension is abandoned. That this assumption of a literal relationship between the project and the building is basic

⁴ See Ingraham, C. (1998).

⁵ Deleuze, G. and F. Guattari (1987).

⁶ Deleuze, G. and F. Guattari (1987): 505.

*to both the “correct” politics of rationality and industrial production in the modern city makes a critical reassessment all the more pressing.*⁷

Projection, as it is used by Pérez-Gómez and Pelletier, is the principle of a linear visual system that treats the drawing as a site of pictorial translation, and their fear is that it contains within its literal graphic function a precise limit on the information communicated. I share this apprehension. Where an architectural drawing is treated as a surrogate for a building it displaces all other forms of knowledge that are not able to be read as a visual patterning. The first step towards interpreting any dormant knowledge concealed in the architectural drawing must begin with asking the question of how it is hidden, and what form this camouflage might take. It would be presumptuous of me to suggest that this work satisfies such a testing demand, but it is intended to contribute towards this as a goal. To that end I discuss three specific examples of architectural drawing that confront the paradigm of the drawing as a site of pictorial or representational clarity. The degree of this confrontation is the nature of the argument contained here.

In *Drawing the Line* I am arguing that another architecture can be found between the graphic lines of the architectural drawing that we already know so well.

Thesis organization and case study selection

This text is arranged in four major sections, each of which operates with a conditional autonomy governed by the rhizomatic action introduced above. In keeping with the epistemological intent of this work, the introduction does not describe the organization of the thesis, but enters directly into the philosophical context of the argument. It offers a brief overview of the ideological climate of architectural drawing practice, paying particular attention to the significance of the period from which the case study drawings are taken, and the dominant theme of architectural ‘vision’ that underlies both architectural drawing, and this thesis, is introduced.

In section 1 the ‘translation model’, the accepted paradigm for the responsibilities of the architectural drawing, is discussed. Attention is given to the orthographic relationship between elements in architectural drawing, and the role played by projection. The conventional ideological framework for architectural drawing is shown to be one that privileges the visual. Counter to this orthodoxy the role of blindness and touch are introduced as key elements that recur throughout the work, and the hieroglyph is proposed as an alternate figure of representational authority with which to examine the architectural drawing.

Employing Aldo Rossi’s drawing *Interno con il Teatro del mondo* (1981), section 2 focuses on the inclusion in the architectural drawing of information not specifically limited to the idea / project relationship. In particular the themes of memory and death are

⁷ Pérez-Gómez, A. and L. Pelletier (1997): 390.

explored, and the function played by the inclusion of biographical and personal motifs in Rossi's drawn work. This leads to the exploration of a metaphysical component in architectural drawing. Finally, the figure of the hand in Rossi's drawings is proposed as a complement to the eye as the centre of an 'other' architectural vision.

Section 3 continues the discussion on blindness and drawing by establishing the graphic technique of *trompe l'oeil* as emblematic of the limits of two-dimensional representation. The Morphosis drawing, *Venice III* (1982), is used as a case study. The architectural drawing is described in terms of the grotesque and the caricature, and the place of fetishism in architectural drawing makes use of a Coop Himmelblau drawing as a literal case of blind drawing. Following Marco Frascari, it is then argued that the architectural drawing contains a poetic element that is contrary to the prescriptive orthographic relationship, highlighting the division between the eye and the hand in drawing.

With particular reference to Peter Eisenman's drawings for the project *House X* (1976), the final section addresses the question of the origin of architectural drawing as a means of establishing fundamental principles of relations between the visual and the tactile. The hieroglyph is reintroduced as a dominant motif, and the presence of the bas-relief leads to a critique of sight / touch relations. The architectural drawing is presented as a repository of privileged knowledge similar in effect to the hieroglyph. Finally, the dependence that architects have on this authority is argued as evidence of a separation of the architect from the architectural project. The drawing then becomes the site of confusion between origin and terminus, birth and death.

The thesis identifies a commonality between the three major case study drawings based in the recurrence of specific discursive representational themes and elements explicit in each. These include the themes of blindness and seeing, the hand and touch, birth and death. However it needs to be emphasised that while these particular drawings may be considered exemplars of these characteristics, the role they serve as case studies is to draw (as it were) attention to the presence of these factors in all architectural drawing of one kind or another. To this end each drawing discussed here has been included as useful, but they are by no means the limit or extent of available examples. They each exhibit overt violations of the conventions of architectural representation that govern projective linearity. Not only are the three key drawings not able to be realised as buildings through any obvious pictorial parallel, they go on to fundamentally challenge the conventional graphic codes of architectural drawing that rely on a visual paradigm. These are drawings that attempt to address the revelatory dimension of architecture as their representational *raison d'être*. The supporting work of other architects used here strives toward a similar end. What distinguishes my use of the drawings *Interno con il Teatro del mondo*, *Venice III*, and *House X* is the degree to which these three drawings demonstrate a highly self-conscious attempt to violate the hegemony of vision that governs the linearity of architectural drawing. Importantly, they do this in very different ways, within the decade immediately prior to the introduction of digital technologies to the field of representation in architecture (1975-1985). The intention in these images is to confront the histories, traditions, and principles of architectural drawing in the face of a profound technological shift. However, I am not suggesting that all the architectural drawings by Peter Eisenman,

Aldo Rossi, Morphosis, or those others mentioned, are bound to demonstrate these same qualities - they are not. What they denote are the most assertive (and attractive to me personally) examples that support my thesis.

Glossary of architectural drawing

The appendix is a glossary of drawing terms. The Oxford Dictionary of Architecture contains no entries for ‘drawing’, ‘representation’, ‘presentation’, or ‘drafting’.⁸ Descriptive attention is given only to the conventions of architectural drawing: plan, section, elevation, axonometric projection, and perspective. This architectural dictionary contains an extensive entry for the equally generic concept ‘stair’, including a full extension of words and terms associated with the stair. The impoverished nature of entries concerning architectural drawing can be illustrated by the entry for ‘perspective’: “Method of representing graphically an object as it appears to the eye, suggesting three dimensions.”⁹ Although not factually wrong, this record fails to introduce any theoretical or conceptual framework about which the technique of perspective might be discussed.¹⁰ This suggests that the ‘stair’ is considered by the Oxford editors to be a topic worthy of contextual elaboration, while ‘drawing’, and its associated terms, is to be relegated to succinct pragmatic description. Yet drawing, as it is to be discussed here, is a far more complicated and difficult problem than this entry allows. In this context such poor elaboration of critical terms might be interpreted as a determined attempt to make drawing a passive and benign activity, particularly when it is in service to the act of building. It has, then, become necessary in the course of this work to elaborate on the lexicon of architectural drawing not only to clarify complex relationships, but also to introduce theoretical and philosophical relationships that have lain dormant in the very syntax of drawing. There are a number of precedents for the architectural drawing glossary including institutional standards and general publications,¹¹ but in general these address the need for a wider explanation of drawing terms used in architecture as a purely descriptive exercise. This glossary is a supplement to the first four sections, and is not conceived of as a comprehensively inclusive or categorical document. For this reason quotation or discussion previously used in the main text have not been included here. The glossary has been conceived of as a compendium for further lines of thought, and as a final step in this work towards disengaging architectural drawing from the dogma of orthodox convention.

⁸ Curl, J. S., Ed. (1999).

⁹ Curl, J. S., Ed. (1999).

¹⁰ For example, see Damisch, H. (1994). This dictionary reference almost exclusively consults one work by Trevor Reekie from 1946. Reekie, T. (1946).

¹¹ For example see Powell, H. and D. Leatherbarrow, Eds. (1982).

INTRODUCTION

Drawing the Line

INTRODUCTION

Drawing the Line

Architecture must place its truths under scrutiny, particularly the truth of the tradition of architectural representation.

Peter Eisenman¹

As for the eye of the architect, it is no more innocent than the lot he is given to build on or the blank sheet of paper on which he makes his first sketch.

Henri Lefebvre²

This is not a thesis about architectural *drawings*, but architectural *drawing*. The difference in emphasis is subtle, and for the greater part has been assumed by commentators to represent the same action. It is not enough to presume that an architectural drawing is simply the final result of an architectural intention made graphic. The act of drawing (quite apart from the result of drawing) has its own systems, conventions, histories, and concepts.³ Moreover, these systems are political, which may be precisely the reason why theoretical discussion on architectural drawing is usually limited to the product rather than the act, since as a discipline architecture depends upon representational parameters.⁴ To suggest that architectural drawing may not be simply a convenient and neutral vehicle for communication is to challenge the very foundation of a field that depends upon these principles of exchange to define itself. Walter Benjamin has made the point that architectural drawing, unlike painting, must 'see' beyond the pictorial surface:

*... what is crucial in the consideration of architecture is not seeing but the apprehension of structures. The objective effect of the buildings on the imaginative being of the viewer is more important than their 'being seen.' In short, the most essential characteristic of the architectural drawing is that 'it does not take a pictorial detour.'*⁵

The case that architectural drawing is denied purely pictorial (that is graphic) characteristics lies at the heart of the projective relationship between a drawing and its subject. Architectural communication - that is the direct communication of an architectural idea (intention) through to a builderly expression (project) - has traditionally

¹ Eisenman, P. (1988a): 9.

² Lefebvre, H. (1991): 361.

³ For a general introduction to the codes and conventions of architectural drawing see Halse, A. O. (1972); Powell, H. and D. Leatherbarrow, Eds. (1982); Hewitt, M. (1985); Porter, T. (1990); Reekie, T. (1946).

⁴ In particular, I emphasize in this category of architectural commentators who discuss drawing as a political act Robin Evans, Marco Frascari, Catherine Ingraham, Werner Oechslin, and Alberto Pérez-Gómez.

⁵ Benjamin, W. (1988): 89-90.

accepted the relationship of the architectural drawing as accurately and unambiguously facilitating a direct relationship from the idea to the building. In this model the architectural drawing assists the production process, but is not allowed to be a part of that process. Architectural production is determined by a direct relationship between intention and project (that is, the architect and the building). Benjamin's 'pictorial detour', signifies the architect's loss of authority over all possible readings and expressions of the architectural intention, and in real terms begins to identify the drawing as an alternate site of architectural production. However, to some extent, the practice of architecture has been advanced by this loss. In the graphic works of Giovanni Battista Piranesi, Antonio Sant'Elia, or Daniel Libeskind, there is a questioning that has advanced problems of architecture, if not building. Implicit in any empowerment of the architectural drawing are questions about the limits of representation. What can architectural drawing develop, and what are its restrictions? These questions have prompted Robin Evans to write:

*Architecture begins and ends in pictures, but I would urge resistance to the idea that pictures give us all we need. . . . The question is, how much more is ever brought within the scope of the architect's vision of a project than what can be drawn?*⁶

Like Benjamin, Evans emphasises the contingent relationship between production and representation in a displaced industry such as architecture. Where the architect depends upon graphic codes and conventions to facilitate the production of buildings, questions will always be raised over the cultural, social, and institutional paradigms that shape and control those codes. For practicing architects drawing is a two-dimensional proxy through which they are able to manipulate a physical three-dimensional world. By its very 'transparency' in the communicative organization of representation, architectural drawing occupies a hidden distance that is primarily spatial. In *The Production of Space*, Henri Lefebvre introduces a category of abstract space he calls 'the geometric formant'.⁷ This is the realm under discussion in this work: a Euclidean space, treated as philosophically absolute, but principally a space of *reference*. The condition of Euclidean space is the key to any discussion of drawn architectural representation as it makes possible the reduction of a three-dimensional world into a two-dimensional facsimile. As Lefebvre observes, the geometric formant initiates the spatiality of the surface, it is:

*a 'plan', a blank sheet of paper, something drawn on that paper, a map, or any kind of graphic representation or project.*⁸

It is the issue of 'representation or project' to which this work will continually return; or perhaps more correctly, to the issues of representation or *projection*. Following Lefebvre's judgment, architectural drawing is addressed here as a politicised space. Architectural drawing, in its widest sense, is often dismissed as an obligatory step in the passage of idea into building - a necessary communication but not one to be confused with architectural intention. It is my thesis that, as a communicant, the architectural

6. Evans, R. (1995b): 359-360.

7 Lefebvre, H. (1991).

8 Lefebvre, H. (1991): 285.

drawing is firstly a form of abstract space, and must be characterized by its political content⁹. The effect of this approach is to reduce architectural representation (drawing) to a benign homogeneous condition that reflects or mirrors the architectural idea passing through it. Paradoxically, it is this belief in the transparency of the drawing that conceals the substance that drawing contributes to architectural discourse. Like Lefebvre, I am interested in looking through these curtains of transparency to see what is camouflaged by lucidity. With the emergence of architectural post-modernism in the early 1970s, there has been an accompanying change in the relationship architectural drawing has had with the architectural project. Moschini observes that architectural drawing shifted from being programmatically organized representations, to conceptually organised ones.¹⁰ Paradigm changes of this kind in drawing are uncommon, but not unknown in the history of architectural representation. Indeed, it can be shown that technological advancement in representation is a critical step for the advancement of architectural practice.¹¹ However the shift in the 1970s differs from other developments in drawing as the modifications in the drawing relationship are attitudinal rather than technological. Since this recent period architectural drawings have been treated as comprehensively independent from the architectural project. This is not to say that architectural drawings have had to carry a direct representational responsibility to a given project up to this point – the polemical drawings of Piranesi are a comprehensive example that they do not¹² – but by 1980 all drawings could be treated as a commodity apart from their representational referents including the most directly prescriptive examples.¹³ The consequence of this shift Moshini considers a ‘liberation’ that has freed architectural representation from object-based limits so that the architectural drawing could realise a value as an ‘ideological instrument’.

*There are no more privileged representational techniques like perspective and axonometric. Instead, the instrument of drawing deliberately reduces things to its own kind of classification into parts, each of which undertakes to constitute an autonomous theoretical unit within the complex system of the project.*¹⁴

9 “The graphic elements involved (in drawings, sections, elevations, visual tableaux with silhouettes or figure, etc.), which are familiar to architects, serve as reducers of the reality they claim to represent - a reality that is in any case no more than a modality of an accepted (i.e. imposed) ‘lifestyle’ in a particular type of housing (suburban villa, high-rise, etc.). A ‘normal’ lifestyle means a normalized lifestyle.

Meanwhile, the reference to the body (the ‘modulor’), along with the figures and the promotional patter, serve literally to ‘naturalize’ the space thus produced, as artificial as it may be.” Lefebvre, H. (1991): 338.

10 “There is a clear break between the architectural drawing of the 60’s and that of the 70’s. The former aims to criticize what already exists and wishes to be an utopian forerunner of a different future, full of planning and social promises. The latter has become a clearly theoretical approach.” Moschini, F. (1980a): 9.

11 For a clear example of this type of paradigm shift in representation see Hubert Damisch’s account of the impact of the development of linear perspective on art and architectural practice (Damisch, H. 1994). Similarly Robin Evans has traced the significance of geometric projection to establish the orthographic set as another step (Evans, R. 1989). The development of parallel projection systems – principally the axonometric – can also be interpreted as an attempt to displace an existing orthodoxy (see Bois, Y.-A. 1981, and Scolari, M. 1985).

12 For a discussion of Piranesi’s drawings as polemical works see Tafuri, M. (1990).

13 For an introduction to investing in architectural drawings see Duthy, R. (1987).

14 Moschini, F. (1980a): 11.

Oriol Bohigas suggests that the development of drawing as a discursive practice is a revelation that, like post-modernism itself, is a response to disillusionment with the achievements of the Modern Movement. He notes:

*Outdated sociological criticism - developed outside the architectural discipline - has been replaced by criticism that attempts to return to architecture itself by means of graphic representation.*¹⁵

Other commentators have viewed the shift towards more oblique representational strategies with suspicion. Meisenheimer, for one, sees the rise of the 'poetic' drawing as containing elements of the frivolous:

*In the nineteen-eighties the functional and rational sides of representation were increasingly reinforced by poetic and irrational characteristics. No longer is mere information offered to the attentive observer; the drawing presents itself to the imagination as material for play. The drawing is now to be understood as a kind of object for meditation, which transfers perceptual postures, sensibilities and ideas instead of 'things'.*¹⁶

As opposed to historical development of the drawing as an instrument of communication in the construction of buildings, 'poetic' drawings are not made to convey instructions comprehensively. Instead the 'poetic' architectural drawing starts to "persuade or entrance the onlooker", meaning begins to 'float', and, according to Meisenheimer, drawing is therefore no longer 'useful'.¹⁷

For John Whiteman architectural drawing is principally a system of reproduction and representation.¹⁸ The responsibilities of the architectural drawing are to transparently convey an architectural 'essence' through to a built work. By this account, drawing is made subservient to, and is defined by, the greater authority of a physical built work. Whiteman warns against those drawings that replace direct builderly intention with the vagaries of graphic aesthetics or styles. Here architectural drawing is concerned with an attention to optical similarity.

¹⁵ "The abundant crop of 'drawings of architecture' that have appeared in recent years can only be explained by means of this critical approach, itself the consequence of a general disappointment in the achievements of modern architecture in the formation of the modern city . . . The problem resides in the way this representation stands aloof from the real discipline and assumes a merely critical role. Indeed, we may say that the drawings of politically-involved 'resistance anti-industrielle' already stood apart from the discipline of architecture when they presumed to adopt a radicalism that could no longer be referred to architecture's possible productive processes." Bohigas, O. (1980): 8. Bohigas is critical of those architects whose drawings have been usurped into art gallery contexts to the detriment of any formal architectural value, a condition he names 'pictorial architecture'. Amongst those prominent in 1980, he names John Hejduk, Michael Graves, Ettore Sottsass, and Peter Eisenman.

¹⁶ Meisenheimer, W. (1987): 120.

¹⁷ Meisenheimer, W. (1987): 111.

¹⁸ Whiteman, J. (1987).

The drawing does not work on the viewer in the same way as in a building. Depending on its style and intention, the drawing offers a possibility of being received and its object possessed in a (relatively quick) act of attentive concentration. Additionally, the drawing can be taken for itself rather than for the building which it represents. That is, the rules of drawing and the reception of drawing may come to determine what is seen and what is drawn. Drawing in architecture is a way of having a likeness of a building. A drawing, by its nature, is always 'less' than the building itself, and must find ways of intimating the full and surrounding nature of a building in the flatness of a page. Drawing will pry an object (real or intended) from its shell in reality, but in doing so runs the risk of losing the original power of that object.¹⁹

Whiteman is critical of the mystical and the ethereal in drawing²⁰, yet he replaces one kind of gnosis with another: the architectural project now has a forceful spirit of 'original power'.

In pulling a building out from the fabric of tradition and the actual world, there is unleashed in architectural drawing the necessary but perplexing freedom of translation.²¹

Like many critical of the discursive use of architectural drawings, Whiteman formulates a seamless relationship between 'Architecture' (and the responsibilities of architectural representation) and a tangible built world.²² This relationship is generally ascribed to as one of 'translation'; the nature of this organization is discussed in Section 1.

The period 1980-1990 was marked by an increase in the number of architectural publications devoted to the drawings of architects. These included not only books on architectural drawing, but also monographs wholly concerned with the representational output of architects yet to 'prove' themselves with physical built works. Furthermore, much of this production concerning the architectural drawing emphasised the speculative potential offered by drawing, rather than the technical, descriptive aspects of drawing. Daniel Libeskind wrote in 1981:

19 Whiteman, J. (1987): 144.

20 "Architectural drawings have often become suffused with abstraction, and reek of mysticism and ethereality. Such drawings are, by definition, ineffectual, but they are available for distribution."

Whiteman, J. (1987): 145.

21 Whiteman, J. (1987): 144.

22 Whiteman's prejudice is particularly evident in his example of Mies van der Rohe's Barcelona Pavilion as expressing a clear failure of a simplified plan to express the experiential qualities of the completed pavilion: "not unlike the leap required to go from a piano score to a silent rendition of the music in one's own head"(Whiteman, J. 1987: 143). Such a statement grossly understates the complex set of systems manipulated by van der Rohe at all levels of the built work and the representational work. In point of fact it might now be suggested that the reproduction pavilion (which must be the experiential reference for most contemporary commentators) is itself a form of architectural representation, a 'sketch' of the lost original in three-dimensions. For a more thorough reading of the Barcelona Pavilion's realization through drawing see Evans, R. (1990).

While the classical axiomatic of architectural drawing elaborated its usefulness within an overall theory of order, by beginning with well-established theories of representation and attempting to unify them, contemporary formal systems present themselves as riddles - unknown instruments for which usage is yet to be found. Today, we seldom start with particular conditions which we raise to a general view; rather we descend from a general system to a particular problem. However, what is significant in this tendency (where the relation between the abstract and the concrete is reversed) is the claim which disengages the nature of drawing, as though the 'reduction' of drawing were an amplification of the mechanisms of knowledge; an instrument capable of revealing, at a stroke, new areas of the 'real'.²³

Libeskind defends the speculative properties of architectural drawing. He notes that in contemporary architectural practice the architectural drawing has become a sign fixed on the endeavours of building and construction, at the risk of drawing becoming further removed from other sources of signification. Looking through the literalness of the drawing Libeskind finds an unfolding of future possibility coded into the representational techniques and conventions that have maintained the drawing's orthodoxy. The drawing, he observes, is more than "the shadow of an object."²⁴

Powell and Leatherbarrow write in their 1982 publication, *Masterpieces of Architectural Drawing*²⁵, that their efforts represent the first attempt to provide a historical survey of architectural drawing since Sir Reginald Blomfield in 1912²⁶. Indeed it is true that while many architectural publications deal generally with drawing, Powell and Leatherbarrow address it from the position of creative or technical illustration, and are informed by instruction in draughting techniques, or the realisation of specific representational systems.²⁷

²³ Libeskind, D. (1981): 80.

²⁴ Libeskind, D. (1981): 80.

²⁵ Powell, H. and D. Leatherbarrow, Eds. (1982). Powell and Leatherbarrow provide a useful introduction to the history of architectural drawing.

²⁶ Blomfield, R. (1912).

²⁷ The following publications typified this period:

Frank A. Bourne. *Architectural Drawing and Lettering: A Manual of Practical Instruction in the Art of Drafting and Lettering for Architectural Purposes, Including the Principles of Shading and Rendering, and Practical Exercises in Design*. Chicago: American Technical Society, 1927; Cyril A. Farey. *Architectural Drawing, Perspective and Rendering: A Handbook for Students and Draftsmen*. London: Batsford, 1931; Fraser Reekie. *Draughtsmanship*. London: Edward Arnold, 1946; Sherley W. Morgan. *Architectural Drawing: Perspective, Light and Shadow, Rendering; Illustrations Designed by the Author and Executed by William Feay Shellman*. New York: McGraw-Hill, 1950; John M. Holmes. *Sciagraphy*. London: Pitman, 1952; Georg Schaarwächter. *Perspective for the Architect*. London: Thames and Hudson, 1967; Edward T White. *A Graphic Vocabulary for Architectural Presentation*. Tucson, Arizona: Architectural Media, 1972; Paul Hogarth. *Drawing Architecture: A Creative Approach*. New York: Watson-Guption Publications, 1973; William Kirby Lockard. *Drawing as a Means to Architecture*. Tucson, Arizona: Pepper Club, 1977.

In none of these books is there any suggestion that architectural drawing might be anything more than a purely descriptive graphic system.

Yet, from 1980 onwards, there have emerged a series of architectural publications where the architectural drawing begins to be discussed not as a device of mechanical reproduction, but as a critical and discursive expression of architecture itself.²⁸ Spearheaded by educational developments at the Architectural Association in London, and the Cooper Union School of Architecture in New York, these new architectural drawings were used by young architects to publicise their architectural projects without the difficulties of building. Between 1980 and 1990, the architectural drawings of Zaha Hadid²⁹, Nigel Coates³⁰, Peter Wilson³¹, Massimo Scolari³², John Hejduk³³ and others. Each can be said to have advanced their international reputations through various publications devoted to their speculative, that is drawn, work.

The architectural blind spot

The most significant barrier to opening an interrogation on the limits of drawn architectural representation is the dependence architects have on drawing. While architectural representation has historically included physical models, these did not have as significant a place for the architect as drawing, and were generally built for the pleasure of patrons rather than as a part of a design process.³⁴ At the other extreme, the introduction of digital technologies has not had a profound impact on the systems of conventional drawn representation. In fact, the use of three-dimensional tools is reinforcing a Renaissance model of perspectival representation.³⁵ What has emerged from the introduction of digital representation is a new separation of the hand and the eye of the architect. Where traditional drawing relied upon a coordinated relationship between the hand and the eye of the architect, the computer separates the two with the eye occupying a disembodied place on the screen, and the hand manipulating a pointing device in a completely different reality.³⁶

28 Nevins and Stern emphasize the importance of Walter Gropius, who regarded fine craftsmanship as symptomatic of nineteenth-century academic architecture, and therefore at odds with the modernist doctrine. They give credit to the revival of architectural drawing in the 1970s to a decline in the American architectural economy, coupled with the arrival in America of young architects from Europe and South America who used drawing in opposition to the empty formalism of modernist project (Susana Torre, Lauretta Vinciarelli). More than any other single factor, it is the down turn in the architectural economy that architectural drawing owes its discursive and critical focus. See Nevins, D. and R. A. M. Stern (1979): 22-23.

29 Hadid, Z. (1983); Hadid, Z. (1986).

30 Coates, N. (1984); Poyner, R. (1989).

31 Wilson, P. (1986); Wilson, P. (1989).

32 Scolari, M. (1980) Scolari, M. (1981); Scolari, M. (1987).

33 Hejduk, J. (1969); Hejduk, J. (1974); Hejduk, J. (1985); Hejduk, J. (1986); Hejduk, J. (1987); Hejduk, J. (1989).

34 See Reuther, H. (1981). Notes Frommel, C-L. (1994): "The model owes its birth without doubt to the same need for physical and spatial illustration and may have been the response of the practical working architect to the use of illusionism by the artist/architect. It was not only the craftsmen who profited from this new clarity; it also created the basis for the client's active participation"(43).

35 See Chaplin, S. (1995) and Hanna, R. and T. Barber (2001).

36 "The tool is divorced from the hand and has become the monocular vision of the computer screen. The imaginative construction of the mind's eye is taken care of automatically by the computer. Images that once were fabricated within the mind are outside of ourselves, rotating freely within the cathode-ray tube. No

Peter Eisenman argues for a more positive advancement on manual (hand) drawing being offered by the computer, but none the less still rooted in traditional conventions:

My work is ultimately about conceptualizing other methods. That is why I started working with computers, because all we can do as humans is draw axes and places. The computer conceptualizes and draws differently. I rely more and more on computers because through them we can produce things we could never produce twenty years ago. For example, morphing is a vectoral operation. An axis is a neutral vector that has no direction, magnitude, or intensity. Computers can analyze vectors in a way that a human could not. The vector is another mechanism of the measure of time and space.³⁷

While Eisenman recognizes the ability of the computer to calculate complex vectors and numerical parameters, it should be stated that these do not in themselves challenge the dominance of Cartesian geometries in architectural representation and design. The problem remains essentially the same for drawing because the nature of representation has remained the same. Agrest argues that:

What makes representation a crucial field in the understanding of architecture is the mediated character of representation itself. There is rarely representation of a 'reality,' or even of an idea or a belief. What representations represent is another representation in a chain of signifiers that circulate from one medium to another all the while believing, or letting us believe, that there is a direct referent.³⁸

Architects constantly evoke 'representation'. As a broad description it is used to denote almost any part of the graphic production required by architecture. Architectural representation is given a similar status to writing, and is caught in an endless loop of referents. Architectural drawing is not the same as architectural representation. While semiotic systems are applicable to drawing, one part of the difficulty in discussing architectural drawing as a discourse of signs is the insistence of the architectural drawing to reference architecture as a condition outside of itself. As a communicant, architectural drawing refers to architectural representation in order to enter into architectural discourse. The distinction lies in the area where one form of drawing is legitimised as architectural, and another is discarded as pictorial. Architectural representation may be a polysemic condition for wider architectural discourse, but architectural drawing is not. As a discrete procedure, architectural drawing is conditioned by codes and conventions that attempt to suppress multifarious interpretation, and much of the discourse on architectural drawing is concerned with this point. As Ingraham observes, the most significant of these conventions is that of orthogonality:

longer experiencing the world, we are blinded and our experience is only of the machine. Our experience becomes opaque." Ellis, E. (1997): 43.

³⁷ Zaera-Polo, A. (1997): 13.

³⁸ Agrest, D. (2000): 167.

Recently I have been thinking, in particular, about the 'line' and the way in which linear apparatuses seem to work in architecture. That architecture is a discipline that defines its boundaries and design capacities according to the workings of orthogonality (strictly defined, the right-angledness of the line) seems indisputable. Modes of representation in architecture - drawing and model-building, for example - are the literal examples of this orthogonal dedication, but even in epistemological and representational accounts of its own artistic practice, architecture relies on a kind of orthogonality, a linear movement from drawing to building, architect to drawing. In the most common of these accounts the building is understood as the inevitable, the right and proper, end-point of the intention of the architect.³⁹

Similarly, Fawzy acknowledges the orthogonal and exposes a differentiation between the prescriptive nature of practice drawings and the descriptive nature of so-called design, sketch, presentation, and exploratory drawings.⁴⁰ In recent years, architectural working drawings have developed from the descriptive to the prescriptive as economic, social and technological changes that have occurred in the profession have subsequently altered the traditional relationship between architect and builder. This has shifted from a predominantly verbal relationship to a graphic one, based initially on a descriptive model, to the current one identified by Fawzy as a prescriptive model. Prescriptive working drawings are a very particular condition of architectural drawing. They exhibit an extreme position of drawing as a mechanically founded skill bound to the production of buildings and, in this sense, can be seen to conform to a phenomenological theoretical approach.

Prescriptive architectural drawings exist as a transcript of an architect's intention that interposes between the architect and the executor of the architects' intention, typically a builder. The design of the architect is maintained and realised with a 'truthfulness' to the visionary picture. Such an attitude dematerialises the drawing in an attempt to reduce its material density as language to an intimate contact between living persons - architect and builder. In this paradigm the drawings cannot be considered as any text at all, only an attempt to talk directly to the production of the building.

Architecture sustains its discourse through the production of artefacts, and the assumption that drawings are to be read in only one way and towards a certain end - an accurate reading (building) of the author's (architect's) text (drawings). Architecture is able to maintain the authority of the architect by neglecting the text as another producer, and with no regard for the 'reader' of an architectural text. This paradigm offers a political structure in which the architect is preserved as the sole source of authority in a constructed work through the model of author. Prescriptive working drawings defend the role of the architect as the source of 'truth' in the production of a building up until the time of completion, at which point the architectural discourse enters into a concern for the building. Typically this discourse occurs within the parameters of professional practice and authorship, such as architectural societies and magazines. The ability of

³⁹ Ingraham, C. (1992): 264.

⁴⁰ Fawzy, O-N. (1991).

drawing to maintain a directive voice in the representational processes is conditioned by criteria of architectural representational authority – the drawing becomes the voice of the architect. As an action, architectural drawing manipulates categories of inclusion and exclusion that identify architectural discourse, and therefore representation, and it is thereby implicitly concerned with a voice of power:

*Language becomes the medium through which a hierarchical structure of power is perpetrated, and the medium through which conceptions of ‘truth’, ‘order’, and ‘reality’ become established. Such power is rejected in the emergence of a post-colonial voice.*⁴¹

The Power of Drawing

Power is rarely examined in discussions on architectural representation, and especially rarely on architectural drawing. When Evans describes architecture beginning and ending with pictures he is emphasising the power of picture-making to fix in place not only architectural discussion or communication, but also the actual discipline of architecture. Moreover, it seems that architecture has come to define itself within conditions of benign geometric description.

*Descriptive geometry was a mathematician’s generalization of architectural drawing, the powers of which were vastly increased in some respects and reduced in others. Pictures became more abstract, losing much of their illustrative character as solid bodies dissolved into a nexus of trace lines. Geometric bodies could not be represented, but on the other hand a wider range of more complex geometric figures and their intersections could be represented with much greater ease. In Monge’s Géométrie descriptive, as in a host of publications following in its wake to this day, the intersections of plane, conic, spheric, and ellipsoidal surfaces, freely orientated in space, are shown penetrating each other at any angle and in any direction.*⁴²

Implicit in this privileging of the orthographic within descriptive geometric parameters is an entrenchment of Enlightenment values privileging sight over all other sensory experience.⁴³ In the case of architectural representation this paradigm shift has advanced the significance of the drawing to the detriment of other forms of communication present in the act of building.⁴⁴ Any attempt to challenge the visual hegemony of the architectural drawing is a confrontation to how the discipline and practice of architecture operates in society. In the example of prescriptive drawing, to suggest that these drawings belong to the realm of the phenomenological is to position them in the romantic universal organic world of Husserl and Heidegger, and arouse the premise that their meaning occurs

41 Ashcroft, B., G. Griffiths, et al. (1989): 7.

42 Evans, R. (1995): 324.

43 For a discussion of this point see Jay, M. (1993).

44 For example see John Harvey’s account of Gothic and Medieval building practice: Harvey, J. (1971) and Harvey, J. (1972).

outside the laws of language. Only in this way can working drawings avoid the semiotic breakdown of sign and signified that typifies post-structuralist discourses on text. In a contemporary context, prescriptive drawings are seen to pursue a mode of meaning that attempts to maintain the originality of the text. To do otherwise would be to suggest that there can also be a valid re-reading (writing) of an original, which then challenges the production of meaning. Architectural drawing attempts to erase absolute objectivity but while doing so also refuses to enter into a dialogue with meaning that admits multiple answers and questions. The effect is a type of productive blind spot where the political and institutional problems of communication are refuted in the interests of creativity, and therefore origin. Indeed Coop Himmelblau have stated that they:

*think that the drawing in architecture, that is, the unconscious act which calls logic into question, could be the 'blind spot'. The coincidence that is not a coincidence, leads us to a method of design in which the drawing becomes important. Free from the physical constraints, without thinking about spatial consequences, the drawing comes into being in an instant, and 'administrates' the building. And when you see the drawing, created in an explosive moment, you see the superimposition of plan, elevation and section. Everything is in the drawing. As in cubist drawings, where not only the complete view, but in reality the psyche of the drawn object is also made visible.*⁴⁵

This view of the drawing as a neutral device is remarkably widespread, and marks much of the discourse on architectural drawing. Yet the very notion of communication is already shrouded in prejudice and influence as it depends upon fixed systems of transfer. Significantly, it is precisely the predisposition of representational systems to one model rather than another that makes them useful, especially to a discipline such as architecture. Literary theorist Terry Eagleton has noted:

*All understanding is productive: it is always 'understanding otherwise', realizing new potential in the text, making a difference to it.*⁴⁶

Architects side step the issue of meaning in their work and project it onto the built form. Thus the building itself becomes the only 'true' meaning and intention of the author (architect). Architectural drawing attempts to claim an absolute objectivity that allows the architect to remain author. But in its refusal of the drawing as a textual device, open to multiple re-readings and writings, prescriptive drawing refuses production as a key to 'understanding otherwise'. It is for this reason that the drawing becomes a 'blind spot' in architectural production. Despite the introduction of the digital technologies, current architectural practice remains essentially limited by its systems of communication, and yet these same codes and conventions are the visibly demonstrable aspect of the discipline's speculations about itself. The drawing re-presents a moment of conceptualisation that marks the origin of the architectural idea. This moment may be understood as a figurative and formative 'spot' for the discipline of architecture where architectural knowledge and architectural vision originated. Hollier writes that:

⁴⁵ Pritz, W. D. and H. Swiczinsky (1996): 46.

⁴⁶ Eagleton, T. (1992): 71.

There does, in fact, exist a spot - a blind spot - in conceptualization that precludes an immaculate conception of conception. In the mind, the organ of conceiving, everything one cannot conceive of, everything one has no idea about, creates a spot. And, just as in the structure of the eye, the blind spot (because it does not see) is basic to vision itself, similarly the mind has a spot, which is conception; there conceptualization vanishes.⁴⁷

In the moment of conceptualisation, including the conceptualisation of architecture itself, there exists a spot of vulnerability that threatens to disempower architecture's significance. If architectural drawing is not a privileged communicant, then its power to direct becomes available to all, and yet while it is understood as purely privileged it deflects responsibilities for the communication 'of' and 'to', and becomes barren. This suggests a parallel metaphor often invoked of fertility and infertility. The drawing is the 'place' of architectural 'birth', and yet it is always vulnerable to accusations of not being properly 'productive' in projective terms. It is no surprise to find architects evoking this metaphor to account for their relationship to the drawing. Sates Le Corbusier:

When I am given a task, I am in the habit of tucking it away in my memory, that is, of not allowing any sketch to be done for several months. The human head is so made that it maintains a certain independence: it's a box into which you can pour helter-skelter the elements of a problem . . . then one day, a spontaneous initiative of the inner being takes place, everything falls into place; one takes a pencil, a bit of charcoal, some colored pencils (color is the key to the process) and one gives birth right there on the paper: the idea comes forth, the child comes forth, it has come into the world, it is born.⁴⁸

Le Corbusier's birth metaphor is a recurrent myth that simply attempts to disguise the representational blind spot of architectural drawing by imposing an undefined ordering with a 'transparent' gestation. The idea is immaculately 'born' from the singular workings of the architect's mind, thereby forging another of the mythologies of the drawing – the Architect as God. The very bravado of Le Corbusier's origin evocation of origin is already a veiling. Wigley has written:

⁴⁷ Hollier, D. (1989): 111. Giuseppe Zambonini recognizes the same state, although with a quite different interpretation: "I propose that the design process should mirror the authentic sequences and episodes of building construction. The manual nature of drawing is echoed by the manual-ness of construction. Drawings produced with a sense of craft, namely a mastery of drafting instruments plus an appropriate selection of the spatial mode of representation, reveal an interest and an empathy towards the building process. It is very unlikely that the poetic joining of materials could be sufficiently governed by simple mechanical determinism. The combination of the two, the expressive and the mechanical, support a condition which is always true in reality. Like two sides of a coin, the expressive and the mechanical are simply two different essences of the same object." Zambonini, G. (1988): npn.

⁴⁸ Le Corbusier quoted in Franclieu, F. d. (1981): 27.

*Order cannot simply be exposed. Rather, disorder is concealed, removed from the eye as 'unsightly.' The representation of exposure depends on a veil. Transparency is an effect of masking.*⁴⁹

The history of architectural drawing is a document of attempts to dis-empower the architectural drawing while maximising its ability to make leaps of faith. In an attempt to place parameters on the diversity of representational categories and systems found in architectural representation, Rumiko Handa suggests a definition of architectural drawing based on production:

*If a drawing is created for the production of architecture, then I include that drawing as the subject matter of this discussion. No matter what type of drawing, whether perspective or orthogonal, no matter the technique, whether the object of the drawing is an existing building or a future project, whether the primary objective of a drawing is to communicate the design, or to record an existing building from which to learn for future design – if the drawing is generated with the production of architecture in mind, then I include it as a subject of consideration.*⁵⁰

It then follows that (re)production is the principle of architectural representation, and the primary component of architectural drawing and all its definitions. For Handa, architectural drawing is defined by an *intention* that attaches an architectural value to any representational system. Thus, Claude Monet's series of paintings of Rouen Cathedral is not classified as an architectural drawing because, while the subject is a building, the intention of the painted composition was not architectural. Conversely, the *Micromegas* Series of images by Daniel Libeskind, while not recognisably about building (in a wider sense), are none-the-less assumed by the intention of architecture – here as a questioning of representation itself. With Handa's definition it becomes much easier to say what an architectural drawing is, than what it is not.⁵¹

*On the contrary, it is in the nature of architectural drawings to sustain interpretations other than what has been precisely described. This happens when the eyes of the beholder mediate over the drawing, allowing it to become something independent of what it represents.*⁵²

One point which Handa makes clear, is that these criteria are to be attached to the physiology of vision:

⁴⁹ Wigley, M. (1994): 376.

⁵⁰ Handa, R. (1992): 4.

⁵¹ Handa relies here on the category criteria set out by Graves, M (1977); Levine, N. (1982); and Lotz, W. (1997). Architectural drawing for Handa includes those images related to the planning, illustration, execution, and education from existing buildings, but this offers only a faint guide to those images that border categories of inclusion.

⁵² Handa, R. (1992): 35.

*The most important characteristic of representation specific to architectural drawings is that, instead of reflecting something that already exists in front of the viewer, the representation in architectural drawing is the first visual object that is physically present before the eyes.*⁵³

Implicit in this statement, and found throughout discussions of architectural drawing, is the promise of a complete architectural idea that is organized by the dominance of a correct sense of sight.⁵⁴ An architectural project is envisioned, foreseen, visualised, and pictured. In almost all cases this occurs, to a greater or lesser extent, before any physical drawing takes place. The extreme case is Frank Lloyd Wright, who claims that visualisation of any architectural project should exist as a formal arrangement before it is committed to drawing:

*I no longer touch pencil to paper until the idea of the design is so fixed within my own imagination that I am arranging the furniture and placing bowls of flowers in the building. Then I go to paper and put it down.*⁵⁵

The relationship between the idea and the building is an important one as it attempts to find a commonality and continuity between an imagined future and a testable result. Contained within this relationship is an understanding that they may be compared optically – the building ‘looks’ just as it was ‘envisioned’. Architectural drawing rests between these two: a Janus with one face to the responsibilities of origin, the other to the concerns of execution. Architectural drawing is located in an interstitial space, which cannot be dismissed as simply ‘between’.⁵⁶ The nature and form of this space is the subject of this work.

The translation model for architectural drawing

The representation of architecture necessitates an effort of geometrical imagination, a mental and intellectual projection, like the reading of musical notation, which might synthesize the always incomplete representations. The active intervention of the interpreting subject is required to supply ‘what is lost in the translation’.

Stan Allen⁵⁷

Typically, the ‘translation’ model is offered as the procedure by which the (architectural) intention of the architect (unreservedly spatial⁵⁸) is assured its place in the

⁵³ Handa, R. (1992): 23.

⁵⁴ “The representation in architectural drawings deals with something that is neither existing nor present. Therefore, the significance of the architectural drawings is that they themselves are the first objects that physically exist and are present in front of the architect’s eyes.” Handa, R. (1992): 25.

⁵⁵ Frank Lloyd Wright quoted by Futagawa, Y. (1985): viii.

⁵⁶ See Evans, R. (1986) and (1989).

⁵⁷ Allen, S. (1993): 132.

⁵⁸ “Unlike a building, whose spaces are folded, torn, concealed, extruded, and crinkled (to use but a few of the possible metaphors), drawings necessitate a space (in front of the paper) that corresponds to a place where one might stand to see the really informative view.” Kunze, D. (1997): 139. Kunze’s dismissal of

culmination of the architectural project. This location implies a hierarchically structured relationship. Beginning with a concept, the architectural value increases through the preliminary and developed drawings to its final realization in the form of the completed building: the passage from the one-dimensional (the idea) through the two-dimensional (the drawing), concluding with the three-dimensional (the building). The very specific role of the architectural drawing in this account is to ensure the integrity of the architectural relationship between the idea and the project. At no time in this paradigm should the drawing be confused with the architectural project. Michael Brawn concurs:

*Architectural drawings, however, are only a means to an end; steps in the realisation of a completed building. They are not graphic works of art in their own right, but tools that explore form and materials.*⁵⁹

However, the cultural relationship between the architect, the drawing, and the building, is both more obvious and more obscure than this position allows. Wider perceptions of the architect fuse the three, so much so that portraiture of an architect inevitably includes the paraphernalia of drawing: pens, T-squares, drawing roles. In fact, for Frank Lloyd Wright, the architectural drawing provided a metaphor to account for the protection of civilisation itself.⁶⁰ The grandness of this is often undone by the demand that architectural drawing be reduced to a type of tool, to assist the architect through a mere graphic convention that facilitates a process of communication.

*Architects use drawings to give visual form to their ideas. In the non-verbal world of architecture lines on paper play a central role. Architect's sketches are not the same as those by artists who depict people, places, and objects that already exist. The architect thinks visually about buildings that he 'sees' well before they exist. Whereas a mathematician might use numbers and algebraic notations, and a musician, notes and bars, the architect employs a personal calligraphic shorthand of lines and shadings to describe the earliest images that form in his mind's eye.*⁶¹

These kinds of positions - and they are to be found in any text pertaining to the explanation of the various drawing conventions and techniques - universally treat the

drawing is evident in his use of metaphors that may be equally applied to a sheet of paper. Kunze goes on to suggest that the architectural drawing is inherently romantic (because of its abstracted spatial notions) and therefore cannot be trusted - it is an exercise in illusion rather than (three-dimensional) fact. He goes on to offer the terms 'production' and 'reception' to account in turn for architecture as it is conceived and built, and architecture as it is conceived or perceived. Architectural 'representation', for Kunze, lies between the two, 'sandwiched' in a way best illustrated by the poché. His essay crudely labors architectural slippages associated with the poché, and deteriorates into the application of a structuralist formula onto the poché.

⁵⁹ Brawne, M. (1990): v.

⁶⁰ "the line is everywhere obscure or lost - that, properly drawn, is the greatest safeguard and at the same time the most precious asset a civilisation may have. Indeed, I believe, it is civilisation itself." Frank Lloyd Wright quoted by Pfeiffer, B. B., Ed. (1992): 330.

⁶¹ Lacy, B. (1991): 9.

drawing as a surface (a graphic communication) rather than a site or space (an event or occasion) of architectural realisation.⁶²

Anthony Vidler, for one, has addressed the failure of modern architecture to fully appreciate, at least theoretically, the realms of technology and space. Vidler's call for the serious study of technological history brings with it the recognition that architectural representation - encompassed by Vidler under the banner 'technical reproduction' - has been inadequately discussed beyond pragmatic and directive treatises.⁶³ Under the subject of 'representation,' Vidler argues for the relevance of works by Herbert Damisch and Jonathan Crary to current discourse on architectural production.⁶⁴

The relationship of architectural drawing to its subject

One draws in order to penetrate, and to incorporate what one sees into one's own history.

Le Corbusier⁶⁵

For very different reasons, each of the architects' drawings under discussion here are not able to be 'translated' into a building without such creative interpretation that the representational qualities of the images as they stand might well be abandoned. Having said that, the architects involved produced these drawings as a part of an architectural oeuvre, and each image has been widely distributed as a significant part of the representational systems involved in any interpretative understanding of their work be that built or drawn. This would suggest that these drawings, in quite different ways, are meant to be recognised as a significant part of our understanding of the architectural practice of the architects, and need not be literally built to become an important part of an architectural oeuvre. While this should not lessen the representational role played by drawing in architectural practice, it has the effect of challenging traditional understanding

62 In discussing the significance of drawing practice in the work of Christopher Alexander, Ingrid King describes the innate role of the drawing as the divide between building and architecture. She states that the drawing is not the catalysing medium in which various ideas and inspirations are tied together. Rather, she argues, it should be seen as stopping the possibilities of an open design process by becoming private and inhibiting collective processes. Drawing negates the opportunities for open design by centralising the mechanism for decision in the drawing: "All possibilities of an open process, a collective form for design, a morphology that captures the aspirations and identification of the larger community goes down the drain, through the medium of the drawing"(142). She further argues this relationship as a problem of architecture generally where, "The catalyzing drawing process tends to produce a thing which is too internally cohesive, not enough live and let live, not enough independent of parts, too much echoing back and forth. Too much of a corset. Nor enough inner calm. It is a whole that becomes like a knot"(142). King, I. F. (1993).

63 "[The] division between theory and history has meant that apart from a few 'nonarchitectural' critics such as Fredric Jameson, questions of space in contemporary architecture have been largely subsumed by a reliance on the traditional and problematic categories of style, while questions of technology have been restricted to the interests of engineering historians, for the most part concentrating on individual building structures and ignoring territorial and urban engineering, not to mention emerging technologies of representation and production." Vidler, A. (1999): 483.

64 Vidler, A. (1999). See Crary, J. (1990), and Damisch, H. (1994).

65 Le Corbusier (1960a): 34.

of the drawing as a 'means to an end' in architectural practice. Although an architectural drawing should not have to be literally (when read visually) 'buildable' to discuss or evoke architectural issues, none-the-less there is widespread criticism and doubt over the validity of 'paper architecture'. This occurs in the face of substantial historical evidence of the role of the speculative representational scheme. The implication is that the relationship between an object of representation and the subject of representation is at best not clear cut, and at worst might be fully questionable.

Architecture depends upon construction (at some point) to complete a passage from an idea through to a project, but architectural practice of the last 500 years has also depended upon the drawing to facilitate this relationship. For architects this relationship is one of faith. In the first instance the drawing is relied upon to ensure correct and successful implementation of the project through the construction process. Secondly, architects employ drawing, through a variety of conventions, for the development, discussion, and examination of the architectural project. Thirdly, and most importantly, architects now depend upon drawing to establish the a priori relationship of the 'architectural project' that the drawing then becomes a key device in discussing. This is of course paradoxical. The architectural drawing becomes an element that makes it possible to have architectural drawing at all by establishing the projective relationship of idea to building.

At this point it is important to separate the obvious manifestation of drawing – marks made on paper, etc. – from the ideological practice of representative communication, the paramount expression of which is the physical drawing. The relationships here are complex, unstable, sometimes casual, at all times inconsistent, and often unreasonable for a discipline that attempts to organize itself as rational. That said, many commentators still maintain that the architectural drawing is (or at least should be) a neutral tool for transfer between an architect and a built work. This position denies the discursive and experimental element in architectural drawing, and fails to appreciate or discuss the drawing as a significant part of the institutional construction process of architecture. The three drawings selected for this thesis usefully exemplify these relationships.

Morphosis, Aldo Rossi, Peter Eisenman

Drawings are graphic representation analogously related to the built world through a corporeal dimension and embodying in themselves the chiasm of conceiving and constructing.

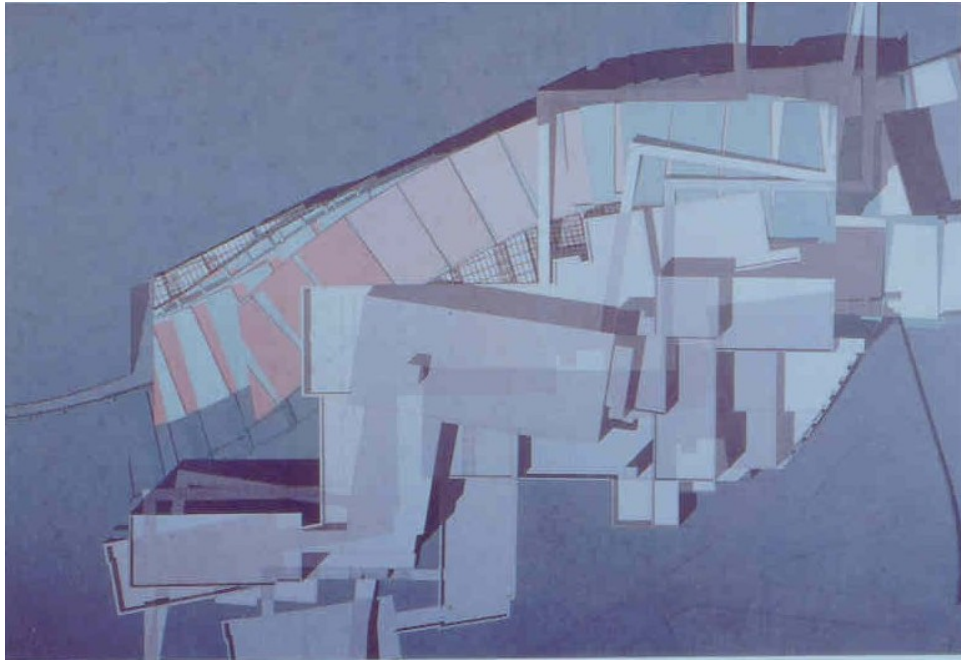
Marco Frascari⁶⁶

Peter Eisenman, Morphosis and Aldo Rossi are all included in the Avery Libraries centennial publication *Contemporary Architectural Drawings*.⁶⁷ The Eisenman image [Figure 1] has no worded entry, and the architect's statement for Morphosis [Figure 2]

66 Frascari, M. (1989): 12.

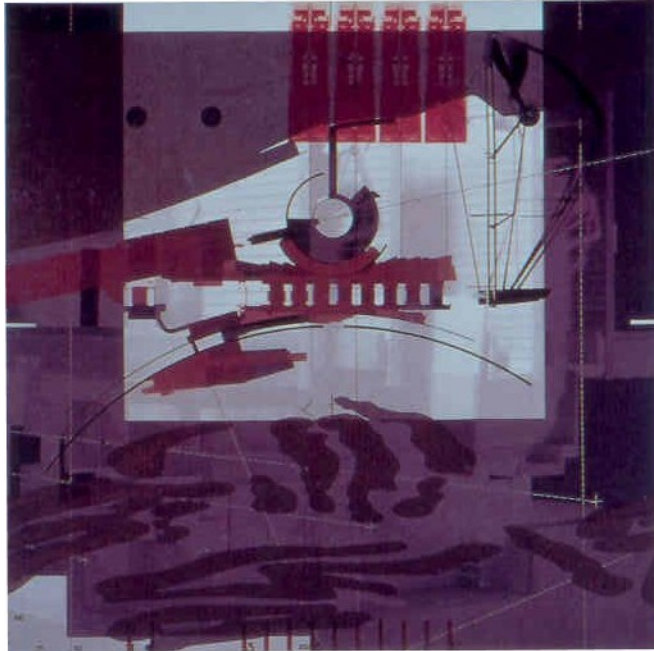
67 Parks, J., Ed. (1991). I take the liberty of saying 'all three architects' while in fact the drawing I include for Morphosis is attributed in the catalogue to Thom Mayne with Christopher Wahl and John Nicholls Printmakers. However, as this project is elsewhere attributed to the firm I choose here to include it as the work of 'Morphosis'. The Avery Library Centennial drawings represent the new acquisitions following a donation program that netted 320 drawings from 120 different architects. The Morphosis contribution consists of a colour proof (1/1) of their proposed golf club at Chiba Prefecture, Japan. Aldo Rossi was represented by *Costruzione Marine* (1998), and Peter Eisenman by a silkscreen of the roof plan for the College of Design, University of Cincinnati. Rossi's drawing is a unique work and is the only one of the three titled. The pieces by Morphosis and Eisenman are both limited reproductions, coincidentally by the same printmaker - John Nichols.

Figure 1



Peter Eisenman
Roof Plan
College of Design, University of Cincinnati

Figure 2



Morphosis (Thom Mayne)
Colour Proof
Golf Club at Chiba Prefecture

describes its significance simply as recording “spatial increment”.⁶⁸ However the statement for the Rossi drawing (*Costruzione Marine*, 1988) [Figure 3] describes it as a collage, in plan and elevation, “of popular imagery used by Aldo Rossi surrounding the landscape of the marina.”⁶⁹ The nature and use of such a description to describe an architectural representation is one of the themes of this thesis. In his summary of the associated exhibition Edward Wendt is equally oblique in his phrasing:

*By definition the architectural drawing, regardless of its degree of autonomy from any real or possible space, can never completely escape a reference to external conditions.*⁷⁰

Wendt carefully avoids offering a definition of the architectural drawing while maintaining the prescriptive importance of definitions. Similarly he evokes the presence of an external authority guiding the purpose of architectural representation but without offering further elucidation. Wendt is not alone in his reticence towards definition of architectural drawing and its representational responsibilities. On the contrary this point recurs as a theme in writings on architectural drawing and the problems surrounding this is one of the main themes in this thesis. One reason for such reserve in definition is the enormity of the representational program in architecture when it is discussed in anything other than generic terms. As a ‘crisis’ in architectural drawing, this has been brought to the surface by the emergent significance of the computer in the production of architectural images. Wendt notes that ‘new technologies’ will demand the development of an effective theoretical framework through which to implement new representation techniques⁷¹, but such comment assumes that a framework already exists for which might now be called the ‘old representational techniques’. I am not convinced that we yet have a foundation from which to discuss ‘new’ technologies, and without a framework it is difficult to say that these ‘new’ technologies are in fact ‘new’ or just ‘other’ to the more familiar methods used by architects for some time.

In Ernest Burden’s recent “Visionary Architecture: Unbuilt Works of the Imagination” neither Morphosis, Rossi, nor Eisenman are included.⁷² Burden states that the collected drawings represent three distinct but overlapping categories of: architectural visions; visions of architectural form; and design as visionary architecture. Despite his dependence on the word ‘visionary’ his definition is vague. It is, he states, “a mental picture produced by the imagination. . . . Visionary schemes are usually radically different from the concerns and icons of their day, and the artist or architect attempts to resolve these differences by means of transporting them into a hypothetical future

68 Parks, J. (1991): 86.

69 Parks, J. (1991): 105.

70 Wendt, E. (1991): xiii.

71 “The expanded formal archive that has grown out of postmodern theory, and likewise the expanded means of representation promised by digital technology, may be matched in the years ahead by an expanded means of realization in the act of building. In that scenario the computer as a representational tool gains a sound theoretical justification.” Wendt, E. (1991): xiv.

72 Burdin, E. (2000).

Figure 3



Aldo Rossi
Costruzione Marina
1988

environment”.⁷³ For Burden the visionary alludes to imaginary future systems rather than architectural imagination per se.⁷⁴ The non-inclusion of Morphosis, Rossi and Eisenman might seem to indicate that their drawings fail to maintain the architectural ‘vision’ required to support the ‘visionary’.

‘Vision’ is one of the prevailing terms of reference in monographs and compilation publications on architectural drawings. A brief search reveals: *Visionary Architects: Boullée, Ledoux, Lequeu*⁷⁵, *Architectural Visions: The Drawings of Hugh Ferriss*⁷⁶, *Bauhaus, Avant-Garde of the Twenties: Visionary Architecture*⁷⁷, *Visionary Drawings of Architecture and Planning: 20th Century through the 1960s: Developed for Travel and Circulation by the Smithsonian Institution Travelling Exhibition Services*⁷⁸, *Visionary Architecture of the 20th Century: Master Drawings from Frank Lloyd Wright to Aldo Rossi*,⁷⁹ and *Visionary Architecture: From Babylon to Virtual Reality*.⁸⁰ The commonality of these titles is that the depicted architectural representations remain speculative. That is, to be constituted as ‘visionary’ the architecture illustrated must remain unbuilt. This point was prophetically identified by Herbert Muschamp in his reaction to the staid dogmas of building:

*The strongest work done by specialized architects in the past two centuries has been fantastic or visionary architecture. Beginning in France with Boullée and Ledoux, and continuing up to the present, certain architects have detected this shifting of roles in the cultural fabric, and its implications for architecture. These artists have understood that the preservation of architecture as an art form depends upon the creation of cerebral artifacts, the design of buildings which will not or cannot be built. Only in this way can architectural work continue to be subject to the terms of the artist. Thus it was that the Bauhaus produced many interesting teachers and exciting design ideas but failed to build a house other than its own.*⁸¹

Similarly, Kevin Rhowbotham has stated that the crisis of representation for architecture occurs precisely within those systems of production in which architecture depends - namely the drawing.

73 Burdin, E. (2000): v.

74 I am not at all convinced by Burdin’s categorical distinctions. Note here his observations on the two different words ‘imagination’ and ‘imaginary’: “There are two meanings to the terms ‘imagination’ and ‘imaginary,’ meaning unrealistic or fantasy on the one hand and the ability to deal creatively with an unseen reality on the other”(v).

75 Lemagny, J.-C. (1968).

76 Leitch, J. F. (1980).

77 Koob, M., Ed. (1994).

78 Collins, G. R. (1979).

79 Lampugnani, V. M. (1982).

80 Thomsen, C. W. (1994).

81 Muschamp, H. (1974): 10.

*Any examination of the operation of architectural production, if it wishes to engage with its actual materiality, must proceed from an analysis of the nature of its systems of representation and the institutional interests they support.*⁸²

Rhowbotham considers the production of architecture to be the result of the coincidence of several types of human knowledge, of which the architect's knowledge is only a part. However, because architects respond to each other as if they are directly involved in the production of buildings it is commonly understood that the business of the architect (indeed the business of architecture) is to 'constitute' the coordination of building, and that the primary expedient of this action is drawing. Yet, among architects, there is also a refusal to accept the drawing as the place of speculation and knowledge:

*Phenomenological experience of space is felt to be the original and primary experience; the production of drawing its adjunct and subsidiary.*⁸³

There is a need to for a relationship between the space of speculation (the drawing) and the space of execution (the building) where the nature of architecture and its contingent spatialities are dependent upon the possibilities in drawing itself, and not necessarily upon any physical, or projected, space.

*Marks on the drafting plane no longer referred to the physical surfaces of objects, but to characteristics of spatial extension, to trajectories, to oscillations, to orbits, to vibrations, to repetitions, to syncopations, etc. New ways of describing space in the drawing emerged, and alternative drawing codes were extracted.*⁸⁴

Rhowbotham's position assumes that the nature of architecture's graphic conventions lie within, or on-top-of, the surface of the drafting film. Therefore the conventions of plan, section, elevation, etc., are the product of prescriptive labels applied to the drawing; whether intrinsically as technique, semantically as written descriptions, or institutionally as convention or system. There exists a fundamental relationship between the space of speculation (the drawing) and the space of execution (the building) where the contingent spatialities of architecture are dependent more upon the potentialities of the drawing than any projected or physical space. "Space, in this sense, is made in drawing, it is never merely described by drawing."⁸⁵

*It stands in front of reality as a sign by means of which some aspects of that reality can be re-presented, re-interpreted.*⁸⁶

To adopt the 'map' in order to explore architecture, necessitates a rejection of such conventions as elevation, plan, section, etc., that define the field of a certain architectural

82 Rhowbotham, K. (1995): 24.

83 Rhowbotham, K. (1995): 20.

84 Rhowbotham, K. (1995): 20.

85 Rhowbotham, K. (1995): 20.

86 Rhowbotham, K. (1995) 20.

production.⁸⁷ By reconsidering the drawing as a type or kind of map we are able to escape an encoded obligation to transfer drawing's production of architecture onto the architect or into building and instead are able to make productive re-readings of architecture's graphical structures (that will in turn uncover new architectural expression).

*Viewed in this way, the architectural drawing loses its intrinsic referents and becomes truly abstract; a collection of lines marks and traces in the flat space of the drafting plane. Without figuration, that is to say without references to other graphical codes, the drawing is drained of familiar formal values, becoming a tabula rasa for productive formal exploration.*⁸⁸

Simultaneously, the character of any drawing to be 'architectural' is also challenged. Architectural drawing, unlike other forms of graphic recoding, depends upon its referents in order to be defined and legitimized. Those architectural drawings specifically concerned with approaching architecture from a discursive representational position act to carefully and purposefully confront the referential codes and conventions. Morphosis, Aldo Rossi, and Peter Eisenman, are all examples. Throughout the graphic oeuvre of each is a sustained interrogation on the limits of graphic representation as it applies to the discipline of architecture. However, the risk is that in such exercises the referential systems might not remain architectural, but slip into other codes.

An epistemology for the study of architectural drawing

In architecture, which has an imaginary (sometimes pictorial) component, we can project the body into the building empathetically and represent its violation.

Robin Evans⁸⁹

This work introduces three case studies to help determine an epistemological paradigm for architectural drawing. Each of the key images discussed here is examined for information that disputes orthodoxies of translation or projection. The architectural drawing, it is argued, is less a tool of neutrality than an institutionalising instrument. Discourse on architectural drawing typically defends its benign role of communicating

⁸⁷ However, this is a position that assumes these mechanisms to be the only repository for encoding architectural drawing and fails to identify at what point, or how, these works remain architectural, that is, how they remain architectural drawings without prescriptive and institutional coding. There are at least two other systems of recognition that Rhowbotham fails to acknowledge. Firstly, that prescriptive codes may be employed non-graphically to de-code any drawing from a specifically architectural drawing. In this way Rhowbotham's 'maps' are architectural only in so much as they are able to be interpreted through the codes of elevation, plan, section, etc. Secondly, Rhowbotham considers the nature of drawing as that which takes place on the surface, "in the flat space of the drafting plane"(20). He assumes the drawing paper is a sterile surface upon which all information is placed but this fails to consider. Following Marshall McLuhan, the drawing as the medium may also contain some message. Thus perma-trace, drawing pens, ruled lines, etc., all direct attention of a drawn work towards an architectural examination rather than any other descriptive discipline such as painting or the fine-arts tradition of drawing.

⁸⁸ Rhowbotham, K. (1995): 20.

⁸⁹ Evans, R. (1991): 37.

between an architect (ideas) and a building (architecture). However, the architectural drawing – its values, systems, and predispositions - operate against clear communicative translation. That these ‘mis-projections’ are rarely discussed is indicative of the way in which architects rely upon drawing being comprehensible in order to maintain a relationship between the architect and the building. This is not to accept that the development of an idea into architecture need be fixed so resolutely. In this relationship the drawing potentially offers itself as an interrogative apparatus that has the capacity to critically engage with the production of architecture. That it is rarely used this way says much about the translatory relationship of both architect/building and idea/architecture.

The conventional dogma of architectural drawing is that it is a distinctly optical phenomenon. Contrary to this view a small number of commentators have suggested that the visual relationship in drawing is but one of a variety of sensory relations at work:

*The experience of drawings is a surprisingly multi-sensual one, involving not only the sight of the mark made but also the tactility of a soft pencil drawn across textured paper, the sound of a pen scratching in a sketchbook, even the smell of ink or paper. Each drawing tool and surface has its own proclivities, engaging in a dialogue of action with the user.*⁹⁰

Significantly, as the authority of the eye in drawing is questioned, a trust emerges in the role of the hand. As Henri Focillon has noted, the eye represents the fallibility of vision, while the hand presents the certainty of touch:

*the hand wrenches the sense of touch away from its merely receptive passivity and organizes it for experiment and action. It teaches man to conquer space, weight, density and quantity. Because it fashions a new world, it leaves its imprint everywhere upon it. It struggles with the very form it transfigures . . . It struggles with the very substance it metamorphoses and with the very form it transfigures.*⁹¹

For architects, their tactile relationship to architecture is always conditional on the work of others. As Giovanni Battista Piranesi observed, architects do not build – they draw.⁹² Yet the act of drawing, like the act of building, has its own realm of tactility. What is important to this study is the way in which architectural drawing is structured ideologically around vision alone, and that this paradigm controls the ability of drawing to contribute speculatively to architectural discourse. Architectural drawing is only allowed to be discursive where it suits particular criteria concerned with speculation – that is, architectural ‘vision’. And yet, architectural drawing, with its responsibilities to transmit information rather than encapsulate it, is distinctly different from painting despite its visual component:

⁹⁰ Fraser, I. and R. Henmi (1994): 162.

⁹¹ Focillon, H. (1992): 184.

⁹² Piranesi, G. B. (1984).

*Paintings with their colors, their tonalities, their extensive light and shade, compete with nature. They try to seduce the visible, to solicit the scene painted. Drawings cannot do this. They are diagrammatic; that is their virtue. Drawings are only notes on paper.*⁹³

Here Berger emphasises the diagrammatic quality of drawing against the pictorial of painting. The architectural drawing, however pictorial it may be, does not become a proxy for a ‘natural’ scene, but steadfastly remains a graphic recording of the principles or systems underlying the scene. This is at once both clear and complex when distinguishing architectural drawing from painting where the diagrammatic quality comes to the fore as an ideology of displacement (projective) that accords (translates) the responsibilities of the architectural drawing out and onto the realm of architecture as a practice. Yet, in architecture, these qualities do not need to occur exclusively of tonality, colour, light, or shade. Indeed, many examples of architectural drawing – not painting – depend wholly on their use of such devices.⁹⁴ For architectural drawing, as distinct from pictorial drawing, another displacement occurs from that of painting from nature, but it is one that moves the diagrammatic representation of the drawing back towards the idea of the ‘project’. In the fine arts tradition, the drawing stands for the realism possible in painting – it is a tool in the manner of a test or guide. Architectural drawing, by contrast, stands for the project of architecture precisely by acknowledging its distance – it is a representation – but then questions this distance by becoming the frame of reference for the architectural project. This marks a difference of intention between the two drawing types where drawing for painting looks back (to nature), while drawing for architecture looks forward (to the project). The first is history, while the second is prophecy. Central to the prophetic (architectural) position is an element of chance. In the event that the architectural drawing produces an acceptable version of some future reality then its integrity as an architectural representation is assured. This is the key ‘projective’ relationship that sustains the architectural drawing, and the three images under discussion here can be classified variations on this particular type of drawing. They each represent a mode of architectural production that challenges traditional expectations of the drawing to ‘present’, and therefore architectural production itself. The manner in which architectural drawing can undertake this, and the implications of such drawing, are the subject of this work.

93 Berger, J. (1987): 60.

94 See the work of Hugh Ferriss, Massimo Scolari, Zaha Hadid, or Neil Denari. In each case the success of the individual architectural drawings depend on the stated ‘painterly’ qualities inherent.

SECTION 1

Translating Thought into Action

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Translating Thought into Action

The drawing is like a sentence in a text, in which the word is a detail. . . . a detail helps incorporate a thought.

John Hejduk¹

I have no need whatsoever to draw my designs. Good architecture, how something is to be built, can be written. One can write the Parthenon.

Adolf Loos²

The laws of architectural drawing

When architects speak of drawing they infer matters beyond the limits of the page. Unlike a traditional fine art drawing, which looks back to a subject, the architect's drawing refers to something beyond the page, in some future state. Exactly how the architectural drawing is judged as different from drawing, and how we can speak of an architectural drawing and not include all types of drawing, or all drawings of architecture, is difficult to test. However, at some point, and in some way, the architectural drawing is distinguished as different, despite the fact that the drawing may contain an image that could be considered architectural, or of architectural significance. Thus there do exist some criteria that define architectural drawing as different and separate. The most significant of these is the demand that architectural drawing operate as some form of 'projection'.

Definitions of architectural drawing usually acknowledge an obligation to transfer the idea into some type of constructed form, usually a building. As such it is essentially different from conventional fine art drawing.³ Unlike conventional artistic drawing the architectural drawing has an essential accountability to building:

An architectural drawing is to show off a design, and the main factor is its relation to the final work and not the personal touch of the artist.⁴

The responsibility of the architectural drawing to the building requires the drawing to function *between* the architect (idea) and the building (the realisation of that idea).

¹ Hejduk, J. (1992): npn.

² Loos, A. (1989): 139.

³ Geneviève Monnier describes the architectural drawing as requiring a different code of interpretation than that used to read other forms of graphic expression. See Monnier, G. (1979).

⁴ Monnier, G. (1979): 123.

*The viewer has to decipher a plan, an elevation, a cross-section or a profile of a building, and then reconstruct them in his mind and relate them to the building as a whole.*⁵

While the traditional fine art drawing is permitted to function in a pure pictorial mode, the architectural drawing has an encoded contract to an act of building that prohibits pictorial realism while excluding the possibility of the irrational or fantastic.⁶ Architectural drawing is the hybrid product of this contract between drawing and building, one that demands that the drawing is subordinate to the act of building it initiates. Where Monnier demands that the architect's authority is upheld above the graphic seduction of the drawing he is making the action of building more important than the action of drawing. Likewise, David DeLong describes the primary function of the architectural drawing as essentially communicational:

*Architects use them to develop and record their concepts and to explain these concepts to assistants. Drawings are also used to communicate certain things about buildings to builders, to clients, and to the general public.*⁷

This contractual relationship between the architectural drawing and the building is generally thought to be a Cartesian representation based on the visual matching of lines.⁸

Drawing a Line

Conceptually architecture not only relies on the orthogonal relationship of drawing, it actively cultivates and maintains it; and the 'common account' relationship between architect and building that Ingraham refers to is particularly suspect because of its conventionality.

A number of accounts of architectural drawing point to the significance of translation to account for the relationship between the drawing and the building. Robin Evans, and to a lesser extent Jennifer Bloomer, Mark Wigley, and Catherine Ingraham have all pointed to the figure of translation in discussions on the operation of architectural representation through drawing⁹. Their accounts have in common the refusal, in differing ways, to

⁵ Monnier, G. (1979) 122.

⁶ Monnier distinguishes certain types of drawing concerning architectural subject as separate precisely because of this relationship to the building. "Architectural fictions have deliberately been excluded, together with imaginary ruins such as those of Natoire, Pannini, Clérissseau, Hubert Robert, Vernet and Servandoni, in which *architecture is only an incidental motif*."(p.123) and "Piranesi designed vast architectural spaces devoid of any functional purpose and indeed *not even constructible; they were meant as capriccios or fantasies*, even though he had been trained in stage design and perspective in Venice, under Zucchi and Valeriani"(133). Italics added for emphasis.

⁷ DeLong, D. G. (1977): 737.

⁸ See Evans, R. (1989). For an argument challenging this orthodoxy see Frascari, M. (1984).

⁹ Evans, R. (1989); Evans, R. (1995); Bloomer, J. (1993); Wigley, M. (1989); Ingraham, C. (1998).

accept the drawn passage between the architectural idea and the architectural project as being subject to conventional versions of translation as a pure shift.¹⁰

The tension between the art of architecture, and its reliance upon the affiliated but not necessarily synonymous art of drawing, are at least as old as codified architecture itself. In his *Trattati*, Francesco di Giorgio executes an extended attack on Alberti for failing to illustrate *De re aedificatoria*:

*For a long time now many authors have written about the art of architecture, buildings, and machinery, and have written down their ideas without illustrating them. And though these writers think they have fully elucidated their ideas, yet I see that there are very few readers who can understand them without the help of drawings. For the reader has to rely on his own idea of what is being described and sometimes it is as different from the author's as day is from night. Thus the reader is left in some confusion, for there are as many ideas of what the author is trying to describe as there are readers.*¹¹

Giorgio's criticism of Alberti pre-empts much of the current discussion of drawing within the art of architecture, that is to say he points to ways in which we do *not* discuss the architectural drawing. The dialectic he established between drawing and writing remains strangely unchallenged, as does the primacy he allocated to drawing as a properly singular (and therefore more truthful) version of what the architect has in mind when describing a project. This is perpetuated today in the way in which architects continue to document their projects through drawing. Significantly, the more speculative and conceptual a project is the less it depends on words and the more it relies on a graphic architectural version of itself, the architectural drawing.

The *Shorter Oxford English Dictionary* defines drawing as that which is formed by lines, that which is drawn. Its origins are in the action of the verb *to draw*.¹² In terms of architectural drawing this makes explicit the act of delineation and construction of drawing, through marking with an instrument across a surface, and the schema or motivation for such movement. Drawing is also linked etymologically to the action *to draw*, an expression of pulling and dragging. To draw is to extract something, to draw out the viscera, to disembowel. The act of drawing is the action of removal, amputation, coupled with an additive content, a substitution for the loss. This action of marking and compensating has been doubly inscribed since the middle ages where the architectural drawing was firstly made in pencil on fine animal hides, then overdrawn with a scribe to produce grooves in the skin. When it was completely drawn in this way ink was applied to the marked lines to render the invisible visible.¹³ Yellowed sheets of tracing paper are

¹⁰ See Venuti, L. (1995).

¹¹ Francesco di Giorgio quoted by Lefavre, L. (1997): 160-161.

¹² *S.O.E.D.* V. Of delineation or construction by drawing. **1.** To trace (a line, figure, etc.) by drawing a pencil, pen, or the like, across a surface **ME 2.** To make by drawing lines; to design, delineate; to model 1526.

¹³ This time consuming project was finally superseded during the Renaissance by techniques of over-laying tracing papers which provided opportunity for mistake. This ritualistic process of marking the skin

bound to the drawing board with a masking tape to be worked over with machines and motion units and the phallic intent of the propelling pencil - the extension of the architect's hand, and an answer to the architect's castration anxiety - if the lead is broken the cap is pressed, an endless ejection of lead continues to issue. The propelling pencil technologically sidesteps the anxiety of taking a scalpel to a broken point. Overlaid and redrawn as the architectural drawing emerges from these scenes of grotesque ritual its paradoxical condition is permanently etched into the surface of architecture and where the erotic quality of drawing is repressed to validate the architect as the instrument of architectural production. Drawing speaks in a forked tongue while simultaneously validating itself as the mechanism architects use to build, and the device that builds architects. It constructs the expertise and experience of the architect through the suppression of desires.

This suppression can be compared to Paul de Man's observation on the duplicity within the self that wilfully creates confusion in order to achieve self-transcendence as well as self-protection:

*The blindness of the subject to its own duplicity has psychological roots since the unwillingness to see the mechanism of self-deception is protective.*¹⁴

So too have architects created a blindness about drawing, which is outwardly maintained as a necessary but simultaneously neutral tool of the architectural project but also preserves and maintains the architectural triad of architect, building, and architecture. It is my proposition that the architectural drawing is in fact anything but neutral, that beneath the camouflage of impartiality maintained by the architectural profession, drawing in fact demonstrates a 'dark side' that contemporary architectural practice has secreted.

Blindness and insight

James Gibson suggests that our visual understanding of the world operates in two fundamentally different ways, which produce what he calls "the visual world" and "the

with a sharpened scribe and applying ink is immediately evocative of the tattoo, so despised by Adolf Loos. Loos describes the modern man who tattoos himself as immoral, a degenerate and a criminal. The evolution of culture, he maintains, is synonymous with the removal of ornament from objects of daily use and which is opposed to what Loos describes as the erotic desire to ornament. This eroticism encompasses both the sadomachistic violation of puncturing the skin as well as the sensual aesthetic consideration of complex lines not just onto but into the human body. The tattoo evokes the transgressive qualities of the grotesque; it displays the paradoxes of being outwardly visible while remaining inside, of decorating the body superficially but thwarting attempts to remove it from the skin. This violation contains a seductive erotic desire that is at once the reason for the tattoo's attraction and repulsion. If Loos defines cultural evolution in terms of removing ornament then he must also refute the existence of sensual personal desires for the erotic that exist extraneously and unnecessarily to basic desires of reproduction. The criminal is tattooed with the terms of contradiction that reveal a truth of grotesque erotic proportions. Such revelations are also apparent in the architectural drawing, its very existence located in an erotic ritual of production. See Loos, A. (1985).

¹⁴ de Man, P. (1971): 113.

visual field.”¹⁵ In the former, sight is ecologically entwined with the other senses to generate the experience of “depth shapes,” whereas in the latter, sight is detached by fixing the eyes to produce “projected shapes”. For example, a plate will be experienced as round in the visual world, but as an ellipse in the visual field, where the rules of perspectival vision prevail. The implication of this, as Martin Jay has pointed out, is that vision is normally crossed with the other senses but that it is only artificially separated out. In this way, cultures might be differentiated according to how radically they distinguish between the visual field and the visual world.¹⁶ Architectural drawing, as another form of cultural discourse, realises this by understanding the drawing as a site of visual experience, and acknowledging that visuality dominates interpretation and comprehension. However, the hegemony of a visual reading of the drawing does not fix meaning or intention:

*On the contrary, it is in the nature of architectural drawings to sustain interpretations other than what has been precisely described. This happens when the eyes of the beholder mediate over the drawing, allowing it to become something independent of what it represents.*¹⁷

The drawing is principally a visual phenomenon, but it is not only visual phenomena that the drawing manipulates. Beatriz Colomina has suggested that Adolf Loos’ attention to the sensuality of space creates a problem for representation: specifically that any two-dimensional system becomes an ineffectual medium for discussing tactile spatiality. Colomina’s commentary illustrates a standard response to the function of architectural drawing. She writes:

*Because a drawing cannot convey the tension between sight and the other senses, it cannot adequately ‘translate’ a building. For Loos the architect’s drawing was a regrettable consequence of the division of labour, and it could never be more than a mere technical statement, ‘the attempt [by the architect] to make himself understood by the craftsman carrying out the work’.*¹⁸

By privileging the bodily experience of space over its mental construction Loos finds the two-dimensional qualities of the drawing unacceptable, merely a gesture of practical, if problematic, communication to the construction industry.¹⁹ Yet Loos is still faced with the necessary negotiation of the limits of representation to develop and discuss his schemes. In his elevations for the Rufer House (Vienna, 1922) [**Figure 4**] Loos combines the schematically drawn elevations with equally nominal information regarding the positions of interior members. The resultant representation is one neither properly

¹⁵ James J. Gibson. *The Perception of the Visual World*, (Boston, 1950); *Senses Considered as Perceptual Systems* (Boston, 1966); *The Ecological Approach to Visual Perception* (Boston, 1979). For a defense of Gibson see John Heil, *Perception and Cognition* (Berkeley, 1983).

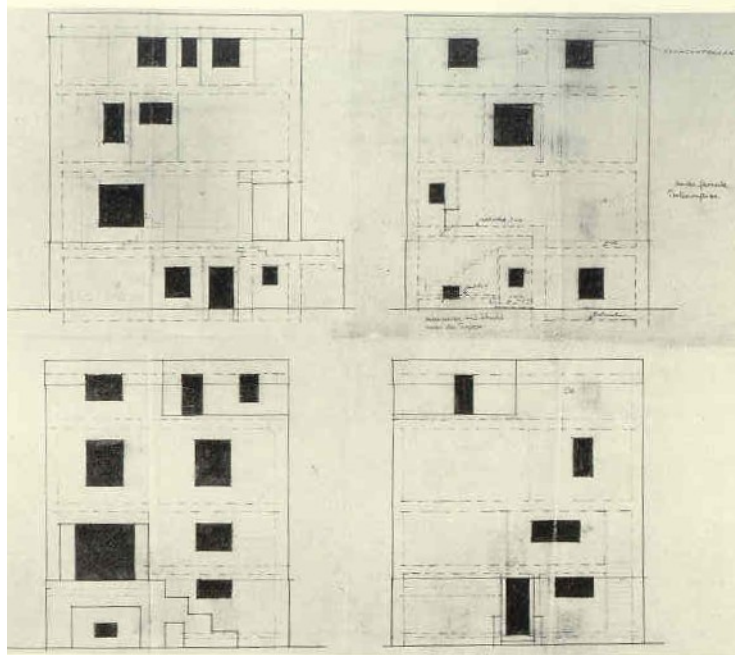
¹⁶ Jay, M. (1993).

¹⁷ Handa, R. (1992): 35.

¹⁸ Colomina, B. (1990): 12.

¹⁹ “Loos privileges the bodily experience of space over its mental construction: the architect first senses the space, then he visualizes it.” Colomina, B. (1990): 11.

Figure 4



Adolf Loos
Rufers House
Elevations

sectional, nor successfully elevational, but a hybridity of the two. Thus the visual integrity the elevational and sectional codes, their ability to be ‘read’ as a pure graphic, is compromised, and in spite of himself Loos can be seen as appealing to a conceptual version of the architectural drawing.²⁰ Colomina notes that the ideological imperative behind Loos’ spatial constructions (the blurring of the spatial categories of interiority and exteriority) brings with it a corresponding crisis for architectural representation, and subsequently the architectural drawing. The drawing allocates to visual and spatial information a dominant and often synonymous authority that gives to the architect a certain control over the uncertainties and ambiguities of drawing. While the drawing is a pure optical (and therefore observable) fact, it can be controlled through the application of graphic codes and conventions. If this hegemony were to be challenged then the basic communicative systems of architectural drawing would also be challenged, perhaps to the point of unintelligibility.

Drawing definitions

Rumiko Handa, stressing the difficulties in defining architectural drawing through graphic categorization, proposes an alternative.²¹ Architectural drawing, she suggests, is that type of drawing created specifically for architectural production. Following classifications of architectural drawing offered by Wolfgang Lotz²², Handa reasons that architectural production is that which contributes toward the planning, illustration, and execution of building processes. Similarly Alten and Auer position architectural drawing in a structure of architectural production. Architectural drawing is primarily a way of ordering information pertinent to the authorisation of an architectural endeavour:

The task of the architectural drawing is to portray architecture - a task that prevents it, all illusionistic refinement notwithstanding, from overcoming specific limitations of syntax and content: The depicted architectural object is invariably placed in the center, drawn in sharp, clearly defined lines to make it appear realistic and convincingly static. The building feigns a solution and thus cannot afford to leave any gaps; it is posing and cannot tolerate any distracting elements around it.²³

²⁰ “Take, for instance, the displacement of drawing conventions in Loo’s four pencil drawings of the elevation of the Rufer house. Each one shows not only the outlines of the facade but also, in dotted lines, the horizontal and vertical divisions of the interior, the position of the rooms, the thickness of the floors and the walls, while the windows are represented as black squares, with no frame. These are drawings which depict neither the inside nor the outside, but the membrane between them: between the representation of habitation and the mask is the wall. Loo’s subject inhabits this wall, creating a sense of tension at the limit.” Colomina, B. (1990): 13.

²¹ Handa, R. (1992).

²² Lotz, W. (1981).

²³ Alten, D. and G. Auer (1987): 106.

Architectural drawing then, as distinct from other forms of graphic communication (painting, etching, drawing), has a responsibility to actively describe a graphic version of reality while simultaneously denying that this is anything less than ‘real’.²⁴

Allen and Oliver describe the architectural drawing as a secondary representation.²⁵ By their account primary representations are those that refer to ‘non-material’ records – music as it is performed, dance, drama, and ritual ceremony. Architectural drawing, by contrast, is defined as ‘material’, and therefore a secondary, representational art. Representational forms deal with images of prediction or documentation. They reiterate that the architectural drawing is a displaced form of representational referent. For Allen and Oliver two-dimensional scalar representation (drawing) cannot hope to represent the three-dimensional haptic experiences and perceptions of built forms, and therefore drawings become secondary to the primary representation of the architectural experience proper.²⁶ This assumes a clear relationship between the representation of architectural form and architecture as a discipline that can only reside in the built realization of that representation. ‘Architecture’, in this instance, is a primary representation always beyond the secondary status of the architectural drawing.

In an architectural drawing, the rich reality of the building being drawn is always fighting a losing battle with the limitations of the drawing itself. There are two possible consequences of that defeat. One is that the drawing ends up a very poor substitute for the actual thing. The other, and this always happens in a good drawing, is that some aspect of the design deemed important for a particular purpose can, by the exclusion of many other aspects, be more vividly rendered, possibly even more vividly than in the actual building.²⁷

There is in this argument some confusion as to what constitutes an architectural ‘reality’. In practice architects do not build, they draw. The act of drawing substitutes for the act of building by giving to the architect the ability to prescriptively direct the constructional processes on a sheet of paper. Where a carpenter is required to fix a bottom plate, the architect has already ‘fabricated’ the nominal notion of bottom plate by drawing in a

²⁴ In his history of the architect, Spiro Kostof makes clear the problem of discussing the relationship between architectural drawing and the architect. He writes: “The presence of the architect is documented as far back as the third millennium before Christ. Graphic conventions of architectural practice make their appearance even earlier, as for example in the plan of a residential cluster in a wall painting of the seventh millennium B.C. at Çatal Höyük in Asia Minor.” Kostof, S. (1977): v.

²⁵ Allen, G. and R. Oliver (1981).

²⁶ “The full experience of architecture, in other words, emerges from all our perceptual responses to the actual thing – the things we see, the things our minds remind us we have seen previously, and the things we experience through our haptic senses. This fact, in turn, explains precisely why – in spite of many claims to the contrary in this heyday of the architectural drawing – drawings are not architecture. It also explains why it is simply impossible for drawings to evoke the perceptions that architecture evokes, no matter how vividly they may suggest them.” Allen, G. and R. Oliver (1981): 13. Allen and Oliver limit their definition of architecture to exclusively phenomenological experience. Not only does this position fail to identify how one experience of space can be distinguished from another as ‘architecture’, it also denies the realm of drawing any haptic qualities of its own.

²⁷ Allen, G. and R. Oliver (1981): 14.

planimetric line. This distinction between the ‘projective cast’²⁸ of the architect, and what we might term the ‘prescriptive framing’ of the carpenter, is at the core of any representational problems with architectural drawing. This point is emphasised by Nevins and Stern:

*Architectural ideas can be represented in drawings; but they can be realized only in buildings. The architectural idea and its representation on paper, though clearly related, are not the same; yet, at the very least, drawings remain fascinating to us because they document the architect’s progress from thought to object.*²⁹

Nevins and Stern seek to fix the responsibility of the architectural idea in the realm of the built (realized) world, rather than allowing for a more complicated representational realm where the nature of ‘architecture’ is more open to questioning. It is true that the architectural idea is not the same as architectural representation; representational theory accepts that the drawing is an interruption, if a necessary one, between the conception of an architectural project and its completion. But to accept the physical realization (that is, a building) as the final stage in the resolution of an architectural idea is literal and naïve. The building, like the drawing, is another textual step in the production of architectural values that constitute meaning. If the architectural idea is not the same as its representation, then neither is it the same as the building. Both necessarily involve readings and re-readings, prior and subsequent to the ‘construction’ of each expression. Contrary to the position taken by Nevins and Stern, the architectural idea and its representational form, be it on paper or in building, are not only closely related, they are at times separately discussed as if indistinguishable.

Projection and the body

‘Prescriptive framing’ - that is, the implied presence of a corporeal figure on which architecture depends in order to form a projective relationship beyond the drawing, be that with the presence of the carpenter, or a more esoteric bodily dimension – is notably absent from Nevin and Stern’s account. K. Michael Hays gives one version of the body in architectural representation in his discussion of Laurotta Vinciarelli’s watercolours. He notes that it may be convenient to criticise Vinciarelli’s work on the grounds of projection: either that it is too easily a literal, and predictable arrangement of the built space; or conversely, that it suffers from not being concerned with architecture at all, that it is only a ‘picture.’ While the presence of projection is not under threat, the application of projective means manipulate the architectural project toward certain types of authenticity. Yet projection remains the most productive form of interrogation in this case, seeking to fully render the complexities of relationships, rather than simply finding solutions. This is most evident in criticism of Vinciarelli’s work where the representation

²⁸ I have borrowed this term from the title of Robin Evan’s book. See Evans, R. (1995).

²⁹ Nevins, D. and R. A. M. Stern (1979): 11.

process of water colouring is the key to easy categorisation. [**Figure 5**] However, it is precisely this mechanism that disavows flippancy in any discussion of this work. As Hays

Figure 5



Laretta Vinciarelli
Per Sal e Ron
1993

notes, there is a body within her paintings³⁰, a projected one that operates through the medium itself:

*The smallest of Vinciarelli's watercolors are fifteen inches, the largest forty two, the maximum dimension over which it is physically possible to run a wash without lifting the brush and spotting the paper with sediment. And a body is present here only as traced in the paint in this way.*³¹

It is the technology of watercolours that introduces the body, specifically the body of Vinciarelli herself but by implication all bodies, into the architectural project. As Hays acknowledges, there is a body, not in the form of an illusionist space of consciousness, but a body stretched out onto the surface by the procedure itself. A process, we should add, that implicates the hand as the point of contact with the surface, and the eye as the point of reference with the pictorial field. This is somewhat at odds with whatever happens within that field. Vinciarelli's images utilise one point perspective, a system of projection that has been much written about, and consequentially one that brings with it its own discourse.³² Following the argument of Jacques Lacan that perspectival space has a 'geometrical dimension' that is tactile³³, Hays observes that Vinciarelli's paintings also demonstrate a tactile quality, one that again makes implicit reference to the hand that constructed it, by allowing a spectator to reach into and grasp the lines and trace on the surface the course of perspective with their fingers. Perspectival space is entered into and then known manually (an action that displaces the eye while necessarily requiring it). The lines do in fact remain flat, and the action of 'feeling' is ultimately metaphorical. In fact, it is this metaphor which pervades much of the writing on architectural representation, and which may also be said to be, at least in its failure to fully disclose its prejudices, a part of the problem of discussing drawing in architecture. This condition is evident throughout Hays' essay on Vinciarelli. He notes that she describes herself not as a painter of architecture, but one of light³⁴.

*'I cannot really see myself in these pictures, though their light 'looks at me'; this is what gives them their haunting, uncanny quality. I am not the origin of the perspective's coordinates but merely one patch of light among others. . . . To enter the picture is to be projected there as obstacle; I interrupt the iridescence of the dazzling, pulsing field, but I am also blinded by it. The light fixes me as one of its traces, a stain, a spot of foreign matter, one of its deictic marks.'*³⁵

³⁰ Here I invoke the term painting not to consign Vinciarelli's output to the field of fine art but, more overtly, to acknowledge the tradition of watercolor painting in architecture. This tradition is most apparent in the Beaux-arts analytique tradition.

³¹ Hays, K. M. (1999): 50.

³² For this work the most important of these writings remains the seminal piece of Panofsky, E. (1991).

³³ Lacan, J. (1977).

³⁴ Here Hays quotes at length a passage from Lacan. "That which is light looks at me, and by means of that light in the depths of my eye, something is painted. . . . This is something that introduces what was elided in the geometrical relation - the depth of field, with all its ambiguity and variability, which is in no way mastered by me. It is rather it that grasps me, solicits me at every moment." Lacan, J. (1977): 96.

³⁵ Hays, K. M. (1999): 54.

Projection is now the mechanism that allows for shifts to occur between the representation and its subject, but in contradiction to the previous position it now suppresses the tactile in favour of a wholly visual experience, if no less a metaphoric one. For a drawing to ‘look’ empowers it with the role of the visionary rather than its author. This then provokes the ‘uncanny’ and the ‘haunting,’ two themes that deal specifically with the visual nature of experience.³⁶ The visual field demarcates an aura of light from which an atmospheric ‘mood’ (Vinciarelli’s word) replaces the tactile reading of perspectival projection with an experience of light, or more specifically, a lighting field that extends beyond the limits of the picture field to encompass the viewer within its luminiferous range.³⁷ (Inside this visual phenomenon we become another surface that is captured by the light and consequently we are made invisible to ourselves in exactly the same way that architecture is displaced by these images and it too becomes invisible to itself.) Architecture is no longer able to place itself. What we see in these images is a desire for an architecture, that is already missing. Architecture is constructed as absent: “rewritten into the codes of visual and psychic effects rather than tectonic propositions and bodily projections.”³⁸ Architecture is displaced through the visual phenomenon that creates it, and through substitution it becomes an object of ‘other’ desire outside the domain of the image.³⁹

Architectural drawing is made distinct from other drawing types through its accountability to the body in a work, or more specifically, to a future body in the promise of a project. Vinciarelli’s watercolours are devoid of represented figures, but they are loaded with the presence of occupation. One of these inhabitants is Vinciarelli herself. Hays, via his discourse, is another. But the most important presence is that of the viewer:

*To enter the picture is to be projected there as an obstacle; I interrupt the iridescence of the dazzling, pulsing field, but I am also blinded by it.*⁴⁰

Blindness and vision

³⁶ For an architectural elaboration of these themes see Vidler, A. (1987).

³⁷ It is useful here to acknowledge the observation made by Luce Irigaray regarding her rejection of a required philosophical metalanguage in order for women to ‘speak.’ Irigaray, along with other French feminists, insists on a language closer to the senses of touch and taste rather than sight. In Irigaray’s words, “this ‘style’ or ‘writing’ of women tends to put the torch to fetish words, proper terms, well-constructed forms. This ‘style’ does not privilege sight; instead it takes each figure back to its source, which is among other things *tactile*.” Luce Irigaray quoted in Jay, M. (1993): 529.

³⁸ Hays, K. M. (1999): 54.

³⁹ Hays makes this point for Vinciarelli’s paintings in particular but this argument can be extrapolated to include all architectural drawing where complex strategies of displacement and surrogacy are at work, precisely because of the representational quality. That he does not do this points to the particularness of Vinciarelli’s paintings which, despite architectural traditions of watercolours, do not fall completely within architectural discourse. Instead they evoke other traditions, (principally watercolour painting but also the utilization of perspective by Renaissance painters) and then sustain these traditions as a device for architectural inquiry.

⁴⁰ Hays, K. M. (1999): 54.

The following three anecdotes serve to illustrate the multifarious relationships between architectural drawing and the hegemony of vision. In each of these stories there is a problematic relationship between seeing and comprehending. For architects, seeing and comprehending are often the same thing. An architectural drawing represents the presence of an architectural project; to draw it is to see it. Yet this project does not yet exist. The architectural drawing is made precisely because the architectural project does not exist, and it is defined as architectural due to this predictive rather than retrospective quality. In essence then, the architectural drawing is an act of blindness, a seeing of the unseeable, and it identifies the architect as always blind.

I

In the phrase 'It is more curious than beautiful' lays the difference between sight and vision - all the difference between the developed individual and the undeveloped individual.

Frank Lloyd Wright⁴¹

In *Histoire d'un Dessinateur*⁴², Viollet-le-Duc cloaks his views on education in the tale of Jean Petit. The bright eleven year old son of a gardener, Jean is discovered by Monsieur Majorin, a Parisian manufacturer, who is so impressed by the boy's capacity for visual analysis that he takes charge of Jean's education and upbringing. Encouraging him to draw, Majorin teaches him geometry, perspective, skiagraphy, trigonometry, anatomy, and geology. The story ends with Jean Petit contemplating opening his own school and studio for apprentices. This story is adopted by Viollet-le-Duc to illustrate his own belief in the role of drawing ('seeing') in the education of the mind ('knowing'). For Viollet-le-Duc, following Ruskin and his predecessor Rousseau, drawing emphasised the importance of the natural observable world over literary sensibilities⁴³. This Viollet-le-Duc demonstrated in his own architectural drawing⁴⁴, whose pedagogic formula (found in *Histoire d'un Dessinateur*) owes much to the educational work of Friedrich Froebel.

For Froebel, the capacity for adults to produce constructive work had to be learned in childhood alongside the apprehending faculty – “the hand should be no less dextrous, and the eye no less accurate, than the judgement is sure”⁴⁵. His concern was the relationship of the developing mind of the experiential world to the representable one, a condition drawing makes acute and testable.

⁴¹ Frank Lloyd Wright in Pfeiffer, B. B., Ed. (1992): 329.

⁴² Viollet-le-Duc, *Histoire d'un Dessinateur: Comment on apprend à dessiner*, (Paris, 1879). Published in the year of his death (1879), this was Viollet-le-Duc's last book yet it has remained less well known. The frontispiece motto, *Nulla Dies sine Linea* ('never a day without a line'), is taken from Pliny.

⁴³ Durant, S. (1980): 30-33.

⁴⁴ “Viollet-le-Duc presented his ideas with a wonderful clarity. The pellucid quality of his architectural drawings is French - one need do no more than invoke the drawings of Labrouste and, after Viollet-le-Duc, Choisy, to confirm such a statement.” Durant, S. (1980): 33.

⁴⁵ Froebel quoted by Durant, S. (1980): 33.

*[Drawing] instruction addresses itself equally to the senses, and through them to the power of thought, and to external activity and manual activity. Thus, it avoids ennui and lack of occupation so pernicious to those from whom the teacher's attention is called away for a time. . . but in addition to this it teaches the eye a knowledge of form and symmetry, and trains the hand in representing them; and these find much to do in all relations and activities of practical life.*⁴⁶

For Viollet-le-Duc drawing is nothing less than a primary method of investigation into the natural world, and thus the world of Truth, and through correct and accurate recoding the secrets of the natural world would be revealed. Drawing becomes, for him, an instrument for moral and ethical interrogation and implementation. Before him Ruskin had claimed that:

*. . . weakness and evil are largely visible, but greatness and goodness are often latent; and we do infinite mischief by exposing weakness to eyes which cannot comprehend greatness.*⁴⁷

Drawing is offered as a visual education made possible by a relationship between the tactility of the hand, and the 'vision' of the eye. As with Petit Jean, drawing offers us insight, but only if we 'look' with a pencil. The risk in Viollet-le-Duc's practice is one of directionality. Drawing is an instrument of backwards viewing as it seeks to bring forward Truths hidden in Nature. The effect in Viollet-le-Duc's work was an obsession with the Gothic that prompted Middleton to call him a 'hooligan archaeologist.'⁴⁸ Viollet-le-Duc's devotion to drawing as a discipline was such that he prefaced *Histoire d'un dessinateur* with the motto *Nulla dies sine linea* (*Never a day without a line*), appropriated from Pliny.⁴⁹ Drawing remains committed to a version of 'pictorial-ness', albeit to evoke a past rather than a present. Touch, in this context, is evoked in order to search for a visible 'proof', and does not so much teach the eye as indoctrinate it.

II

Drawings and tracings are like the hands of the blind, touching surfaces of the face in order to understand a sense of volume, depth and penetration.

John Hejduk⁵⁰

⁴⁶ Froebel, F. (1907): 294. Froebel goes on to categorize sensory organs with states of density whereby the solid is associated with the organs of feeling and touch, liquid with taste and smell, and the gaseous to the eye and sight. While Froebel's categories resist scientific evidence (here feeling is as distinct from touch as temperature is from contact presence) they do point towards the clear separation of sight and touch, and the desire to accommodate them as parts of a wider condition.

⁴⁷ Ruskin, J. (1851): 144.

⁴⁸ Middleton, R. (1981).

⁴⁹ Durant, S. (1980): 30.

⁵⁰ Hejduk, J. (1986): npn.

Jacques Lacan gives an account of a fishing trip (with another Petit-Jean) the theme of which is, as with Viollet-le-Duc, ‘seeing’ and ‘knowing’, if of a different kind.

*Petit-Jean pointed out to me something floating on the surface of the waves. It was a small can, a sardine can. It floated there in the sun, a witness to the canning industry, which we, in fact, were supposed to supply. It glittered in the sun. And Petit-Jean said to me – You see that can? Do you see it? Well, it doesn’t see you!*⁵¹

Lacan notes that he found this observation much less amusing than his young companion, the reasons for which he positions around the problem of the subject. For Lacan, the act of looking is implicitly also that of the gaze. If he can view the scene, but that same scene cannot view back, then Lacan is the source of the gaze, and the scene becomes a ‘picture’ held in his eye. The sardine can of the story cannot see back because it is held in the subjective power of the gaze, which renders it impotent. Thus Lacan identifies two conditions of ‘seeing’: the first being that which is seen (the picture) and the second that which sees (the point of the gaze). Between these two conditions (sight itself) Lacan attributes a third nature that is beyond optical space – the screen. This, he states, plays a reverse role from the gaze and picture as it operates not because of its ability to be traversed, but precisely through its opacity. In the ‘space of light’ opacity offers a field of darkness onto which the gleam of light is displayed (projected) as a defilement. Lacan wrote: “if I am anything in the picture, it is always in the form of the screen, which I earlier called the stain, the spot.”⁵² He identifies the spatiality of seeing (as opposed to optical space) as a type of introduced corruption, a stain or spot, the most base kind of marking. This, he says, is the relation of the subject to the domain of vision.⁵³ In response to the question ‘what is painting?’, Lacan suggests that the gaze is always present in the picture as a kind of ‘filigree’, something specific to the painter (their morality, search, practice, or quest), and that a spectator can ‘feel’ the presence of the gaze.

*The painter gives something to the person who must stand in front of his painting which, in part, at least, of the painting, might be summed up thus – You want to see? Well, take a look at this! He gives up something for the eye to feed on, but he invites the person to whom this picture is presented to lay down his gaze there as one lays down one’s weapons. This is the pacifying, Apollonian effect of painting. Something is given not so much to the gaze as to the eye, something that involves the abandonment, the laying down, of the gaze.*⁵⁴

The effect for Lacan is a play of *trompe-l’oeil*, which he reinforces through the classical story of the origin of painting; that of Zeuxis and Parrhasios. Since Zeuxis mistakes the painting of a veil for a veil covering the painting, Lacan asks that we understand what is

⁵¹ Lacan, J. (1977): 95.

⁵² Lacan, J. (1977): 97.

⁵³ Lacan is careful to distinguish this form of the subject from an idealized subjective relation, this relationship is not simply a representative overview, but rather a function in the domain of the spectacle.

⁵⁴ Lacan, J. (1977): 101.

at stake to be the triumph of the gaze over the eye (*dompte-regard* / taming glance). If painting is to have an effect, it must initiate some attraction; there must be a desire for the gaze that Lacan calls the ‘apetite of the eye’. Lacan argues that this is the true function of the eye, and such is its voracity that the eye should always be thought of as malevolent.

In Lacan’s narrative vision is never a pure reception, never neutral. In viewing one enters into the actions, and thus brings forward preconceptions and preferences. At this point it should be recalled that for Viollet-le-Duc drawing is principally an action of looking. Viollet-le-Duc draws in order to ‘see’ the Truth of the Natural. For Lacan no such condition can exist as it is no longer possible to ‘see’ outside of the paradigm of our own psychological constructs. This Truth is made absent through a particular condition of blindness – that of invisibility through a reversal in the visual relationship. Lacan is unable to be seen by the sardine can precisely because that can is already a picture held in his eye (possessed by the gaze) as a picture (stain, spot) of his own making and from which he is necessarily excluded.

*I am not simply the punctiform being located at the geometrical point from which the perspective is grasped. No doubt, in the depths of my eye, the picture is painted. The picture, certainly, is in my eye. But I am not in the picture.*⁵⁵

Here Lacan identifies a type of vision that is purely visual, and again departs from Viollet-le-Duc. The staining of the visual field is beyond the testing of touch. The sardine can is not ‘held’ in the gaze as it has not been entered through a tactile coding – a drawing into – and thus it cannot be made subjective.

III

One must always say what one sees, but above all - and this is far more difficult - see what one sees.

Le Corbusier⁵⁶

Marco Frascari has argued for the role of touch in any understanding of the operation of the architectural imagination. In the form of a contemporary fable, Frascari chronicles the experiences of Capo Maestra, a girl who was born blind but who wishes to become an architect.⁵⁷ Unable to gain entry to a school of architecture Capo follows audio transcriptions of the writings of the great architectural autodidacts; Alberti, Giorgio, Filarete, de Chamoist and Kahn. From these works Frascari’s protagonist concludes that the symbolic dimension of architecture always originates in architecture’s instrumental representations, which are haptic demonstrations. She also learns of a distinction between the technological drawing that is required to execute a project, and

⁵⁵ Jacques Lacan. *The Four Fundamental Concepts of Psycho-analysis*. Trans. Alan Sheridan. London: The Hogarth Press and The Institute of Psycho-analysis, 1977, 96.

⁵⁶ Weber, H. (1988): npn.

⁵⁷ Frascari, M. (1990a).

the design and presentation drawings. Frascari notes here that vision is a learnt response, which relies initially upon a haptic space perception, of which there exist three basic aspects:

*The first one is an emphasis on substance and shape properties rather than on form. The second is based on the integration of successive impressions, and the third is the ability to capitalize on the mobility of the hand and the body.*⁵⁸

Within this framework Capo discovers that drawing is not beyond the capabilities of the blind. Design and presentation drawings have no value for the blind as they exist solely for the visual discussion of architecture, but where drawing describes the technological fiction of haptic space the blind are able to contribute through the sensation of touch. Thus Capo is able to draw tactile pictures by embossing wet paper, feeling into her designs where the sighted might only 'see' shadows. These are necessarily construction drawings since the haptic is inextricably connected to the technological function of building. Following the research of John Kennedy on the drawings of the blind,⁵⁹ Frascari indicates how raised drawings are used to register metaphorical devices - these 'blind drawings' express the idea of an object rather than the object itself. They become physiognomic outlines which cannot be visually perceived but can be tactically inscribed by the blind. For this reason Frascari's fictional heroine designs by drawing plans and sections, since it is these conventions that make visible the invisible aspects of architecture by representing that which cannot be seen in the building.

Capo understands the differences in the processing of perceptual information between the blind and the sighted, and utilises them. The result is a unique synthesis of technological procedures where constructing and construing merge:

*In her drawings the world as perceived by vision and the world as perceived by touch are integrated in a technological fiction; her drawing fingers do the walking.*⁶⁰

Capo makes explicit a condition of drawing that exists for all architects. It is undeniably true that 'reading' conventional drawings relies upon the physiology of sight, but the action of drawing itself is a much more problematic operation that subjects the drawer to a conceptual condition of blindness in the way that the information of architecture is communicated to the sheet.

Insight is revealed through a tactile activity. Between the action of the hand, and the hand's relationship to the rest of the body, another form of architectural vision is available. The body is projected into the wet surface of the page in an act that violates the sanctity of Lacan's screening distance, or Viollet-le-Duc's optical archaeology. Frascari's heroine moves back to a proto-drawing that takes its institutional coding from a time

⁵⁸ Frascari, M. (1990a): 52.

⁵⁹ See Kennedy, J. M. (1991); Kennedy, J. M. (1993); Kennedy, J. M. and Y. Eriksson (1993).

⁶⁰ Frascari, M. (1990a): 53.

before the dominance of vision. Here the body itself ‘sees’ and ‘reads’ into the surface in a form of ‘calligraphic vision’:

*. . . the art of calligraphy is based entirely on the dynamic apprehension of reality by the active body. It makes visible what we feel when acting or witnessing action.*⁶¹

For Frascari this is an angelic vision. Reading Cacciari, he agrees that Angels are not things in themselves but are *like* things, “only the angel free from demonic destiny poses the problem of representation.”⁶² The Angel’s appearance as the thing is made possible by its symbolic primacy.⁶³ Thus drawings are seen by Frascari as graphic representations analogously related to the built world through a corporeal dimension, while embodying technology in architecture, “where the *techne* of *logos* cannot be separated from the *logos* of *techne*.”⁶⁴ Capo is an angel of drawing who evokes drawing as an act rather than a product.

Blindness in Perspective

In a retrospective essay on Le Corbusier, Vincent Scully states the futility of searching for physiological truths underlying individual creativity but offers, in the case of Le Corbusier, one particular uncanny moment.⁶⁵ In *Creation is a Patient Search*, Le Corbusier describes, in the third person, the loss of sight in one eye while executing his ‘first’ painting “La Cheminée” (The Chimney-piece).

*L-C lost the use of his left eye when doing this drawing at night: separation of the retina. This first picture is a key to an understanding of his approach to plastic art: mass in space. Space.*⁶⁶

Drawing and blindness are bound together in a moment that Scully suggests is more than coincidental - it is fundamental to any understanding of Le Corbusier’s work. Le Corbusier was to be blinded in his left eye leaving him with monocular vision for the

⁶¹ Billeter, J. F. (1990): 185.

⁶² Massimo Cacciari quoted in Frascari, M. (1990b): 19. The ‘problem of representation’ that Cacciari is referring to is that of the representation of the idea as seen through platonic philosophy.

⁶³ “The thing itself, instead, passes through the mesh of definition; it shines in every definition as that which always withdraws from it. It gives itself in the definition as its own indefinable. Yet what, in the definition, together withdraws from it is not at all an absolutely transcendent dimension but, rather, the thing itself, *precisely* the thing, the this-here *individuum* of the thing. The *thing* must be said to be the Angel. Precisely the thing *itself* . . . The thing itself and the name thus form a symbol.” Cacciari, M. (1988): 160-161. Cacciari’s italics.

⁶⁴ Massimo Cacciari quoted in Frascari, M. (1990b): 13.

⁶⁵ Scully, V. (1987).

⁶⁶ Le Corbusier (1960a): 55. Vincent Scully notes that to his knowledge, Le Corbusier did not publish this fact anywhere else, and nor can Francesco Passanti recall Le Corbusier ever mentioning it in private correspondence.

remainder of his life. Intriguingly, it is this mishap that signals the mature phase of Le Corbusier's oeuvre as "different in fundamental visual ways from everything he had done before"⁶⁷; particularly with regard to the way in which he sought to find visual equivalents for 'mass' and 'space'. With the loss of vision in one eye Le Corbusier experienced a half-blindness in which he was still able to see, but nonetheless found his insight 'split', after which he was never again able to represent space in the same way. Neither properly blind nor properly sighted, Le Corbusier experienced an in-between state in which his blindness was filtered by his sight, and his sight was filtered by his blindness.

⁶⁷ Scully, V. (1987): 47.

Architectural Visual Theory

In *D'Alembert's Dream* Diderot challenges the sensory hegemony of vision by conferring hegemony upon all the senses in turn, exploiting the power each has to supplement the others. Elisabeth de Fontenay compares Diderot's understanding of the concept of the supplement to the position of Jacques Derrida where *suppléer* is used in a dual sense of both 'replacing' and 'completing'. In this way Diderot is able to demonstrate how the sense of sight can assume functions attributed to the soul.

*The blind man's architecture, much more revolutionary than that of Ledoux and Boullée, does not allow the eyes' sun to enter - the one taking itself for the only sun, as though there were no plurality of worlds! - but welcomes hitherto inaudible and impalpable messages.*⁶⁸

Challenging conventional thought that understood the body's organization as a function for the soul Diderot argues that the soul is able to be accorded to each sense quite independently so that the new image of the body is of a system whose organization is an unstable equilibrium and whose vital principle is to become ever more pluralistic. In "Letter on the Blind" Diderot uses the example of those born blind to describe how the sovereignty of vision is overthrown.

*Should ever a philosopher, blind and deaf from birth, construct a man in the image of Descartes', I make bold to assure you Madame, that he will place the soul in the fingertips, for it is from there that he receives all his sensations, all his knowledge.*⁶⁹

With the shift of sensory authority from sight to touch so too the soul moves metaphorically from the eyes to the fingertips so that the fingertips become windows into the soul. But this 'soul' is preconditioned as rational. Diderot considers the blind to personify the rational since they must insist on things being ordered so that they can be found through memory and touch. This, he suggests, leads to the ideas of the blind becoming more abstract than those of the seeing. Abstraction occurs through the separation of the object and the idea of the object.⁷⁰ The relationship between memory and vision occurs simultaneously as the object is recorded as a shape and colour. Conversely, for the blind the memory of the object and the tactile qualities it conveyed need to be combined in the imagination. Diderot concludes that touch is necessarily more abstract. This position reveals two tenets in Diderot's understanding of touch and vision. Firstly, it accepts Descartes's privileging of vision as the primary, that is dominant, sense, so that the blind will always desire sight. Secondly, Diderot insists that all the senses operate with a type of moralistic code in which vision plays a particularly significant role. Thus vision is treated as primary and the other senses as attempts to resemble vision,

⁶⁸ Fontenay, d. E. (1982): 159.

⁶⁹ Diderot, D. (1971): 258.

⁷⁰ "For abstraction consists in separating in thought the qualities of a body either one from the other, or from the body itself, which is their foundation . . ." Diderot, D. (1971): 258.

retaining the sublime moral sense of 'beauty'. In this way he declares that the blind can form a correct judgment of symmetry, but will always be unable to consider the 'beautiful', as that is merely a name to the blind.⁷¹

Diderot's thought is characteristic of the Enlightenment when rationality was equated with the eye, but this is a phenomenon also synonymous with modernity.⁷² Mandrou explains that:

*Until at least the eighteenth century, touch remained . . . the master sense; it tests, confirms what sight could only perceive. It assures perception, gives solidity to the impressions provided by the other senses that do not present the same security.*⁷³

Diderot proposes a model of a man with fingertips as windows onto the soul to emphasize the dominance of an optical model to organize information. In lieu of vision, insight is facilitated by the entire body, of which the fingertips are the intermediary threshold. To be deprived of one sense, whether unintentional or otherwise, deprives the body of one of its parts - it is incomplete. For the body to deny this lack produces a condition de Fontenay calls 'monstrous' and which operates as a Derridean supplement. If sight is lost it is touch that most easily demonstrates an ability to compensate. However, if the monstrous is manifest when the body is deprived of one or more sense it is none-the-less contained within the complete body as denial, and the supplement, operates from within rather than without. These supplementary monsters present a challenge to rational religious thought by suggesting that God also creates those beings that are not all good, that God may not be all-powerful.

*On the basis of his disability, the 'monster' proposes a re-evaluation of the evidence, a critique of universality, and, no longer accepting to lend himself as a case to the observation and considerations of the dominant reactivity, he becomes dangerous.*⁷⁴

The monstrous gives a name to difference and in doing so presents it as a powerful and dangerous supplement that has its own voice to contribute against rational orthodoxy. Diderot writes in *Elements of Physiology* that there are as many monsters as there are organs and functions in the body:

*. . . eye monsters, ear monsters, nose monsters . . . monsters of sepefoetation, monsters of deficiency . . . imagination, stomach monsters, memory monsters.*⁷⁵

⁷¹ Diderot, D. (1971): 248.

⁷² See Jay, M. (1993).

⁷³ Mandrou, R. (1974): 79. Mandrou continues: "The hierarchy [of the senses] was not the same [as in the twentieth century] because the eye, which rules today, found itself in third place, behind hearing and touch, and far after them. The eye that organizes, classifies and orders was not the favored organ of a time that preferred hearing"(76).

⁷⁴ Fontenay, d. E. (1982): 168.

⁷⁵ Diderot quoted by Fontenay, d. E. (1982): 170.

Merleau-Ponty rejects any suggestion that the body's senses are able to independently identify phenomena. Instead he proposes the condition he names 'inter-sensory entity', where phenomenological sensory experience requires an 'echo' within the body that establishes a unity and identity of the body as a 'synergic totality'.

In visual experience, he maintains, objectification is pushed out further than it is with tactile experience. With the visual we can convince ourselves that the world is a discrete condition placed before us, and at a distance, so that all is immediately present everywhere and at once. Tactile experience adheres to the surface of the body, not easily separated and thereby never quite becomes a unified and idealised object. The tactile - touching - refuses to allow everything to be considered at once, and so resists identification. And yet he goes on to say that whether tactile or visual each experience arouses certain motor intentions that communicate, that is translate, between phenomena and all the senses, through a kind of 'symbiosis'.

[In] certain ways the outside has of invading us and certain ways we have of meeting this invasion, and memory here merely frees the framework of the perception from the place where it originates.⁷⁶

The senses have at their core a stable constant that contributes to the definition of the body. In this way, through the body, nothing can be understood without some fusion between all phenomenological experiences, including memory.

If a phenomenon - for example, a reflection or a light gust of wind - strikes only one of my senses, it is a mere phantom, and it will come near to real existence only if by some chance, it becomes capable of speaking to my other senses, as does the wind when, for example, it blows strongly and can be seen in the tumult it causes in the surrounding countryside.⁷⁷

'Body sense' and projection

Jean Francois Billeter's account of Michelangelo's argument concerning the best form for the dome of St Peter's highlights an aspect of the touch / sight relationship in the arts:

I can see the architect groping, increasing, then reducing this height till he finally hit on the one he was looking for and exclaimed: Here it is. Having found this height, he then had to plot out the oval for this height and width. Again and again he felt his way forward! How often did he rub out his line to draw another, more

⁷⁶ Merleau-Ponty, M. (1962): 317

⁷⁷ Merleau-Ponty, M. (1962): 318.

*rounded, more flattened, more swelling, till he finally happened on the one with which he completed his edifice.*⁷⁸

Billeter's fantasy should be viewed with some caution, but the context in which he cites this example offers an important introduction to his reading of Chinese calligraphy. Billeter makes an interesting claim for the influence of the body in aesthetic decisions generally ascribed to the function of vision - whether through optics or geometry. Billeter describes this as 'instinct' but takes the following detail from Diderot who reiterates the classical relationship between beauty and function as a 'fitness' of form:

*For solidity, and more generally fitness, is the continual reason for our approbation. . . . This fitness may be in a work without being apparent; then the work is well done, but it is not beautiful. It may appear to be there; then the work has only an apparent beauty, as it has an apparent fitness. But if fitness there is, and if it shows, then the work is truly beautiful and good.*⁷⁹

Where Billeter evokes 'instinct,' and Diderot 'fitness,' the references are intended to be more than rhetoric. Billeter suggests that correct form may be given through the presence of a "body sense" that is able to 'give body' to a character in the sense that it also belongs to the body. This is the ability to imbue a drawn figure with expression, but where in a Western tradition - such as Expressionism - that gesture may be designed through the visual, Billeter argues for an expression of the body that influences and inhabits the mark and its form. This he calls 'body sense' or 'body projection' a quality essential to Chinese calligraphy:

*. . . this sense enables us to grasp intuitively the reality of our body and at the same time enables us to give body to the characters and even to turn them into the expression of our actual bodily experience.*⁸⁰

78 Billeter, J. F. (1990): 37.

79 Diderot quoted by Billeter, J. F. (1990): 38. Billeter includes Diderot's observations on the dome of St Peters: "I said: However, what can be more hidden, what can be more inexplicable than the beauty of the oval of a dome? Yet it is sanctioned by a natural law. - Someone added: But where is one to find in nature the justification or the condemnation of the various judgments we make, especially concerning a woman's features? This seems quite arbitrary. - Not at all, I replied; however great the variety in our tastes in this genre may be, it can be explained, Herein we can discern and demonstrate what is true and what is false; apply these judgments to health, to the organic functions, and to the passions, and you will always find the reason behind them . . . The handsome man is the one formed by nature to fulfill in the easiest possible way the two major functions: the preservation of the individual, which involves many things, and the propagation of the species, which involves only one" (44. n.11).

80 Billeter, J. F. (1990): 135. Chinese commentaries on calligraphy, Billeter notes, were much more likely to establish an analogous relationship between the body and the calligraphy. One good example of this is offer by one Tang period treatise on brush technique: "Those who possess a forceful brush trace characters which have backbone; those who do not, trace characters that are merely fleshy. Writing that has strong bones and little flesh is said to be 'muscular.' Fleshy characters that lack bone are called 'ink pigs.' A hand that has great muscular force is masterful; a hand that lacks this is sickly" (203).

In Chinese calligraphy the existence of an authorial body cannot be removed from the work. It is ever present as a signature of an invisible corporeal dimension that is at once removed from, and innate to, the recorded mark. Sight guides the instrument of inscription across a surface, but the character of the mark is a projection through the hand of other intelligences from which drawing is never properly separate. The relationship between the hand and the eye is both complicit and dismissive. Each depends upon the other, but each also brings a conflicting voice.⁸¹

The hand and touching

I want to see things. I don't trust anything else. I place things in front of me on the paper so that I can see them. I want to see therefore I draw. I can see an image only if I draw it.
Carlo Scarpa⁸²

Bishop Berkeley, writing in the eighteenth century, described vision as a painting on the retina that could never divulge depth. The existence of the third dimension could not be proved with vision, but needed to be tested with the sensory experience of touch.⁸³ Similarly, William Ivins writing as recently as 1946, gives an account of how space is created by the hand precisely because the hand *cannot* feel the nothing of space.⁸⁴ These arguments are obviously problematic, but they reiterate a contingent relationship whereby vision has to be tested through touching, and touched through looking.⁸⁵

This relationship is constantly present on the architect's drawing board where architectural vision is tested by drawing it out. The drawing is then subjected to a re-evaluation against the visionary desire. This is the repetition involved in design where cyclical relationships between idea and drawing, eye and hand, sight and touch, form the processes of architectural discovery.⁸⁶ Architectural space, in this sense, is 'felt' for in the drawn surface. The pencil defines limits and extensions with a tactile friction that has

⁸¹ I would compare this position with Giorgio Vasari's explanation for *disegno*: "There is formed in the mind that something which afterwards, when expressed by the hands, is called *disegno*, we may conclude that *disegno* is not other than a visible expression and declaration of our inner conception and of that which others have imagined and given form to in their idea." Vasari quoted in Ellis, E. V. (1997): 42.

⁸² Carlo Scarpa quoted in Murphy, R. (1990): 12.

⁸³ This is recounted in Evans, R. (1995b): 351. He notes that this statement represents an accepted division between optic and haptic sensation and which in turn acknowledges a wider distinction between projective geometry, concerned with the image, and Euclidean geometry, concerned with the measurement of objects. Euclidean geometry is historically, if not wholly correctly, the geometry of touch.

⁸⁴ "Tactually, things exist in a series of heres in space, but where there are no things, space, even thought 'empty,' continues to exist, because the exploring hand knows that it is in space even when it is in contact with nothing." William M Irvin's quoted in Evans, R. (1995b): 352.

⁸⁵ Berkeley's argument is effectively disproved with the 'discovery' and widespread acceptance of binocular vision and its ability to provide depth-of-field information. Similarly, Irvin's contention is discredited by the inconsistency between human bodies, and the variability of body part relationships maintained within even one person. Ernst Mach maintains that in this sense the space touch is very like the space of vision, anisotropic and non-homogeneous. See Mach, E. (1906).

⁸⁶ For example see Ching, F. D. K. and S. P. Juroszek (1998).

its analogy in the experiential qualities of the physical (rather than virtually) constructed space to come. The pencil then becomes a type of white stick feeling out the boundaries of the architectural project, while announcing the architect as blind.

Drawing the invisible

The drawing wants to draw what is invisible to the naked eye. Its very difficult.

Hélène Cixous⁸⁷

Issues of marking occur continually throughout the writing of Jacques Derrida. Marks signal the witnessing and testimony that pervades deconstruction. The translators, in their preface to Derrida's "Memoirs of the Blind", note that blindness (the difference between the body proper and the supplement, and the ruination and death of all foresight, all representation, all legacies) are themes throughout Derrida's writings⁸⁸. Derrida proposes two hypotheses. The first supposes, or '*suppositions*', that the drawing is blind, "if not the draftsman or draftswoman."⁸⁹ The second hypothesis involves, "an eye graft, the grafting of one point of view onto the another: a drawing of the *blind* is a drawing of the blind."⁹⁰ In the first supposition the condition of blindness has something to do with drawing, drawing in some way regards blindness, and such blindness is that of a seer, who sometimes has the vocation of visionary. In the second, Derrida associates the act of drawing the blind with the act of 'inventing' drawing itself. Drawing is invented as the draughtsperson becomes fascinated with the theme of the blind, using it to project the figure of the draughtsperson, to represent the act of representation.⁹¹ Both these hypothesis Derrida subtitles as 'the origin of drawing',

*Or, if you prefer, the thought of drawing . . . a memory of the trait that speculates, as in a dream, about its own possibility.*⁹²

The potency of this thought only develops, like a photograph, on the brink of blindness.

. . . the angle of a sight that is threatened or promised, lost or restored, given. There is in this gift a sort of re-drawing, a with-drawing, or retreat [re-trait], at

⁸⁷ Cixous, H. (1993): 96.

⁸⁸ Pascale-Anne Brault and Michael Naas, translator's preface to Derrida, J. (1993). Brault and Naas connect these motifs in Derrida's work to the themes expressed by Peter Greenaway in his feature movie 'The Draughtman's Contract', quoting the final scene in which the draughtman is blinded and then killed, and the drawings burnt (ix).

⁸⁹ Derrida, J. (1993): 2.

⁹⁰ Derrida, J. (1993): 2.

⁹¹ Here Derrida reveals a basic tenet of Deconstruction: "The two will cross paths, but without ever confirming each other, without the least bit of certainty, in a conjecture that is at once singular and general, the *hypothesis of sight*, and nothing less." Deconstruction rejects the hegemony of a monocular vision, it seeks out the slippage between two differing field of vision and attempts to maintain focus on this unfocused intersection.

⁹² Derrida, J. (1993): 3.

*once the interposition of a mirror, an impossible reappropriation or mourning, the intervention of a paradoxical Narcissus, sometimes lost en abyme, in short, a specular folding or falling back [repli] - and a supplementary trait.*⁹³

The mark, or trace, or *trait* - the drawing - is made possible by the extension of the drawing body. The proper body of the drawing hand reaches forward as an instrument of the drawing. The draughtsman pays particular attention to the finger and the eye, the finger traces and touches that which the eye traces and touches, the hand of the drawer substitutes the eye of the drawer is the supplement of the mark. The hand lays a finger upon the drawing so that the eye may see it. It gives sight to the eye precisely by revealing the eye of the drawer as unseeing.⁹⁴ This 'laying on of hands' is what orients the drawing, while simultaneously committing the drawing to a debt.⁹⁵ Rendering the vision visible gives thanks to a memory of the event, whether it exists before the drawing or not. Memory makes possible the inscribing that makes the invisible visible but the inscription is always in debt to those visible signs of the invisible that owe their existence to memory.

*What guides the graphic point, the quill, pencil, or scalpel is the respectful observance of a commandment, the acknowledgement before knowledge, the gratitude of the receiving before seeing, the blessing before the knowing.*⁹⁶

The laying on of hands orients the drawing toward its debt, a debt that may also be a gift, so that Derrida suggests that at the origin of the *graphein* there is a debt or gift, but not both, and not representational fidelity.⁹⁷ The fidelity of faith exceeds the fidelity of representation because faith is blind in a way that representation is not. Faith sacrifices the sight that representation requires and reveals in the process that faith must exist before representation. Representation is preceded by and commanded by faith. Faith offers sight as a gift so that it may see; representation accepts this debt so that it may be blind to a certain truth of faith.

*Truth belongs to this movement of repayment that tries in vain to render itself adequate to its cause or to the thing. Yet this latter emerges only in the hiatus of disproportion. The just measure of 'restoring' or 'rendering' is impossible - or infinite. Restoring or rendering is the cause of the dead, the cause of deaths, the cause of a death given or requested.*⁹⁸

⁹³ Derrida, J. (1993): 3.

⁹⁴ Derrida imbues drawing with certain characteristics of medicine. He describes "drawing as surgery" (5). As the translators note "Derrida is indulging in a certain *jeu de mains* by playing on the hand [main] in manipulations, manoeuvres, and manieres, as well as in the word "chirurgie" - surgery - which comes from the Greek kheir (hand) and literally means the "work of the hands"(5). Derrida describes the miracles of Jesus of Nazarus as he restores the sight of the blind by touching them.

⁹⁵"He wants to see or touch the law, he wants to approach and "enter" it, because perhaps he does not know that the law is not to be seen or touched but deciphered." Derrida, J. (1992): 197.

⁹⁶ Derrida, J. (1993): 29-30.

⁹⁷ Derrida, J. (1993).

⁹⁸ Derrida, J. (1993): 30.

Death restores sight to the representation but at a price. Drawing continues to mourn the lost sight of faith even as it experiences the un-veiling of representation. Blindness is always accompanied by mourning for the loss of sight. Blindness and death are the same.

At the origin of drawing exist two great ‘blindnesses’, two paradoxes of the invisible. Derrida names these thoughts the *transcendental* and the *sacrificial*.

The first would be the invisible condition of the possibility of drawing, drawing itself, the drawing of drawing. It would never be thematic. It could not be posited or taken as the representable object of a drawing. The second, then, the sacrificial event, that which comes to meet the eyes, the narrative, spectacle, or representation of the blind, would, in becoming the theme of the first, reflect, so to speak, this impossibility. It would represent this unrepresentable.⁹⁹

Between the two, between the one repeating the other without reduction, occurs the event that gives rise to the narrative, or myth, prophecy, or messianism:

. . . to the family romance or to the scene of everyday life, thus providing drawing with its thematic objects or spectacles, its figures and heroes, its pictures or depictions of the blind.¹⁰⁰

At the moment of contact (at the point of the point) is an instant in which the *trait* makes contact with the surface and there occurs a hesitation. Where the inscription of the inscribable is not seen, the heterogeneity between the thing and the drawing *trait* remains in the gap. The ‘trembling hesitation’ is at the moment of transfer or translation between a transcendental and a sacrificial thought of the drawing of the blind between, “a thought of the condition of possibility and a thought of the event.”¹⁰¹ This hesitation between the two thoughts exposes each as the supplement of the other since there is neither pure transcendence nor pure sacrifice. There remains a violence of the sacrifice and the origin of mythic narrative; and violence belies the origins of the seer and visionary.¹⁰² Indeed, such sacrifice is compensated for, and motivated by, the gift of visionary prophecy.

Prophecy should not be misunderstood as innately visionary, just as the ‘un-visionary’ is not necessarily a prosaic and basic condition of touch. Indeed, ‘gifting’ demands a touching, or a ‘touching out’, in order to satisfy it’s own event. Similarly the visionary is sterile without a gifting of prophecy. The gift occurs between conditions at the point of hesitation – the moment at which we are neither drawing nor not drawing. It is an instant of absolute translation. It is this moment that accounts for the cyclical relationship in the

⁹⁹ Derrida, J. (1993): 41.

¹⁰⁰ Derrida, J. (1993): 41.

¹⁰¹ Derrida, J. (1993): 92.

¹⁰² Here Derrida names the three types of violence concerned, “mistaking (ruse or deception), punishment, and conversion. Yet the structural logic is powerful or involuted enough to allow these three types to be converted into each other. They exchange themselves, in truth, or take themselves for each other.” Derrida, J. (1993): 94.

design process, and it is the instant of reconciliation in Derrida's two 'great blindnesses', the *transcendental* and the *sacrificial*. It is simultaneously the point of a death and a birth, insight and blindness.

*. . . vision and light have to touch the eyes. For this one must see without understanding, without thinking anything about what lets itself be seen in this excess of evidence.*¹⁰³

The relationship between vision and touch is mediated in this moment of hesitation. The eye is touched by light, the hand reaches out for insight. The 'gift' of prophecy is nothing other than a mythologising of this mediation that is required to bridge between worlds, spaces, and times, and which constructs a second myth of continuity. Vision operates 'without thinking'. In the same way it can be proposed that the architectural drawing by assuming a dominant visual mode, suggests itself as an act without thinking. The drawing is portrayed as a neutral instrument with which the architect simply records the project in order to facilitate its execution. As Frank Lloyd Wright described it:

*Conceive the building in the imagination, not on paper but in the mind, thoroughly - before touching paper. . . . Let it live there - gradually taking more definite form before committing it to the draughting board. When the thing lives for you - start to plan it with tools. Not before.*¹⁰⁴

Wright's denies the 'moment of hesitation.' In this model the representational power of architectural drawing is attributed to its presentational (pictorial) qualities, refuting any productive value of the medium itself. Wright 'sees' through the drawing to pronounce himself the creative genius, but he is only able to do this because he demands that the drawing represent a graphic facsimile of the image in his mind, that is, the architectural drawing must become a transparent translation of his idea into representational form, on its way to becoming a fully developed building. This is at odds with the position on architectural drawing taken by Robin Evans:

*Recognition of the drawing's power as a medium turns out, unexpectedly, to be recognition of the drawing's distinctness from and unlikeness to the thing that is represented, rather than its likeness to it, which is neither as paradoxical nor as dissociative as it may seem.*¹⁰⁵

The architectural drawing can be taken as a proxy for the idea and the building only if we suspend our critical belief that a drawing is not either an idea or a building. The full ingenuity of this suspension occurs with the realisation that the framework of the neutral transformation is already coded into architectural representation. The ability to ignore the

¹⁰³ "I walked for more than two hours in the same neighborhood crying like a lost child. I have rather precise memories of this experience. I don't know if I ever told you about it, I was eight or nine, a fair in El-Biar. I could no longer find my parents and blinded by tears I had been guided toward my father's car, up behind the church, by the creatures of the night, guardian spirits." Derrida, J. (1987b): 34.

¹⁰⁴ Frank Lloyd Wright quoted in Hewitt, M. (1985): 3.

¹⁰⁵ Evans, R. (1997b): 154.

‘moment of hesitation’ that contains the capacity to dissolve the idea-building relationship is one already sequestered inside architectural drawing as a relationship of loyalty between the architect and the promise of building to come.

The architectural drawing as a translation

What connects thinking to imagination, imagination to drawing, drawing to building, and buildings to our eyes is projection in one guise or another, or processes that we have chosen to model on projection. All are zones of instability.

Robin Evans¹⁰⁶

Barbara Johnson has discussed the issue of fidelity in translation.¹⁰⁷ Johnson argues that translation is comparable to marriage in that both parties undergo something of a crisis as the contractual obligations in both cases begin to crumble under the inevitable pressures of doubt and betrayal. While the translator may appear to undertake an oath of fidelity there actually exists a necessary split between mother tongue and foreign tongue that signals the faithful bigamist. The faithful bigamist accommodates the requirements of both parties by violating the loyalties of each, so that faithfulness in translation is always a condition of the doubly unfaithful translator.

The priority of the signified over the signifier presides over classical notions of philosophy and translation. In the context of the signifier’s obligation to order and sequence, faithfulness to the text has become faithfulness to the semantic tone of the text so that translation becomes the translation of *meaning*.¹⁰⁸ Such a notion introduces the assumption that the translator negotiates an unobstructed homogenous space through which meaning may pass. Derrida, when addressing this problem, often attempts to render contradictory meanings for a term in order to displace the security of homogenous space.¹⁰⁹ For Derrida translation is already a myth, one made impossible by the pretence to a transfer of meaning.¹¹⁰ The original text is always already an impossible translation and this renders translation impossible so that “the more a text is worked through by the problem of translation, the more untranslatable it becomes”.¹¹¹ It is a four-fold

¹⁰⁶ Evans, R. (1995b): xxxi.

¹⁰⁷ Johnson, B. (1985).

¹⁰⁸ Johnson, B. (1985).

¹⁰⁹ As Johnson notes the most striking example of this operation in Derrida’s work is his use of the Platonic word *Pharmakon*, where Derrida is able to show it as ‘correctly’ *meaning* ‘remedy’, ‘recipe’, ‘poison’, ‘drug’, and ‘philter’. Johnson, B. (1985): 146.

¹¹⁰ “It will be also be seen to what extent the malleable unity of this concept, or rather its rules and the strange logic that links it with its signifier, has been dispersed, masked, obliterated, and rendered almost unreadable not only by the imprudence or empiricism of the translators, but first and foremost by the redoubtable, irreducible difficulty of translation. It is difficulty inherent in its very principle, situated less in the passage from one language to another, from one philosophical language to another, than already, as we shall see, in the tradition between Greek and Greek; a violent difficulty in the transference of a non-philosopheme into a philosopheme. With this problem of translation we will thus be dealing with nothing less than the problem of the very passage into philosophy.” Derrida, J. (1981): 71-72.

¹¹¹ Johnson, B. (1985): 146.

impossibility; within what Derrida says; the way Derrida says it; and the very notion of translation that all these areas imply. That each of these operations is inseparable is, states Johnson, another example of the radicalness of the revolution in the relationship between signifiers and the signified. However, such violent (that is transgressive) unfaithfulness to the original text reveals the original as already corrupt and already unable to be translated. Thus, the translator must fight just as hard against the desire to be innocent as against the guilty desire to master the text's message. Textual crisis exists and fails only at the moment of translation.

Translation, then, is a device that constructs and maintains an impossibility for which Johnson proposes the metaphor of a bridge, one that creates out of itself the two fields of battle it separates:

*The bridge of translation, which paradoxically releases within each text the subversive forces of its own foreignness, thus inscribes those forces in the tensile strength of a new neighbourhood of otherness.*¹¹²

For Philip Lewis, the translator who also authored the original text is able to shift at will between conventional translation, which has to violate the original, and a commentary that attempts to compensate for the inadequacy of the translation.¹¹³ This represents a violation of the translation contract and constitutes a continued 'abuse' between original and translation that is both undesirable and unavoidable, and leads to the failure of the translator, which is the inevitability of infidelity. Furthermore, Lewis indicates that translation, as a practice and concept, falls within a larger framework of representation and mimesis, of analogy and metaphor. Translation must always be considered as a type of representation that necessarily entails interpretation and is conditioned by the fact that it is a re-presentation of two contradictory veins of interpretation. As Johnson has shown, such a position between the original and the commentary necessitates infidelity to both versions of the text. However, what Lewis makes distinct, is that the strength of translation may lie in its exploitation of an original. The servile translation - that is the translation that attempts to substitute one signifier for another - produces what Derrida describes as the *us*-system, a chain of values linking the *usual*, the *useful*, and common *usage*. This system opts for the familiarisation of the message, and domesticates it (with the domestic implications of security and sanctity). The servile translation hides in the settled domestic, while the abusive translation, by contrast, occupies an unsettled place outside constructed domestic securities. In this place the translator privileges the signified and thereby also the message, over the language texture. Translation works by

¹¹² "It does not connect banks that are already there. The banks emerge as banks only as the bridge crosses the stream. The bridge designedly causes them to lie across from each other. One side is set off against the other by the bridge. Nor do the banks stretch along the stream as indifferent border strips of dry land. 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 neighborhood". Heidegger, Martin. "Building Dwelling Thinking." Trans. Albert Hofstadter. *Poetry, Language, Thought*. New York: Harper and Row, 1971: 152.

¹¹³ Lewis, P. E. (1985).

substitution and giving priority to the re-presentational processes, substituting signifiers, and therefore negating syntactic and metonymic concerns.¹¹⁴

Jacques Derrida throws this metaphoric concept of translation into question by dismantling the clear cut relationship between signifier and signified. For Derrida the problem of the translator is not one of avoiding failure. Rather, he poses the questioning how to compensate for the translator's inescapably abusive violation of the original. Derrida calls for the translation to go beyond itself, for it to fill in for the original abuse of the translator. Lewis however concludes that this operation is ultimately impossible:

The translator's aim is to rearticulate analogically the abuse that occurs in the original text, thus to take on the force, the resistance, the densification, that this abuse occasions in its own habitat, yet, at the same time, also to displace, remobilise, and extend this abuse in another milieu where, once again, it will have a dual function - on the one hand, that of forcing the linguistic and conceptual system of which it is a dependent, and on the other hand, of directing a critical thrust back toward the text that it translates and in relation to which it becomes a kind of unsettling aftermath (it is as if the translation sought to occupy the original's already unsettled home, and thereby, far from 'domesticating' it, to turn it into a place still more foreign to itself).¹¹⁵

In this foreign displacement, the translation is posed with the paradoxical imperative of a double articulation that demands it to say two things at once; one in compliance with the original text, the other with the target language. Faced with such a dilemma the imperative of the translator is to offer commentary that satisfies both parties - paradoxically by abusing both. As Lewis comments, the aim of commentary is to translate in difference.¹¹⁶ Derrida announces the translation as the site of both the proper and the improper, beginning with the name. Language, he maintains, is determined by the word and the privilege of naming.¹¹⁷

¹¹⁴ Lewis, P. E. (1985).

¹¹⁵ Lewis, P. E. (1985): 43.

¹¹⁶ Lewis, P. E. (1985).

¹¹⁷ Derrida, J. (1985).

The Tower of Babel and the problem of translation.

Architecture - architectural drawing - is neither simply a mechanical art bound to the bodily realm of utility, nor a liberal art operating in the realm of ideas, but it is their reconciliation, the bridge between the two.

Mark Wigley¹¹⁸

Derrida has suggested that the Tower of Babel can provide the epigraph for all discussion of translation.¹¹⁹ Interrupted during construction the incomplete tower condemns humanity to a multiplicity of languages - the necessity and impossibility of translation. Derrida recalls the story of Babel and of the Shems building a tower not only all the way to the heavens but also to build a name for themselves. He notes that the word 'Shem' already means name, "Shem equals name"¹²⁰. The Shems build a tower to make a name for themselves, and they bear the name of name. This naming is achievable only through the imposition of their tongue on the entire universe:

Had their enterprise succeeded, the universal tongue would have been a particular language imposed by violence, by force, by violent hegemony over the rest of the world. it would not have been a universal language . . . Rather, the master with the most force would have imposed this language on the world and, by virtue of this fact, it would have become the universal tongue.¹²¹

The programme of translation pivots on renaming in the name of a single other that can account for a new hegemonic institution between languages. Such action is immediately violent, substituting through imposition one convention for another, judged by itself as being true to the original. At this point translation can be said to effect hegemonic change of an imperial nature; that is, of colonial power. Such singular autonomy has its inevitable absolute in the figure of God, or more correctly, the proper name God, as it is exactly the proper name that exposes untranslatability. This is the impossible paradox faced by the Shem when asked by God to translate his name, a name that requires universal understanding for a universal Godliness. The translation compensates for this impossibility by translating the proper name into a common noun and thereby condemns other translation as similarly impossible.

¹¹⁸ Wigley, M. (1989): 12. Halse offers this same metaphor to account not only for the idea / product relationship, but also architect / client relations: "The picture is a bridge between the intellect of the client and that of the architect - a common meeting ground without hard-to-understand technicalities" Halse, A. O. (1960): 15. Evidence for this exists in architectural archives throughout the world where the use of second rate drawing materials has resulted in huge problems in the archiving of drawings. Rubin claims: "materials were not chosen nor subsequent care provided with an eye toward longevity. Pigments, papers, support materials, and reproductive processes were chosen for visual appeal, convenience, economy, or traditional function; permanence was rarely a consideration" Rubin, R. (1982): 165.

¹¹⁹ Derrida, J. (1985b).

¹²⁰ Derrida, J. (1985b): 100.

¹²¹ Derrida, J. (1985b): 101. Derrida notes that the Hebrew word normally translated as tongue, 'imposing their tongue on the entire universe', actually signifies not tongue but lip.

*God, in his rivalry with the tribe of the Shems, gives them, in a certain way, an absolute double command. He imposes a double bind on them when he says: Translate me and what is more don't translate me. I desire that you translate me, that you translate the name I impose on you; and at the same time, whatever you do, don't translate it, you will not be able to translate it.*¹²²

The only absolute is the condition that there can be no absolute. The condition of the double bind is confirmed by the single tongue's condemnation of multiple tongues while attempting to maintain otherwise. Translation itself comes to be regulated by the proper name that it cannot translate, the first proper name, the name of God.

*. . . the law imposed by the name of God who in one stroke commands and forbids you to translate by showing and hiding from you the limit.*¹²³

Drawing, translation, and projection

Robin Evans maintains that drawing is the unfailing communicant that prevents architecture from being enclosed within the compound of language. Language presents itself as that vision of purity that is able to assimilate the distinction between one category and another, merging all boundaries into the larger hegemonic institution of language. The ability of architecture to maintain itself as a communicative art distinct from language is the critical responsibility of the architectural drawing. This point is reinforced by the position that the 'art' of architectural drawing occupies as distinct space from the 'drawing' in fine art tradition. While the sculpture or painter may make preliminary sketches this activity is concurrent with the action of constructing the actual artistic product.¹²⁴ The sketches and drawings of the architect, as defined by Evans, will never be as close to the building as the artist's are to their sculpture or painting¹²⁵. This displacement introduces two possible consequences. The first calls for architecture to insist that only what the architect manipulates is the architect's work: only the drawing can be considered the product of the architect. The second is the possibility of the drawing becoming the sole repository of architectural art. The architect's drawing is caught between the corporal properties of things made, and the dismembered properties

¹²² Derrida, J. (1985b): 102.

¹²³ Derrida, J. (1985a): 204.

¹²⁴ "I never make sketches or drawings for sculptures. I don't work from an a priori concept or image." Serra, Richard. "Notes from Sight Point Road." *Perspecta* 19 (1983): 180.

¹²⁵ Contrary to Evan's argument Rosalind Krauss has pointed out the particular example of Rodin whose practice was to produce only the plaster figures. The actual casting was often done in foundries he had never visited, he never reworked or retouched the casts from which final bronzes were cast, never supervised or regulated either the finishing or the patination, and in the end never checked the pieces before they were issued as authentic Rodin's. This condition is further complicated by Rodin's desire that after his death this entire estate, including bronze casts and the rights of reproduction, should become the property of the French nation, thus allowing a continued production of Rodin originals from beyond the grave. A similar complication can be found in the work of Andy Warhol and the teams of young artists who were responsible for the production of his screen printed editions. Krauss, R. (1985).

of the drawing itself. On the one hand the concern of involvement, substantiality, tangibility, presence, immediacy, direct action; on the other disengagement, obliqueness, abstraction, mediation, and action at a distance.¹²⁶ This dialectical relationship suggests itself as incompatible but Evans expresses a desire to combine both to enhance the abstract and corporal aspects of architectural practice. For the architect this shift pivots on the promise of an ease of transaction, one founded in the claim that the architect is able to create three-dimensional form in the drawn medium. The ideology for this transfer is embodied within Cartesian geometry and the orthographic set, which in turn is constructed by the projection.

*An architectural project is the projection of a future building. Plan, section, and elevation are projections of one to the other. . . . An architectural drawing is a translation of a picture held in the architect's mind that will produce a similar picture in another mind and that will eventually become a building.*¹²⁷

Robin Evans makes this issue more problematic where he associates translation, through the prefix 'trans', to transfiguration, transformation, transition, transmigration, transfer, transmission, transmogrification, transmutation, transposition, transubstantiation, or transcendence. Each of these illustrates a particular concern for movement as signalled by the prefix 'trans', which covers a particular 'blind spot' between drawing and the object. We can never be certain, before the event, how things will travel or what will happen to them on the way. That the subject matter of building will exist after the drawing and not before it (a condition Evans names as 'reversed directionality' in drawing) is promised through the prefix 'trans', and the isolation of the drawing as distinct but involved with building through the irreducibility of essentialism and persistence:¹²⁸

*Whatever Modernism's much ventilated destructive achievements, it made no mark on these. In the region of drawing they operate either through insistence on a true and irreducible expressiveness, or insistence on perspectival realism, or in the demand that only pure geometric forms or ratios be employed.*¹²⁹

This opposition between essentialism¹³⁰ and persistence simultaneously combines to isolate drawing outside the environment of the building. Drawing occupies a place that is itself undrawn, it is between the duality of essentialism and persistence in a place that is the locale of 'subterfuge' and 'evasion' that wind and writhe to avoid the enormous

¹²⁶ This duality is most aptly illustrated by Philip Webb who is recorded by W.R. Lethaby as saying, "There are two ideals. . . . sound, honest human building, or brilliant drawings of exhibition designs." Lethaby, W. R. (1979): 117-25.

¹²⁷ Ellis, E. V. (1997): 42.

¹²⁸ This condition of sequential production is the domain of the Eurocentric Architect and cannot be generalized to all building, especially that outside of European tradition.

¹²⁹ Evans, R. (1986): 15.

¹³⁰ "It is now often taken for granted that idealism and essentialism save us from the kind of instrumentality that comes with positivism. This they may or may not do. But I would insist that they bring with them other kinds of instrumentality and other varieties of subjection just as unsavory. I would insist also that only some kinds of instrumentality are unsavory." Evans, R. (1986): 18n34.

weight of convention that has always been architecture's greatest security and, at the same time, its greatest liability. This shift between opposites is the domain of the prefix 'trans'. From the Latin for across, to, or on the farther side of,¹³¹ 'trans' identifies the in-between state that offers the possibility of translation, but more importantly, it also signals a suspension of belief that allows the (naïve) assumption that there exists a homogeneous space through which meaning may be shifted.¹³² The prefix 'trans' admits the impossibility of finding such a pure and unconditional existence precisely by disguising this failure.

Wigley's 'bridge' metaphor illustrates that translation is not, indeed cannot be, an unregulated transfer from one source (language) to another, otherwise no bridging would be required. For Wigley translation operates symbiotically. The translation constructs its origin as an original from which it is detached. Without the translation there can be no question of originality as a single work negates any question of authenticity. The original is a construct of its own other, while the other is constructed as a privileged origin which must be discarded so that there is a moment of inversion when each recognises the other.¹³³ The motive for this relationship is in the action of translation itself. The translation is called in to compensate for and cover over a gap that reveals the constructed nature of the original. The original calls for this compensation to atone for an innocence it never had. The translation abuses the original at precisely the same moment it creates it, producing the myth of original purity which Wigley paradoxically subordinates it as an impure fabrication. Consequently, Wigley argues, in translation the text neither lives nor dies, rather it is displaced into a condition of survival that is organised by a contract that ensures that translation is neither fully completed nor fully frustrated.¹³⁴ The contract negotiates a point of stable instability upon which the condition of the contract, and the success of the translation, depend. This is Derrida's hesitation. A moment of touching without touch, seeing without sight. The bridge of translation is actually a void across which meaning is conveyed as a promise. For Wigley this takes the form of a non-negotiable constitutional bond that defines the scene of incompleteness in a particularly

¹³¹ *S.O.E.D.*

¹³² Such assumptions, Evans argues, allow for the application of two-dimensional mathematical geometries to the complex three dimensional issues of building. Comparisons between so called 'divine' proportions, such as the golden section, and the facade of buildings relies upon the application of parallel projection methods that compare one to the other in a flat format. We then, "have to ask how ratio can be made sensible in architecture; the answer leads back to our point of departure, the drawing." Evans, R. (1986): 15.

¹³³ This relationship is described by Wigley as the primal contract and which he applies specifically to the relationship between architecture and philosophy. "The architectural motif is bound to philosophy. The bond is contractual, not in the sense of an agreement signed by two parties, but a logical knot of which the two parties are but a side effect . . . this primal contract, which is neither a contingent, cultural artifact nor an atemporal, acultural principle, establishes the possibility of a social contract that separates architecture and philosophy and constitutes them as discourses." Wigley, M. (1989): 12.

¹³⁴ Wigley notes this is the position Jacques Derrida has posited. "A text lives only if it lives *on* [*sur-vit*], and lives *on* only if it is *at once* translatable and untranslatable, it disappears as a text, as writing, as a body of language [*langue*]. Totally untranslatable, even within what is believed to be one language, it dies immediately. Thus triumphant translation is neither the life nor the death of the text, only or already its living *on*, its life after death." Derrida, J. (1979b): 102.

strange way, and for which he proposes a second metaphor, that of a double bind knot.¹³⁵ In architectural representation this manifests itself in the drawing as the paradox of attempting to be portrayed as neutral, while simultaneously providing the only evidence of architectural action. For Frascari the effect of such demonstration is to reveal the grotesque parameters of architectural drawing:

*The real work of architects is in the solving of enigmas - that is, making tangible that which is intangible. The architectural enigma, a callida junctura (ingenious joint), unites artifacts and meanings which are not easily related. This union is an inversion of the normal process of signification: it is the joining of the Vitruvian quod significat (the signified) and quod significatur (the signifier) in a fantasia, a divination of a possible built future. The outcome is extraordinary - that is, a monster.*¹³⁶

There exists a critical moment that allows discussion of translation and architectural drawing to take place. Translation as the moment of inversion between the original and the otherness of the translated, depends upon signalling that such a shift is present in order for it to be realised. For Wigley that instant of recognition is represented by the 'bridge', but it is also subject to the contractual obligation of passage; that it recognises and perpetuates a certain myth of 'truth'. In the case of Frascari it is literally demonstrable, a monster of representation.

With Robin Evans it is the prefix 'trans' that signals the translation. It is precisely through our own knowledge of the translation as not the original that we accept the 'truth' of the original. The presence of the translation initiates a suspension of impossibility to move a truth between one language and another while simultaneously suggesting that the 'truth' of the architect will remain between drawing and building, or between Evans' positions of essentialism and persistence. Here the presence of the translation is signalled, paradoxically, through denial of the translation as a device of movement. Rather, the translation is viewed as a neutral vehicle between one language, and another, it is this neutrality that disguises the political intention that connects the 'truth' of the architect to the building. For Walter Benjamin the basic condition of the translation is an expression of the central reciprocal relationship between languages where translation:

¹³⁵ Wigley's argument is concerned primarily with the relationship between philosophy and architecture, specifically the translation of deconstruction into architecture. Wigley's repeated use of metaphors such as the 'double bind' of the primal contract is not casual. In the essay, Wigley maintains that philosophy describes itself with as an architectural metaphor which he extends to include the action of drawing architecture, thus suggesting at a fundamental level a metaphorical connection between philosophy, architecture and drawing. "For Heidegger, the laying of the foundation is the "projection of the intrinsic possibility of metaphysics" through an interrogation of the condition of the ground. This interrogation is the projection of a plan, the tracing of an outline, the drawing, the designing of an edifice, the drawing of the design out of the ground. Interrogating the condition of the ground defines certain architectonic limits, certain structural constraints within which the philosopher is an architect, endlessly attempting to produce a grounded structure." Wigley, M. (1989): 10.

¹³⁶ Frascari, M. (1987): 45.

*... cannot possibly reveal or establish this hidden relationship itself; but it can represent it by realizing it in embryonic or intensive form.*¹³⁷

Translation is a representation of hidden significance that frustrates the relationship between an original and its other by hiding the action of difference between them *as* translation, and obscuring the ‘truth’ of the translator beneath language itself. If the translation is unable to reproduce the ‘truth’ of an original, it must incorporate the original’s mode of significance in order to make the original (and the translation) recognisable as fragments of a single greater language. This relationship Benjamin expresses with a geometric simile:

*Just as a tangent touches a circle lightly and at but one point setting the law according to which it is to continue on its straight path to infinity, a translation touches the original lightly and only at the infinitely small point of the sense, thereupon pursuing its own course according to the laws of fidelity in the freedom of linguistic flux.*¹³⁸

The ‘truth’ of translation is hidden at a point of touch, disguised precisely by the tangent’s refusal to affect the fidelity of the original. With the ‘truth’ of the original camouflaged in this way the translation becomes untranslatable, as it is already semi-detached from its origins.¹³⁹ Signalling devices announce not only the translation but also discussion of the translation, suggesting that the translation cannot even be spoken without firstly conditioning its existence. A ‘real’ translation, Benjamin argues, is transparent:

*It does not cover the original, does not block its light, but allows the pure language, as though reinforced by its own medium, to shine upon the original all the more fully.*¹⁴⁰

The task of the translator is to incorporate a mode of signification that belongs to the original, but it is one described in a foreign language. Benjamin searches for the point of tangency where only the lightest of touches is able to translate the moment of original truth by surrendering completely to the primal elements of language itself: in Wigley’s terms, the primal contract of translation. And, like Wigley, Benjamin recognises the paradoxical instance where the translation survives because it only appears to be authentic. Benjamin’s simile works to describe the translation because, at the tangential point the line and the curve never actually touch just as they never truly do not touch either. The lightness of the tangents touch hides the breach that describes the relationship between them.

¹³⁷ Benjamin, W. (1968): 72.

¹³⁸ Benjamin, W. (1968): 80.

¹³⁹ “The basic error of the translator is that he preserves the state in which his own language happens to be instead of allowing his language to be powerfully affected by the foreign tongue.” Benjamin, W. (1968): 81.

¹⁴⁰ Benjamin, W. (1968): 79.

For Derrida, the translation hides the gap (*l'écart*) that opens signification to absence and death.¹⁴¹ The translation is located by the condition that it is not the original but maintains some condition of originality. At this point translation is identified as fundamentally separate from reproduction. Benjamin notes that the presence of the original is prerequisite to the concept of authenticity that is fundamental to both the translation and the reproduction. The authenticity of a thing as the essence of all that is transmissible from its beginning, ranging from its substantive duration to its testimony to the history which it has experienced. Since the historical testimony rests on authenticity it will, therefore, be jeopardised by reproduction. Thus, the identification of the original, the translation, the reproduction, and identity itself, all depend upon certain conditions of framing that initiate a hierarchical model of authenticity. In this paradigm the frame becomes the device that signals the truth of the original by identifying the state of authenticity.

Translation as a frame to drawing

In the analytical process of drawing, we build on geometry. We can amplify many familiar objects into basic geometric forms. If we break down what we see into regular geometric volumes or a geometric arrangement of parts, we can draw them more easily, we can organize the forms in an additive manner or transform them in a subtractive manner. The resulting structure then serves as a framework for developing and refining the forms and intervening spaces.

Francis Ching¹⁴²

The frame signals the intention of translation, bringing attention to the promise of an original essence that has been carried between systems (languages). The frame is the context in which Wigley's bridge metaphor is able to operate. Similarly, the frame announces the suspension of disbelief that allows Evans' model of translation to work. If the translation disguises the fact that we cannot simply translate by covering the point of that failure, then the frame conditions and contextualizes that weakness, introducing the necessary possibility of a hidden absence that in turn defines the translation. For the reproduction the frame exposes that absence, admitting to a context that is removed from authenticity, so that the frame itself replaces any desire for the original. In both these cases what is implied, or reframed, is the relationship of authorial truth to its origins. The translation preserves that truth by transferring its essence, an act initiated and announced by the frame. The reproduction, by contrast, denounces the original by imbuing the frame with a false quality of truth.

By comparison with 'projection,' 'trace' and '*trait*' offer a valuable paradigm for re-evaluation of the philosophical nature of architectural drawing. In this context the words 'trace' and '*trait*' are presented in parallel, as different versions of a singular conception. Etymologically, both 'trace' and '*trait*' have a familiar ancestry in the Latin *tractus*,

¹⁴¹ Kamuf, P., Ed. (1991).

¹⁴² Ching, F. D. K. and S. P. Juroszek (1998): 74.

literally meaning drawing and draught, giving rise to an associated stem 'tract' indicating, loosely, a written treatise, and indeed a dissertation. It is from *tractus* that these two words have a common origin in 'draught' as applied to the word *tracet* (from *rahere* - to draw) to describe the leather straps used to connect the collar of a draught-animal to the crossbar of a cart or plough. The architectural literalness of this definition will be self evident to the architecture professional who has spent time 'tied' to a drawing board for an extended period.¹⁴³ This version goes beyond the evocative figure of an architect literally tied to the 'crossbar' of a drawing board and replaces it with the more accurate description of a pencil moving across a sheet. The lead is drawn, which is to say it is pulled forward across a receptive surface. The physical traction of its tip against the friction of this surface leaves behind tangible evidence of the encounter in the form of a graphite residue - the line. To this extent the drawn line is a ploughed one.

Jacques Derrida identifies four states of meaning that are the domain of the translation and truth.¹⁴⁴ They are that which pertains to *the thing itself*; that which pertains to *representation*; that which pertains to *picturality*; and that which pertains to *truth on the subject of*.¹⁴⁵ The one common feature that links these points is the *trait*.

*A trait never appears, never itself, because it marks the difference between the forms or the contents of the appearing. A trait never appears, never itself, never for a first time.*¹⁴⁶

Neither inside nor outside, the *trait* spaces itself without letting itself be framed and yet remains within the frame. The *trait* situates itself, in deconstructionist tradition, between the inside and the outside, between the external and internal line. This is the position the *trait* assumes for any 'two-faced' opposition.

Taking the *trait* from the lines drawn on stone in stereotomy, Robin Evans has emphasised the crucial role played by the *trait* in the development of the architectural drawing.¹⁴⁷ 'Wrestled' from stonemasonry, architects have removed the *trait* from the physicality of building, and emphasised its material qualities as thin, light, and pliable – the characteristics of paper. Notes Evans: "Not all the properties of the *trait* travelled over into buildings. A *trait* is made with nothing but lines."¹⁴⁸

Similarly, it is the immaterial nature of Derrida's *trait* that identifies the un-drawn place of the drawing. The prefix 'trans' is actually the signal for the *trait* that, in its absence,

¹⁴³ Here I am taking semantic liberty in connecting these. Strictly speaking the origin of 'draught' as used to describe the person or process of drawing at a board (draughting, draughtsman) has a complex and separate etymology through old English - *drapt*, old Norse - *drahtr*, *dráhr*, later reinforced from middle Dutch, *dragt*, and the Germanic '*tracht*.' This in turn is an abstracted substantive form of the Germanic *dragan* indicating 'drag' or 'draw'. The word 'draft' is a modern phonetic spelling of 'draught.' *S.O.E.D.*

¹⁴⁴ Derrida, J. (1987a).

¹⁴⁵ Derrida, J. (1987a).

¹⁴⁶ Derrida, J. (1987a): 11.

¹⁴⁷ Evans, R. (1995b).

¹⁴⁸ Evans, R. (1995b): 206.

signals the suspension of belief that allows for translation. In this way the truth of translation is located exactly by its absence. Framed yet unframed in the manner of Wigley's bridge that is constituted by, and constitutes, the bond of bridging. The architectural drawing is bonded to the building by a contractual agreement between architect and building that focuses the truth of drawing, that is Derrida's *trait*, on this contract only, and to the exclusion of the *trait*'s absent condition. The *trait* is made conditional to truth rather than truth being conditional to the *trait*, since it is this arrangement that makes it possible to construct framing devices (*traits*) without reference to essentialist paradigms. Thus, the architectural *trait*, the drawing, is bonded to the building to ensure the survival of its author, the architect. Such a proposition invites the possibility of its own negation. What are the implications of paying attention to the *trait* as a device of reframing to the neglect of conditioned 'truth'. What happens when the devices of framing are used *for* architecture but not by architects. Immediately the attention of the translation is displaced from the signal of translation (and therefore the truth of translation) to the signal itself, to the *trait* of no *trait*. Such misplacement isolates the truth of architecture outside the institution of architecture by illustrating that it was never truly inside it to begin with, while simultaneously allowing examination through its distancing. To find the *trait of trait*, or the truth of truth, is to explore the edges of the framing that are themselves constituted by the frame.

The hieroglyph and the pictograph

Following Warburton and Condillac, Derrida¹⁴⁹ agrees that the first moment at which writing attempts speech occurs through a reduction. The very form of writing is itself a derivative reduction, a miniature. Warburton and Condillac propose that all systems of script occur sequentially through increasingly miniaturised and economic abbreviations of speech, each new script replacing the last to satisfy a desire for space and time. The key expressive motifs for Derrida are the reductive qualities of the pictogram and hieroglyph.

The hieroglyph is not simply a picture, nor is it properly a linguistic code. Instead it lies between the two in another communicative system that is partly picture, and partly word. This is the same graphic relationship occupied by the architectural drawing. Some parts of the graphic vocabulary of architectural drawing are predominantly pictorial. Within the conventions of optical geometry, the perspective is an attempt to maintain a purely pictorial expression.¹⁵⁰ However, other techniques make no attempt to present a recognisable architectural figure. The plan is the best example of this: while architects refer and defer to the plan as the most important of the graphic codes, it is also the most

¹⁴⁹ Derrida, Derrida, J. (1976).

¹⁵⁰ The key counter reading of perspective is given by Panofsky, E. (1991). Panofsky argues that the optical relationship between the eye and perspective representation is flawed. Optical sight is per-conditioned by binocular visions, a curvilinear projection surface, and the constant movement of the image. By contrast perspective principles rely on a single lens, flat picture plane, and static viewpoint. For Panofsky the difference between the perspective view and the optical view is such that perspective can be regarded a conceptual representational system of the same kind as axonometric projection.

abstract and, to the layperson, most confusing. The plan presents itself as a horizontal section through a building, the top of which is removed. The 'view' is taken from an omnipresent eye peering down from above. While this is maintained as an objective view positioned diametrically to the subjectivity of the perspective, it is also the most remote and non-representational viewpoint relative to the experiential qualities of a building. The architect, unlike an untrained layperson, attaches to the plan additional projective information that is not necessarily coded into the actual lines on paper. Thus a 'room' can be judged subjectively as generous, welcoming, or unpleasant, based upon an abstract construct. This is where the architectural drawing, and especially the abstract orthographic set of plan, section, and elevation, begins to behave like the hieroglyph. Architectural drawing represents a reductionist approach to the problem of representation. Each graphic code is a form of diminutive sign-writing designed to reflect the actualities of a physical building. Here the orthographic set operates to organise the components, and the Cartesian relationship that underlies it similarly parallels the law of architectural speech. Like the hieroglyph proper, the architectural drawing is a basic but non-reductive miniaturisation that relies upon the principles of the pictogram.

Derrida notes that, like the first word, the first pictogram is an image, both in the sense of imitative representation and metaphoric displacement. "The interval between the thing itself and its reproduction, however faithful, is traversed by transference."¹⁵¹ There occurs, at the moment of writing, the action of shifting between, that is always also a producer as the pictogram enters into the mode of representational image.

Critical to the pictogram's acceptance as the sign of an idea is an attention to the image as an imaginary supplement of the idea. The relationship defined by Derrida posits the idea as having an essential involvement with the sign where it becomes a "represented substitute of sensation."¹⁵² In this way the first written word is, accordingly, a painted image where one finds a pure reflection of an object or action outside of all other symbolic involvement.¹⁵³ This, then, becomes the basic tenet of the pictograph as the only universal writing. Pure reflection becomes impossible with the diversity of scripts that occur at the threshold of pure pictography. The pictograph employs the law of economy that contracts it to only one sign per thing: that which it resembles through representational transfer.

The architectural drawing, when examined in this context, reveals its lineage to the pictogram. The elevation presents itself as the possibility of a project that may or may not be built. In this sense it is the possibility of something. It also refers to the facade of a building already built, indeed to all other facades. The differences that occur between all other facades and the projected facade occur as differences of degree rather than those of kind since the elevation as a communication device is required to refer first and foremost representationally and metaphorically, and this cannot not be projected. Thus the

¹⁵¹ Derrida, J. (1976): 282.

¹⁵² Derrida, J. (1976.): 282.

¹⁵³ "It is in all probability to the necessity of thus delineating our thoughts that the art of painting owes its original; and this necessity has doubtless contributed to preserve the language of action, as the easiest to represent by the pencil." Derrida, J. (1976.): 283.

elevation is never properly a projection since the condition of referring forward is always absent. A description pertinent to a project drawing occurs as a difference, or deviance, from what is understood as 'all other' elevations.

In Derrida's discussion, Jean Jacques Rousseau (also following Warburton and Condillac) distinguishes between two oppositional pictographs: one which proceeds allegorically, and the other directly. Both, however, begin with savagery.¹⁵⁴ In making this distinction Rousseau argues that the pictograph cannot simply redouble without a displacement that is reproductive, a condition Derrida finds metaphoric,

*In it the thing most faithfully represented is already no longer properly present. The project of repeating the thing already corresponds to a social passion and therefore requires a metaphoricity, an elementary transference.*¹⁵⁵

The pictograph does not simply represent with the introduction of a graphic sign, rather, it seeks out an other to the thing itself that is already outside of and within that thing. The thing is transported within its double for an other, and the perfect representation is already other than what it doubles and re-produces. For this reason there is no true or pure writing, writing is already economically corrupted by its own double and through its own reproduction.

In the development of the hieroglyph the architectural drawing finds a prototype for incised archaic knowledge that provides a model for the restriction, rather than dissemination, of specialist knowledge. Architectural drawing has been caught in a double bind of its own making that attempts to present itself as a form of communication, while at the same time engaging a set of codes and conventions that prohibit wider use. To this end architectural representation continually tests its own limits in order to maintain an ambivalence between legibility and illegibility. It might be said of architectural drawing that it has been in decline since its inception. The architectural drawing is not a pictorial image, but it utilises pictorial imagery. The power of architectural drawing lies not in its legibility, but precisely in its illegibility - as the ability of the drawing to operate as a sign system demands exclusion of both meaning and witness. The architectural drawing (along with the hieroglyph) is not motivated by the communication of meaning. It works to exclude, and thereby control, meaning.¹⁵⁶

¹⁵⁴ "The primitive way of writing was not to represent sounds, but objects themselves." Rousseau quoted by Derrida in Derrida, J. (1976.): 291. "the depicting of objects is appropriate to a savage people; signs of words and of propositions, to a barbaric people, and the alphabet to civilized peoples" Rousseau quoted by Derrida in Derrida, J. (1976): 294. "In our society, where the civil type has appeared, the elements of pictographic writing would be savage, the ideo-phonographic elements barbaric. And who would deny the presence of all these elements in our practice of writing?" Derrida, J. (1976): 294.

¹⁵⁵ Derrida, J. (1976.): 291-292.

¹⁵⁶ Edward Robbins states a common assumption that architectural drawing may operate as a type of quasi-linguistic communication albeit one that cannot be readily described as a language. He suggests that the inherent ambiguous nature of drawing creates a multiplicity of readings that negates the grammatical certainty found in verbal and written language: "While drawing is in general ambiguous, it must work, at certain points in architectural practice, as a clear and direct communication." Robbins, E. (1994): 28. See also Goodman, N. (1968).

The power of the architectural drawing as a translation is hidden by the promise of its own disempowerment, a state that immediately requires a certain power in order to be maintained, and which depends in turn upon the reductive properties of the drawing. This promise is conditioned by an inevitable failure, the failure to translate the original, and the failure to not translate as it has established the original. Thus the translation is always, and never, what it suggests itself to be.

*A text lives only if it lives on [sur-vit], and it lives on only if it is at once translatable and untranslatable . . . Totally translatable, it disappears as a text, as writing, as a body of language [langue]. Totally untranslatable, even within what is believed to be one language, it dies immediately. Thus triumphant translation is neither the life nor the death of the text, only or already its living on, its life after death.*¹⁵⁷

The translation is itself an original in so much as it makes possible the presence of the original as separate from the translation. The translation makes the original, and then does so again by purposefully failing to faithfully translate. Derrida's description of translation as conditioned to both succeed and fail is similar to - we may even say it mimics - Homi Bhabha's definition of colonisation.¹⁵⁸ What translation seeks is an effacement of language itself, which is to say, translation seeks a direct correlation between different languages that allow one thing to 'mean' the same in both, while retaining the authority of the first, the original.

Derrida describes translation as an economy, for the sake of economy. Economy is the law of reserves, reserving, savings, saving, inversion, reversion, revolution, the law of the *oikos* - the house, room, tomb, the crypt.

*If there is something that arrests translation, this limit is not due to some essential indissociability of meaning and language, of signified and signifier, as they say. It is a matter of economy (economy, of course, remains to be thought) and retains an essential relationship with time, space, counting words, signs, marks.*¹⁵⁹

Economy is an always external constraint that arrests a text in general, that arrests anything, that evokes and maintains the possibility of the absolute crypt, unreadability itself. Economy seeks to circumvent the excess remnants of translation, the surplus of language that reveals the impossibility of hegemonic flow between one language and another. Translation attempts to give one text to another without retouching it, without saying anything about it, without referring to it.

¹⁵⁷ Derrida, J. (1979b): 75-106, 102.

¹⁵⁸ Bhabha, H. K. (1988).

¹⁵⁹ Derrida, J. (1979b): 169-70.

The dream of translation without remnants, a metalanguage that would guarantee orderly flow between 'entry language' and 'exit language' . . . between semantic radicals properly bordered (arrêtés).¹⁶⁰

The proper name of the architect survives translation: it lives on, precisely by being untranslatable. The proper name is that one thing that resists translation, it remains the same, it remains attached to the translation as the supplement of the original that allows the architect's proper name to be attached to the building. While a drawing carries the name of the architect it will evoke the operation of translation so critical to the establishment of an architectural relationship between the architect and the project. The name of the architect is not then an exclusive name, but an inclusive one that seeks to attach to those drawings requiring a hieroglyphic authority - a *trait* particular to an architectural discourse.

Derrida, reading Heidegger, describes the *trait* as the 'supplementary line', "and of the *trait* as a tracing incision (*entame*) of language."¹⁶¹ *Re-trait*, by comparison, is described as a *trait* that makes an addition to the withdrawal of the inscribed *trait*, the *re-trait* supplements for that loss by expressing both the minus and the plus. "Retrait is neither a translation nor a non-translation . . . in relation to the text of Heidegger."¹⁶² The word *retrait* imposes itself on Derrida for economic reasons. The single incision of the *trait* creates two lines which parallel each other but whose intersection is made possible by the paradox of their infinity. The two lines intersect precisely at infinity, they 're-cut' without touching each other, without affecting each other - without wounding - at the unimaginable moment of infinity:

It is a trait that guides them [world and earth] to the provenance of their unity by way of common ground, aus dem einigen Grunde zusammen. In this sense it is a grundriss: foundational plan, project, design, sketch, outline.¹⁶³

For Derrida 'translation' is intrinsic to the concept of perception. There can be no insight without a certain transfer between perceived and perceiving. By the same logic, the discipline of architecture depends upon perception to distinguish between the act of building and the value system applied to the act of building that constructs architecture. This value system is the *trait* of architecture, the hesitation that identifies the thin thread of dependability that is stretched between idea and project, architect and architecture, and which is then disguised as translation. The *trait* is a resolute blindness that organises the discipline of architecture.

Blindness and translation and communication

¹⁶⁰ Derrida, J. (1979b): 119-120.

¹⁶¹ Derrida, J. (1978): 10.

¹⁶² Derrida, J. (1978): 22.

¹⁶³ Derrida, J. (1978): 32.

Drawing is the primary language of architects. Writing, the fundamental means of communication, is quite inadequate in the technical context of architectural practice . . . it is important for everybody in architectural practice to be able to draw, in order to be fluent in the architect's primary language.

Robert Chitman¹⁶⁴

Translation constructs a bridge by drawing a division between two conditions. Leavy identifies a double bind in seeing: “to look is terrifying, not to look is terrifying.”¹⁶⁵ In “Mémoires d’aveugle” Derrida posits two hypotheses; the concern of the translation of the blindness of drawing, and the translation of the eye and hand.¹⁶⁶

Here is a first hypothesis: the drawing is blind, if not the one (he or she) who draws. As such and in its own proper moment, the operation of drawing would have something to do with [à voir avec] blindness . . . Second hypothesis, transplant the eye, graft of one point of view on the other: a blind drawing is a drawing of the blind [un dessin d’aveugle est un dessin d’aveugle]. Double genitive. There is no tautology in that, but a fatality of the self portrait . . . the drawn [trait] falls prey to allegory, to that strange self-portrait of the drawing handed over to the other’s speaking and gaze. Subtitle of all the blind scenes, then: the origin of drawing. Or, if you prefer, thought of the drawing, a certain pensive pose, a memory of the drawn that speculates in dream on its own possibility. Its power always develops itself on the edge of blindness. Blindness breaks through there, precisely takes the advantage there potentially: angle of view threatened or promised, lost or restored, given. There is in this gift as a with-drawing [re-trait], at once the interposition of a mirror, impossible reappropriation or mourning, the intervention of a paradoxical Narcissus, at times lost in abyss, in brief a specular re-folding -- and a supplementary drawing [trait]. It is better to nickname in Italian this hypothesis of the (with) drawing in memory of the self lost from view: l’autoritratto of drawing.¹⁶⁷

The word ‘communication’ cannot be addressed as separate from the word ‘context’, which reduces the field of communication that would otherwise exercise itself pluralistically across several fields, both semantic and non-semantic, “a semantic field which precisely is not limited to semantics.”¹⁶⁸ Thus the word communication contains no fixed and unequivocal meaning other than that indicated by its context, which is itself never absolutely determinable. The communication referent is typified, but not exemplified, by writing. Writing is no more than one type of communicant that can be no more separated from writing than the writing be separated from any communication. Writing is most explicitly a means of communication; it extends through time and space,

¹⁶⁴ Chitman, R. (1980): 2-3.

¹⁶⁵ Leavy, J. P. (1986): 196.

¹⁶⁶ Leavy, J. P. (1986): 196.

¹⁶⁷ Derrida, J. (1993): 10.

¹⁶⁸ Derrida, J. (1982): 309.

but assumes, in the manner of translation, a homogenous space through which meaning (rather than the truth of translation) may pass unaffected.

*Meaning, the content of the semantic message, is thus transmitted, communicated, by different means, by technically more powerful mediations, over a much greater distance, but within a milieu that is fundamentally continuous and equal to itself, within a homogenous element across which the unity and integrity of meaning is not affected in an essential way. Here, all affection is accidental.*¹⁶⁹

The corruption of this assumption lies within the motif of the economic, through homogenous and mechanical reproduction. Derrida observes of the homogenous condition of communication: “Men capable of communicating their thoughts to each other by sounds felt the necessity of imaging new signs apt to perpetuate them and to make them known to absent persons.”¹⁷⁰ This action is one of representation, “writing as picture, reproduction, imitation of its content - will be the invariable *trait* of all the progress to come.”¹⁷¹ Derrida infers that communication is a vehicle for representation as an ideal content called meaning. Writing is but one species of this more general communication: “A species: a communication having a relative specificity within a genus.”¹⁷² The question of whether it can operate hegemonic principles assumes a closed economic system without loss, without absence. But Derrida points out that absence is implied by a break in homogeneity in any concept of communication, demanding the occurrence of a death. The notion of written communication, whether semantic or non-semantic, demands an absence in the form of the missing addressee. Further, here representation *supplements* presence:

*The sign is born at the same time as imagination and memory, at the moment when it is demanded by the absence of the object for present perception.*¹⁷³

Representation, that is a conditioned writing of meaning, cannot occur without a supplement to the system that makes up for an absence that is always there - the subject of the sign, the *trait*, the mark. To this end absence is constituted by the mark, “by its iterability in the absence of whosoever, and therefore ultimately in the absence of ever empirically determined ‘subject’.”¹⁷⁴ The mark of representation is itself analogously representable as a code where every code is defined by the possibility of its de-coding. The action of de-coding is simultaneously the device of communication to and by a third party:

¹⁶⁹ Derrida, J. (1982): 311.

¹⁷⁰ Condillac quoted by Derrida, J. (1982): 312.

¹⁷¹ Derrida, J. (1982): 312.

¹⁷² Derrida, J. (1982): 314.

¹⁷³ Derrida, J. (1982): 314.

¹⁷⁴ Derrida, J. (1982): 315.

*All writing, therefore, in order to be what it is, must be able to function in the radical absence of every empirically determined addressee in general.*¹⁷⁵

The identifying marks that make communication possible, by providing a decipherable grid for any general user, uncover the 'death', or at least the possibility of the 'death', of the addressee who the writing must be 'for' but who was never required. In a similar way the presence of the scribe is like that of the reader. For the written to be written presupposes a scribe, the person who codes by making the mark. Yet the condition of legibility continues to function whether the author sanctions it or not. The 'death of the author' will not affect the script, as the author is already en-coded as the name of the scribe, the author's signature. The addressee and addresser are both already en-encrypted within writing as an absence, paradoxical to the hegemonic intention of communication. Thus all communication may be described as a type of script where the nature of meaning is contextualised by the subjective coding and encoding that defines a cryptic secret.

*Communication, hence, vehiculates a representation as an ideal content (which will be called meaning); writing is a species of this general communication.*¹⁷⁶

It is a paradox of architectural drawing that the first addressee is the architect making the drawing. Drawing is evoked because an architectural project does not exist, and it has the principle responsibility of announcing the architectural idea, first and foremost, to the architect. The first *trait* is that of absence, into which a projection can be accommodated. The addresser and the addressee are the same figure of influence affected on the one hand by power, and on the other by powerlessness. In drawing, the architect acknowledges the frailty of this relationship so that the first drawing is always to, and of, the architect. As a communicative dialogue this is fraught with a narcissistic cycle of longing and repulsion. The void at the centre of the drawing's ability to offer translation is the very *trait* of the architect, a promise of projection through which projection is possible - as before there can be an addresser or addressee, there has to be a promise of exchange.

Architectural drawing and the birth of knowledge

Drawings are translated in built forms. Buildings are translated in verbal forms, and as an old Italian saying states: traduttori, traditori (translators, traitors).

Marco Frascari¹⁷⁷

Drawings, then, do not 'translate' idea into action, thought into project. The architectural drawing is malignant in its relationship to architectural discourse. It does not translate so much as 'construct' the relationship between the architect and the architectural project.

¹⁷⁵ Derrida, J. (1982): 315-316.

¹⁷⁶ Derrida, J. (1982): 314.

¹⁷⁷ Frascari, M. (1989): 13.

The mechanism that has authorized this particular kind of blindness is the very geometry of the orthographic relationship:

*The key transformation in the history of architectural drawing was the inception of descriptive geometry as the pragmatic discipline for the builder, whether architect or engineer.*¹⁷⁸

This point is so deeply embedded in current architectural practice that it is no longer visible – we have developed a blind spot about it. This selective vision is encoded into the architectural mark (the *trait*) as a tension between seeing and touching. Regardless of how much the architect may attempt to attach the mark onto its medium, the drawing will always and inevitably be incised into that same ground. This is made inevitable and explicit by the term itself. ‘Drawing’ contains the certainty of incising within it; it is already incised with the incised so that no amount of erasure can remove it. There is in this relationship an unpleasantness endemic to translation.

*. . . every translation either diminishes and spoils, or it creates a new expression, by putting the former back into the crucible and mingling it with the personal impressions of the so-called translator. In the former case, the expression always remains one, that of the original, the translation being more or less deficient, that is to say, not properly expression: in the other case, there would certainly be two expressions, but with two different contents. ‘Faithful ugliness of faithless beauty’ is a proverb that well expresses the dilemma with which every translator is faced.*¹⁷⁹

The architectural drawing walks a fine line (so to speak) between the picture and the hieroglyph. The pictorial abandons intention, while the pictographic abandons responsibility. As a translator the architect balances these two conditions by appealing to the discipline of architecture in the name of the architect.

Derrida reminds us that when the name or/and title is given to the work, it is a gift of appropriation.¹⁸⁰ The gift of the name violently appropriates, ‘harpoons’ and ‘arraigns’. The name attaches itself to the work in order that it may paralyse it.

*. . . who signs, and with what so-called proper name, the declarative act which founds as institution?*¹⁸¹

For Derrida the signature is, and remains, the formative action of the institution. The signature maintains a link with the instituting act by committing the bearer of the signature to engage with an act of writing, a link Derrida isolates from empirical accident. The founding act of an institution - “the act as archive as well as the act as

¹⁷⁸ Pérez-Gómez, A. and L. Pelletier (1997): 34.

¹⁷⁹ Croce, B. (1956): 68.

¹⁸⁰ Derrida, J. (1987a)

¹⁸¹ Derrida, J. (1986a): 8.

performance”¹⁸² - has to maintain within itself the signature. The institution demands an independence from empirical individuals and yet it depends upon such a commitment to declare itself as institutional. So, the signature is contained within the concept of institution as the constitutional signature, but exactly which signature? In signing people ‘say’, they have ‘their say’ and yet it is not theirs since the act of signing forfeits the responsibility of decision to that person who is responsible for the signed document, a person who does not become a signatory. That person may draw up the ‘draft’, producing a ‘draft’ or a ‘sketch’¹⁸³, but must submit the work to others who are authorised as representatives. And yet a signatory never signs either, the representative’s mark takes the place for an others mark, it becomes the *trait* of the missing *trait* (re-*trait*). The representative signs in the ‘name of’, the right of signature belongs to the represented, the signatory who never signs. In never signing they have no constitutional rights and so no ‘one’ is represented constitutionally, and yet constitution exists. The contract of representation, of constitutional rights, is invented at the moment of signature: “The signature invents the signer.”¹⁸⁴ The signature signals the right to sign, the right to have a say, and the right to continue to have a say, and it does this by giving the right of giving a name, and therefore also a power, the power of naming. And the name evoked above all others is the name of God, the most proper of proper names, the name that cannot be translated. Hence no signatory, that is no proper name, can be translated. The proper name, the name of God, remains intact and attached to the contract, inscribed ‘in the name of God’. But what of the person who drafts the draft. Responsible for its drawing up, they are attached inseparably to the text. Unable to become a signatory, they can never take a name for themselves. Unsigned they suffer terminally, effectively de-scribed by their absence they remain ungodly, un-stated:

*A feeling of wounding and of mutilation should be inconceivable for someone who knows not to write in his own name, his proper name, but simply by representation and in place of another.*¹⁸⁵

The signature is something other than simply writing down one’s own name. The signature is an action that commits the signatory to an action. The written name signifies the semantic possibility of authorship, of an origin. I sign my name to confirm that my name is not my signature as my signature records the action of signing that my name cannot. Thus the signature is always the signature of an event, a confirmation that something has been done, a performance has occurred which is absolutely heterogenous:

¹⁸² Derrida, J. (1986a): 8.

¹⁸³ Derrida makes this point in reference to Thomas Jefferson’s American Declaration of Independence. He reminds us that no one would mistake Jefferson as the signer of the document, rather he is acknowledged as its ‘draftsman’, responsible for drawing it up in the manor of one writing a letter on behalf. “You know what scrutiny and examination this letter, this literal declaration in its first state, underwent, how long it remained and deferred, undelivered, in sufferance between all those representative instances, and with what suspense or suffering Jefferson paid for it. As if he had secretly dreamed of signing all alone.” Derrida, J. (1986a): 9.

¹⁸⁴ Derrida, J. (1986a): 10.

¹⁸⁵ Derrida, J. (1986a): 12.

*It is an external reminder to whatever in the work signifies something. There is a work there - I affirm it, I countersign. . . . An event has taken place.*¹⁸⁶

So there is an event every time a signature occurs, every time there is a production of a work, every time the countersignature occurs. With the act of drawing the architect constructs an event of projection, that does not exist until this moment. The architect signs, as it were, with the sign of architecture. This signature is not to be confused with the name of the author. The signature requires an institutional space into which it, and the event, can be received and legitimised. The signature requires the political and social countersignature of an institutional organization that validates it as signature. In this way the signature cannot exist before, or without, the countersignature that relies on conventions, institutions, and processes of legitimisation. In architectural representation these institutional systems are omnipotent and take the form of the orthogonal which organizes the drawing, and therefore the architect. Ingraham has written of this:

*Recently I have been thinking, in particular, about the 'line' and the way in which linear apparatuses seem to work in architecture. That architecture is a discipline that defines its boundaries and design capacities according to the workings of orthogonality (strictly defined, the right-angledness of the line) seems indisputable. Modes of representation in architecture - drawing and model-building, for example - are the literal examples of this orthogonal dedication, but even in epistemological and representational accounts of its own artistic practice, architecture relies on a kind of orthogonality, a linear movement from drawing to building, architect to drawing. In the most common of these accounts the building is understood as the inevitable, the right and proper, end-point of the intention of the architect.*¹⁸⁷

The linearity of representation is the visible evidence of a translation that disguises the limits of architectural projection. Furthermore, all architectural knowledge that is organized by drawing is already conditioned by drawing. In this sense architectural drawing corresponds to Derrida's description of the *pharmakon*.¹⁸⁸ Architectural drawing is neither a poison nor a cure to the limits of architectural project, and yet it can be categorised as either depending on its location in any given communicative arrangement. The inherent logic that contains the multiplicity of translation also contains the negation of this possibility, a paradox found in both language and philosophy.

*With this problem of translation we will thus be dealing with nothing less than the problem of the very passage into philosophy.*¹⁸⁹

¹⁸⁶ Derrida, J. (1994): 17.

¹⁸⁷ Ingraham, C. (1992): 264.

¹⁸⁸ Derrida illustrates how the word *pharmakon* can be rendered as 'remedy', 'recipe', 'poison', 'drug', 'philter', etc. The seemingly incongruous oppositional nature of these words to their source occurs through 'skewing', 'indetermination', and 'overdetermination', but, emphasizes Derrida, *without mistranslation*. Derrida, J. (1981): 71.

¹⁸⁹ Derrida, J. (1981): 72.

This ‘problem of translation’ prompts Derrida to draw parallels between the *pharmakon* and *biblia*. While the association between them may appear artificial or purely coincidental, they do exhibit the intonation of the translation:

*. . . one and the same suspicion envelopes in a single embrace the book and the drug, writing and whatever works in an occult, ambiguous manner open to empiricism and chance, governed by the ways of magic and not the laws of necessity.*¹⁹⁰

The translation makes the translated word more ambiguous precisely, if paradoxically, by attempting to remove the presence of ambiguity and thereby satisfy a demand for a truth in translation. Thus the problematic of translation is also the problematic of Platonic writing. The representation of truth is disclosed through the suspect processes of an occult power.¹⁹¹ Every translation is then an action of violence, as the violent suppression of multiple voices demanding for a true translation. Architectural drawing has about it the same productive violence as birth. This analogy has been made by H  l  ne Cixous:

*Acts of birth, potency, and impotency mingled are what I’m passionate about. The to-be-in-the-process of writing or drawing. There is no end to writing or drawing. Being born doesn’t end. Drawing is being born. Drawing is born.*¹⁹²

The drawing becomes an extension of a visual process conducted essentially in the mind and of which drawings are pictorial extensions - “an external (and reliable) memory.”¹⁹³ Birthing slips between concept and conception, each having its etymological origins in the Latin *conceptus* – fetus.¹⁹⁴ All concepts are, by metaphor, a type of mental embryo. Each architectural drawing is a birthing toward and about architectural discourse; it is a translation from a ‘before’ state to an ‘after’ state. Le Corbusier has described it in this way:

¹⁹⁰ Derrida, J. (1981): 72-3.

¹⁹¹ “When a word inscribes itself as the citation of another sense of the same word, when the textual center-stage of the word *pharmakon*, even while it means remedy, cites, re-cites, and makes legible that which *in the same word* signifies, in another spot and on a different level of the stage, *poison* (for example, since that it [sic] not the only other thing *pharmakon* means) . . . Textuality being constituted by differences and from differences, it is by nature absolutely heterogeneous and is constantly composing with the forces that tend to annihilate it.” Derrida, J. (1981): 98.

¹⁹² Cixous, H. (1993): 91-92.

¹⁹³ This phrase was used in a report issued in 1961 by a faculty committee at MIT. The committee was formed to investigate what was seen as a crisis of recent graduates displaying an unwillingness and inability to complete design problems in practice, preferring instead to tackle only fully specified problems that could be solved by analytical methods. Ferguson, E. S. (1992): 162. Ferguson demonstrates how design studies, shop courses, and engineering drawing have been systematically removed from the curriculum of engineering schools in the U.S.A. since 1945, resulting in engineering graduates predominantly biased toward quantifiable and analytical problem solving. This, he argues, is a dereliction of a discipline whose history has depended upon creativity and imagination.

¹⁹⁴ S.O.E.D.

When I am given a task, I am in the habit of tucking it away in my memory, that is, of not allowing any sketch to be done for several months. The human head is so made that it maintains a certain independence: it's a box into which you can pour helter-skelter the elements of a problem . . . then one day, a spontaneous initiative of the inner being takes place, everything falls into place; one takes a pencil, a bit of charcoal, some colored pencils (color is the key to the process) and one gives birth right there on the paper: the idea comes forth, the child comes forth, it has come into the world, it is born.¹⁹⁵

This entry into an outside world is not only violent, it is blind. The architect abandons insight and the visionary, and reaches for instruments of tactility. The architect is blinded by the birth of the idea, and the architectural drawing is a palimpsest of strokes and caresses that witness a birth unseen.

¹⁹⁵ Le Corbusier quoted in de Franclieu, F. (1981): 27.

SECTION 2

Aldo Rossi: Drawing Touch

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Aldo Rossi: Drawing Touch

Professor Sabbioni, whom I particularly admired, discouraged me from making architecture, saying my drawings looked like those of a bricklayer or a rural contractor who threw a stone to indicate approximately where a window was to be placed. This observation, which made my friends laugh, filled me with joy, and today I try to recover that felicity of drawing which was confused with inexperience and stupidity, and which has subsequently characterized my work.

Aldo Rossi¹

. . . the aesthetic and rigorous drawings of Aldo Rossi, though filled with symbolic elements, tend towards the real in the same way as his 'part-made' architecture and have the same stratified depth of his theories and analysis on the built city.

Francesco Moschini²

Introduction.

Architectural drawing attempts to organize a particular type of space. This space - often oversimplified as that of 'representation' - is at once both a metaphor and an analogy. As a system of projection the architectural drawing stands for the built work as a singular visual metaphor that reads from one discipline (architecture) on to another (building) based upon codes of convention and regulation. In this view of architectural representation the drawing attempts to maintain a condition, which Michel Foucault has defined as utopian; that is, the architectural drawing is the site of an architecture with no real place of its own.³ The architectural drawing, in this sense, presents a type of ungrounded architecture, firstly in terms of its representational quality, but more importantly, by the way in which the architectural project is necessarily organized by temporality to displace (project) the intention of representation from the drawing action onto the responsibility of drawing to represent a built work. As a utopian site, the drawing can be seen to encompass all those works where the integrity of architectural representation is maintained *through* its intention, rather than in spite of it, and this can be seen in arguments that maintain the neutrality of the drawing. As Morris and

¹ Rossi, A. (1981): 39.

² Moschini, F. (1980): 11. Moschini includes with Rossi, Franco Purini, Massimo Scolari, and Arduino. Each, he says, demonstrates the same quality of 'theoretical concentration' towards the imaginary aspect of architecture.

³ "Utopias are sites with no real place. They are sites that have a general relation of direct or inverted analogy with the real space of Society. They present society itself in a perfected form, or else turned upside down, but in any case the utopias are fundamentally unreal spaces." Foucault, M. (1986): 24. Foucault carefully names 'Society' as a capitalized, and therefore institutional system. Architectural discourse could be seen to replace Society as another institutional organization able to maintain itself as a discrete system.

Bertolotto note in their discussion of Aldo Rossi, the architectural drawing is not a particularly ‘real’ space, but an occasion:

Each drawing is a new occasion, and the pressures of its moment send his hand along a path different, subtle or obvious, from any that it has travelled before.⁴

Rossi’s drawings are an extreme example of this phenomenon. Perhaps more so than any other major architect of the last fifty years, Rossi’s widely publicised drawings are a personal record of architectural inquiry. With Rossi, the drawing is not only concerned with the hand, it is the presence of the hand - its tactility, speed, and momentum – that invests in his work a vitality and immediacy that have become the characteristics of his drawing style. We might say that for Rossi architecture and drawing, and the drawing of architecture, are one and the same. Discussing Rossi, Rafael Moneo makes the point that discussions of architecture are discussions of architectural representation. While building cannot be separated from an act of building, architecture can be, and is, treated as parallel to the act of architecture.

Rossi has made an enormous effort, especially in recent years, to give testimony to his architecture through drawing and this has led his drawing to a true anticipation of his work. We cannot be surprised by this, for if we admit that architecture is nothing but representation, then a building is the same as a drawing. But to admit that architecture is representation radically modifies the traditional use of drawing by architects. Traditionally, drawings have been a foreshadowing of what would be the reality of the built work; the architect thinks, designs, a reality that will be built later, and produces drawings as a simple representation of that later reality, in an attempt to facilitate for others the image of something that for him is no longer mysterious. Rossi uses drawing in quite a different way: since they are both representational, for Rossi drawing is on a par with building - it is the other face of the same reality. Thus the operation of building serves, if we reserve the terms, to materialize the drawing, to ‘make it real’.⁵

The act of architecture is an act of representation, which then organizes the construction of architecture in a built sense. Aldo Rossi’s drawings inhabit the limits of this relationship. This is particularly true of Rossi’s subject matter. Where conventional architectural drawing operates within strict subject parameters defined by a pictorial relationship to ‘building’, Rossi’s drawings frequently challenge the boundaries of architecture’s representational objectivity by including subject matter that evokes a much wider spectrum of pictorial experience. For example, in his 1993 image, *Il natale di Diana*, a conjunction of elements collide in a domestic scene: hand, coffee pot, glasses, dog, door, picture. [Figure 6] Yet these images remain related to architecture, or at least the problem of architecture. Against the authority of codified architectural representation,

⁴ Adjmi, M. and G. Bertolotto, Eds. (1993): 15.

⁵ Moneo, J. R. (1985): 314.

it would be easy to dismiss the inclusion of common domestic artefacts as marginalia designed to 'accessorise' the primary emphasis of architecture as edifice. Yet to do so

Figure 6



Aldo Rossi
Il natale di Diana
1993

with Aldo Rossi's drawings would be to jettison much of the richness of his architectural vision. Within the institutional space of the compositional frame all material is given some equality through its inclusion. To differentiate between classes of information on the premise of representational (that is illusional) illustration is to forcibly narrow the parameters of Rossi's architectural signification, and therefore also possibility. Addressing the significance of the trivial, Susan Stewart has identified a tendency to cast the marginal from the centre (the place of authenticity, sincerity, and consensus), to live the abstraction of the 'second-hand.' These are the signs of an architecture which has been made peripheral through the centralised dominance of familiar convention. Against the hegemonic authority of plan, section, elevation, etc., other forms of notation, whether biographic, narrative, analogous, or metaphoric, become secondary and marginal. This second tier of graphic language - what we might call the 'dead' part (spectre) of the drawing - remains a division of the rhetoric of signification, and its suppression should be seen as an important insight into the ideology of the representational system of architecture. That is, with the base desire for architecture to withstand the test of time, so too comes the desire for the architect to exceed his or her own mortality.

Yet the sign, whether stressed or suppressed, historically conscious or unconscious and thus potential, is put into play by its position among differences; like narrative, it is a gesture toward, and therefore against, death. We saw in the lived experience of sexuality a referent with no representation. Analogously, in the subject's desire to experience mortality is issued the simultaneous desire to belie the content of that mortality and hence transcend it: to produce a representation with no referent - each sign as a postcard from the land of the dead, and on the other side, the longing mark that is the proper name.⁶

The hegemonic authority of traditional architectural drawing, based in orthographic projection, is structured around limits defined by Cartesian geometry. Principally, architectural drawing is not permitted to discuss anything outside of rational objectivity – what Derrida calls the thread of the mathematical object – and seeks to exclude all observed subjectivity.⁷ Yet the fundamental character of Rossi's *Il natale di Diana* is wholly subjective. If there is an architecture in this drawing it is one made implicit rather than explicit. Here the rational tangibility of architectural drawing is suppressed in favour of a more abstract and calculated effect:

Following Kahn's experiments with lines and color on paper and the complex merging of varying traditions of architectural history, architects today are designing conceptual drawings. One of the most important architects continuing this tradition is Aldo Rossi. In Rossi's design for a cemetery in Modena of 1977, squares and pyramids are at the center of his attention as primary forms filled with the accumulated meaning of earlier traditions. Beyond the continuation of historical motifs, new dimensions are added and experimented with in sets of

⁶ Stewart (1993): 173.

⁷ Derrida, J. (1978).

*architectural drawings in which present needs and the canonical laws of the past are reconciled. This character of merging the past with the present is also visible in drawings for other buildings by Aldo Rossi, such as those for a residential quarter of 1973 in which a powerful juxtaposition of blocks of color in a volumetric arrangement defines spaces in a humanitarian ensemble. Rossi's drawings have been given additional expressiveness by means of color and volume and the incorporation of these elements which, since Boullée and Giorgio de Chirico, have infused architecture with a poetic imagery.*⁸

Kultermann's attention to the poetic qualities of Rossi's drawings is critical to understanding the discursive and oblique criticism these drawings stimulate. Rossi does not so much use colour as abuse it. Watery colour floods through images such as *Il natale di Diana*, leaving behind a stained memory. But colour is only one part of the complex system of representational inquiry in effect in Rossi's work. Where traditionally architectural drawing has relied upon codes of technique, convention, and precedent, Rossi's architectural drawing persistently challenges these same protocols. The issue of staining, pertinent to the actual application of colour to Rossi's drawings, is no less figuratively relevant to the challenge these same drawings make to architectural drawing as a discourse.

Interior of the theatre of the world

[Rossi's] drawings are a particularly clear distillation of the 'leitmotiv' (and the peculiarity) of his work. In a wide range of media and techniques they are all exploring but one thing: the possibility of combining a handful of elementary forms, archetypal elements which make up the repertoire of architecture per se. The general and the generally applicable are combined with autobiographical motifs, and these in turn are sublimated to abstract emblems through reduction and repetition.

Vittorio Magnago Lampugnani⁹

It may be tempting to dismiss those drawings by Rossi that do not directly (which is to say literally) address a translation to built form as a diversion of the architect into painterly techniques or biographical recordings. Where conventional drawing maintains the external nature of representational responsibility - the projection 'out' and 'on to' - Rossi creates internal environments of dialogue that challenge the unreality of space, and in the place of pictorial representation he constructs self-referential worlds whose responsibilities to architecture are allowed authority. Rossi's drawings are not clear projections of a Utopian spatial representation. Within the discipline of architecture they are much more akin to what Foucault has called 'heterotopias', and thus reside in parallel to a projected architecture, and as its conscience as a counter-site of drawn representation:

⁸ Kultermann, U. (1987): 76.

⁹ Lampugnani, (1982): 17.

There are also, probably in every culture, in every civilisation, real places - places that do exist and that are formed in the very foundation of society - which are something like counter-sites, a kind of effectivity enacted utopia in which real sites, all the other real sites that can be found within culture, are simultaneously represented, contested, and inverted. Places of this kind are outside of all places, even though it may be possible to indicate their location in reality and speak about, I shall call them, by way of contrasts to utopias, heterotopias.¹⁰

As a counter-site, Rossi's drawings no longer seek to establish their authority in a realm of constructed authority beyond the representational domain, but rather posit the drawing as a speculative realm with its own spatial parameters. They have become heterotopias of deviation in reaction to traditional drawing.¹¹ For this reason Rossi adopts strategies of representation normally excluded by a conventional architectural drawing program. The presence of self-referential material, the allegorical, narrative, biographical, and scalar juxtaposition, all seek to reposition the dialogue of architectural drawing away from a projected and objective external world, and onto a subjectified one internally organized. The purpose of this shift is to re-authorize architectural drawing as a conceptual spatial site rather than simply a representational spatial one. In this way Rossi's drawings become real sites of architectural speculation, which, significantly, construct their own space of architecture. These works cannot be interrogated with traditional techniques since they already question the visual metaphoric relationship between the drawing and the building. They require a shifting of the representational spatial realm. The disruption to the representational language of drawing in Rossi's work should not be mistaken as an isolated fracture, but instead be placed within the context of an ongoing polemical discourse within architecture that began with Giovanni Battista Pionese, and involves Jean-Jacques Lequeu, Étienne-Louis Boullée, the De Stijl and Constructivist movements, Situationist influenced architects such as Bernard Tschumi, and more recently Peter Eisenman, Daniel Libeskind, Zaha Hadid, and Nigel Coates. Each has manipulated the representational syntax of the day in order to re-evaluate the limits of architectural representation, and thereby initiate change. Similarly, each has also attempted to advance the program of architecture from within the discourse of representation, and in doing so has emphasized the drawing as a site of analogous spatiality (not simply metaphorically).

¹⁰ Foucault, M. (1986): 24. Many of the projects by Rossi are examples of Foucault heterotopias; cemeteries, theaters, schools, stages - all represent 'types' of heterotopia. Architectural drawing is also an active agent in the social construction of such institutions. Robin Evans has recounted the development of the modern prison as being obliged to architectural drawing. As Evans explains it plans, sections, and elevations make it possible to 'see' the building in three particular ways. Firstly, they offer a view from a distance while still being able to gauge the building's multifarious internal workings at a glance; secondly, they enable an abstracted and privileged vantage point from which the building may be surveyed as if it were a dissected body; and thirdly, drawings allow this scrutiny to take place before construction. It is this final speculative condition of drawing that Evans cites as pivotal to the separate institutional identity of the modern prison. Prison design is able to follow pre-conceived formal and rigorous geometries that have been prepared for Justices of the Peace as clients rather than gaolers. Evans, R. (1982).

¹¹ "In the so-called primitive societies, there is a certain form of heterotopia that I would call crisis heterotopias. . . . But these heterotopias of crisis are disappearing today and are being replaced, I believe, by what we might call heterotopias of deviation: those in which individuals whose behavior is deviant in relation to the required mean or norm are placed." Foucault, M. (1986): 24-25.

Rather than undermine the importance of drawing as a representational realm, these ruptures reinforce the power of drawing to operate as a spatial entity in its own right, one able to change and evolve and consequently advance the practice of built form rather than be subjugated to traditional representational authority. In this Aldo Rossi continues a counter-tradition of representational development of heterotopian rather than utopian values, that form the very foundation from which new traditions of representation are 'drawn'.

This is the case with the principle Rossi image I wish to discuss here, *Interno con il Teatro del mondo* (Interior of the Theatre of the World, July, 1981). [Figure 7] In this drawing there is no clear delineation of subject, technique, or system. It broadly depicts a set of architecturally informed objects set in a diorama, against the wider presence of architectural drawing as orthodoxy. The drawing itself is composed of a foreground tabletop against a papered wall. On the table surface rests a packet of cigarettes, a drinking glass, a glass jar with lid, and at its far edge, models of Baldassare Longhena's church of Santa Maria della Salute. Mounted on the wall behind are two framed images; in the upper right a nun holds a bible, and in the middle left a drawing of Rossi's own *Il Teatro del Mondo* (1987). The floral patterned wallpaper dominates the background visual field. On the surface none of this imagery satisfies expectations of architectural drawing. There is no immediate object of translation or projection, no clear regard for the conventions of representation, nor any defined limits offered for a correct 'reading'. Yet it is also difficult to dismiss this image as not architectural; it comes from the hand of an established practitioner and theorist, it evokes an architectural vocabulary, but perhaps most significantly, it asserts an architectural imperative. The floral background serves to illustrate this. It bears an evocative, if not attributable, similarity to the wallpaper designs of William Morris, a reference that seems appropriate to Rossi's socialist view of the city and Morris's longing for pre-industrial social conditions. [Figure 8]

Fiona MacCarthy, discussing William Morris, identified one part of his uniqueness as his ability to draw, or as she puts it, as having "learned to articulate his gazing."¹² Indeed Morris was to consider drawing as the necessary basis to any training in design. Morris ascribes to his powers of observation:

*. . . that exhilarating sense of space and freedom which satisfactory architecture always gives to an unanxious man who is in the habit of using his eyes.*¹³

Furthermore, MacCarthy suggests that it was Morris's childhood experience of churches that principally influenced his interest in painting:

. . . launching him into little visionary passages: in one unfinished story Kilian, drinking from the fountain, sees men and women thronging 'clad in albes of white

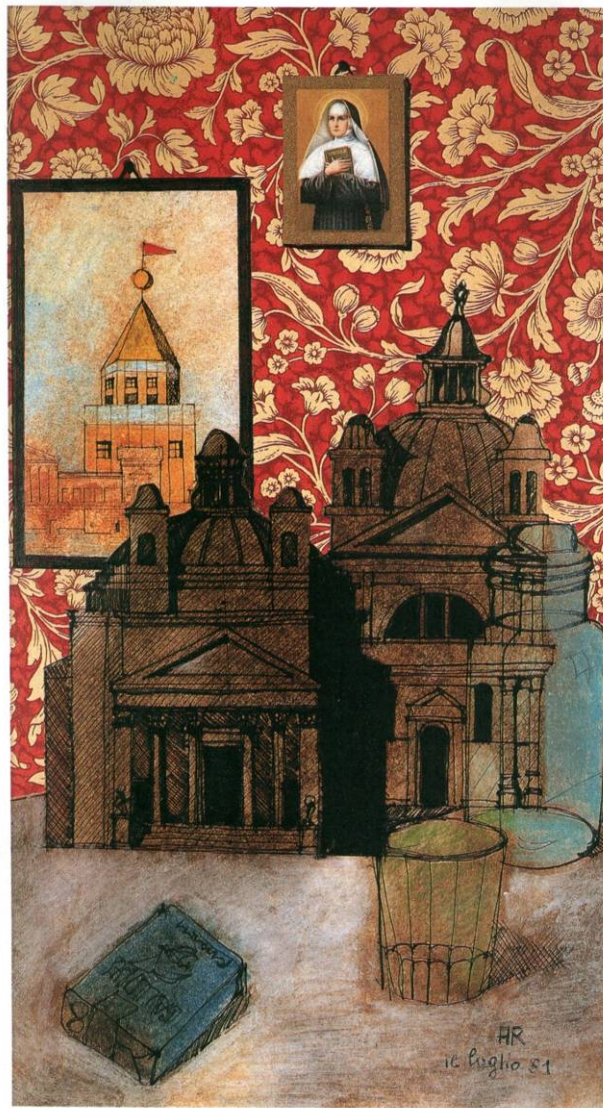
¹² MacCarthy, F. (1994): 18.

¹³ Morris quoted by MacCarthy, F. (1994): 18.

*and sky colour, and rosy red, and fresh greens like to the angels painted on the walls about the high alter in the church of St. James by the Water*¹⁴

¹⁴ MacCarthy, F. (1994): 18.

Figure 7



Aldo Rossi
Interno con il del mondo
1981

Figure 8



William Morris
Chrysanthemum
1877

By 1865 Morris had become disillusioned with painting and with the exception of a brief amateurish stint in the 1870s did not paint again. Morris's own assessment of his talent is a telling intimation of his visual acumen:

*I should have painted well as far as the execution is concerned, and I had a good sense of colour; but though I have so to speak the literary artistic memory, I have not the artistic memory: I can only draw what I see before me, and my pictures, some of which still exist, lack movement.*¹⁵

This lack of movement is the quality that characterises Rossi's *Interno con il Teatro del mondo*; this image is a still life. It also seems significant that Morris identifies the defining moment as occurring in an ecclesiastical environment as this might account for the presence in Rossi's drawing of the framed nun and modelled churches. This picturing is exposed in the *teatro* as a literally framing as if the view were caught in a window, or as though the image were the window, in the tradition of ecclesiastical stained glass that inspired William Morris. Norman Bryson has argued with reference to the stained-glass windows of Canterbury Cathedral, that their visual splendour is always in the service of the narrative they were intended to illustrate:

*The window displays a marked intolerance of any claim on behalf of the image to independent life. Each of its details corresponds to a rigorous programme of religious instruction . . . Images are permitted, but only on the condition that they fulfil the office of communicating the Word to the unlettered. Their role is that of an accessible and palatable substitute.*¹⁶

This is only one version. The patterned wall also bears comparison to the boldly coloured and decorative textiles of Bohain, France, that were to have such an influence on Henri Matisse, and which are reproduced in many of his paintings.¹⁷ [Figure 9] According to Hilary Spurling, for Matisse these fabrics presented a graphic opportunity to challenge traditional representational obligation and instead experiment with the very problem of vision:

*Flowered, spotted, striped or plain, billowing across the canvas or pinned flat to the picture plane, they became in his work an increasingly disruptive force, destabilizing the old laws of three-dimensional illusion.*¹⁸

Rossi's patterning is in turn Matisse-like, and evokes those decorative systems that have no place in a conventional architectural drawing – secondary ornamental features of architecture should be relegated to a subservient position behind the 'properly' architectonic elements of space, form, and structure. The dominance of the colour red

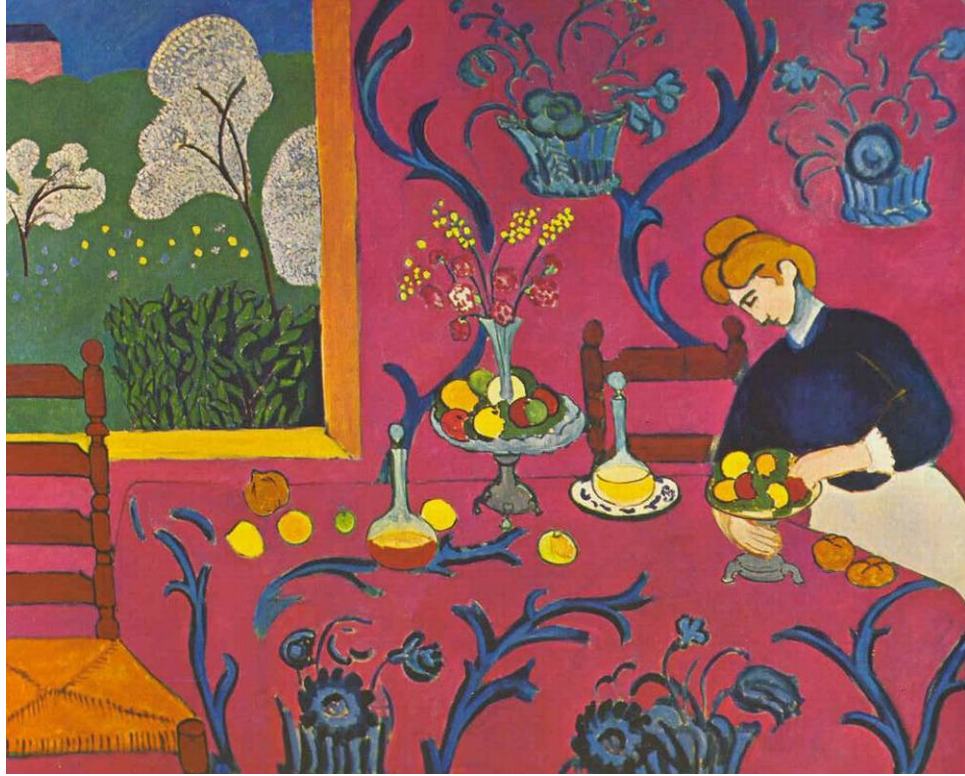
¹⁵ William Morris quoted by MacCarthy, F (1994): 181.

¹⁶ Bryson, N. (1981): 1.

¹⁷ Spurling, H. (1998).

¹⁸ Spurling, H. (1998): 122.

Figure 9



Henri Matisse
Harmony in Red
1908-1909

parallels Matisse and brings to the fore ornamental conditions of pattern and decoration. Bois has written that for Matisse the result is to register in the image an emotional charge through colour relations.¹⁹ Similarly in the image *Interno con il Teatro del mondo* there is an emotional presence. It is clear from the presence of information pertinent to Rossi's personal experience that this is not simply an objective representation but a biographical one. Yet the inclusion of this material is also a significant element for constructing an architectural presence, as it reiterates that lived experience is defined by architectural and architectonic reference.

The whole image of *Interno con il Teatro del mondo* reads as a form of architectural communication, but where architectural drawing typically attempts to present one project or building, Rossi here uses drawing to represent the very problem of architecture (or at least his own account of that problem). For architects, the drawing is a communicative device carefully organized around the notion of the 'unlettered', which Bryson finds in Canterbury Cathedral. While architectural drawings do contain written words – lettering, notation, titling – these are subservient to the graphic component which organizes the image. Rossi's signature and the date are the only legible script on *Interno con il Teatro del mondo*, and they mark the completion of the image. Rossi provides an architectural allegory tempered by memory and experience, of which much (although not all) is that of an architect. This is the point where this image is observable as a drawing and not a painting. Heinrich Wölfflin describes the difference:

The great contrast between linear [drawing] and painterly style corresponds to radically different interests in the world. In the former case, it is the solid figure, in the latter, the changing appearance: in the former, the enduring form, measurable, finite; in the latter, the thing in its relations. And if we can say that in the linear style the hand has felt out the corporeal world essentially according to its plastic content, the eye in the painterly stage has become sensitive to the most various textures, and it is no contradiction if even here the visual sense seems nourished by the tactile sense - that other tactile sense which relishes the kind of surface, the different skin of things.²⁰

The information presented by *Interno con il Teatro del mondo* – glasses, models, pictures, etc. – is not held in a pictorial relationship but an experiential one. These objects are not to be understood as purely visual phenomena but as a set of experiences defined by tactility. This tactility parallels the tactile imperative found in traditional architectural drawing in the form of the translation to building. For the modern architect the act of constructing on the drawing board is an abstract proxy of the direction given by a master mason during the guild tradition of building construction.²¹ In the Medieval practice the

¹⁹ See Bois, Y. (1994): 61-122.

²⁰ Wölfflin, H. (1929): 27.

²¹ Fawzy, O. N. (1991).

master mason directed the construction of a building with a ‘hands on’ direction.²² By comparison the architect who draws touches only the page and the pencil, and it is these that in turn ‘touch’ the direction of construction. Rossi references the distance of touch throughout his drawings by the inclusion of objects that are touched compulsively. He alludes to the fact that this might be the case in the foreground imagery of *Interno con il Teatro del mondo*, where the cigarettes and drinking glass refer to activities not only of touch but also of smell and taste. To this end the parchment-like quality of the tabletop is evocative of a skin onto which these experiential references are incised. *Interno con il Teatro del mondo* is not a painting but an architectural drawing that challenges the ability of any architectural drawing to convey the complexities of architectural experience by emphasising the difference between visual and tactile phenomena Kultermann notes that:

*In a sense, architectural drawings and the completed buildings are two levels of reality, each pointing to the other. In this interpretation the architectural drawing is a tool in the hand of the architect and cannot be seen in the same light as the building it is supposed to envision.*²³

Thus the tabletop, with its whitened palimpsest surface, shifts between readings as dirty tablecloth and whitewashed wall, and brings to mind Alvar Aalto’s term for the first sketch - “the white table.”²⁴

²² Harvey, J. (1971).

²³ Kultermann, U. (1987): 77.

²⁴ Alvar Aalto “The White Table” from *Alvar Aalto, Projekt und Ietzte Bauten*, Zurich (1978) quoted in Hewitt, M. (1985): 3.

Aldo Rossi: the signature of the architect

Guenter Lehmann has argued that in order for Rossi's drawings to be properly understood we need a wider appreciation of his preference for the formal manipulation of monumental geometries that evoke individual and collective memory. The architectural drawing offers a site of experimentation where Rossi can play with a basic language of archetypal forms in a variety of architectural propositions. Lehmann's argument (following Eisenman and others²⁵), accounts for the genius of Rossi as residing in his ability to arrange a relatively simple (if traditional) palette of Platonic forms into a sustained architectural dialogue through skilled and subtle shifts.²⁶ Following this line of thought, the drawing becomes a speculative site for the development, exploration, and recoding of typological experimentation without breaking with conventional representational responsibility.

Rossi manipulates typology as a means towards regulating the relationship of architecture to society.²⁷ It is this same emphasis on architectonic 'type' that allows Lehmann to account for Rossi's inclusion of domestic or everyday objects that can be said to be outside the normal parameters for architectural description. Similarly, Rafael Moneo notes the connection between the typological observations Rossi makes of the city, and the iconographic presence of the domestic everyday in his drawings:

It is not by chance that in one of his drawings, 'Domestic Architecture,' architecture and things are found coexisting. As if they were the elements of a still life, a cup, a coffeepot, a fork, and a bottle are mixed on the same plane with images of Gallaratese, with towers, with chimneys, with factories, without time, without place. Architecture is installed anyplace by virtue of the principle of analogy. Mimesis and analogy thus enter into an intimate and fertile contact, populating the world of architecture, the world of all those artifacts we designate as houses, schools, temples, bridges, or factories and that constitute the environment for man's business as a builder. The mimesis of the known allows for an infinite display of architecture, and I might even say that in admitting the concept of analogy, mimesis is better understood insofar as it is a reproduction of that which already exists. It is hard to think of mimesis, even in classical terms, without being aware of the existence of a world of recognized and conscious fiction, a world not very different from that which Rossi labels analogical.²⁸

²⁵ Lehmann's argument does rely heavily on monograph commentaries on Rossi by key contemporary writers. The most important of these is Peter Eisenman whose early support of the then largely unbuilt work of Rossi pioneered his introduction to America and a wider appeal. See Eisenman, P. (1979): 4-15. Others include: Moneo, R. (1985); Adjmi, M. and G. Bertolotto, Eds. (1993); and Ratcliff, C. (1993).

²⁶ "Rossi's drawings argue in their oblique, undidactic way that meaning is the individual's responsibility. Whether drawn or built . . . architecture offers occasion for figuring out meaning for oneself." Ratcliff, C. (1993): 15.

²⁷ "Ultimately, we can say that type is the very idea of architecture, that which is closest to its essence. In spite of changes, it has imposed itself on the 'feelings and reason' as the principle of architecture and the city." Rossi, A. (1982): 41.

²⁸ Moneo, R. (1985): 314.

In Rossi's pictorial work mimesis is presented as the active agent of slippage between the macrocosm of urbanity and the microcosm of domesticity, transposing the typological values by bringing into doubt the scalar relationship of this dialectic. In the drawings *The Fork of Man* (1980) [Figure 10] and *Architettura domestica e urbana* (1975) [Figure 11] Rossi transposes an image of a coffeepot with more conventional architecturally represented forms to produce two distinctly different solutions to the problem of the scalar juxtaposition of a domestic object and a tectonic form.²⁹ In the first image the architecture has been brought forward to the coffeepot. The suggestion of a horizon line in the background is countered by the foreground presence of a cup and fork so that the plane upon which the comparison is taking place is not tectonic but domestic - the surface of a table. The comparison is possible through the reduction from a drawing to a drawing of a model where the coffeepot should be understood as full-size and 'proper'. Against this, Rossi alters his hatching style to provide a manipulative reference between the coffeepot itself to compositionally enhance the typological relationship between the pot and the model. Architecture has become domesticated, and is therefore intimately involved with the passage of the hand.³⁰ In the second image Rossi utilizes the authority of architectural convention to displace familiar readings. Following an earlier image of the S. Carlone,³¹ the coffee pot is presented in a strict elevation so that it is immediately surrendered to a convention of architectural representation, and as such begins to lose its independence as an identifiable domestic object that is normally recognized through its scale and domestic function. Once the elevational view has been established as the dominant organizer for the coffeepot, the sectional view is introduced to further architecturalize the coffee pot by revealing the hidden space within. In this way the coffeepot is made large enough to be inhabitable, and the domestic has become architecture. This questioning of scale is a fundamental strategy of Rossi's iconic canon. The effect of his scalar distortions is double-edged, and in many of his drawings domestic objects are empowered as monumental architectures just as others produce iconographic built objects. Recognising the transformation of this Portoghesi compares Rossi to an alchemist:

*Sometimes, buildings, under the alchemist's spell, lose all sense of scale; they appear to be the same size as a coffee-maker or coffee pot because they are representing ideas and ideas don't have dimensions; they can't be measured or quantified.*³²

²⁹ Rossi, A. (1979): 24.

³⁰ Raoul Bunschoten has alluded to this relationship where he writes: "We constantly move things around with our hands, consciously handle instruments. playfully move things, arrange and rearrange objects. The movement of the hand, especially the way we handle domestic items, becomes a template the moment we are imagining quasi-random clustering and movements on a large scale The making of a model (exhibit, monster) links the hand to the imagination, it becomes an instrument involving technique as a kind of inchorate thought process relating to axioms set by the body and its biochemical make-up." Bunschoten, R. (1992): 40-49.

³¹ *Composizione con S. Carlo-Cittè e moumenti* (1970). Adjmi, Morris, and Giovanni Bertolotto, eds. *Aldo Rossi: Drawings and Paintings*. New York: Princeton Architectural Press, 1993: 95.

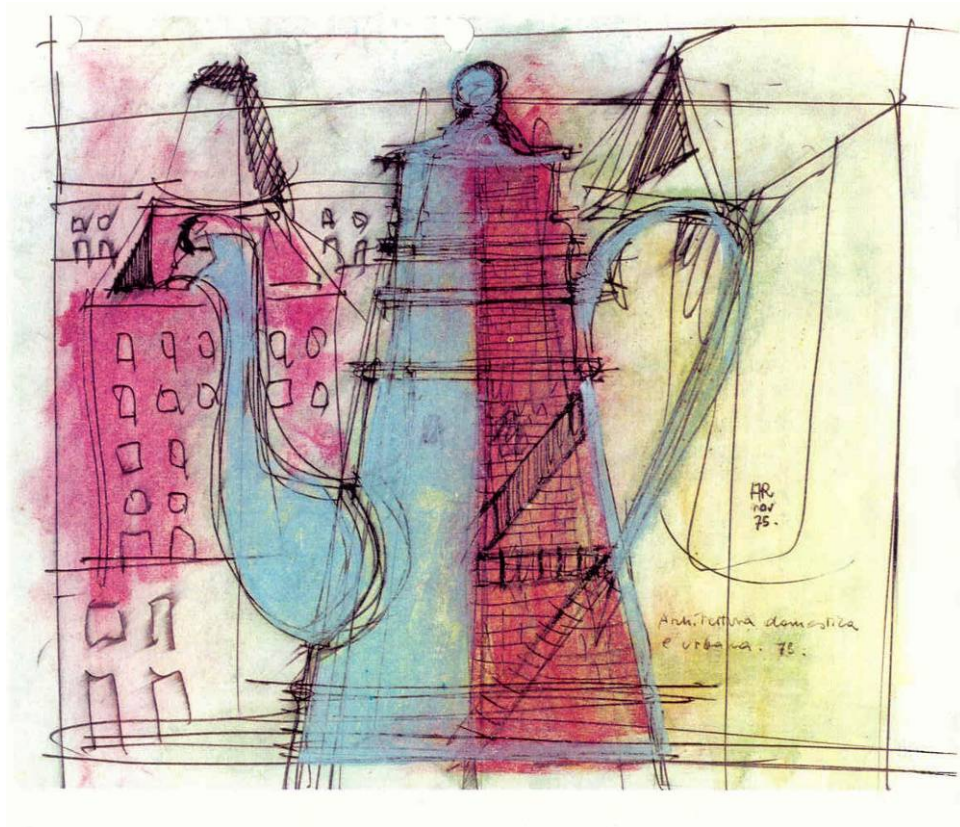
³² Portoghesi, P. (2000): 9.

Figure 10



Aldo Rossi
The Fork of Man
1980

Figure 11



Aldo Rossi
Architettura domestica e urbana
1975

Presented in this way, the miniature and the gigantic sanction the typological shift between domestic object and architectural object. Lehman's typological argument demands that items like the coffeepot (or in other cases cigarette packets, drink cans, or an apple) need to be understood solely in Platonic terms; truncated cones, rectilinear volumes, cylinders, spheres. This association demands that the resonance of these objects contains no impurity that would otherwise challenge the strict geometrical rationale that maintains the argument of 'type'. Rossi himself supports such a claim in his own version of the introduction of domestic objects:

I have always had a strong interest in objects, instruments, apparatus, tools. Without intending to I used to linger for hours in the large kitchen at S., on Lake Como, drawing the coffeepots, the pans, the bottles. I particularly loved the strange shapes of the coffeepots enamelled blue, green, red; they were miniatures of the fantastic architectures that I would encounter later. Today I still like to draw these large coffeepots, which I liken to brick walls, and which I think of as structures that can be entered.³³

Rossi immediately seeks to associate the coffeepot with that genre of device whose functionalism precludes personalization, or personal association: the apparatus, the instrument, and the tool.³⁴ And yet we should be careful not to dismiss a coffeepot as merely utilitarian any more than we can accept it as purely spatial.³⁵ Coffee, after all, is not essential to human survival, indeed it could be argued to be both symbolically and consumptively representative of a civilized and cultured society (much like architecture itself). By using drawing to blur representational scalar distinctions, Rossi is able to liberate typological expression of a unique and idiosyncratic order. Moreover, he does this without the demands of actual construction since drawing offers a two-dimensional proxy in which to test out figurative relationships. The effect is to authorize the drawing above the building since it contains and realises the architectural intention, while the building provides a development but not an analysis. Rossi's drawings are legitimised as sites of architectural invention and intervention. This is particularly true of his sketchbook drawings. While for most architects the sketchbook is a quite marginal aspect of their representational recordings, for Rossi it is the sketchbook - with its mix of biographical, emotional, typological, and figurative notes - which offers the clearest insight into his architecture:

³³ Rossi, A. (1981): 2.

³⁴ It is worth noting here Ledoux's lithograph, 'The Instruments of the Draughtsman' which makes the case for the tools of architectural representation to be understood as neutral. It seems very likely that Ledoux recognized the irony in this image. Karen Stein recalls that Rossi referred to architecture as 'my trade' or 'my craft'. Such description of the profession of architectural immediately evokes the guild tradition and their tools so described in the lithograph by Ledoux. Stein, K. (1991): 269-271.

³⁵ "There, fantastically enlarged Coke cans, packs of cigarettes, coffeepots, utensils, etc. share, even dominant, architectural or urban scenes, being treated as volumes in space, as urban artifacts." Lehmann, G. (1999): 169.

A sign of Rossi's independence is his habit of keeping note books that convert architectural matters into thoroughly personal preoccupations. Rossi is an obsessive diarist. As his ruminations grew more labyrinthine, he started to clarify them with small sketches. Appearing first in notebooks he kept during the late 1960s, these private pictures led by the 1970s to the public ones later presented as an independent works of art. His career as an artist had resumed. His hand was faster now, led onward by his fascination with the grain of history and the persistence of its textures. Accelerating, his line grew thin as he learned to make the supple curves of a drawing like Gauloises Caporal 1971.³⁶ [Figure 12]

The sketchbook is a unique part of the graphic vocabulary of the architect. Where the term 'drawing' is often synonymous with the act and product of representation, the sketchbook defines the act and the collection. A sketchbook will contain a drawing, but it is always understood as a part of a body of drawings in a way that a grand presentation drawing is not. Furthermore the sketchbook is permitted a degree of autonomy and abstraction not afforded to the drawing. As a part of a collection, the sketchbook image does not rely upon a coherent and totalising inclusion in its representation to be recognised as architectural, and neither is it obliged to observe strict representational protocols. Thus the sketchbook is a site of architectural inquiry that is more expressive and immediate in subject, media, technique, and action. Fraser and Henmi describe it this way:

The experience of drawings is a surprisingly multi-sensual one, involving not only the sign of the mark made but also the tactility of a soft pencil drawn across textured paper, the sound of a pen scratching in a sketchbook, even the smell of ink or paper. Each drawing tool and surface has its own proclivities, engaging in a dialogue of action with the user.³⁷

Fixed between two covers the sketchbook is a profoundly less overt form of representation than any other in the architect's repertoire of techniques. It is a realm in which the architectural drawing is permitted to be emotive, experimental, discursive, and contradictory in a way that a presentation is not. This distinction relies on an absolute separation between the exterior realm of public exhibition typified by the presentation drawing, and an interior realm of personal inquiry found within the closed pages of the sketchbook. In images such as *Interno con il Teatro del mondo* there is a conjunction of exterior and interior communicants that obscures clear representational distinctions by challenging the objectivity of architectural translation. To this end Rossi's drawings can be understood as (externalised) sketchbook drawings.

According to Pertuiset, Le Corbusier interpreted bodily movement in drawing as a call for sensuality, which we must strive to allow our eyes to truly 'see' is in fact the

³⁶ Ratcliff, C. (1993): 13.

³⁷ Fraser, I. and R. Henmi (1994): 162.

sensuality of architecture.³⁸ But if Le Corbusier also ‘drew to see’, as he admits, then we should expect to find within his oeuvre this sensuality - or at least the desire for a it.

³⁸ Pertuiset, N. (1990): 7-13.

Figure 12



Aldo Rossi
Gaolises Caporal
1971

However, Le Corbusier does not appeal to the sensuality of the drawing hand, or its 'tools', but reluctantly identifies the site/sight of drawing as a corruption of interpretation. He wrote in *Précisions*:

*Now that I have appealed to your spirit of truth, I would like to give you architectural students the hatred of drawings. Architecture is created in the head.*³⁹

If architecture is created in the head then drawings become the necessary, if suspect, evidence that such a creation has taken place. Suspect because any failing in representational integrity, or systems of representation themselves, may cause visionary of architectural thinking to be undermined. Further, if the 'truth' of the architectural idea (that resides in the head) is only manifest at the point of drawing then it could be said that this 'truth' can only exist after drawing and not before it. All architectural drawing is a drawing of some pure conceptual 'truth' that is already corrupted because its very impurity insures it against further damage. Le Corbusier 'hates' drawings because they make manifest the failings of his architectural 'truth' by providing evidence of his architectural doubts.

For Le Corbusier the elements of modern architecture (pilotis, roof garden, horizontal windows, glass facade) are 'born' at precisely the moment they are seen by eyes, and are paradoxically made modern by such seeing. By seeing the 'birth' of modernity, or at least the birth of modernity's architectural typologies, our eyes become 'modern' so that they may see the modern event of architecture.

*Le Corbusier conceived architecture for the radical possibility to let our eyes 'see' in the very movement of body itself. In fact, Le Corbusier's oeuvre truly recalls the duality in which we live our lives: the ideal and the temporal, mind and body, the world 'in view' and the 'visual' world.*⁴⁰

It is this conjunction of ideal and temporal, mind and body, which Rossi continually evokes in those drawings where biographical references are present. Rossi challenges the hegemonic authority of the pictorial subject by coding into images such as *Interno con il Teatro del mondo* his own predilection for the cravings of smoking, drinking, worship, and particularly architecture as an art of making. It is these figures that disrupt simple relationships of mimetic presentation in Rossi's drawings by exploiting the inherent limits of representation to cope with non-visual information.

The typology of the everyday.

³⁹ Le Corbusier (1991): 111.

⁴⁰ Pertuiset, N. (1990): 10.

The authentic problem for Rossi is to retrieve the origins of the architectural sign. The return to primordial forms renews the act of classical renunciation; as an ultimate appeal to reason and to memory, the cone, tetrahedron, cylinder, prism and triangle grant an order to those signs which have been devoid of any meaning.

Manfredo Tafuri⁴¹

I would like to look closer at this precedent for the inclusion of biographical objects by examining Claude Gravot's 1929 photograph of the Villa Savoye at Poissy-sur-Seine [**Figure 13**], in which the image of the architecture is prefaced by a compositionally truncated table containing a series of items placed there by Le Corbusier himself. The common reading of this set-piece holds that the objects provide a key to interpretation of the scene being played out in front of us.⁴² The objects, in this sense, become denominators directing our reading of the architectural subject through a series of clues; as masculine (hat), international (parcel wrapped for postage), or in the case of the glasses perhaps of interior scholarship (reading glasses) or exterior health (sun glasses). However, these objects as signature *objets types* not only contextualise the International Style ideology of the Villa Savoye, they also read as personal items of Le Corbusier himself. If these are his very famous glasses then we are made aware that he must, in fact, be at the scene of the photographic exercises. Indeed, the photograph over the truncated table implies that the photographer was, if not seated, then at least standing at the head of the table.⁴³ It might then be understood as the scene from Le Corbusier's own drawing table. His vision (as symbolized by the glasses) having given rise to the masterpiece of the Villa Savoye over the drawing board of the table. For Le Corbusier vision was more than simply a metaphor for drawing; it was the principle metaphor for architecture

⁴¹ Tafuri, M. and G. Teyssot (1982): 16.

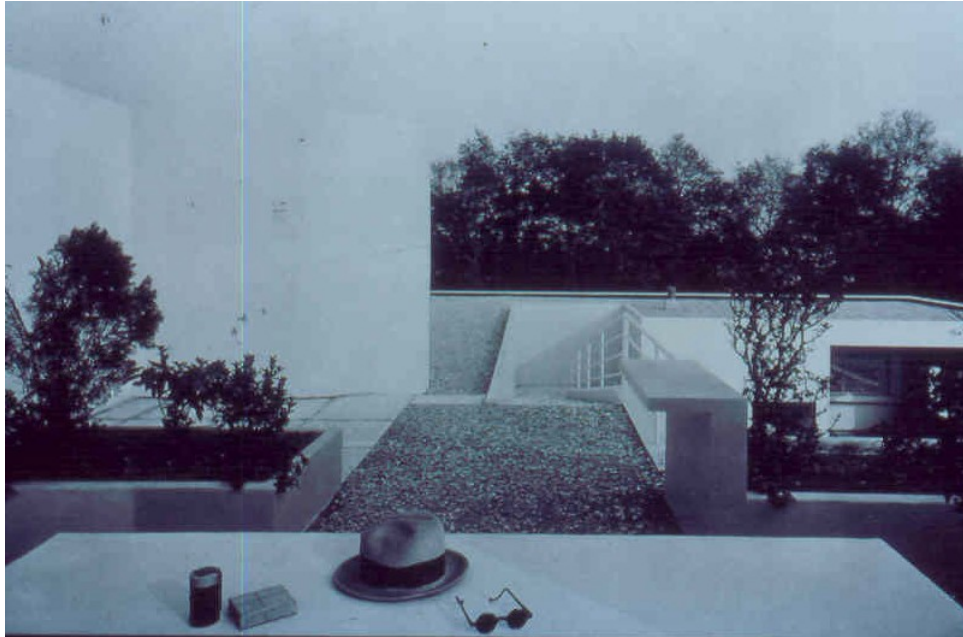
⁴² Robinson, C. and J. Herschman (1988): 115. Robinson and Herschman argue that the inclusion of these objects by Le Corbusier was the moment of invention but that the intention was uncertain and the reception less than enthusiastic. They note that a second photograph was taken with the objects nearer again to the camera, and that this picture was reproduced in *L'Architecte* (January, 1930) with the items cropped out. Given Le Corbusier's life-long fully shaven appearance, it is interesting to note Le Corbusier's contemporary, Bernard Rudofsky's description of facial hair as an 'unprofitable burden' that upon its removal must be compensated for in other ways. Hence the 'ornamentalsing' of the masculine face with pipes and eyeglasses, "which fit his moods and his exaltation in a more precise way." Rudofsky quoted in Scott, F. (1999): 70. The extension of Rudofsky's argument is the fetishism latent within modern society that was explicit in savage ones. See Bernard Rudofsky, *Are Clothes Modern? An Essay on Contemporary Apparel* (Chicago: Paul Theobald, 1947).

⁴³ Rossi acknowledges photography as a device for capturing biographical material: "I could speak of my relationships with cities just as I do my relationships with people, but in a certain sense the former are richer because they also include people. This is particularly true when a certain event has occurred in a city. These relationships become fixed in a memory, and memory soon becomes symbol: for example, before the present tourist boom, there used to be yellowed photographs of honeymoons, generally spent in Venice, which could be seen decorating the sideboards of kitchens or living rooms. These points of connection between personal and public history have always appeared to me laden with significance. Today I love to collect albums of these photographs, which, however, have become devalued as a result of those glossy manufactured photographs of commercial publishers which we find so distasteful." Rossi, A. (1981): 62.

generally. In the *Oeuvre Complète* Le Corbusier describes the function of the eye as distinctly modern - a modern eye for a modern architecture.⁴⁴ The Villa Savoye (like

⁴⁴ “You enter: the architectural spectacle at once offers itself to the eye; you follow an itinerary and the views develop with great variety; you play with the flood of light illuminating the walls or creating half-lights. Large windows open up views on the exterior where you find again the architectural unity. In the interior the first attempts at polychromy . . . allow the ‘camouflage architectural,’ that is, the affirmation of certain volumes or, the contrary, their effacement. Here, *reborn for our modern eyes*, are historic architectural events: pilotis, the horizontal window, the roof garden, the glass facade.” Le Corbusier quoted in Colomina, B. (1994): 5. Italics added.

Figure 13



Claude Gravot
Villa Savoye at Poissy-sur-Seine
1929

much of Le Corbusier's oeuvre) is intended to be understood as an architectural spectacle. The presence of still life objects in period photographs represent another facet of the spectacle, but they are simultaneously scenes of absence evocative of loss:

*Various attempts by a renderer to inscribe a subject in the form of full-fledged replicas of people or mere scale figures, or to mark the scene with human tracks - a half-empty wine glass and an open book on a table in drawing by Le Corbusier - only make the distance between the observer and the scene more obvious.*⁴⁵

It would be a similar mistake to disassociate Rossi from the objects he introduces into many of his architectural drawings, or to account for their presence as merely artefacts of 'type', as Lehmann does. In fact, there is a human frailty drawn into these objects that should be considered. This is evident in the Rossi image published by Ferlenga, *Una lettera*, 1990.⁴⁶ [Figure 14] Superficially, the image depicts a view of a figure with a letter over a table. The background reveals a domestic kitchen scene, and through the open window a montage suggests an urban setting. Surrounding the figure, on the tabletop there is a full catalogue of Rossi's *objet types*; the ubiquitous coffeepot and cup, cigarettes and an ashtray, a bottle (recognizable by shape as that of Absolut vodka) and an accompanying glass. These everyday objects threaten to undermine the authority of Rossi's rationalist architecture with their prosaic qualities. However, it is through this corruption of pure formalism that Rossi begins to articulate a more personal position.

*Against this rationalism is played the store of autobiographical information: the things he has seen and remembered, which alter the system and enrich without destroying it. This idea that the tools of the architect consist of learned facts, theories and systems, combined to understanding the work of Aldo Rossi.*⁴⁷

Architectural drawing, whose primary function is to project temporality forwards rather than backwards, does not easily accommodate memory. Within architectural discourse memory is institutionalised as architectural type, and is therefore conditioned by architectural history. With Rossi the hegemony of architectural history as a singular account is replaced with a pluralistic discourse of histories, which include authorised versions of the built form, but also domestic, personal, and narrative histories. Within this dreamscape memory plays an important role of filtering the significant from the mundane. Rossi has noted that observation becomes transformed into memory:

Now I seem to see all the things I have observed arranged like tools in a neat row; they are aligned as in a botanical chart, or a catalogue, or a dictionary. But this catalogue, lying somewhere between imagination and memory, is not neutral; it

⁴⁵ Lerup, L. (1985): 39-38.

⁴⁶ *Una lettera*, 1990. Ferlenga, Alberto. *Aldo Rossi: Architetture 1988-1992*. Milano: Electa, 1992: 344.

⁴⁷ O'Donnell, S. (1983):11.

Figure 14



Aldo Rossi
Una Lettera
1990

*always reappears in several objects and constitutes their deformation and, in some way, their evolution.*⁴⁸

One photograph of Rossi's studio shows a series of coffeepots (among other things) displayed above the fireplace.⁴⁹ [Figure 15] In this context the pot no longer has any utilitarian value having ceased to function in the making of coffee. Instead, the generic object of Rossi's drawing has become a personalized and identifiable possession belonging to Rossi and now attached to his taste and personality. He has alluded to this condition as a creative requisite.⁵⁰ In this way Rossi's inclusion of foreground objects in many of his drawings can be understood as an extension of the Phileban forms Le Corbusier manipulated as his *objets types*, and as with Le Corbusier, it is these which become the tools of the architectural drawing:

*There seems to be no doubt that Le Corbusier's incredible powers of observation are lessening the necessity for invention, and his travels around the world have stockpiled his vocabulary with plastic elements and objets trouvés of considerable picturesqueness.*⁵¹

The desire rooted in such objects, noted by Tafuri, is one of returning and origin, "it is necessary to return to the metaphysical, to reflect in the origin of being."⁵²

Drawing and the memory of loss

Adjmi and Bertolotto observe that in Rossi's early painting (1948-50) we find the same "distortions of space" that characterize De Chirico's *piazze d'Italia* series, a

⁴⁸ Rossi, A. (1981): 23.

⁴⁹ *Lo studio dell'arctitetto nel 1988*. In Ferlenga, Alberto. *Aldo Rossi: Architetture 1988-1992*. Milano: Electa, 1992: 10.

⁵⁰ "But the question of the fragment in architecture is very important since it may be that only ruins express a fact completely. Photographs of cities during the war, sections of apartments, broken toys. Delphi and Olympia. This ability to use pieces of mechanisms whose overall sense is partly lost has always interested me, even in formal terms. I am thinking of a unity, or a system, made solely of reassembled fragments. Perhaps only a great popular movement can give us the sense of an overall design; today we are forced to stop ourselves at certain things. I am convinced, however, that architecture as totality, as a comprehensive project, as an overall framework, is certainly more important and, in the final analysis, more beautiful. But it happens that historical obstacles - in every way parallel to psychological blocks or symptoms - hinder every reconstruction. As a result, I believe that there can be no true compensation, and that maybe the only thing possible is the addition that is something between logic and biography." Rossi, A. (1981): 8.

⁵¹ Sterling, J. (1975): 67.

⁵² Tafuri, M. and G. Teyssot (1982): 16.

condition they identify as occurring - literally - somewhere between the tight urban fabric and sense of loneliness.⁵³ [Figure 16] The presence of domestic objects in Rossi's early

⁵³ Adjmi, M. and G. Bertolotto, Eds. (1993): 161. Notes Scully: "Rossi's drawings are often truly paintings, richly environmental and atmospheric, drenched in tonal washes and an often melancholy of light. They explore the mysteries of remembrance, exactly as those of De Chirico did before them." Scully, V. (1981): 111.

Figure 15



Luigi Ghirri
Aldo Rossi's Mantle Piece
1982

Figure 16



De Chirico
The Mystery and Melancholy of a Street
1914

painting is attributed to Giorgio Morandi - with the observation that Morandi's still life's provide single elemental motifs that Rossi 'architecturalizes' through scalar and contextual change. In each case the iconic representational resonances evoke loss. The objects are from other places and other times, and the prevailing emotive response is one of melancholy and nostalgia. Rossi uses the architectural drawing as a palimpsest for his own history and experience. The authority of the architectural subject in the drawing is destabilized through the inclusion of qualitative rather than quantitative information. These are all *traits*, writes Susan Stewart, of the souvenir:

The souvenir is used most often to evoke a voluntary memory of childhood, a motif we find either in souvenirs, such as scrapbooks, of the individual life history or in the larger antiquarian theme of the childhood of the nation/race. This childhood is not a childhood as lived; it is a childhood voluntarily remembered, a childhood manufactured from its reawakening of a past. As an album of photographs or a collection of antiquarian relics, the past is constructed from a set of presently existing pieces. There is no continuous identity between these objects and their referents. Only the act of memory constitutes their resemblance. And it is in this gap between resemblance and identity that nostalgia arises. The nostalgia is enamored of distance, not of the referent itself. Nostalgia cannot be sustained without loss. For the nostalgia to reach his or her lived experience would have to take place, an erasure of the gap between sign and signified, an experience which would cancel out the desire that is nostalgia's reason for existence.⁵⁴

The sketchbook is the architectural version of the diary, where graphic observations and recollections replace written ones. Rossi's sketchbook images are a collection of fragments that may or may not have architectural referents - it is the role of the sketchbook within histories of the architect that validates it as a repository of architectural knowledge. Yet these 'relics' are not confined to the sketchbook. *Interno con il Teatro del mondo* is composed of souvenired elements: the combination of wallpaper, Catholic iconography, Venetian 'models', a framed picture of his own floating theatre, cigarettes. All these elements conspire to present a multifarious and contradictory layering of Rossi's own architectural memory. The empty, lidded glass vessel in the middle ground can be read as a metaphor for the whole work. It is a 'preserving jar' and it symbolically reflects the purpose of this drawing - to find a place in architectural discourse for improper material. The act of drawing can be seen as a system of preservation: one plagued by loss since those things placed within the drawings boundaries are located in a gap between resemblance and identity. In this way all architectural drawing is a nostalgic act. While nostalgia mourns a past loss, architectural drawing mourns an imminent loss - the very action of drawing makes a failure of the architect to manipulate the architectural project directly. For the architect the practice of architecture is always a 'giving away' of responsibility. The term 'projection' emphasises

⁵⁴ Stewart, S. (1993): 145.

this. The drawing, as an instrument of architectural projection, throws (draws) the work away from the architect.

Massimo Scolari and the architectural poetic

I believe drawn architecture to be a false problem. It can only be of interest as an erroneous response, symptom of an existing condition of confusion and disorientation.

Massimo Scolari⁵⁵

It is notable that since working with Rossi from 1968 to 1972, the drawings of Massimo Scolari's have persistently wrestled with the subject of nostalgia.⁵⁶ Vorreiter has commented on this influence:

He only sets up axonometric and oblique projections, depicting worlds in which nothing is diminished by perspective - which he despises - where objects lie parallel, creating the illusion of layered rather than deep space, as in traditional Japanese woodcuts.⁵⁷

Where Rossi's questioning is biased to the side of typological inquiry and orthographic information, Scolari unashamedly embraces the potential of the drawing to abandon rational inquiry, and instead to exploit the potential for fantasy held within architectural imaginings, the world of the architectural poetic.

Alberto Pérez-Gómez has observed that architecture has suffered in the last 200 years from an inability to reconcile the separation between the rational and the poetic.⁵⁸ This has occurred alongside the rise of positivism in the physical and human sciences where the 'truth' model of scientific functionalism has displaced the transcendental, which is only accessible through the realm of ambiguous poetics.

For many architects, myth and poetry are generally considered synonymous with dreams and lunacy, while reality is deemed equivalent to prosaic scientific theories. In other words, mathematical logic has been substituted for metaphor as a model of thought.⁵⁹

The rise of geometry as the conceptual tool of a post-Galilean society is analogous to the separation between theory (thinking) and practice (doing) in architecture. The architectural drawing, as an invention of Enlightenment geometry, organizes a separation between the poetic and the rational constituents.⁶⁰ The poetic becomes pure theory and

⁵⁵ Scolari, M. (1982): 39.

⁵⁶ Vorreiter, G. (1989): 34-37.

⁵⁷ Vorreiter, G. (1989): 36.

⁵⁸ Pérez-Gómez, A. (1983).

⁵⁹ Pérez-Gómez, A. (1983): 6.

⁶⁰ See Edgerton, S. Y. (1975).

the rational pure practice, and the thinking of architecture is maintained at a distance from its doing. This assists in understanding the difficulties surrounding the question of representation in Aldo Rossi's drawings. Much of the discourse surrounding Rossi addresses the typological nature of both his buildings and his drawings, and while Rossi himself supports a typological reading in part, he also advances more difficult motivations that include biographical, whimsical, or symbolic devices - that is he manipulates poetic referents of architectural meaning. This is most evident in his drawings where the codes and conventions of architectural representation are often distorted or broken to include this material. Yet, within a climate where formalism is favoured; the transcendental qualities of Rossi's drawings are easily subsumed by discussions of architectural type rather than symbolic ambiguity. The rise of the architectural drawing (with its technical rules) is inextricably linked to the emergence of vision as the dominant sense. In architecture this is best illustrated by the development of linear perspective with its emphasis on the eye. The drawing (despite its necessary tactile relationship between the hand and the page) advances a separation of theory from practice by giving priority to the 'truth' of the visual through conventions, while the tactile is suppressed as a necessary but antiquated method of recording where a constant vigilance needs to be held to ensure the containment of the poetic touch. In this sense architectural representation may be described as a 'drawing of the thinking' of architecture. But the dilemma inherent in this conflict is only brought to the surface in those drawings that challenge the limits of conventional representation. Rossi's 'painterly' drawings evoke a poetic imperative (best seen metaphorically in the figure of hand/eye relationship) despite attempts to categorise these drawings within a formal typological domain. Here Rossi is not alone. As Krufft observes, the work of the Italian Neo-Rationalists can be characterized by an attention to the representational realm of architecture, with its speculative weighting:

Their designs are characterized by a suggestive pictorial quality or by a precision of presentation that goes back to Durand. The influence of this architecture [Rationalism] is exercised more by drawings and designs than by completed buildings; indeed, such drawings are often ends in themselves, as they were with Boullée, whose treatise on architecture Rossi translated into Italian. Architectural drawing becomes compensation for a reality found inadequate, and liberties are taken which would have no meaning if the plan were to be realized.⁶¹

Scolari (along with Rossi) emphasizes the poetic possibilities of architectural drawing, and like Rossi, in doing so reveals other privileges of drawing normally hidden or suppressed by conventional application. For Francesco Moschini, Scolari's ability to operate in this interstice between the accepted architectural didactic of theory and practice is the work of a 'genius'.⁶² Scolari himself has done little to clarify his position within a traditional institutionalised version of architecture. His paintings and drawings posit architecture as artefacts trapped within empty landscapes, nostalgic objects that

⁶¹ Krufft, H. (1994): 445. Continuing his objection to drawn architecture, Walter-Krufft refers to Massimo Scolari and Robert Krier as "primarily draughtsmen who occasionally publish architectural programmes which contain little by way of formally presented material."(445).

⁶² Moschini, F. (1980).

float, fly and land in foreign territories. Conversely, his academic writing has continued to be more and more esoterically associated with the places visited by his illustrations. Scolari's theoretical writings probe more conventional architectural thought without probing the psyche that produces such a singular vision in architectural representation. Scolari's drawings are elitist and exclusive, but they still evoke familiar, otherworldly scenes, devoid of the hubris of everyday life and still arouse the desires of another existence. Scolari, Moschini maintains, is acutely aware of the position in which he has placed himself and his work. At the heart of his work is the description of that which should not be, which should not be pursued, and which should not be affirmed. Scolari has said that he is convinced that such censorship is more revealing than any form of absolute freedom, and above all that it is necessary in the field of architecture to say what one ought not to do rather than what one should. In this way Scolari's pre-cultural visions become windows through which we may gain glimpses of our own time, and perhaps our own architectural possibilities.

Each project is both a world unto itself and part of a more general, homogeneous frame of reference. Within each project, this simultaneous opening up and closing off to a complex layering of reflections - on the very meaning of architectural concept, on specific means of representing architecture, on the creation of corporal images rooted in both concrete formal proposals and analytical investigations of their elements - places Scolari's work on a remote plane, both historically and geographically.⁶³

The systematic denial of anything that might refer to the twentieth century in Scolari's drawings indicates the censor's operations, and provides an insidious comment on post-modern concerns. His refusal to depict interior spaces excludes a human presence; interiors are only alluded to by dissection and exposure to which his architecture is subject, by the interruptions in his paintings where an inability to dwell becomes the voluntary expulsion from the Garden of Eden. In *Zentraltrafostation* [Figure 17] Scolari uses a worms eye oblique axonometric to depict the shell of a building suspended within a moment of timelessness. This post-modern architecture of appropriated neo-histories drifts, no longer moored by historical chronologies the late twentieth centuries search for identity reveals a closed shell. The domestic contents are missing, presumed dead. *Zentraltrafostation* is a gutted building. Without contents it speaks of an architecture without life. Reduced to a calcified shell it becomes a museum piece, catalogued and displayed - it is a sanitized index of architecture proper, the result of the Scolari's alchemistic experiments.

Even then, we can see him as an unexpected creator, not of architectural dreams, but of an architecture which is familiar and yet never firm or solidified, as though it exists in that moment of transition from sleep to wakefulness.⁶⁴

⁶³ Moschini, F. (1980): 8.

⁶⁴ Moschini, F. (1980): 12.

Within this twilight zone Scolari reveals the fears of the architect. His obsessive renderings, built up through successive layers of watercolour wash, defy their actual size. Architecture is placed at the wrong end of a telescope. The image is reduced to the

Figure 17



Massimo Scolari
Zentraltrafostation
1984

scrutiny of a microscopic slide, axonometric and bird's eye techniques accentuate the scientific discovery in progress. Scolari the watercolourist follows analytic rules for scientific inquiry, stretching and masking, grinding pigment to which precious drops of water release miracles of translucent tincture, each colour added to the last until the laboratory specimen is complete. The complex processes of an inventor are patiently refined and simplified to become the formative principles for a precise rationality of the negative. In every work Scolari demonstrates his basic assumption that those things most concerned with architecture refer to it the least. Tafuri has written of Scolari:

*... he sets down - conscious as he is of having no message whatever to convey - a continuous reasoning whose themes are seeing and the means of representation.*⁶⁵

The recurring formal themes of Scolari's drawings (like Rossi's) amount to a story telling, a text that offers up moments of recognition before returning again to some primordial understanding. [Figure 18] Scolari's *Ark* lies abandoned, left stranded by receding flood waters it tilts precariously amongst the archaeological ruins of a destroyed city. In the background monolithic modernist mountains exhibit the scummy bath ring yet to be cleaned. Like *Zentraltrafostation*, the *Ark* alludes to the architect as collector. Scolari evokes the biblical story of Noah's Ark and its precious cargo, but here the Ark itself is both container and contained. Essentially a pair of cubes, it parodies Noah's, two by two cubes, constructed from 2x2 timber. Unlike Noah, Scolari is motivated by ensuring the survival of not all things but only one, the ark itself. The structure, half-building half-boat, becomes a repository for Scolari's negative desires. Its purist functional formalism is evocative of building before architects: pyramids and mastabas, classical Greek temples or Roman houses.⁶⁶ The outcome of this mistranslation of architectural convention imagines a new architectural possibility and, for Frascari, solves one of Scolari's basic aphorisms that can also be applied to Rossi:

*The imagining is always more perfect than construction; since the latter imitates the former, there is no imitation without some omissions.*⁶⁷

Scolari threatens to invert the relationship between drawing and building by blurring their boundaries. It is no longer clear whether this is a representation of a building, or a building of a representation. Despite its contribution to the project there remains doubt about it as a projection. Our traditional understanding of the relationship between drawing and building relies upon our understanding of the role of projection. This relationship between the projected iconic value of the drawing and the real artefact of the building is a casting forward that becomes a point of projection itself. In this sense all

⁶⁵ Tafuri, M. (1980): 3.

⁶⁶ The Milan Triennale, of 1986, finds the *Ark* grounded again, exhibited in post-modern splendor. However, this time the structure is not empty but contains the winged head of Hypnos. Perhaps it actually provides a dwelling for Hypnos. Placed inside it is now no longer clear whether the *Ark* is container or contained, holding Hypnos or housed within the Triennale.

⁶⁷ Scolari, M. (1982a): 85.

Figure 18



Massimo Scolari
Ark
1982

drawings are then demonstrations of construction as they always initiate discussion of constructing, and of construing, whether they become projects or not.

It is significant then that the painting *Gateway for a City on the Sea* contains a flying 'v'. [Figure 19] The angelic wings of Hypnos recur throughout Scolari's work; symbolic, iconic, and indexical, of the role of the drawing as a slippage, which is to say a link, bridging imagination and possibility. Frascari writes of the architect's relationships to drawn representation:

*In his/her drawings, the architect's pursuit in conceiving and constructing architecture is to make visible what is invisible. Through these drawings, the architect's objective is the definition of qualities and functional denotations in order to determine the qualities and connotations of past, present, and future buildings. Architectural drawings are semiotic tools that make tangible what is intangible.*⁶⁸

Scolari's winged devices present a moment of confusion between the tangible and the intangible. In one the wings are carefully crafted from dressed timber, expressing their function while denouncing practical possibility. In another the 'v' is a hybrid graft of angelic wings and demonic beast. Lucifer, the archangel, is suspended above the same monolithic landscape that contains the Ark. In yet a third drawing the angelic function is expressed as an acrobatic machine - running along a curved wire with outstretched limbs it defies the pragmatic architectural reality of gravity.

Elsewhere Frascari has further explored the relationship of the drawing to the building.

*The lines, the marks on the paper, are a transformation from one system of representation to another. They are a transformation of appropriate signs with a view to the predicting of certain architectural events, that is, on the one hand the phenomena of construction and the transformation by the builders, and on the other hand, the phenomena of construing and the transformation by the possible users.*⁶⁹

Scolari makes Frascari's angelic shift of drawing to project, from the iconic to the artefact, explicit. In *Zentraltrafostation* the artefact itself is angelic, floating effortlessly between heaven and earth, mediating between the two. The Ark also functions angelically. In myth it mediates between a corrupt old world and a cleansed new world. At the Milan Triennale, the exhibition became the mediation site of theory and practice; it contains the winged figure of Hypnos, the angelic repository of Scolari's own architecture desires. Through the work *Gateway for a City on the Sea* (1979), *Return of the Argonaut* (1981), *Tropeo* (1984), and *Lucifer* (1986), Scolari's angelic wings continue to separate the intention of architecture from the earth-bound. Here architecture remains

⁶⁸ Frascari, M. (1991): 92.

⁶⁹ Frascari, M. (1984): 30.

Figure 19



Massimo Scolari
Gateway for a City on the Sea
1979

in the projection, circling barren plains, and empty landscapes, only able to touch the earth in the image *Trofeo* where it does so on a trapeze-wire, the geometric line of the architect's drawing.

The past interpretation of this translation was that an architectural drawing is a graphic projection of a deceased, or existing, or future building. The present condition of the phenomenon is that the building is a translation in built form of 'pre-posterus' drawings. In the past the symbolic and the instrumental representation were unified in the building; drawings were solely instrumental representations. In the present reality, however, the union of the symbolic and instrumental representation in the building depends on their presence and union in the drawing. The transmutation should take place in the drawings; angles should transfigure themselves into angels.⁷⁰

The winged 'angelic' figure in Scolari's drawings have their analogue in Aldo Rossi's domestic tableaus. They are architectural dioramas that serve to test the limits and expression of architectures mytho-poetic realm by naming such limits within the expansiveness (rather than control) of drawing. Caccari has said that Scolari's angel is the very problem of representation itself. The angel passes through any mesh of definition by being present in every definition. It is the name-symbol that speaks to the Angel. As with Rossi, there exist in Scolari's drawings a state identified by Peter Eisenman as that of "imminent destruction".⁷¹

Architectural drawing is not simply the site of architectural loss; it is the very statement of loss. To draw architecturally (re-present) is to organise loss in the projective relationship, and therefore coordinate this failure. But more importantly, this failed relationship actually constructs knowledge precisely by being *seen* to fail.

Drawing is, in fact, the discipline that connects sight and knowledge. The act of seeing, since it allows us to enter into a knowledge of the world of things in which we live, is the first and foremost means by which we come to possess these things. To take this one step further, the connection between drawing and knowledge can be thought of as the natural extension of the relationship between sight and the outside world. It can be said, then, that drawing is knowledge. Therefore, there exists no better demonstration of our knowledge of the external world than the ability to draw it. Through drawing we strive to possess the world that exists outside us, and to make it part of ourselves.⁷²

⁷⁰ Frascari, M. (1990b): 12-13.

⁷¹ Peter Eisenman states that Massimo Scolari's work "more than that of any other architect, seems to describe the new sensibility I am talking about. He is attempting to deal with the idea of imminent destruction." Eisenman quoted by Krier, L. (1986): 5.

⁷² Moneo, J. (1987): 2

This loss permeates the architectural drawings of Scolari and Rossi. Their desire for a metaphysical architectural presence irrevocably shifts their drawings away from mimetic representation of any kind, and despite the recognizable elements, we are obliged to accept these as a mere surface to higher architectural manifestation. The impossibility of this is not lost on either Scolari or Rossi, and it accounts for the melancholic character of their work. Rossi, unlike Scolari, at least finds a voice for the nature of this problem, if not an answer. Throughout his drawings this takes the form of the blinded visionary.

Una lettera

In Rossi's drawing *Una lettera* the figure is depicted seated behind the table with their left hand touching the letter while the right hand is held before the face so that the right eye is visible between the third and fourth fingers.⁷³ The gesture of the hand recurs in Rossi's drawings with some frequency. As early as 1970 it is recognizable in the drawing *Disegno di studio per Modena* [Figure 20] as a hand mounted on a cube. Annotated with the letters L and C this piece represents a tribute to Le Corbusier, and the hand gesture at this stage would seem to owe much to the better known Open Hand monument of Chandigarh.⁷⁴ By 1978 the outstretched hand is recognizable in the sketch *Studio per grande composizione*. [Figure 21] At this point, the hand is compositionally arranged against the ubiquitous coffee pot as though the two are naturally associated - as though this is the hand that makes the coffee. However, by 1979 the outstretched hand appears in a drawing for the cemetery at Modena, and is clearly identified as the hand of a saintly figure.⁷⁵ [Figure 22] It may be tempting to dismiss such imagery as either ornamental or monumental, but these are both conditions of spectacle. The monumental, and the decorative, are expressions of visual phenomenon. The monument, in particular, is a function of memory and vision. Francois Choay traces the word:

*As its etymology tells us (Latin monumentum, from monere, to warn), a monument is an object whose function is to make us remember, whether it is men and events of the past of the gods themselves.*⁷⁶

The monument is a looking back; it is the antithesis of foreseeing but is nonetheless defined by vision and sight. Furthermore, this 'rear vision' is by definition one of mortality and death. We look back so that we might see where we come from, and

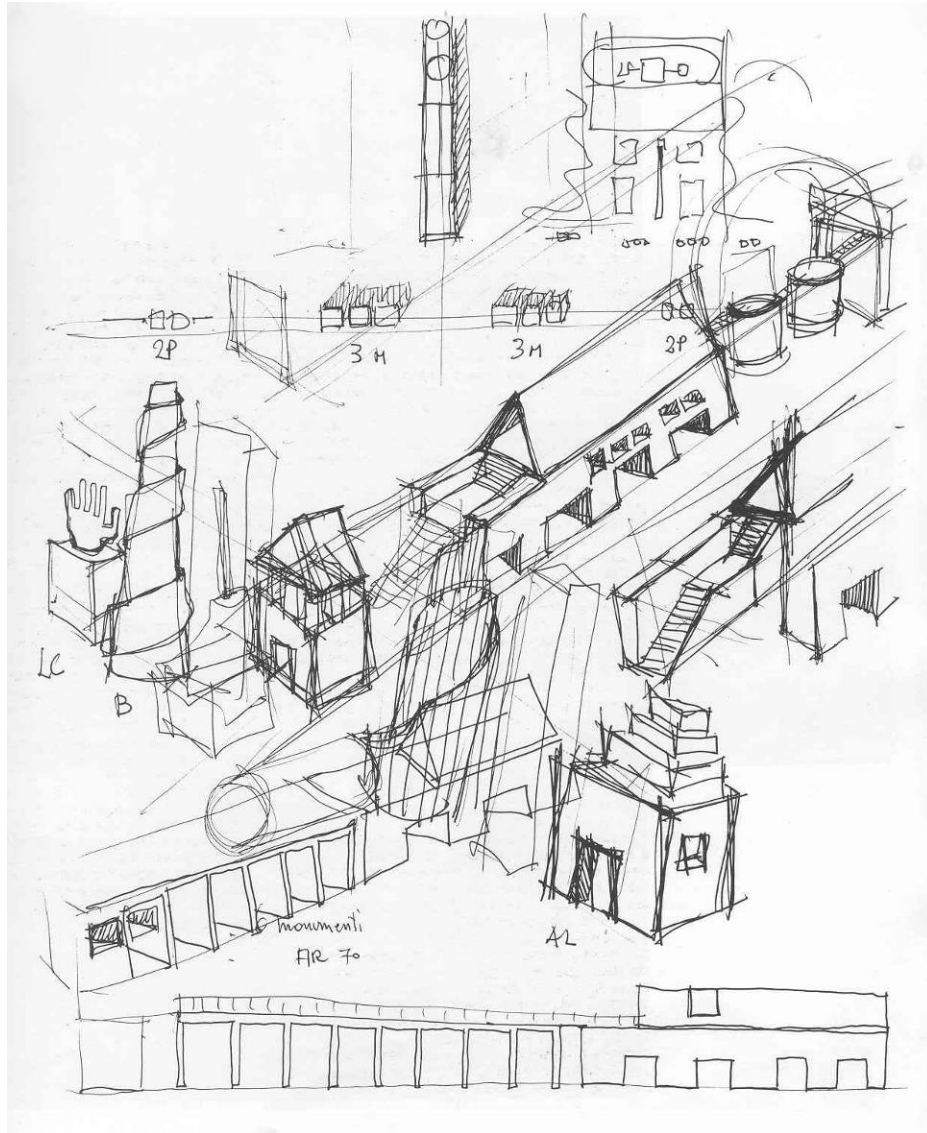
⁷³ Ratcliff suggests that these partially covered faces are in fact portraits of Rossi's architectural colleagues and that the guarding hand is designed to lessen the force of their characters. I disagree with such a literal and easy reading of this influence in Rossi's work. Ratcliff, C. (1993).

⁷⁴ By comparison, another sketch of this year, *Studio per il Gallaratese*, shows an elevational parallel projection that contains in the foreground the Platonic forms of a sphere, cube, and cone, and against these an amputated foot. Rossi, A. (1986): 17.

⁷⁵ "In the project for the cemetery at Modena, as I have said, I sought to resolve the youthful problem of death through representation. I know very well that this may not be the best way to begin an explanation of a project, nor is the skeletal mediation or meditation on bones which I have already mentioned." Rossi, A. (1981): 38.

⁷⁶ Choay, F. (1984): 99.

Figure 20



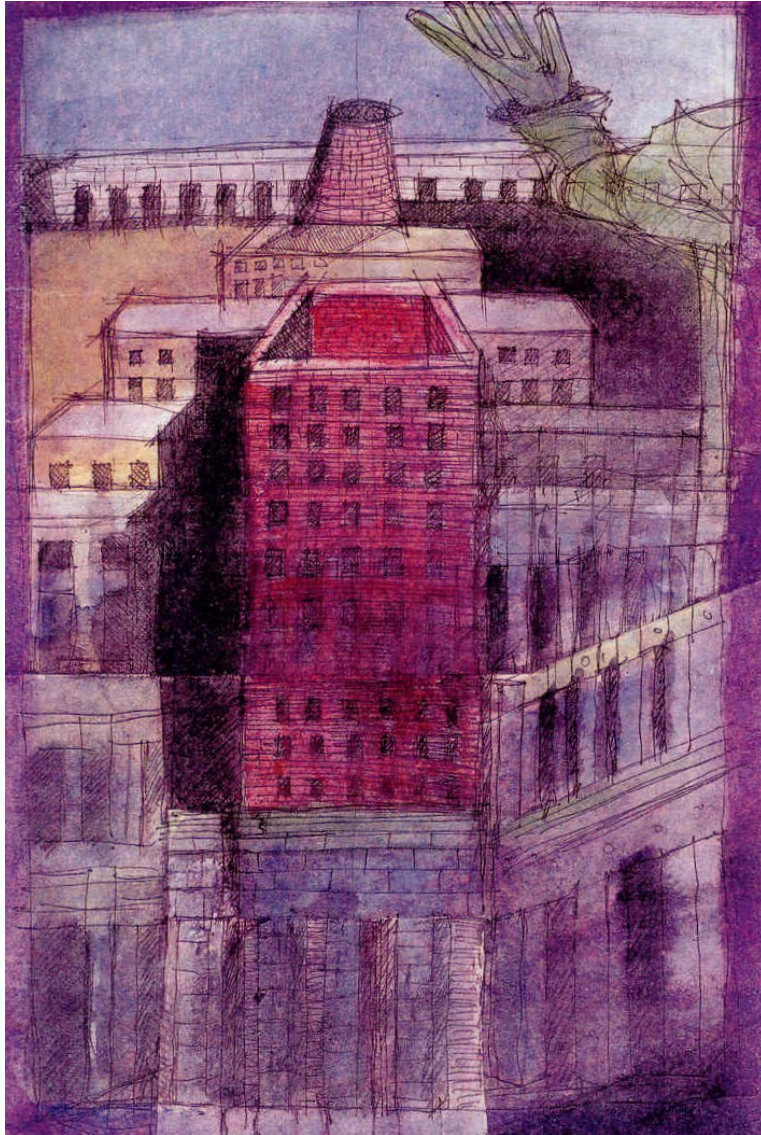
Aldo Rossi
Disegno di studio per modena
1970

Figure 21



Aldo Rossi
Studio per grande composizione
1978

Figure 22



Aldo Rossi
Composizione con cimitero di Modena e Santo
1979

therefore gain some insight to our own end. The presence of death – and of life in death – is a central theme in all Rossi's drawing, and, as Eisenman has identified:

*The Humanist, confronts the problem of individual life on a landscape shadowed by the reality of mass death. To live life merely as a potential survivor poses a new set of conditions for an architecture caught between the memory of a not forgotten past, and an unwanted present that promises nothing for the future. . . . His, therefore, is an architecture which confronts the reality of the present. His drawings offer 'nothing new' precisely because anything new which can be offered is, in the present condition, nothing. They simply ask, however anxiously, for the existence of a choice between life as survival and death.*⁷⁷

Architectural drawing and mortality

Exerting a pressure of hypothesis on his drawings, the speed of his hand - or his imagination - gives a quietly fantastic tone even to his most sober and seemingly realistic drawings. So it is never a surprise to see la mano santo drift into his pictures of the city. This hand of the saint is a fragment of a vision remembered from his earliest years, so the blessing implied by the saint's raised hand is entangled with memories of childhood happiness - or at least with the idea that childhood ought to be happy.

Morris and Bertolotto⁷⁸

In *A Scientific Autobiography* Rossi gives an account (taken from Max Planck's own *Scientific Autobiography*) of a mason who, having lifted with difficulty a large block of stone onto a roof top, then ponders the fact that expended energy does not get lost. It remains stored up for as many years as it sits on the roof, latent in the stone, until the moment happens to slide off the roof "and falls on the head of a passerby, killing him."⁷⁹ Rossi's recollection of this tale draws together his interest in Planck, Dante's *Commedia*, and his own experiences with architecture. In Rossi's examination, death is a continuation of energy: "the principle of the conservation of energy is mingled in every artist or technician with the search for happiness and death."⁸⁰ In architecture, he extends this observation to implicate the materiality of built form in the same problems of longevity versus mortality. Architecture, like the body, is faced with the moment of its own demise as an expression of its existence. Similarly Rossi points to the significance of a volume by Alfonso dei Liguori entitled *Apparecchio alla morte*: "This strange book, which I still recall in many images".⁸¹ Rossi fuses the apparatus and death so that they become one and the same, and are then extended onto his understanding and use of

⁷⁷ Eisenman, P. (1979): 15.

⁷⁸ Adjmi, M. and G. Bertolotto, Eds. (1993): 16.

⁷⁹ Rossi, A. (1981): 1.

⁸⁰ Rossi, A. (1981): 1.

⁸¹ Rossi, A. (1981): 5.

associated terms of description. Thus he extends the title *Apparecchio alla morte* onto the phrase *apparecchiare la tavola* - to set the table, to prepare it, to arrange it.⁸²

*Among the many ambiguities that characterize Rossi's work, the most fascinating is the link between life and death; he presents religious/funereal and joyous/playful elements as two sides of the same transparent glass coin. . . . death has always fascinated Rossi and its symbols has always been an integral part of his imagination.*⁸³

In light of this Rossi's drawings evoking the domestic rituals of setting the table need to be re-examined as set pieces in mortality and death. Where he proposes a table top plane for the representational examination of architecture this is less a space of inventive origin than it is the site of pathological examination where the factors of the project's death are teased out and explored. This conjunction of the consumptive and death is exemplified in Rossi's childhood memory of visiting the Sacri Monti of S. and of wanting to reach beyond the window grate to set his own objects on the table cloth of the last supper. Objects of life and rituals of death exist side by side not as exclusive opposites but as companion pieces in the creative arts - the desire for life against the inevitability of death. The tabletop provides Rossi with a microcosm on which to demonstrate the limits of desire, a place where the physical limit of dimensions allow functions of death, and therefore life, to be expressed, "because they permit everything that is unforeseeable in life."⁸⁴ The closed plane of the table, more so than the un-scalable openness of the drawing sheet, offers a moment of vision. By allowing for the 'unforeseeable,' permission is granted to address the forbidden question of mortality. Played out through the domestic rituals of consumption architecture is interrogated not as a figure of newness, but as a commodity at the end of its usefulness, and thereby reveals its latent continuation of energy. In the case of the drawing *Architettura domestica* architecture is brought into the consumptive plane of the table as model, quietly amongst the more familiar tabletop objects. More insidiously, in *Architettura domestica e urbana* it is the codified language of architectural representation itself that allows the propositional juxtaposition to take place. Organized by the dominant image of the side view (elevation) of a coffeepot, this representation utilizes the power of the elevation to fix the tabletop as a dominant plane perpendicular to the orthodoxy of the sheet itself. Against this new domestic plane the section/elevation characteristics of conventional architecture are then imposed. Rossi blurs distinctions describing the drawing as a site of invention, while continuing to address the question of mortality. For this reason it becomes appropriate in *Architettura domestica e urbana* for Rossi to juxtapose a coffeepot against his monument for the partisans of World War II (City Hall Square, Segrate, Italy, 1965), and the Cemetery of San Cataldo (Modena, Italy, 1971-84). Each component of the image is united through a commonality of ritual, monumentality, and mortality. In images such as these the domestic artefacts are more than architectonic elements - they move into a realm of metaphysical contact and become, at least in part, devices of allegorical

⁸² Rossi, A. (1981): 5.

⁸³ Portoghesi, P., Ed. (2000): 19.

⁸⁴ Rossi, A. (1981): 3.

representation. In *A Scientific Autobiography* Rossi turns repeatedly to the question of death and, its companion, the question of representation. Rossi identifies the use of the term ‘apparatus’ in quotidian Italian phrases such as the aforementioned *apparecchiare le tavola* (to set the table, arrange it, prepare it) and *apparecchio alla morte* (the preparation for death).⁸⁵ In this way Rossi slips between references to apparatus, theatre, tabletop, landscape, and death. In this context his drawn tabletop tableaus operate metaphorically between still-lives and death scenes. Catherine Ingraham notes of Rossi’s imaginings that:

*... architecture stages a certain domestic scene in the midst of writing and philosophy. Like the primal scene of psychoanalysis, this is a scene of seduction, the seduction of writing into a linear path so that we may inhabit it.*⁸⁶

The coffeepot in this case betrays its rationality of type and points to human consumption as a micro-monument of the senseless desire for eternity. Against this ‘building’ exists as an ‘other’ of the futile object of desire that the drawing can then displace and dislocate within a museological space.⁸⁷ Rossi carefully composes these architectural drawings as a series of vignette figures that collectively construct a dislocated and disjointed architectural story:

*I love museums of palaeontology and those patient reconstructions of fragments without significance into the significance of form. This love for the fragment and for the thing binds us to apparently insignificant objects, and we attribute to them the same importance that we customarily give to art.*⁸⁸

Rossi turns the drawing into a repository for images diverse in object and subject, all demonstrating key associations to the past. This should be seen as the key moment of analogue for much of Rossi’s non-rational imagery. Peter Eisenman is quick to point this out in his introduction to Rossi’s first book *The Architecture of the City*.⁸⁹ The book cover image is a horizontal section of the Mausoleum of Hadrian in the Castel Sant’Angelo in Rome, which Eisenman observes that while representing death also reads as a spiral form that evokes the presence of Daedalus, the architect of mythology who designed the labyrinth and who: “has become for history the symbol par excellence of the humanist architect.”⁹⁰ As a form of unfolding however, the figure of the spiral is also a

⁸⁵ I am relying here on translations by Catherine Ingraham. See Ingraham, C. (1991): 67n9.

⁸⁶ Ingraham, C. (1991): 81.

⁸⁷ “Coffee pots, cigarettes, glasses, train schedules, utensils, newspapers, soda cans, chairs, tables, clocks, duck decoys: in their perpetual recurrence these domestic objects affirm the importance of the everyday, of the familiar to Rossi in creating architecture and life. The house, like the city, becomes the theatrical device or stage set for Rossi’s visions. Every image, therefore, tells a story.” Adjmi, M. and G. Bertolotto, Eds. (1993): 101.

⁸⁸ Rossi, A. (1981): 2.

⁸⁹ Rossi, A. (1982).

⁹⁰ Eisenman, P. (1982a): 3-11. Eisenman argues that Daedalus, as an inventor of wondrous works of architecture, has necessarily become symbolic of the obligations of the humanist architect to society. Consequently the labyrinth may be seen as an extension of the humanist tradition and consequentially becomes its emblem, despite an association to death. He notes that the spiral may also have a more personal

symbol of transformation. As a metaphor for the action of 'trans', including translation, and therefore also the space of translation, this space is necessarily one of death.

Architectural drawing and the space of death

Death is a touchstone in Rossi's reading of the typology of the city and of history.⁹¹ For Eisenman, type in Rossi's work is not a neutral structure found in history but instead should be seen as an analytical and experimental structure. It has become for Rossi an apparatus and instrument. Furthermore, the logic of this instrument must exist before form, but also come to constitute form in a new way.

Thus it can be said that the apparatus used to measure the object implies and also is implied in the object itself. This returns us to the analogue of the skeleton, which is seen to be at once instrument and object. With this recognition appears a new object-apparatus, an object - as opposed to a subject - that for the first time analyzes and also invents. This is the other process mediating between architect and architecture.⁹²

Eisenman is specifically referring to Rossi's ability to initiate innovation and invention through the objective type of his work (an action possible only through his synthesis of process and object). But this observation needs to be extended into all aspects of his architectural production. When Eisenman determines the significance of mediation to the relationship of the analogue to transactions between architect and architecture, he identifies all forms of architectural production - including writing and drawing.⁹³ While these forms of analogous communication might be seen to be orderly, throughout Rossi's drawing the analogue is used as a type of unscientific apparatus for invention, a condition deeply imbedded in his iconographic figures.

Yet aspects of his [Rossi's] work are not rationalist in that they cannot be explained thoroughly by logical means. Rossi himself refers to this poetic aspect of his work as analogical.⁹⁴

Rossi's drawings are populated by what seems to be the un-architectural; coffee pots, dogs, cigarettes, statues, and most importantly, the skeleton, which serves a more complex role than simply to indicate the structure of death. When we extend the analogue

resonance for Rossi by symbolizing "his own rite of passage, his role as a part of a generation progressively more distanced from the positivism of modern architecture by the collapse of historical time and left drifting into an uncertain future"(3).

⁹¹ See Rossi, A. (1982). The etymology of skeleton owes less to structure or organization and is quite literally a 'dried up body.' S.O.E.D.

⁹² Eisenman, P. (1982a): 8.

⁹³ Analogue is Rossi's most important apparatus. It is equally useful to him in writing and in drawing. It is in this context that this book can be seen as an analogous artifact itself - a written analogue to built and drawn artifacts." Eisenman, P. (1982a): 8.

⁹⁴ O'Donnell, S. (1983): 10.

of the skeleton from Rossi's typological works into his drawn ones with equal authority, there occurs a shift from object type to objective type where the drawing itself becomes a more potent form of analogue than its graphic representational implications. Where the skeleton occurs literally in Rossi's drawings it is less an analogue than a metaphor for the *action* of analogue that is now being carried out by the drawing.⁹⁵ For this reason the drawing itself can be seen as another form of skeletal structure, literally a scaffold that initiates the 'building' of architecture, and which is then superseded by the 'project'. When discussing Rossi's application of type to the city Eisenman states that the skeleton analogue is detached from specific time and specific place, and becomes instead an abstract *locus* existing in pure architectural time-place. This, he claims, is necessary to reconcile the conflicting values.⁹⁶ Consequently, the skeleton analogue is a condition of no specific place that remains rooted in boundaries of history and memory, between remembering and forgetting. This space - the drawing - is the physical place of this *no place* separated from outside realities. The action of drawing provides speculative representations that map out the traces that occur in the interval between memory and history. The self-referential nature of Rossi's drawings cannot therefore be categorised as simply repetition or reiteration. Within the drawn analogue Rossi revisits his own experiences to reproduce new versions of his own history, new inventions and discoveries. As Eisenman has observed:

The analogous drawing embodies a changed condition of representation; it exists as the record of its own history. Thus Rossi's drawings of the city, giving form to their own history, become part of the city, not just a representation of it. They have an authenticity, a reality which is, precisely, that of illusion. This reality may then, in turn, be represented in actual buildings. The architectural drawing, formally thought of exclusively as a form of representation, now becomes the locus of another reality. It is not only the site of illusion, as it has been traditionally, but also a real place of the suspended time of both life and death. Its reality is neither forward time - progress - nor past time - nostalgia, for by becoming an autonomous object it eludes both the progressive and regressive forces of historicism. In this way it, and not its built representation, becomes architecture: the locus of a collective idea of death and, through its autonomous invention, of a new metaphysic of life in which death is no longer a finality but only a transitional state. The analogous drawing thereby approximates this changed condition of subject - man - relative to his object - city.⁹⁷

⁹⁵ For example see *Costruzioni in collina*, 1983. Rossi, Aldo. *Aldo Rossi: Disegni Di Architettura, 1967-1985*. Milano: Mazzotta, 1986: 56. Here Rossi brings together a number of skeleton artifacts through a vertical axis on the right side of the composition. The dominant organizer is the abstracted and inverted skeleton plan from the Cemetery of San Cataldo at Modena (1971-1984) which at its base has the ecto-skeletal form of a marine crustacean grasping the shrine with its claws, while at the apex of the ossuaries the conical tower of the common grave has a con-junction with the eye socket of an upright horse skeleton.

⁹⁶ "In this way, by displacing type from history to make a connection between place and memory, Rossi attempts through the erasure of history and transcendence of real places to reconcile the contradictions of modernist utopia - literally 'no place' - and humanist reality - built 'some place.'" Eisenman, P. (1982a): 8.

⁹⁷ Eisenman, P. (1982a): 10-11.

But in suspending life and death the drawing must contain both life and death, as neither of these conditions can be fully excised, and consequentially, the drawing must then comply with these same obligations. Just as the European city has become for Rossi a city of the dead requiring a new analogue - a new skeleton - so too the drawing, in usurping the constrictions of static and illusionary representation, has now been given a life, and therefore also a death (mortality). If the city is to be found in the drawing then the drawing should be actively sought in the city. Rossi's comment on the nature of urban inscription suggests this double substitution:

*Cities are in reality great camps of the living and the dead where many elements remain like signals, symbols, cautions.*⁹⁸

These are the same inscriptions that demarcate the drawing as a site of death. The introduction of the potential for extinction in the drawing is the realisation of the stone block falling from the roof. Potential can only be representative of the passage between states of stasis; that is, when it is no longer potential. So too Rossi's ability to motivate architectural drawing beyond mere representation requires an exploration of life and death. But, as Eisenman emphasises, time in these drawings is no longer represented in the traditional system of precisely measured aspects of light; the length of a shadow, or the aging of a thing. Instead, time is expressed as a collection of events, and the fragments of some infinite past or childhood where: "death is a new beginning associated with some unknown hope."⁹⁹ The drawings are obsessed with the fragment as a means of retaining a souvenir that can evoke past experiences and events as a means of challenging contemporary architectural discourse. In this way they operate in a very similar model to those of Piranesi. Stan Allen's description of Piranesi's *Campo Marzio* drawings [Figure 23] could have well have been written of Rossi's drawings:

*Piranesi has invented an unprecedented new compositional language in order to make sense of the fragment. These fragments disappear into the composition not because their fragmentary nature has been concealed or covered over, but because they have themselves redefined the rules for 'fitting in.'*¹⁰⁰

Rossi and forgetting

The relationship between the psyché and archaeology (fragments) has already been explored by Freud in his comparison of dreams and hieroglyphic writing. In 'decoding' dreams Freud treats the unconscious mind as a graphic writing system of the ancient (personal) past, but more significantly this observation is made within an architectural metaphor:

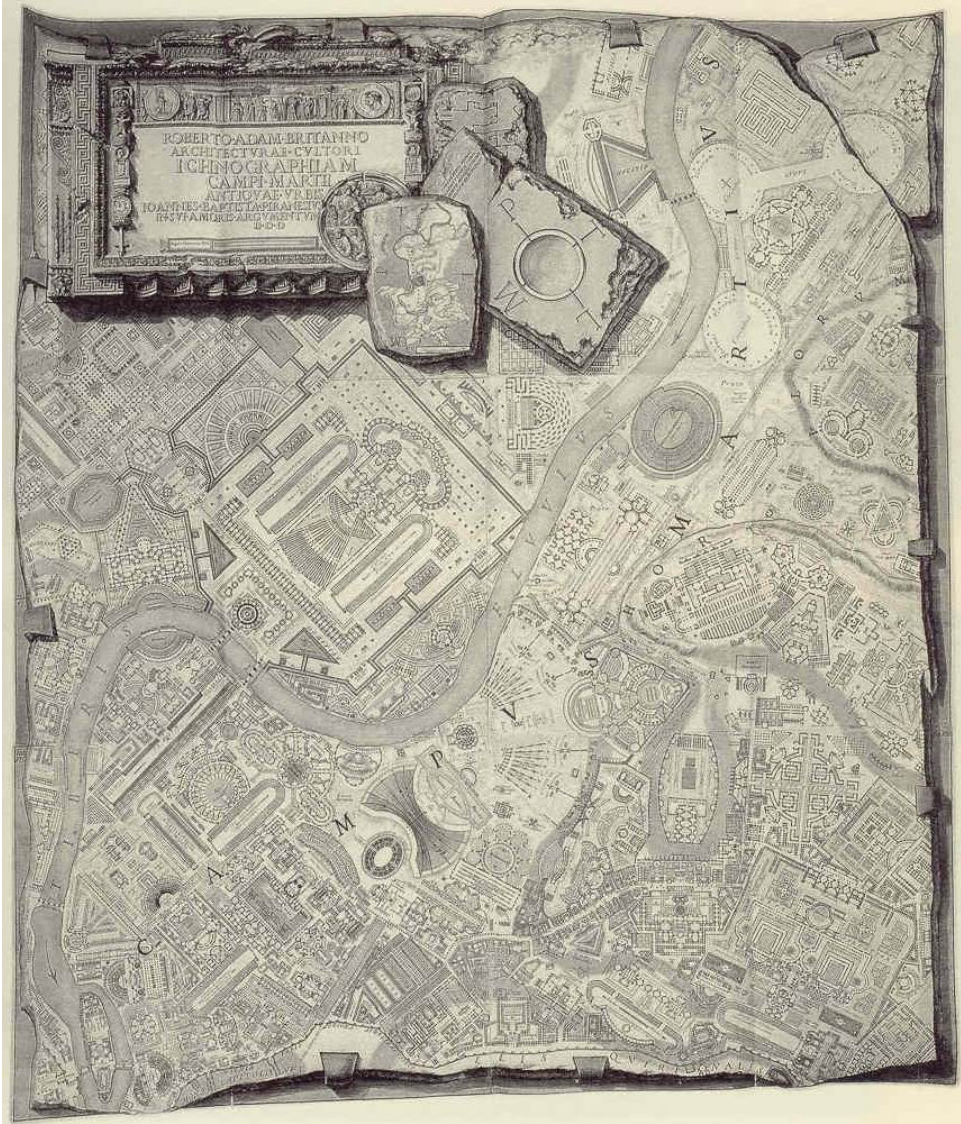
⁹⁸ Rossi, A. (1981): 15.

⁹⁹ Eisenman, P. (1982a): 11.

¹⁰⁰ Allen, S. (1992b): 14.

If his work is crowned with success, the discoveries are self-explanatory; the ruined walls are part of the ramparts of a palace or a treasure house; the fragments of columns can be filled out into a temple; the numerous inscriptions, which, by good luck, may be bilingual, reveal an alphabet and a language, and,

Figure 23



Giovanni Battista Piranesi
Campo Marzio
C1774

*when they have been deciphered and translated, yield undreamed-of information about the events of the remote past.*¹⁰¹

This romantic analogy between architectural and psychological excavations is maintained in Rossi's work where the dream has been replaced by the drawing as the site of an unspecified speculation of recurrent themes and types. As Rossi himself noted in his *Scientific Autobiography*:

*In describing architecture, I have always tried to refer the description back to the design. Actually, at this point it is easier for me to draw or, better, to employ that sort of graphic art which lies between drawing and writing.*¹⁰²

Behind Rossi's invented hieroglyphic drawing/writing is a model for visionary communication based not on a fusing of text and graphic, but exploring what is between the two as an 'other' device of disclosure. There already exists a model for this form of hieroglyphics in biblical teachings from Rossi's childhood. He recalls his childhood impression of the prophet Elijah as a fusing of the image and the event:

*In large books full of Biblical stories, I used to look at the figures that issued from the dense, black text with their burning colours - yellows, blues, greens. A fiery chariot rose toward a sky that was crossed by a rainbow, and a great old man stood erect in it. As always, a very simple caption was printed under the illustration: 'The prophet Elijah did not die. He was carried off by a fiery chariot.' I have never seen such a precise representation and definition - almost never do events of this kind occur in fairy tales.*¹⁰³

This conjunction of image and text (representation and definition) demands a 'reading' that is neither properly of the image, nor the text, but a hybrid of the two. Hybridity is not confusion, but actually represents a strategy of confusing that attempts to transcend the limits of each system. Thus Rossi refers to the difficulty of the word creating what he calls an 'inexhaustible verbal continuity',¹⁰⁴ whose internal rhetoric acknowledges the limit of a system. Referring to Shakespeare (in "King Lear") he writes:

¹⁰¹ Sigmund Freud compares the unconscious mind to the so-called Mystic Writing Pad, a device with an erasable surface placed above a wax tablet so that everything that is written down may be erased from the surface (conscious) but remains recorded on the wax tablet (unconscious). See Freud, S. (1954). In an earlier metaphor, Baudelaire also compared the mind to a drawing device: "My brain is a palimpsest and so is yours, reader. Innumerable layers of ideas, images, feelings have fallen successively on your brain, as softly as the light. It seems that each buried its predecessor. But none has in reality perished." Baudelaire quoted by Kuberski, P. (1992): 9.

¹⁰² Rossi, A. (1981): 51.

¹⁰³ Rossi, A. (1981): 82.

¹⁰⁴ Rossi, A. (1981): 44.

*‘Thou talk’st of nothing’ is a way of saying nothing and everything - something similar to the graphic obsession I spoke of just before. I recognize this in many of my drawings, in a type of drawing where the line is no longer a line, but writing. . . this form of writing which lies midway between drawing and handwriting fascinated me for a long while, even if at the same time it made me peculiarly uneasy.*¹⁰⁵

It is significant that Rossi specifically refers here to handwriting, as though the hand itself were responsible in some way for the markings, outside the influence of the mind or the eye. The hybrid lies between the hand and eye where the eye correlates to writing, and the hand to drawing. This interpretation owes much to the essays of Adolf Loos, with their “almost Biblical character”,¹⁰⁶ and which become Rossi’s best example of the hybrid between writing and drawing.¹⁰⁷ This new hybridity, with its interchange between the word and the image, undermines the authority of either to regulate the exercise of reading, and therefore also meaning.¹⁰⁸ Thus, the drawing is brought into question by writing, and writing in turn, is being tested in its limits by drawing. ‘Meaning,’ in this sense, cannot be easily dominated by one or other system of graphic communication as the authority of the message comes from the desire to present the essentially un-presentable. The question becomes one of how representational systems depict that which should be beyond mere representation - acts of God. This tendency in Rossi’s architectural drawing to evoke transcendental anxieties, is one which makes these drawings comparable to the metaphysical painting of de Chirico. The metaphysical dream worlds of De Chirico’s paintings and Rossi’s drawings have a commonality in their

¹⁰⁵ Rossi, A. (1981): 44.

¹⁰⁶ Rossi, A. (1981): 44.

¹⁰⁷ Other examples Rossi gives of ‘written drawings’ include the work of Giacometti and the sixteenth-century Mannerists, Dürer’s letters, and some of the writings of Alberti. It is useful to note here that Rossi is more able to find examples of what we might call drawn-writing, than he is of written-drawings. Conversely Rossi has referred to drawing as an architectural treatise. “The first and clearest drawing [of the house at Borgo] was nothing more than a forest with houses built on piers, and it was entitled On the Street of Varallo and dated. Yet in the technique of this drawing, the idea or its representation still has not filtered through; indeed, it looks like the work of someone who was merely reporting on a day, a place, a street. Yet if the falsification of the facts, the insubstantiality of the encounters. the very point of the thing disappears in the subsequent project, the small, elevated house remains. It’s balconies have become piers - the floating type - recalling those on the Ticino or on the Hudson or any river.” Rossi, A. (1981): 43.

¹⁰⁸ Christy Anderson has noted the strange relationship architects often develop with a published book, using them as platforms upon which to write and/or draw their own observations, to effectively rewrite a book’s nature: “In this process the thing that is notable is the circularity, the internal dynamic by which reading leads to writing, writing to drawing and then back again to reading.” Christy Anderson quoted in McPhee, S. (1999): 458. McFee points to these works as an invaluable record of relationships between history, education, literacy, and influence. “They mark uniquely architectural forms of reading, visual interpretations of texts that can be just as complex and critical as the most sophisticated commentaries and exegese. This kind of material can provide a basis for reconstructing the active reading practices of individual architects.” (459). However, she also observes that the architectural drawings remain the most substantial and sensitive body of response data we have in order to undertake a history of reading for architecture.

manipulation of what Manfredo Tafuri refers to as the “emptied sign.”¹⁰⁹ Distinct from the metaphysical aspects of De Chirico’s painting, Rossi’s desire for categorical imperative brings about an absolute estrangement of form, to the point of creating an emptied sacrifice: “an experience of fundamental immobility and of the eternal recurrence of geometrical emblems reduced to ghosts.”¹¹⁰ While Tafuri refers specifically to Rossi’s built works, the categorical imperative of the wider “Piranesian crisis of the object” means his comments are as applicable to the architecture of Rossi’s drawings.¹¹¹ Architectural drawing, through its obligations to representational depiction, attempts to suppress metaphysical expression. Yet architecture, in a wider sense, has been defined through metaphysical presence.¹¹²

*Men, our lives, are the shadows that populate authentic reality, the one we have been taught to see by painters such as De Chirico, where time and place seem to collide. Yet this coincidence can only take place, as we have been saying, in architecture.*¹¹³

For such reasons the story cannot be dismissed as a mere fairy tale whose narrative function resides in metaphorical allegory. For it to be understood as an act of God, the rise of Elijah cannot be allegorical. Instead it must exist as both ‘real,’ to represent God, and ‘unreal’ to depict that which is beyond representation - the aspect of miracle as exemplified by the immaculate conception. The presence of Judeo-Christian imagery, specifically that of Catholicism, occurs with some frequency in Rossi’s drawings, especially those we might deem to be ‘hybrid’.

The hand of the saint

One example serves to demonstrate several points under discussion here. Throughout his oeuvre Rossi evokes the presence of San Carlone of Arona. Various the

¹⁰⁹ Tafuri, M. (1990). Tafuri accounts for the use of typology in Rossi’s work by comparing it to a proto-alphabetic system that leads to the implication that Rossi’s buildings can be understood as a physical demonstration of Freud’s archaeological landscapes: “Rossi elaborates an alphabet of forms that rejects all facile articulation. As the abstract representation of the inflexibility of its own arbitrary law, it makes artifice into its own domain. By such means, this architecture reverts to the structural nature of language itself. By deploying a syntax of emptied signs, of programmed exclusions, of rigorous limitations, it reveals the inflexibility of the arbitrary - the false dialectic between freedom and norm inherent to the linguistic order. The emptied sign is also the instrument of the metaphysics of De Chirico, of the oneiric realism of the *neue Saachlichkeit*, and of the mute enigma projected onto the object by the *Ecole du Regard*.”(273). Tafuri goes on to suggest that the ‘metaphysical’ description given to De Chirico by Paolo Fossati could also be applied to the architecture of Rossi. In this sense architecture should also be taken to include the strict representational language of Rossi’s drawings.

¹¹⁰ Tafuri, M. (1990): 273-174.

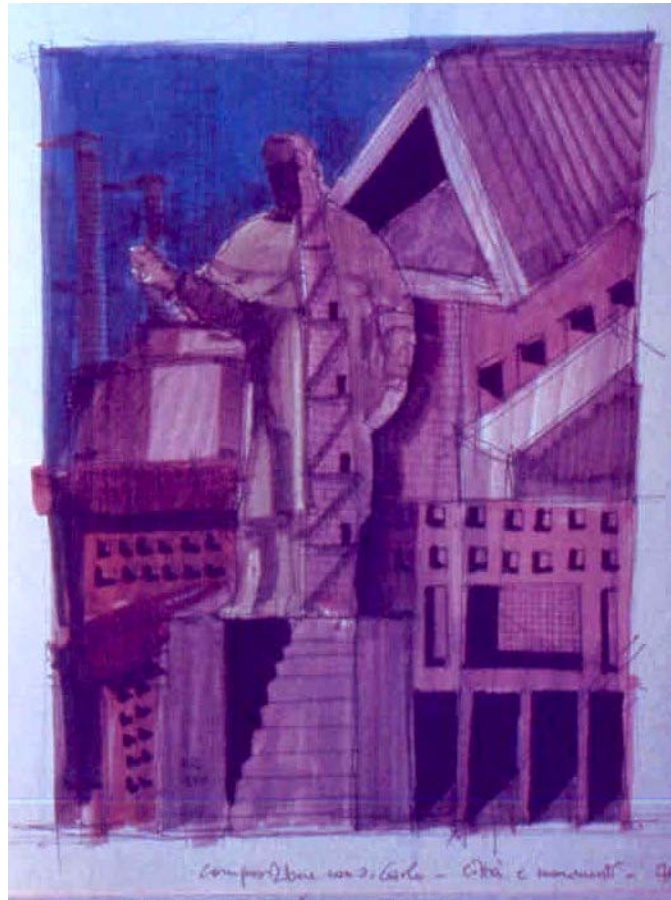
¹¹¹ Tafuri, M. (1990): 61.

¹¹² Carter Ratcliff has suggested that we look to the marker pen colour palette Rossi’s utilises to find the only residual evidence of a direct representational correlation with De Chirico’s painting in Rossi’s drawing - “an equivalent to de Chirico’s ‘metaphysical’ palette.” Ratcliff, C. (1993): 14.

¹¹³ Moneo, R. (1985): 315.

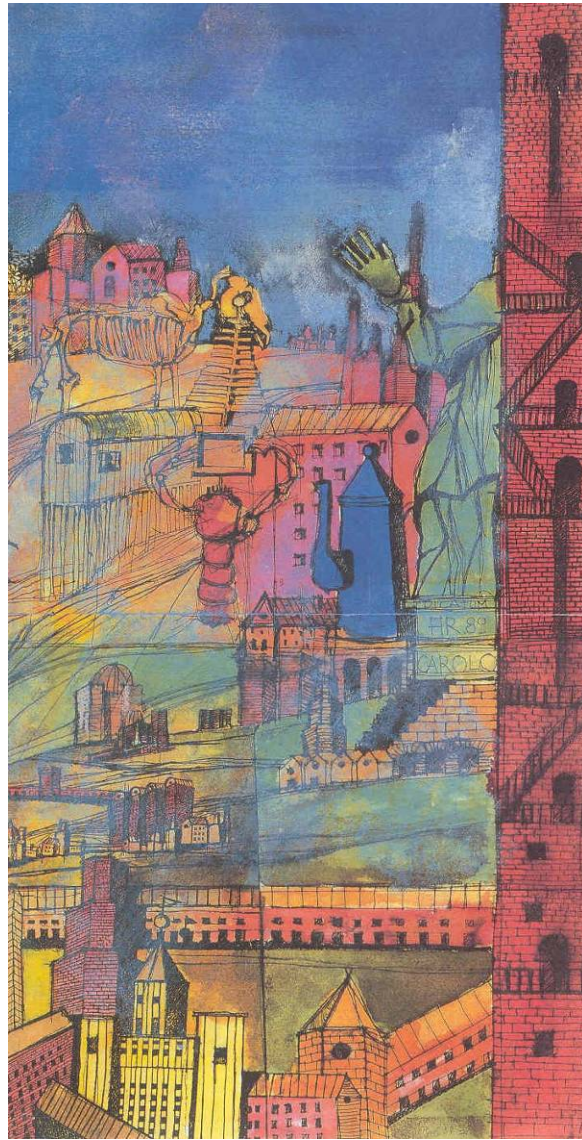
San Carlone appears as a full figure as in (*Composizione con S. Carlo-Città monumenti*, 1970) [**Figure 24**]; a partial figure (*Dicatum Carolo*, 1989) [**Figure 25**]; and eventually as a disembodied element, typically a hand (*Architettura razionale e immagini*

Figure 24



Aldo Rossi
Composizione con S. Carlo - Città e monumenti
1970

Figure 25



Aldo Rossi
Dicatum Carolo
1989

celesti,1974) [Figure 26].¹¹⁴ Rossi accounts for the presence of San Carlone in his drawings through his childhood experiences of the Sacri Monti. He recalls finding the ability of the static to continue a story of sacred history otherwise impossible to tell in the motionless gestures of the plaster figures.¹¹⁵ This lead Rossi to contemplate architecture in the similar role of static marker against which time and the elements are measured and played out.¹¹⁶ Rossi characterizes this relationship of conflict in his interest in architecture - the battle between time and the elements against the monuments of humanity. In San Carlone Rossi has found an artefact that combines his architectural desires in a sign of benevolent humanism and divine guidance.

The manner in which Rossi first experiences San Carlone is worth examining:

*As with the Homeric horse, the pilgrim enters the body of the saint as he would a tower or a wagon steered by a knowing technician. After he mounts the exterior stair of the pedestal, the steep ascent through the interior of the body reveals the structure of the work and the welded seams of the huge pieces of sheet metal. Finally, he arrives at the interior/exterior of the head; from the eyes of the saint, the view of the lake acquires infinite contours, as if one were gazing from a celestial observatory.*¹¹⁷

We recall here that in the *Iliad* Homer's horse brought about the fall of Troy, was the classical ambush that brought down a civilisation through a deceptive generosity. Rossi's description, of being lead benignly into the San Carlone as a 'pilgrim', should be viewed with similar suspicion. Rossi is leading us into a trap where the 'knowing technician' finds symmetry in the technical skill of the architectural illustration. Upon entering into the San Carlone, the solidity of the monument is tellingly challenged.

¹¹⁴ As mentioned, the drawing *Studio per il Gallaratese* (1970) includes a severed foot at the bottom of the page. Composed against the platonic elements of the sphere, cube, and cone, the foot may be illustrating the authority of the classical tradition, but the severance of the foot may also be an optical result of a foot appearing from behind the represented facade. This is evidenced by the faint horizontal line passing through the volumes to the left of the foot but which demarks the top of the foot itself. If we accept the possibility of this line then the drawing changes from being an elevation paraline representation to an image of a elevational paraline drawing that is being suspended vertically in front of a figure whose foot is only visible beneath the bottom edging. Further evidence of this possibility is suggested through the inconsistencies of the shadow from the volumes not occurring off the foot, although the horizontal parity off all the foreground elements makes against the lower horizontal line challenges this reading. However the possibility exists with this image that we are here invited to the foot of San Carlone from behind a drawing screen - he, perhaps, is holding the screen for us.

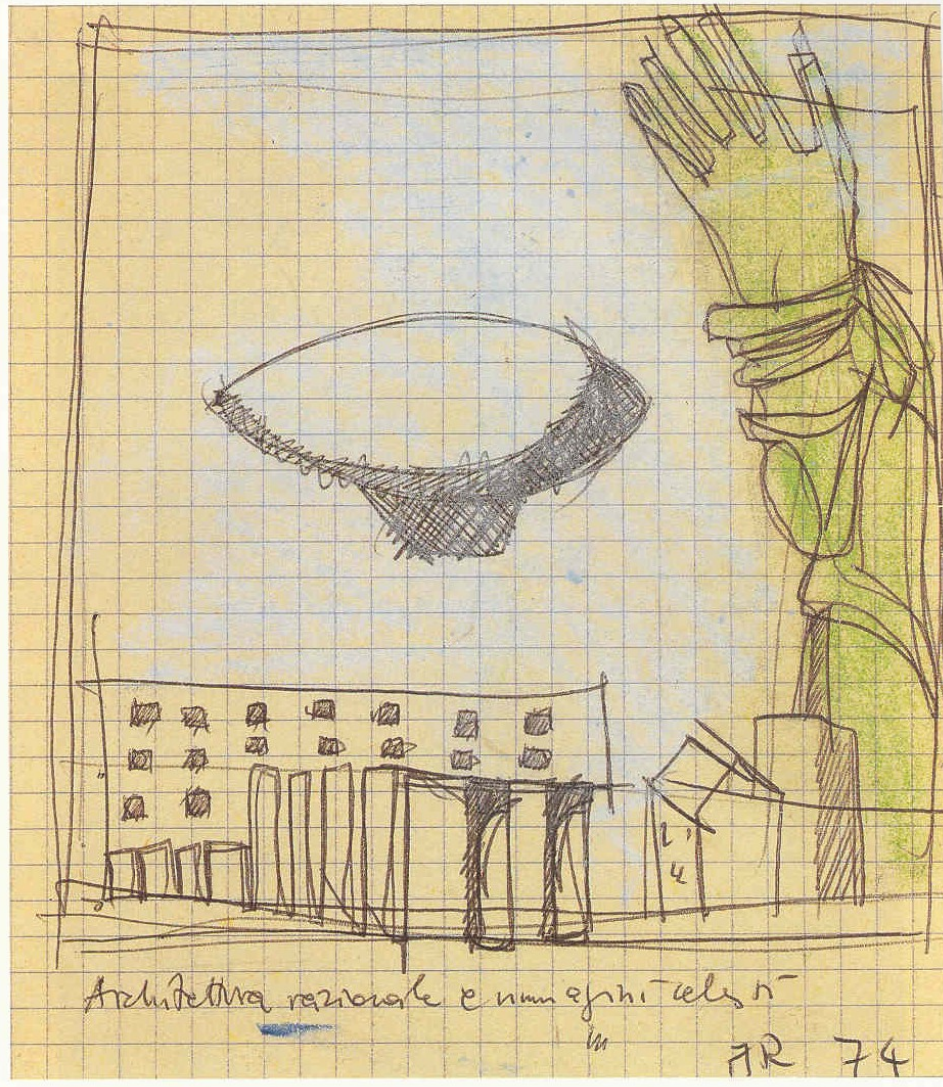
¹¹⁵ Rossi, A. (1981): 2.

¹¹⁶ "Just standing in Sant' Andrea at Mantua I had this first impression of the relation between *tempo*, in its double atmospheric and chronological sense, and architecture; I saw the fog enter the basilica, as I often love to watch it penetrate the Galleria in Milan: it is the unforeseen element that modifies and alters, like light and shadow, like stones worn smooth by feet and hands of generations of men." Rossi, A. (1981): 2.

¹¹⁷ Rossi, A. (1981): 3.

Where we would expect to find the structure (the 'skeleton' of the saint) instead there exists a parody of the outside where the drapery of the representationally clothed exterior

Figure 26



Architettura razionale e immagini celesti, 1974, [35]

Aldo Rossi
Architettura razionale e immagini celesti
1974

is revealed internally through the sheets and seams of interior fabrication. It is upon his arrival at the 'celestial observatory' that Rossi discloses the proper significance of the eyes of the San Carlone. Here the 'eyes' make the head the site of interior/exterior transgression. Through the process of viewing - of 'seeing' - the outside is brought in, and, more importantly for the person within, there can occur a separation between the

body and the spirit whereby the eye ‘carries’ the vision beyond the confines of the head. This process of separation and vision, possible only within the grotesque ‘trans’ space of the head, has the effect of calling forth an apparition which, in this case, has dual associations of phenomenon and spectre. As a phenomenon, San Carlone stands as an analogue for Rossi’s desire for humanist architectural values, and the role of monumentality. The spectre - the apparition given life by death - dwells within the San Carlone precisely because of these humanist desires. The spectre ‘lives’ as a loss that can never be properly be lost, and yet is never properly present. Manfredo Tafuri sees that in Rossi’s work:

*... the categorical imperative of the absolute estrangement of form is in effect, to the point of creating an emptied sacrality: an experience of fundamental immobility and of the eternal recurrence of geometrical emblems reduced to ghosts.*¹¹⁸

Perhaps it is for this reason that the gesturing figure of San Carlone is so often present in Rossi’s drawings of the Cemetery of San Cataldo (Modena, Italy, 1971).¹¹⁹ It haunts his drawing as a reminder of the desire that motivates his architectural search.¹²⁰ With the same beguiling deception as the horse of Troy, the San Carlone abstrusely inserts the spectre of Rossi himself into his drawings: his presence through desire, memory, obligation, and eventually loss. It is desire that incites the apparition.

¹¹⁸ Tafuri, M. (1990): 274-275.

¹¹⁹ See Adjmi, M., Ed. (1991): 18.

¹²⁰ “Rossi’s projects can be comprehended at a glance, and often have the same haunting effect on the memory, as a moment of film, where light, emotion and form combine.” Tafuri, M. (1990): 273. References to film in Rossi’s work should come as no surprise given that he began his formal education in 1949 at the Milan Polytechnic as a film student. For a more comprehensive account of filmic techniques and the work of Rossi see Tafuri, M. (1990). In *A Scientific Autobiography* he makes mention of his only direct experience with film; a piece titled “Ornament and Crime” after Adolf Loos’ essay of the same name, which consisted of a collage of architectural pieces of other films, and which was presented at the 1973 Triennale in Milan. With this work he believed he had “truly gone beyond architecture, or at least explained it better.” Rossi, A. (1981): 74.

The figure of the hand

. . . architecture becomes the vehicle for an event where it becomes something 'progressive' in the Hegelian sense. . . . But it is for this reason that the dimensions of a table or a house are very important - not, as the functionalists thought, because they carry out a determined function, but because they permit other functions. Finally, because they permit everything that is unforeseeable in life.

Aldo Rossi¹²¹

Rossi's reference to Hegel should be seen as a reiteration of the historical and social nature of human experience whereby architecture becomes a part of the cultural continuum with responsibilities to collective education. The greater imperative in Rossi's writing is the demand that desire be recognized in order for the presence of architecture to be acknowledged. However it is 'longing', more particularly than 'desire', which is thoroughly entwined with problems of mortality. 'Longing' is defined as a 'yearning desire',¹²² and where 'desire' craves for a thing or an object, 'longing' searches for something lost or misplaced. The distinction between these two terms is critical to an understanding of Rossi's work. His drawings do not portray desire for what architecture could be, but a longing for what it could *have been*. Each of Rossi's drawings is a palimpsest of souvenired images of pasts not yet past, and futures not yet encountered. Rossi attempts to inhabit a realm between these two states which have their referent in the dialectic of life and death. His drawings take on the characteristics of a souvenir taken from an indistinct original:

*They deny death by imposing the stasis of an eternal death.*¹²³

Here then is Rossi's dilemma - how to foresee the unforeseeable, that is, how to see the unseeable. When he views through the eyes of the saint, Rossi demands that we understand *his* as the sight of a saint, and this view, disseminated in his drawings, remains stained with this grandeur - literally an 'elevation'. This becomes particularly significant in an image such as *Una lettera* where the still-life scene, familiar from other drawings, contains an autobiographical *portrait* depicting himself holding his right hand up to his right eye, while his left hand reaches out to a letter on the tabletop. This gesture of the hand, with its rigid form and rake-like appearance, bears such acute comparison to the hands of San Carlone in *Il San Carlone* and *La Sezione del santo*, that it could be understood as one and the same, having become Rossi the saintly figure himself. This transformation is reiterated graphically where the hand is held to the eye, signalling another version of the interior/exterior experience of the celestial observatory of San Carlone, through the hand that offers an instrument to transport the vision of the eye out into a tangible world of making. This sentiment evokes the making of *poiesis*, one interpretation of which demands that discovery and revelation, are regulated by the

¹²¹ Rossi, A. (1981): 3.

¹²² S.O.E.D. (1992).

¹²³ Stewart, S. (1993): 144.

sentient perception of the tactile. The longed for moment of disclosure can only be brought forth through the actual work of making.¹²⁴

The hand and the eye

Philip Kuberski describes the interior/exterior relationship between the eye and the stars in terms of identity and the reconciliation of the greatest inwardness with the greatest outwardness:

*Whether in myth or in science, the appreciation and the attainment of truth concerns the meeting between two such principles, either long separated or only distantly linked by a sequence of relations. This would be an example of the correspondence theory of truth: the assumption that truth is the confirmation of an occurrence when languages, images, numbers, or heroes are reconciled with one another across the meeting place of an equal sign, a colon, or a terrestrial or celestial topos.*¹²⁵

As an analogue for Rossi's architecture the manifestation of the hand should not be objectified as discrete from the subjectivity of Aldo Rossi, the corporeal man. Indeed, the hand, as the means of manipulating the action of drawing, is by extension, a tool of and for drawing itself. This position, with its intimation of the autonomy of the hand, challenges the intellectual authority of an omnipotent eye drawing through the hand, and replaces it with a model of the tactile usurping the visual as the principle motivating factor of drawing. The risk for architectural representation is a rejection of the dominance of a visual paradigm for drawing, and a subsequent questioning of the assumptions of this field. Ratcliff addresses this confrontation:

*Each drawing is a new occasion, and the pressures of its moment send his hand along a path different, subtle or obvious, from any that it has travelled before. This freshness revivifies the patterns of his analogies, of the meanings he ascribes to forms.*¹²⁶

'Pressure', in this context, includes the emotional and psychological pressures of the unknown within the design moment, and can also be extended to include the act of

¹²⁴ See James Corner who applies this line of thought to the problems of drawing for landscape architecture. Corner, J. (1992): 243-75. Jennifer Bloomer refers to the relationship between contemporary architecture and the body, in which a body might 'feel' a building's pain: "There remains in this construction a certain distance between the body and the building, a distance that was rigidly maintained in the classical tradition; but there is also here the opening onto which I would like to build an addition. The merging of this body bodily identification with hapticity and eroticism is perhaps the site of a return of a repressed beauty, a beauty born of an overlap of the classical sublime and the classical beautiful, much as a moiré pattern emerges when two similar but not quite distinct patterns are superimposed on one another: a site for building, as Kant's or Burke's woman might build – before the mirror, alone." Bloomer, J. (1993b): 5.

¹²⁵ Kuberski, P. (1992): 68.

¹²⁶ Ratcliff, C. (1993): 15.

physical pressure required to maintain contact between a pencil and paper. The slip, break, or blur of the drawing tool is inferred in the 'freshness' of the drawing - its subtlety or obviousness - and this in turn must affect any analogous meaning. The challenge to the representational authority of drawing lies in the inclusion of material filtered not by the eye but by the hand.¹²⁷

The San Carlone provides Rossi with his 'equal sign' from which to negotiate the reconciliation, and therefore also separation, of the visual and the corporeal. At the same time, Rossi offers the hand as a visionary device given equal authority to the eye while acknowledging the eyes limits. This figure finds its historical parallel in El Lissitzky's self-portrait *The Constructor* (1929). Here the eye and hand of the architect overlaid so that the eyes sees through the hand, and the hand touches the eye in a utopian gesture of thinking and doing, as well as a pragmatic action of shadowing the eyes against bright light:

*The representation of Lissitzky as architect relates to the widespread avant-garde idea of architecture as the most important, most efficacious of the arts. The artist now becomes the zhiznostroitel or the constructor of the new way of life.*¹²⁸

[Figure 27]

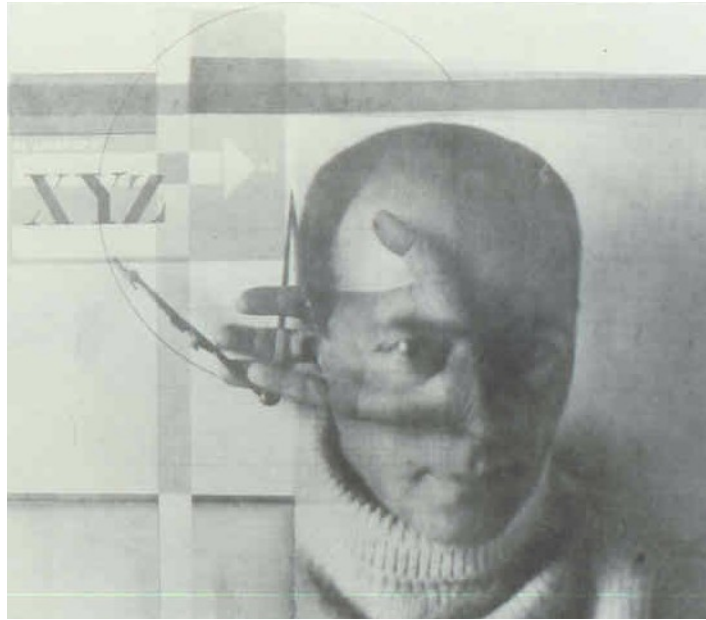
The hand and the eye are the Janus figure of architectural drawing. Each relies unreservedly on the other to define itself. Eugenia Ellis has observed that the blind are able to formulate images in their mind's eye, and are able to represent these figures in perspective.¹²⁹ Similarly John M. Kennedy has done much to dispel any ideas that the

¹²⁷ Ratcliff endorses the resistance of commentators on architectural drawing to allow for non-visual inclusion. This is further illustrated in the following comment from Ratcliff where the speed of the hand is unable to match the speed of the vision, and thereby relegates the hand to the eye through an incorrect association of the visionary to the eye: "It is not that architects want their drawings to obscure the nature of things; rather, it is the nature of their drawings to endow form with singular qualities of hand and eye . . . in Rossi's springy, flexible line I see evidence that his glance is precise and slightly impatient. His hand tries to keep up and usually succeeds, with an economy that comes across as unlabored elegance." Ratcliff, C. (1993): 13.

¹²⁸ Birnholz, Alan C. (1972): 70-76. (71). While making a reading of *The Constructor* in light of the poetical and artistic climate El Lissitzky was working in, Birnholz makes only brief reference to the figurative compositional aspects of this image. He makes little of the superimposition of El Lissitzky's right palm over his right eye. By Birnholz's account this is curious for the 'disturbing' ambiguity of the wrist over the nose, and that the gesture with which El Lissitzky holds the compass is affected - that is to say not in accord with a coarse proletarian hand. Birnholz finds only this one reading in the image. Taken as a *portrait* of the architect (rather than a post-revolutionary socialist artist), the hand is un-called precisely because it is that of an architect, an intellectual rather than a manual worker. Similarly, where Birnholz finds the compass to be an effete symbol, 'not a practical instrument', he is oblivious to the overt symbolic reference of the palm over the eye. With this imposition El Lissitzky has made the redundancy of the compass clear; architecture is an intellectual activity where the visionary travels a path from the imaginary to the actual via a metaphorical passage of eye through hand. Literally, it is the hand (and not the compass) that is the instrument that gives presence to the architectural vision.

¹²⁹ "The blind have the intuitive sense that as objects recede into the distance, lines converge. There is reason to suppose, therefore, that perspective is not entirely a drawing convention but an intuitive basis of picture making." Ellis, E. (1997): 40.

Figure 27



El Lissitzky
The Constructor
1929

blind are incapable of pictorial thought and imagination.¹³⁰ Nonetheless, Lissitzky's self-portrait expresses a moment of crisis in modern architecture where the architect is caught between the corporeal and the cerebral. This is quite literally the angel/angle figure that Frascari imagined when he wrote:

*Drawings must be conceived within an angelic gaze as buildings are built within the same acute gaze. Drawings are graphic representations analogously related to the built world through corporeal dimensions and embodying in themselves the chiasma of construing and constructing. Drawings are specific acts of demonstration belonging to an architectural encyclopedia, which is a thesaurus of angelic images.*¹³¹

Furthermore, it seems no coincidence that Lissitzky's portrait, with its wing-like hand over the eye, bears a striking resemblance to the medallion of Leon Battista Alberti by Matteo de' Pasti that depicts a winged eye as a symbol of angelic flight.¹³² [Figure 28] So too, throughout Rossi's drawings the figure of the San Carlone is presented as an otherworldly one who moves between drawings and projects as a metaphysical figure reminding Rossi, and the viewer, of the limits of both drawing and architecture. Rossi looks through the eyes of the saint and sees the outstretched hand; he draws the saint and his own hand reaches out to draw in San Carlone's eyes.

The outstretched hand in other drawings

It is not that architects want their drawings to obscure the nature of things; rather, it is the nature of their drawings to endow form with singular qualities of hand and eye. Thus we do not take Indigo Jones's drawings as proof that he saw marble mantelpieces and granite columns as light and feathery. We understand these drawings as telling us how he looked at massive objects, and in Rossi's springy, flexible line I see evidence that his glance is precise and slightly impatient. His hand tries to keep up and usually succeeds, with an economy that comes across as unlaboured elegance.

Carter Ratcliff¹³³

The left hand of the biographical figure in Rossi's *Una lettera*, makes a proprietorial claim for a letter and brings to mind the observation made by Edward Lutyens, that the drawing should be utilised, in the manner of a tool, as a letter to a builder.¹³⁴ Viewed in

¹³⁰ Kennedy, J M. (1991), (1993a), (1993b).

¹³¹ Frascari, M. (1990b): 13. See also Frascari, M. (1989).

¹³² For a full account of Alberti's medallion see Mark Jarzombek *On Leon Baptista Alberti: His Literary and Aesthetic Theories*. Cambridge, Massachusetts and London, England: The MIT Press, 1989.

¹³³ Ratcliff, C. (1993): 13.

¹³⁴ "I was not cross only very dictatorial and impressive. They never realise that a working drawing is merely a letter to a builder telling him precisely what is required of him - and not a picture wherewith to charm an idiotic client." Edwin Lutyens quoted in Lever, J. and M. Richardson (1984): 1.

Figure 28



Matteo de' Pasti
Medallion of Leon Battista Alberti

this context the hand is another version of the instrument of communication and displacement. In effect it becomes a shadow to the function of the eye as it traces out in two-dimensions the complex scenarios being internally composed. The hand, an 'unseeing' appendage, makes seeing possible. In fact, the hand initiates the unseeable, and therefore becomes desirable in itself. In *Una lettera* the dependent nature of such a relationship is disclosed by the other object-apparatus on the table plane. In each object we find an element of addiction suggesting weakness and obsession: coffee - caffeine, cigarettes - nicotine, vodka - alcohol. Whether drinking or smoking the hand performs the required function of transporting the material of addiction, quite literally between inside and outside. In each case the presence of an object-apparatus represents the presence of the fetish.¹³⁵ In defining the fetish Tylor notes that:

*To class an object as a fetish demands an explicit statement that a spirit is considered as embodied in it or acting through it or communicating by it, at least that the people it belongs to do habitually think this of such objects; or it must be shown that the object is treated as having personal consciousness and power, is talked with, worshipped, prayed to, sacrificed to, petted or ill-treated with references to its past or present behavior to its votaries.*¹³⁶

For Hal Foster the fetish becomes one way to account for the description of Dutch still life painting where the objects are described as emanating a special force or independent life. Foster continues:

*If only a superficial sheen or shine, this visual intensity cannot be explained away as an effect of a disguised symbolism or a residue of a religious gaze; a fetishistic projection on the part of artist and viewer alike is involved.*¹³⁷

Foster reminds us that the term still life is derived from the practice of *rhyparography*, the depiction of insignificant things. But as a site of subject-object relations the Dutch still life displaces this definition as it imbues the everyday with extraordinary visual significance. The effect of such transformations, suggests Foster, is to evoke a deathly suspension, or eerie animation, as objects are at once chilled and charged by the speculative gaze fixed upon them. Dutch still life painting produces a ghosting of insignificant things that is projected beyond the surface of the representation.

As a fetishistic projection, the glance-Glanz might include a reminder of the loss that haunts the subject. Certainly still life seems so marked: a ghost of a lack hangs over its very abundance. The second reason concerns the psychic association of the threat of castration with the threat of blindness (which, again,

¹³⁵ I have not been able to identify the article to the upper right hand corner of the table surface and have chosen here to ignore it rather than make any claim to its significance.

¹³⁶ Tylor, E. B. (1903): 144-145.

¹³⁷ Foster, H. (1993): 253.

is discussed by Freud on the uncanny and by Lacan on the gaze). Perhaps more than any other genre, still life is disposed for our gaze.¹³⁸

Disposed for our gaze, still life threatens to dispossess us of our sight. Our gaze shines back from the object of scrutiny and threatens us with the loss of sight as though it is the object that sees us. This is the threat of linear perspective where the vanishing point assumes a position equal and opposite to our gaze so that it can double the gaze - returning it to us as in an alienated form.

The persistent presence of domestic objects in Rossi's drawings is a manifestation of the fetish. Rossi imbues these insignificant objects with the power to evoke an architectural spectre that is too often neglected as typological rather than ethereal. That images such as *Interno con il Teatro del mondo* are still life is a truism that disguises the real potency of the representational language. These are images of death. Each depicted object represents time past, and a place gone. Contrary to traditional architectural drawing which attempts to suppress the lifeless quality of representation, Rossi emphasis the inert by monumentalising the ability of the fetish to incite architectural apparitions. Yet the fetishism involved here is not limited to the subject of drawing alone. The drawing itself, the act and its effect, are a site of fetishism. To draw architecturally is to attempt to summon a quality beyond the pictorial, that is, beyond life. In this way the architectural projection is a projection from rather than towards, and the drawing can be understood as a shadow of this 'other' space of architectural possibility that haunts the site of drawing.

The shadow is the icon presence, which is then a tool for memory, a sensitive icon, a template of love. The very notion of theoria is connected to the primacy of seeing.¹³⁹

This description summarises the relationship Rossi establishes with the architectural drawing. At all times his own personal ideology and experiences find their way onto the drawing sheets. The San Carlone is one of these, the figure veiling its eyes with the hand is another. These images have no place in an architectural drawing unless they purposefully attempt to evoke the metaphysical as a new form of representational space.

The drawing as a shroud

Finally, there is only light, revealing objects; and every object, tower, or coffeepot has an identical being, the same scale.

Vincent Scully¹⁴⁰

¹³⁸ Foster, H. (1993): 264.

¹³⁹ Frascari, M. (1990c): 35.

¹⁴⁰ Scully, V. (1981): 111. Scully continues: "One feels that a great thing has happened, that Rossi has opened a white window onto *sight*. He has been able to divest himself of ideology almost entirely. Consequently there is no predetermined connection with other things, no hierarchy. Everything is seen afresh, may be connected with other things in some new way. This is Rossi's greatest strength; it enables his eyes to focus upon the nonrational life of objects that may be said to go on inside the brain of man but is

Manfredo Tafuri has described a realm of architectural commonality where architectural graphics and architectural dream are made manifest on paper as the space of 'contamination.'¹⁴¹ For all architects the drawing presents a risk of contact with that contaminant, the risk of infection and defilement that substitutes representational obligation with the metaphysical, analogous, metaphoric, or poetic imperatives of architecture. Aldo Rossi, with his biographical referents and repetitive typological imperatives (hands, coffeepots, etc.), commits his architectural drawing to a world of allusion and innuendo where the object of illustration is veiled behind layers of nostalgic (subjective) suggestion. Unlike conventional architectural representation, Rossi's drawings seek to disrupt the sequential imperative of the visionary illustration that maintains a relationship of origin, development, and execution. Instead, he uses drawing to look backward as well as forward. Indeed, in Rossi's work we can no longer clearly differentiate the two. Past and future are dissolved together as 'souvenired' cultural artefacts. For this reason the inclusion of the hand, argued as Rossi's own, is critically important. The souvenir is always a burden of nostalgia.¹⁴² It establishes an intimate distance with time - past or future - but maintains the distance of that time, and its conditional relationship to loss and death. Furthermore, there is no better souvenir object than that of the body-part, no cultural artefact better encapsulates the anxiety of mortality and the desire to transcend this fate. Of the artefact of the dead Stewart writes that:

*Because they are souvenirs of death, the relic, the hunting trophy, and the scalp are at the same time the most intensely potential souvenirs and the most potent antisouvenirs. They mark the horrible transformation of meaning into materiality more than they mark, as souvenirs do, the transformation of materiality into meaning. If the function of the souvenir proper is to create a continuous and personal narrative of the past, the function of such souvenirs of death is to disrupt and disclaim that continuity. Souvenirs of the mortal body are not so much a nostalgic celebration of the past as they are an erasure of the significance of history.*¹⁴³

Where Rossi includes in his drawings gestures of the hand, or the self, they could be recognised as versions of the death relic, aspects of the author held up for inspection and reverence. Following Lissitzky's self-*portrait*, Rossi records his own hands, and his own eyes, in an expression of corporeal finality. With his raised hand Lissitzky identified touch as the blind spot in architectural vision through which the eye bleeds like an uncanny stigmata, staining the site of representation.

not identical with his reason. So the adjective 'scientific' which Rossi employs takes on an ironic tinge but is deadly serious. Rossi did not start with his *vision*; no one does." (111)

¹⁴¹ Tafuri, M. (1990): 278.

¹⁴² "When Rossi designs a building, he thinks first of all of its emotional impact. He goes through a process of identification so complete that he imbues his projects with human qualities, often referring to a particular building of his as 'sad' or 'happy' or, more often than likely, 'melancholy.'" Stein, K. (1991): 271.

¹⁴³ Stewart, S. (1993): 140.

*In the mind there is a blind spot (tache aveugle) that recalls the structure of the eye. In the mind, as in the eye, this is difficult to detect. But, whereas the eye's blind spot is unimportant, the nature of the mind means the blind spot will, in itself, make more sense than the mind itself. To the extent that the mind is auxiliary to action, the spot is as negligible there as it is in the eye. But, to the extent that man himself is what is considered in conceptualization - by man I mean the exploration of the being's potential - the spot absorbs attention. It is no longer the spot that vanishes into knowledge, but knowledge that gets lost in the spot.*¹⁴⁴

For Hollier the spot has come to designate a bad 'mark'; evoking the unclean markings of ink spots, sperm stains and blood. Blindness, too, is an indelible marking. Panofsky quotes Berchorius; *Nota igitur generalitier percecum intelligitur peccator* - blindness is a stain.¹⁴⁵ It conveys to us "only something negative and nothing positive, and by the blind man we generally understand the sinner," from which Panofsky concludes that blindness is always associated with evil, that is, the corrupt and improper.

This is the problem of the architectural drawing where its blind spot is made invisible by its optical dominance. That the drawing is always visible disguises what is seen, and how it is seen. The architectural drawing is a blind spot of architecture providing a visual stimulus that is at once both visionary and myopic, where the architect's vision is the extent and the limit of its representational possibilities.

To evoke death, however casually, is to evoke one's own mortality and the loss of youth. An expectation of human frailty in the work of Rossi is made substantial by his near fatal car accident in 1971.¹⁴⁶ As he notes in "A Scientific Autobiography", he began to identify death with the morphology of the skeleton, and skeletal structure of the body as a series of fractures to be reassembled. This sets up a dualism that is the crux of Rossi's architectural interrogations in drawing. He is at once offering personal commentaries on life, and then projecting these observations onto urbanity as a humanist gesture. Inherent within this agenda is a paradox that finds itself exposed as the 'uncanny' architectural quality (following De Chirico) of Rossi's drawings:

Architecture it can be argued, can only exist in a prelinguistic universe unencumbered by history. And it is through the particular imagery of collective death that Rossi attempts to suggest the presence of this atemporal universe of architecture - one which is outside man. In this way Rossi the romantic poet, faced with the inexorable reality of the survivor, yearning for the return to the

¹⁴⁴ Bataille, D. (1988): 141.

¹⁴⁵ Panofsky, E. (1962).

¹⁴⁶ "In April of 1971, on the road to Istanbul between Belgrade and Zagreb, I was involved in a serious automobile accident. Perhaps as a result of this incident, the project for the cemetery at Modena was born in the little hospital of Slawonski Brod, and simultaneously, my youth reached its end." Rossi, A. (1981): 11. Rossi traces the origin of his fascination with skeletal structures: "I saw the skeletal structure of the body as a series of fractures to be reassembled. At Slawonski Brod, I had identified death with the morphology of the skeleton and the alterations it could undergo"(11).

*possibility of the hero. The drawings represent the dilemma of Rossi the humanist confronted with a modernism that is not offered to him as a condition of choice.*¹⁴⁷

Rossi's architectural drawing reveals an architect reaching the limits of that very expression.

The architectural drawing as a tool

Eugenia Victoria Ellis has noted that the word haptic, derived from the Greek term meaning 'able to lay hold of,' refers to sensations that operate with the body or its extremities - "it is the perception of extension."¹⁴⁸ To discuss the architectural drawing as a tool rightfully identifies it as an extension not only of the creative imagination of the architect, but also a literal extension of the body of the architect, as the hand is lengthened by the drawing instrument as if it were a prosthetic augmentation:

*A critical development in the evolution of the tool is its separation from the hand on man. Like language's isolation from the oral tradition, the tool's disjunction from the body signals a significant schism. For architects, the separation of tool from body is the completion of a paradigm shift that began in the Renaissance.*¹⁴⁹

This is at once a union and a separation. As Mark Wigley has observed, any kind of prosthetic device acknowledges an inherent lack that is being compensated for, but which is only evident at the point of supplementation.¹⁵⁰ For architectural drawing this lack is both physical and figurative. The pencil acknowledges the failure of the finger to leave a trace of its passage across a sheet. The pencil adds to the hand this particular 'loss', where the tip of the drawing instrument abandons its body to leave a trail of its own making, and therefore demise. Furthermore, the pencil highlights an idealistic separation of the architect from the architectural project. The architect blindly feels their way across the drawing surface. By adopting the prosthetic device of the pencil the architect acknowledges a lack in vision. The architect draws to compensate for a lack of 'seeing'. The issue here however is more complex than simply 'drawing to see'. Figuratively, the

¹⁴⁷ Eisenman, P. (1979): 6. The full realization of Rossi's near death experience into an architectural resolution comes later in his recuperation when he visits the green Mosque of Bursa. He wrote that it was here his passion for architecture was rejuvenated. "In the mosque, I here experienced a sensation which I had not felt since childhood: that of being invisible, of being on the other side of the spectacle in a certain sense." Rossi, A. (1981): 11-12. I take it that this experience is one of peering through the eyes of San Carlone. This 'other side' may then be the literal transgression between inside and outside, interiority and exteriority, the cerebral and the corporeal. The effect for Rossi is to be removed from a scene (and significantly he finds theatre the exception of such removal) so that one never has a satisfying experience of it. The tangible record of this observation comes with Rossi's acknowledgment that he has taken from the mosque Turkish motifs that "recur in several of my subsequent drawings for the [Modena] cemetery project"(12).

¹⁴⁸ Ellis, E-V. (1997): 39.

¹⁴⁹ Miller, R. (1988): npn.

¹⁵⁰ See Wigley, M. (1991).

pencil serves to demonstrate the incapacity of the architect to foresee, so that all architectural imagination is conditional on the limits of drawing, and the paradigm of projection. For Rossi, only the hand is free from this tyranny, and in compensation he abandons the dexterity of the hand to speed.

The quickness of Rossi's hand signals a willingness to trust the viewer's vision. His line seems to say: you see what I mean, so I won't bore you with an unnecessary degree of precision. Delicate and ponderous at once, the line of pittura metafisica announces: you cannot see what I mean, or at best you can glimpse it distantly, for I am delineating the ineffable. Unburdened by this pretension, Rossi's line has the quickness of speculative thought, or of speculation crowding into conservation. Instead of the eternal certainties sought by the metaphysical painters, Rossi seeks - and, with his relentless gestures, finds or, better, produces - new possibilities.¹⁵¹

This is well illustrated in *Interno con il Teatro del mondo* by the 'models' that visually bridge the relationship of the horizontal tabletop to the vertical wall. Superficially it reproduces Baldassare Longhena's church of Santa Maria della Salute [Figure 29] in such a manner that it is not fully clear if this is a drawing, a drawing of a model, or even a model of a drawing that has itself been drawn. Rossi constructs a careful ambivalence as to the 'correct' representational form. This disorientation is the nature of the subject. The reference to the Church of the Salute is implied by the very obviousness of the twin domes and matching cupolas, and the presence in the background of a Rossi's *Il Teatro del Mondo*, which was moored outside the Church of the Salute in 1987. However, where the domes should be aligned on a single axis, here there are brought into a parallel plane to display two facades not found on the actual building. These bear a striking, and hardly accidental, resemblance to two works by Palladio: the Church of the Redentore, [Figure 30] and the Church of the Zitelle. [Figure 31] This image, like the conjunctions of vertical/horizontal, interior/exterior, or domesticity/urbanity, is a conscious collision of difference – here Palladianism and Venetian Baroque – that invokes a new apparition. This is not a pastiche image, it actually represents a new design by Rossi so that, at the centre of *Interno con il Teatro del mondo*, we find a relatively conventional sketch elevation for the design of a neo-classical church that belies the uncanny circumstances of its manifestation. The result is a phantom church, which, in the manner of the hand of God, is invented from a slight of hand.

¹⁵¹ Adjmi, M. and G. Bertolotto, Eds. (1993): 14.

Figure 29



Baldassare Longhena
Church of the Salute
1631-1681

Figure 30



San Giorgio Maggiore, the Rotonda and San Francesco della Vigna
Comparison of Palladio's Three 'Temple Front' Church Facades
Scamozzi, *Le fabbriche e disegni di Palladio*

Figure 31



Andrea Palladio
Church of the Zitelle
1574 - 1588

SECTION 3

Morphosis: Drawing Blind.

SECTION 3

Morphosis: Drawing Blind.

I want to see things, I don't trust anything else. I place things in front of me on the paper so that I can see them. I want to see therefore I draw. I can see an image only if I draw it.

Carlo Scarpa¹

When an architect is caught in a web of commercial sophism, the notion of the drawing as a secret laboratory, visible yet partly invisible, can be helpful.

Neil Spiller²

With the Venice houses we started exploring the connection between building and context, idealizing the idiosyncratic characteristics specific to each problem, interested in exploring an architecture reflexive of what appears to so many as conflict, so much a part of the pluralistic culture of L.A. . . . We were conscious of the apparent over investment [sic] of energy that was expended on these small-scale projects and artefacts (models/drawings) that were part of this effort.

Thom Mayne³

Venice III (The Bergren House) – 1982⁴

Drawings and Models . . . allow a degree of precision often elusive in verbal discourse.

Thom Mayne⁵

In 1982 Morphosis completed an addition to a bungalow in California for classics scholar Ann Bergren. In the course of this project the architects produced one particularly polemical drawing. Morphosis emerged from the 1980's a prominent architectural firm as committed to the importance of the architectural representation as the built work. Throughout this period their attention to the productive qualities of architectural drawing became a means to critique and advance their architectural work. The amount of representational imagery produced for *Venice III*, and its discursive nature, singles out this project from their other work. Indeed, Dana Cuff has suggested that it was the number of large-scale projects with the firm at that time which allowed a modest house addition to be treated as an opportunity to try new ideas.⁶ Notes Thom Mayne:

¹ Murphy, R. (1990): 41.

² Spiller, N. (1989): 17.

³ Mayne, T. (1999): Appendix I.7n7.

⁴ This project is dated 1985 by Alice Friedman, but is catalogued by Cook and Rand as 1982.

⁵ Thom Mayne quoted by Forty, A. (2000): 37.

⁶ Cuff, D. (1991). "This addition was conceived of as a prototype for a scaled-down urban house for a small family on a restricted urban lot. The character and the physical organization of the new structure

For us, this work is seminal in the body of our work. Some projects are transitional, some projects are generative. . . . It allowed us to explore ideas in a way we hadn't to that point. We discovered things we hadn't discovered yet. The house once again showed us the power of architecture as an idea and that you can convey ideas regardless of the size of the scope of a project. . . . Specifically, it allowed us to explore sequential movement in a way that we hadn't before. It was very processional. It allowed us to deal with the relationship between a visual axis and an organizational axis (as opposed to one of movement), which had to do with the rational ordering systems that we lay on the world in order to comprehend that world, but then beyond that, the circumstance of everyday life. . . . We had an objective to set up certain datum's through the building that would allow you, as you move through it in a circumstantial way, to understand that it was ordered in a very specific way.⁷

Superficially these drawings, and the photograph of the built project, seem to identify a particular attention to the image suited to academic reproduction. Photographs, such as those reproduced by Cook and Rand, or the pictures of Timothy Hursley for Alice T. Friedman, indicate that the representational images of *Venice III* should be interpreted as careful attempts to preserve the architectural quality of the built work, rather than simply builderly expressions.⁸ In his reading of *Venice III*, George Rand is unable to separate the built project from either the representational work, or even the client herself. He notes that is a house for an 'intellectual', a classicist with a desire to be displaced into a world of antiquity. This is Rand's paradigm for 'explaining' the formal disposition of the house as a series of conflicting elements brought together, and he reads this project as dramatically more complex than an addition. For Rand, *Venice III* displays an order of imagery characteristic of what it will be described as the 'grotesque':

Then there is the stitching together of formal and informal elements into a misshapen whole. The body can be seen as both beautiful and grotesque. The classical lines of Greek statuary have little to do with the mortal facts of life. Classical buildings are complete unto themselves whereas contemporary buildings tend to overflow their limits. In relation to the body, the focus on food and evacuation, sex and birth, is a metaphorical confrontation with impulses. The body outgrows its limits and conceives a new second body in the bowels and the phallus. It breaches the boundary between its own and that of other bodies. The

allow it to operate as an extension of the existing house, as a separate area to be used for members of an extended family, and a separate dwelling that could be rented or sold. The addition is made of concrete slab, wood frame, asphalt shingle walls and metal wall panels." Cook, P. and G. Rand, Eds. (1989): 101.

⁷ Mayne and Rotondi quoted by Cuff (1991): 203.

⁸ Cook, P. and G. Rand, Eds. (1989). I am particularly interested in one photograph taken by Tom Bonner (p110) which I will refer to later in this section. Other photography credits for *Venice III* are to Ranier Blunck (p102-103, 108, 111 top right and centre right), Paul Warchol (p106-107), and Tim Hursley (p109, 111 centre left). Friedman, A. T. (1998). Conclusion, plates 1 (rear elevation, p.214), 2 (front elevation, p.218), 3 (living area, p220),

*grotesque image defies the closed, smooth, impenetrable surfaces of modern objects and allows for protruberances [sic] and bulges, holes and orifices.*⁹

The Bergren house was the third of three domestic projects executed by Morphosis in Venice, California, between 1979 and 1985.¹⁰ Ann Bergren has described her home as a renovated 1920's beach house in a suburb of Victorian and Craftsman style bungalows. "The front is a white bungalow with Victorian bay windows and an interior renovated in high-tech by Brian Alfred Murphy in 1980."¹¹ She describes the Morphosis addition as playing seriously with the movement of formal harmonies and structural ambiguities, which are grounded in sheer delight in technical detail. It is, says Bergren, "a juxtaposition of old and new."¹² Bergren regards the spatial experience of moving between the first and second floors as a type of 'reading' out of the spatial ambiguities of stairway. Early into this project it was realised by Morphosis and Bergren that a client who was also an academic with a wide appreciation for architecture presented a unique opportunity.¹³ Bergren wrote of this relationship:

*I, too, work with form, ambiguity, and the interrelations of old and new. I combine the traditional skills of philology with post-structuralist literary theory to study early Greek thought - especially about how language works through the instability of oppositions like inside/outside, fixed/mobile, truth/imitation of truth. . . . all I wanted was for Michael and Thom to build what they wanted to, and they did. But without realizing it, I must have seen in those pictures a reflection of my own intellectual and aesthetic disposition, for just by effacing myself as a designer in the project, I have gotten the sort of 'classic' I would have designed myself.*¹⁴

The expectation from the beginning of the project that the responsibilities of authorship would be split between client and architect. The architects were obliged to 'speak' architecturally for another authoritative intellectual voice. This relationship was uncommonly complex, and it resulted in unusual architectural dialogue in the form of the highly formal critique Bergren wrote for the populous magazine *House and Garden*¹⁵. Similarly the response of the architects to a relatively small domestic extension was extraordinary - they produced a particularly difficult and judicious presentation drawing whose analytical interrogation of the nature of architectural drawing is out of proportion to the project. The drawing – which I refer to here as *Venice III* – offers a criticism of architectural drawing itself. [Figure 32] Of the addition project, it is an early

⁹ Rand, G. (1989): 22-23.

¹⁰ These consist of 2-4-6-8 *House* (1979), *The Sedlak House* (1980), and *The Bergren House* (1985). Ann Bergren refers to her own as the conclusion of the Venice triptych, and which accounts for the more familiar name for her project as 'Venice III'. Bergren (1986).

¹¹ Bergren (1986): 127.

¹² Bergren (1986): 127.

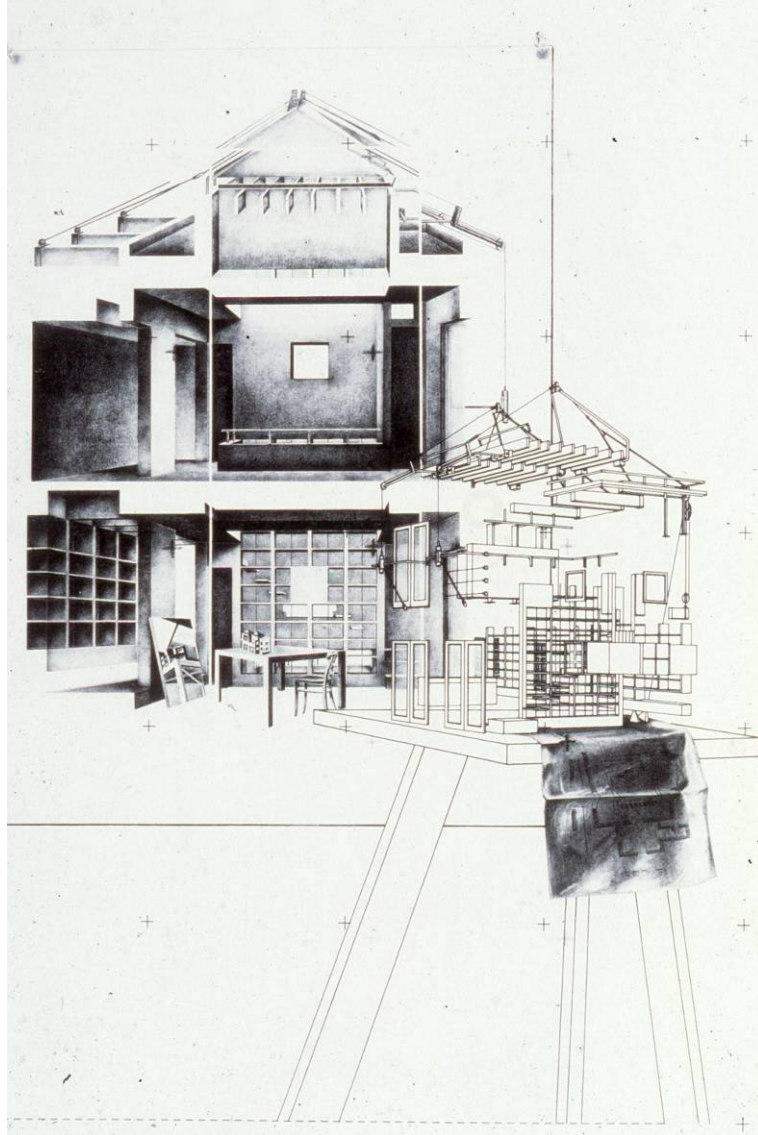
¹³ Cuff (1991)

¹⁴ Bergren (1986): 127-8.

¹⁵ Bergren, A. (1986).

demonstration of many of the architectonic elements that are now characteristic of this practice. Critiques of the house are well represented by the descriptive commentary of Aaron Betsky:

Figure 32



Morphosis
Venice III
1982

*In the Venice III House, 1983, weights and pulleys control 'sun-sails' that respond to the wind and sun, changing the physical aspect of the house from an unfinished ruin to a temporary tent. The impulse is to make an architecture describing the possibility for human action, rather than a static representation of a mediator between man and the world. Architecture becomes an operable mediator. The enclosure of interior space and the fulfillment of axes are less important than this gadget-like breakdown of an imposed system into a collection of usable tools.*¹⁶

For Betsky *Venice III* expresses a frozen moment of architectural development rather than a finished constant. This refusal to resist architectural stasis in *Venice III* is founded in the series of drawings that initiated the project.

The *Venice III* drawing

Formally, the *Venice III* drawing is composed of a primary sectional one-point perspective, a secondary two-point perspective, and a tertiary diorama played out between the two. These three hierarchies are placed within the 'field' of the page in which the boundaries between the hierarchies are manipulated. Contrary to the orthodox tradition of architectural representation this drawing does not clarify representational or presentational qualities, nor does it provide the prescriptive order of information required for construction. The *Venice III* drawing can be read as a conscious attempt to manipulate contradictory and confrontational representational techniques to demonstrate an ambiguous architecture. In the foreground a model of the 'building's' structural and mechanical components irrationally defies gravity to stand before a sectional single point perspective that describes an architectural interior in terms of tonal gradation. The structure is conspicuously absent, displayed 'out front' in a show of oppositional duality. In the tradition of *trompe l'œil* the illusionary spatial qualities of the interior perspective is 'pinned up', it is framed by the absence of structure, then framed again through a formal display. Such reframing reveals not only a challenge to ornament and structure, but also illustrates the association of ornament as feminine and structure as masculine. The interior depiction is a pin-up within a pin-up, within yet another pin-up. A 'centre-fold' is exposed in the master plan, trapped under the (un-structural) structural model. Structure, plan, and centre-fold are combined in a perspectival triad that is parodied by the three-legged pedestal it is sited on. This construction peers into the interior from a secure erection of studs, sticks, rods and batons, subjecting the domestic (feminine) to the male gaze. That such a misogynistic agenda exists is apparent in the organization of the interior perspectives where the vanishing points converge centrally on two blank squares. However, the gaze of the structural masculinity is made impotent - the horizon planes of the lower interior and the outside structure are the same, they see 'I' level to 'I' level

¹⁶ Betsky, A. (1990): 189-191.

about a point that sectionally divides the centre white square revealing it as solid, a dead end. Only in the upper interior, the higher order, does the negative square satisfy requirements as receptacle for phallic desire. The convergence of perspective points within this opening reveals a new voyeur beyond the confines of the page. This is the vanishing point of the entrance, a hole into which an uninvited guest may enter. The gaze of this perspective is outside the page in the eye of the observer, now an active participant in the process of appropriating the subject.

In a case study of the professional relationship between Morphosis and Bergren, Dana Cuff reproduces the drawing under the title: “Bergren House/Venice III. Analytic rendering.”¹⁷ Cuff makes no reference to the image other than to say that it is a “drawing by Morphosis”¹⁸. Cuff’s use of these particular descriptive terms - rendering and analytic - in the context of her discussion of the Bergren House is accurate yet manipulative. She presents the project as a complicated, but coordinated, accord between Morphosis and Bergren. This is supported by Michael Rotondi where he writes:

*We’d show models and drawings. We’d analyze the plan that was based on function, and then [we] reached a point, I remember, when the conversations extended from the necessities of resolving the problems of programming to discussing the ideas that were in the building.*¹⁹

This statement implies a transparent relationship between architect and client through which representational images may be discussed with clarity and mutual comprehension. Yet the terms ‘rendering’ and ‘analytic’ are subtly different. Both have built into their usage a condition of anteriority that removes them from the architect/client discussions before and during a project, and posits the drawing as one not suitable for inclusion in Cuff’s professional example. Yet Bergren’s own recollection of the development reveals her identification with the work occurring well into the constructional process:

*“Potential clients [for Morphosis] come to visit me all the time, so I do this little spiel, and I say just this, that the key moment was this moment in which I saw their work disembodied from anything and recognized it, and that was an authorial moment. That’s why I got this thing that was so quintessentially theirs and yet reflective of myself at the same time. . . . The initial choice of them is the authorial moment, because you’re authoring your own thing by choosing people who, if they do want they want, will give you what you want. That’s the key to it. And then you stay out of it, you’re not the architect.”*²⁰

Bergren recognizes in the built work a representational intent that occurs in the drawings, but which is not easily recognized by the client. There exists ambiguity concerning the location of representational authority in the *Venice III* drawing where the conflict of

¹⁷ Cuff (1991): 207, figure 6.6.

¹⁸ Cuff (1991): 300.

¹⁹ Rotondi quoted by Cuff (1991): 206.

²⁰ Cuff (1991): 199.

convention and technique regulates any notion of a clear or comprehensive reading. Any conception of ‘analytic’ qualities draws attention to the role of discursive or analytical information in a medium of communication.

The Venice III drawing and its discursive practices

The Venice III image is composed of a number of major elements that are compositionally supported by a series of secondary explorations. The total effect is seductively harmonious, but if viewed critically a number of areas of concerns emerge.

The first of these involves the background. This ‘field’ takes the overall form of a conventionally proportioned drawing sheet organized with a vertical main axis. Within this page the primary perspective drawing is centrally located in a false drawn frame made to represent a pinned sheet of drawing paper in the manner of a *trompe-l’œil*. The ‘field’ also includes a series of small crosses that appear over the page in the pattern of a large regular grid. Secondly, there is a primary presentation image in the form of a sectional one-point perspective drawing, which displays a relatively conventional depiction of the interior of Venice III. However, the perspectival conventionality of this image is challenged by the grafting of three one-point perspectives on top of each other (ground floor, first floor, and roof space) so that there are in fact three vanishing points. [Figure 33] Thirdly, situated in the right foreground is a secondary presentation image that consists of the principal architectonic elements of the project, represented here in two-point perspective. This perspective is in turn presented on a three-legged table as though it were a model. Between the ‘model’ and the table a pictorially accurate architectural plan is suspended so as to manipulate a further *trompe-l’œil* effect by producing the illusion of an externalised and hyper-realistic foreground object. Lastly, between the primary and secondary images is a third (tertiary level) diorama. This takes the form of a domestic tableau of a table, chair, and mirror. On the top of the table is a model of the Venice III project depicted with a parallel projection technique.

This image is a *tour de force* of architectural representational practices, but what is particularly significant is that these conventions together do not present a unified object. Instead, each part stands as a separate and detached element of the project, and it is only the field that connects them. This point is reiterated by the grid of crossed lines that defines the field, and the two drawing pins. There are sciagraphic shadows being cast back to construct the illusion of a field ‘surface’. The greater distance established on the shadows of the crosses has the effect of presenting this grid as the forefront element in the scene. This announces the authority of Cartesian geometry, and therefore also the orthographic set as its servant.

The primary image refers to the sectional one-point perspective that is the substantial pictorial background to the architectural image. This is ‘framed’ in the fashion of *trompe l’œil* on a sheet of paper. As noted, this deception has been reinforced by the cast shadow of the drawing pins. This is not a purely conventional perspective for two

principle reasons. Firstly, it consists of three separate one-point perspectives that correspond to the ground floor, the first floor, and the roof space. Additionally the roof

Figure 33



Morphosis
Venice III, 1982
Detail

space has a second representational ‘stutter’. Secondly, the section is not organized in the common manner as a defined cut through the building fabric, but instead leaves the actual ‘cut’ in the negative. Morphosis extends this technique further by continuing the void space out to the edge of the *faux* page. [Figure 34] Neither of these techniques is in itself revolutionary. When dealing with vertical perspective sections or planimetric perspectives it is common to utilise multiple or floating vanishing points to reduce the optical distortion that occurs at the extreme margins of perspectives. Similarly the use of a negative sectional cut was a common mechanism of the *Ecole des Beaux Arts* during the Nineteenth century, when students were encouraged to use the section to represent the interiority of space, rather than the constructed nature of the building fabric that defined the interior limits. Here, the techniques are combined with a careful attention to constructing a tonal gradation across the image, a technique that emphasizes the pictorial quality of the drawing, but introduces other problems.

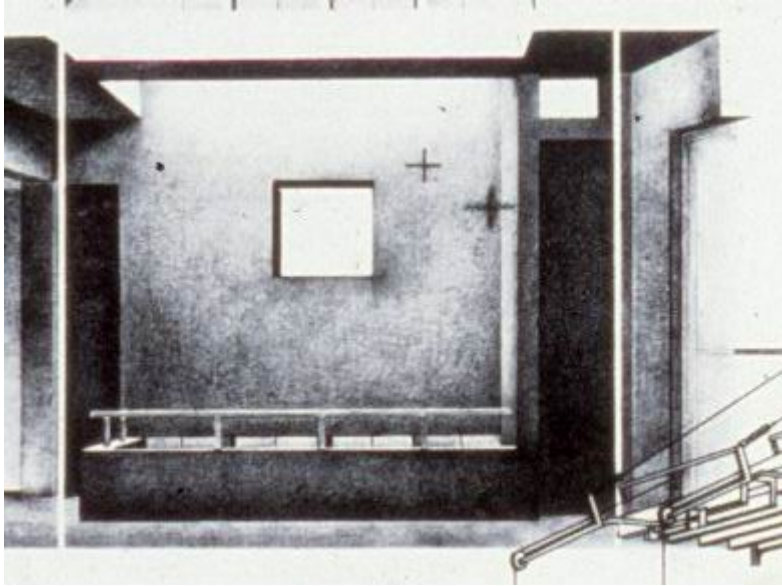
The secondary image consists of an elemental ‘model’, a tripod, and a *tromp l’oeil* plan. The ‘model’ is drawn in two-point perspective and offers an external counterpoint to the interiorisation of the primary image. However, an examination of the ‘model’ reveals no logical structural components that would allow it to remain standing in anything other than a drawn state. While appearing stable, it is composed of floating components that serve to undermine any structural communicant. Similarly the integrity of the tripod as a represented object is doubtful. Like the ‘model’, it is composed in two-point perspective, but where the lower end of the two left-hand legs are truncated by a dashed line, the right-hand leg end remains open and becomes a terminus for the same dashed line. The result is another illusionary effect where the drawing begins to unravel itself. This is akin to the discursive graphic techniques used by Daniel Libeskind in his Chamber Works drawings.

This final part of the secondary element takes the form of a hyper-realistic illustration of an aged drawing that is being held under the ‘model’ by one edge with the rest ‘draping’ over the side. This is the clearest example in the work of a direct reference to the renaissance tradition of *trompe l’oeil*. Furthermore, upon closer examination the aged drawing is a plan of the *Venice III* project, evoking the paradox of an aged plan that exists at presentation stage. [Figure 35] Taken together these three components of the secondary element signal a carefully composed exercise of entrapment that invites the eye to participate in its own fallibility. Lacan has interrogated the *trompe-l’oeil*:

*What is it that attracts and satisfies us in trompe-l’oeil? When is it that it captures our attention and delights us? At the moment when, by a mere shift of our gaze, we are able to realize that the representation does not move with the gaze and that it is merely a trompe-l’oeil. For it appears at that moment as something other than it seemed, or rather it now seems to be that something else. The picture does not compete with appearance, it competes with what Plato designates for us beyond appearance as being the Idea.*²¹

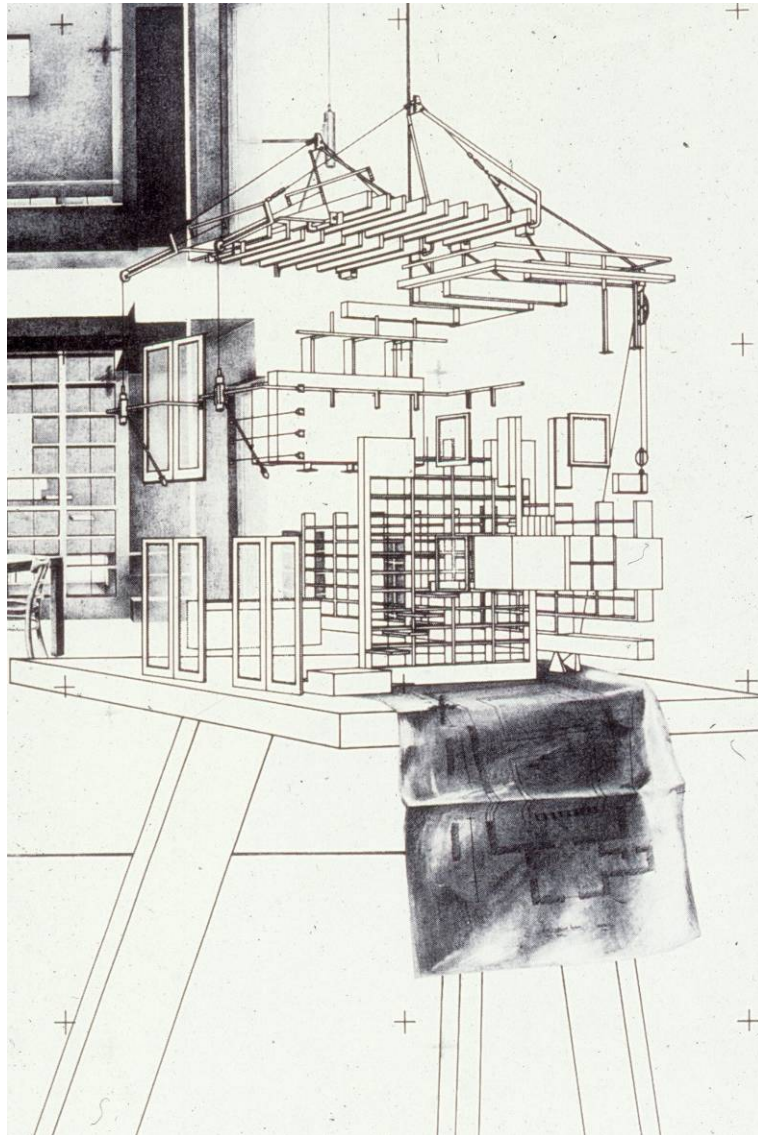
²¹ Lacan, J. (1977): 112.

Figure 34



Morphosis
Venice III, 1982
Detail

Figure 35



Morphosis
Venice III, 1982
Detail

The idea of the object, not the object itself, is the point of this illusionary triptych. That this is a conceptual representation is further shown by the failure of this ensemble to cast a shadow against the field, or even to fit into the field as the crossed marks of the shallow grid pass over the 'model', tripod, and aged plan.

There is a domestic tableau being played out in the primary image which should be recognized as a discrete representational event. Although positioned within the *trompe-l'œil* one-point perspective of the primary image, the domestic construction of the tableau is two-point perspective drawing. Significantly the ground floor plan is not shaded like that of the first floor, and thus the feet of the table and chair are not contained in the shaded one-point perspective, but are left floating within the negative space of the false page. Although technically still contained within the sectional space, the visual effect of this deception is to throw the table and chair out in front of the cutting line of the section (which now appears to be behind) and therefore remove the table and chair from the perspective scene behind. By comparison the mirror remains firmly attached to the one-point perspective despite its bottom edge floating in the negative space. Unlike the table and chair, the mirror still corresponds to the vanishing point of the bottom one-point perspective at both its top edge and bottom edge, and the resting of the top edge back onto the shaded wall calls the representational technique of the mirror back to the primary image. Similarly, the two-point perspective organizing the table and chair corresponds more appropriately to the two-point construction model in the foreground. Although by no means precise, there is an accord between the left hand vanishing points, if not the right. However, there exists an internal relationship between the table and chair, and the mirror, whose fulcrum is the model. Through the display on the table, and reflected in the mirror, a liaison of signification is constructed between these elements despite their other graphic allegiances. This relationship is maintained in two principle ways: through the subject of the model, and by the representational technique employed. It is apparent that the model depicts *Venice III* itself. This should come as no surprise given the self-referential nature of this drawing. Yet to find it sequestered away like this is curious. While the primary image behind provides broad detail about the internal spatiality of *Venice III*, and the secondary image in front gives a description of the components and their relationships, the 'model' is the only part of the drawing that indicates how the finished building might look. While seemingly insignificant and marginal, this figure satisfies one of the most traditional roles of architectural representation, that of pictorial representation. More importantly, the model, as it is drawn, is more properly a parallel projection than a perspective. Despite the relative size of this part of the overall drawing, and the crudity of the drawing if compared to the rest of the sheet, it can be observed that the model is not constructed in such a way that takes account of the perspectival rule of convergence.²² Although it is confused somewhat by its oblique alignment on the perspective table-top, the receding horizontal elements of the model remain parallel, in

²² For example the *trompe-l'œil* plan in the foreground shows a high degree of skilful manipulation over quality of line, shading, and texture.

the tradition of axonometric projection. At the intersection of the vertical and horizontal axes a relatively stable 30° angle is maintained to the horizontality of the page, indicating that this is in truth an isometric projection. Thus, the model indicates a third representational expression that lies between the background one-point perspective, and the foreground two-point perspective, both in terms of representational system, and intention. For this reason, it is identifiable as a third and separate system.

The Venice III drawing and the trope of vision

Drawing of some kind is always essential to the production of architecture on a large scale, but relatively simple designs can be set out on the ground, and the details drawn out to their full size on a table or board. The visualization of the result depended primarily on the mental capacity of the architect, aided by rough sketches, not even to scale, which he might trace out with a stick on the ground.

John Harvey²³

The *Venice III* drawing defies criteria of neutral translation, by manipulating the system of architectural drawing design to operate within the orthodoxy of the orthographic set. *Venice III* highlights the a gap between representation and its referent. Rather than seeking to camouflage this space it instead attempts to emphasis it. The consequence of this disclosure is an image that subverts the parameters of architectural drawing by turning them in on themselves. Drawing shifts from showing a façade of neutrality to revealing institutional conditioning and faith. The ability of the architect to act as a visionary is contested to the point where architectural drawing begins to question the projective relationship that has defined it. The drawing fundamentally confronts the limit and deficiency of this particular kind of vision as a fabrication, and architectural drawing becomes to the architect a proxy for the blind:

*The blind man's stick has ceased to be an object for him, and is no longer perceived for itself; its point has become an area of sensitivity, extending the scope and active radius of touch, and providing a parallel to sight.*²⁴

However, it is not simply a case of removing the qualities of vision from the speculative function of the drawing. As the dominant tropic device to our understanding of the role of the drawing in architectural production, we depend upon its presence regardless of the consequences of falsehood or error. It is instructive to read the *Venice III* drawing for other stratagems that might be revealed behind the tradition of the visionary drawing.

The grotesque and the caricature

²³ Harvey, J. (1971): 35.

²⁴ Merleau-Ponty, M. (1962): 143.

Discussing the trope of caricature in the architectural drawings of Erich Mendelsohn, Kendra Schank Smith makes a case for the relationship between architectural drawing, caricature, and the grotesque. Smith contends that the mechanisms of exaggeration, deformation and ridicule allow Mendelsohn to ‘transform’ the world around him into his image of architecture. Smith’s position depends on Gombrich and Kriss’s definition:

It was in the first place a discovery concerning the nature of likeness. To put it briefly, it was the discovery that similarity is not essential to likeness. The deliberate distortion of single features is not incompatible with a striking likeness in the whole. True caricature in this new sense is not content with drawing a long nose just a little longer, or a broad chin just a little broader. Such partial distortions are characteristic only of superficial or immature work. The real aim of the true caricaturist is to transform the whole man into a completely new and ridiculous figure which nevertheless resembles the original in a striking and surprising way.²⁵

Smith also states that the role of the caricature in revealing a ‘truth’ has affinity to Marco Frascari’s understanding of the monster, who similarly undertakes to ‘demonstrate’ and ‘show’:

Both caricature and monsters recombine ideas and forms into new compositions. These compositions bring a new meaning to the understanding. . . Caricature is dependent on the image and the transformation of features.²⁶

Smith finds further affinity between the caricature and the grotesque:

[the] grotesque resembles caricature by revealing a new truth in the reality it displays. They both exhibit intelligence; often through paradox. The recognition is immediate, as in caricature, and is contingent upon interpretation.²⁷

The three examples Smith provides are worth examining for the relationship she goes on to establish between caricature and the architectural drawing. The first case cites two design sketches done about 1915 for conceptual halls and which resemble a series of gigantic ‘wings’ - in one as dorsal fins, in the other as modern day airplane tails. **[Figure 36]** Smith argues that the fluidity of these buildings evokes an obsession of Borromini and Gaudi in their exaggeration.²⁸ Mendelsohn is making a caricature of an action. The second example concerns a 1914 sketch of a grain elevator **[Figure 37]** and which evokes Otto Wagner’s Postal Savings Bank in Vienna of 1904. Mendelsohn’s sketch shows exaggerated bolts that Smith describes as a caricature of the ones employed by Wagner, so that Mendelsohn is transforming the imagery of Wagner’s bank into a new composition, here caricaturing the work of an architect. Thirdly, in a sketch for an

²⁵ Smith, K. S. (1990): 66.

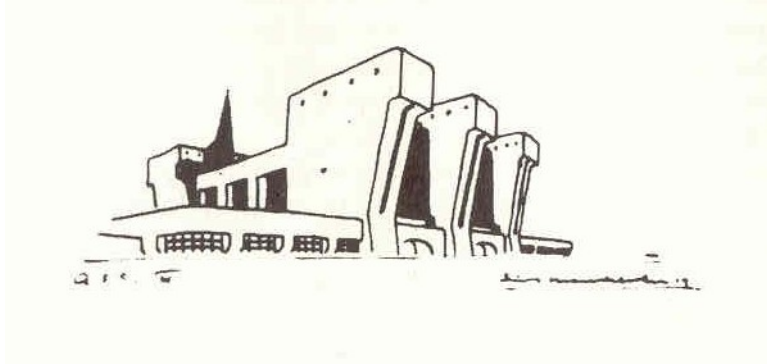
²⁶ Smith, K. S. (1990): 66.

²⁷ Smith, K. S. (1990): 67.

²⁸ Zevi, B. (1985).

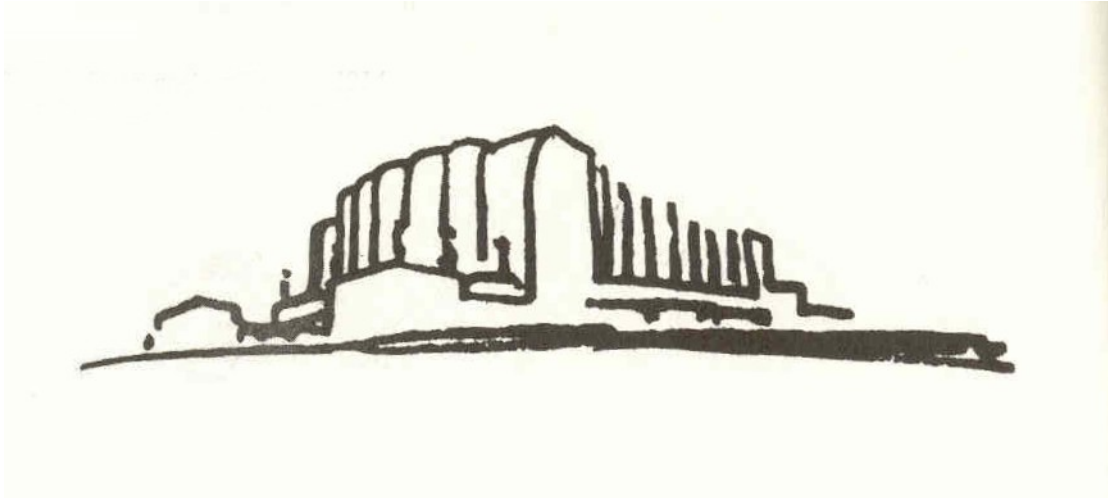
industrial building Smith sees a combination of elements from many other buildings. “He combines vaulted windows, cylindrical ribbon windows, small punched windows, light

Figure 36



Erich Mendelsohn
Sketch for Conceptual Hall
1914

Figure 37



Erich Mendelsohn
Sketch for a Grain Elevator
1914

terraces and massive monumental forms with strong vertical elements all in one building. The most obvious elements show a resemblance to the Larkin Building done by Frank Lloyd Wright in 1903. The monumentality also seems to caricature the fantasy sketches by Antonio Sant'Elia.”²⁹ This sketch, she continues, has three elements crucial to caricature: transformation, ambiguity and condensation.

The devices of caricature as defined by Gombrich and Kris are also in evidence: transformation, exaggeration, deformation, and distortion. Yet, in each of Smith's examples, the features against which these devices are applied come from outside the subject, they are external to the subject of characterization, rather than “a *projection* of an inner image,” which Gombrich and Kris require.³⁰ Individually, Mendelsohn's sketches are then caricatures than they are the grotesque manifestations of other meanings, architects, or buildings. When Mendelsohn's drawings are compared to the orthodoxy of architecture representation they will always be in a subordinate position where the exaggeration, deformation, transformation, of caricature, are hybridizations comparable to the tradition of the grotesque. It is only when Mendelsohn's sketches are understood within a narrower paradigm of architectural drawing that they become caricatures rather than drawings that simply exhibit a grotesque nature. The new truth required for caricature proper occurs only where the representational system provides a continuity from which differences occur internally as a transformation. Smith says as much when she notes that caricature is dependent on the image and the transformation of features into a simplified model.

*The drawings are strikingly familiar, both in the way they are fully constructed with only a few lines, and are devoid of details. Because these imaginative drawings are loose and simple, the architect does not need to be concerned with the intricacies of connection. . . . Simplicity is essential to caricature. The simple and unfinished qualities of this drawing do not keep us from understanding the connection.*³¹

Indeed it is the ‘simple and unfinished’ quality of the drawings that enables connections of caricature to be made, but it is a system that relies less upon the internal workings of the sketch to produce caricatures, than the external hybridizations that create monsters.

Elsewhere Smith continues her argument by referring to the simplification model of caricature described by Gombrich and Kris. However, the notion of simplification implies a model of enough complexity to allow a greater ‘clarity’, ‘ease’ and ‘intelligibility’.³² Gombrich and Kris point to how the caricature artist “consciously alters

²⁹ Smith, K. S. (1990): 67.

³⁰ Gombrich, E. and E. Kris (1938): 331.

³¹ Smith, K. S. (1990): 67.

³² S. O. E. D.

his model, distorts it, plays with its features, and thus shows the power of his imagination - which can exalt as well as degrade.”³³

Smith looks to the sketch as the site of “a caricature of the finished building” where the chronological relationship that allows clarity to be passed along is reversed to the point where the building could actually become a complication of the drawing.³⁴ Following a correct chronology the sketch is a caricature of the complexity of design itself that does utilize caricature (and its elements of satire and humour) as a principle design mechanism. The relationship between the architectural sketch and the architectural project has more to do with the projective responsibility of an economy of representation than a direct visual relationship. Smith points to the caricature’s ability to rearrange ideas and forms into new compositions, in the same way as Marco Frascari’s ‘monsters’ in that they both reveal new meanings and associations.³⁵ It is due to this logic that the grotesque belongs to the domain of drawing, like caricature and monsters, a figure of revelation. Frascari writes:

*The real work of architects is in the solving of enigmas - that is, making tangible that which is intangible. The architectural enigma, a callida junctura (ingenious joint), unites artifacts and meanings which are not easily related. This union is an inversion of the normal process of signification: it is the joining of the Vitruvian quod significat (the signified) and quod significatur (the signifier) in a fantasia, a divination of a possible built future. The outcome is extraordinary - that is, a monster.*³⁶

Where the caricature exposes through reduction, the grotesque functions in a more complex fashion through hybridity as an ‘intermediary’ or bridge.³⁷ Yet rather than dissolving the relationship between the caricature and the grotesque, there is a complex historical and ideological dependence that exists between the two. The architectural drawing is always a particular type of grotesque that is defined by the translation/projection relationship of the drawing. Furthermore, this relationship is as coded in the grotesque as it is in the drawing.

The architectural grotesque

Those who have studied its influence in the fields of literature, drama, criticism, opera, and art acknowledge that the word ‘grotesque’ has accumulated a wide variety of uses and meanings. The origin of the grotesque is also uniquely architectonic. According to Barasch it began with Raphael introducing, *a la grottesco*, into the Vatican Loggia

33 Gombrich and Kris quoted in Smith, K. S. (1990): 52. “Possibly, we can say every building is a caricature, but a caricature relies upon representation. The caricature requires reference to the original figure to ridicule. The sketch needs to find the personality and hidden meaning to envisage the caricature”(55).

34 Smith, K. S. (1990): 52.

35 See Frascari, M. (1987); Frascari, M.(1991).

36 Frascari, M. (1987): 42.

37 The term intermediary is used to describe the function of the grotesque by Harpham. G. (1982).

adaptations of the ancient Roman frescoes decorating Nero's *Domus Aurea*.³⁸ Imitation of this painting style was soon widespread and became known as *grotesche* (n. grotesque) following their association with the grotto.³⁹ Mary Barnard describes these painted works as "hybrid fragments" in which human, animal, and plant intertwine, creating monstrous ornaments that infringe up on the laws of nature.⁴⁰ Despite the elusive nature of the term 'grotesque', hybridisation and the monstrous recur as emblematic figures in which the 'monster' becomes a pictorial manifestation of the evils of hybridity, transformation, and metamorphosis. The first significant development of the concept of the 'grotesque' is attributed to Giorgio Vasari in his *Lives* (1550, 1568) where he uses the word *grotesche* to denote specific designs found in the architectural ruins of ancient Rome.⁴¹ Vasari associates the 'grotesque' with both the 'grotto' and the antique style,

*The lower rooms chiefly of the [Roman] palaces . . . were wrought with stucco, with painting, and with statuary, there was buried by the ruins from above all that good work that has been discovered in our own day, . . . the moderns have called them grottoes and 'grotesque' the pictures that are therein seen at the present day.*⁴²

The origin of the architectural grotesque is uniquely subordinate to the structure of building as an applied surface that requires architecture before it can exist.⁴³ However, Vasari also proposes a second definition for the word *grotesche* in which he extends the descriptive terms of the grotesque - 'divine', 'bizarre fantasies', 'beautiful and imaginative fantasies', or 'strange fantasies' – in order to account for the contemporary composite architectural and sculptural style developed during the late Renaissance by Michelangelo.⁴⁴ Significantly, this movement was at odds with the predominant intellectual ideological view of art that Vitruvius had postulated in *De Architectura*. Vitruvius attacked the "grotesque decorative forms of his times . . . for violating verisimilitude, harmony, and measure"⁴⁵ which he terms the 'monstrous'.⁴⁶ Vitruvius

³⁸ Barasch, F. K. (1971). The 'Golden House of Nero' was discovered beneath the ruins of the Baths of Titus. Raphael's discovery and imitation of the paintings of the Titus Baths was claimed by Giovanni Battista Armenini in his *Precetti della Pittura* (Ravenna, 1587).

³⁹ Geoffrey Harpham has argued that these original 'grotesque' murals are no longer central to contemporary definitions of the term creating what he calls the 'aesthetic orphan' of the grotesque, wandering from form to form, era to era. What remains constant is the emotional complex denoted by the word 'grotesque', to which this discussion will return. See Harpham, G. (1976): 461-468.

⁴⁰ Barnard, M. E. (1987): 8.

⁴¹ Barasch, F. K. (1971). Barasch also attributes Sebastiano Serlio's *Architettura* (Venice, 1551).

⁴² Giorgio Vasari quoted by Barasch, F. K. (1971): 20.

⁴³ This line of thought follows Mark Wigley's argument for the dialectic of ornament and structure in architecture. See Wigley, M. (1995).

⁴⁴ Barasch, F. K. (1971). Barasch notes that Ruskin called this period the "Grotesque Renaissance."

⁴⁵ Barnard, M. E. (1987): 9.

⁴⁶ "We now have fresco paintings of monstrosities, rather than truthful representations of definite things. For instance, reeds are put in the place of columns, fluted appendages with curly leaves and volutes, instead of pediments, candelabra supporting representations of shrines, and on top of their pediments numerous tender stalks and volutes growing up from the roots and having only half-length figures, some with human heads, others with the heads of animals. Such things do not exist and cannot exist and never have existed.

called for representation to be accurate to ‘reality’ in order for it to be trusted. The grotesque, in this case, is defined by a failure to conform to a prevailing orthodoxy in representation – that is, by how ugly it is.⁴⁷ Thus, the grotesque may be considered an ‘unnatural’ state.⁴⁸

Mendelsohn’s grotesque caricatures

Returning to Kendra Schank Smith’s use of the caricature within a grotesque reading of architectural drawing, the principle difficulty is that the caricature satisfies only one part of the criteria necessary to constitute the grotesque. During the first half of the seventeenth century the preferred meaning of the grotesque was the ‘chimera’, or ‘monster against nature.’⁴⁹ From the eighteenth-century the chimera was used to extend the ‘grotesque’ to the caricatures and ridiculous figures portrayed in the comic writing of the time.⁵⁰ A more broadly accepted reading of the grotesque carefully positions it as a hybrid. Two different elements are fused into one without losing the individual identity of either. Thus the grotesque is whole but remains separate in its parts. For Smith, Mendelsohn’s sketches are caricatures because they utilize the devices of transformation, exaggeration, deformation, and distortion. Yet architectural drawing always operates with these, and other, tropic devices. The very principles of representation are founded in our ability to take one state and present it in another form. This is what makes the architectural drawing *always* a translation – it shifts between states, and to do this has to transform the parameters of one state into those of another. This is not the same as ‘constructing’ the grotesque, which depends upon having the moment of translation (transformation, exaggeration, deformation, and distortion) as a set instant. This however, is the realisation that architectural drawing seeks to leave undisclosed –that it attempts

Hence, it is the new taste that has caused bad judges of poor art to prevail over true artistic excellence. For how is it possible that a reed should really support a roof, or a candelabrum a pediment with its ornaments, or that such a slender, flexible thing as a stalk should support a figure perched upon it, or that roots and stalks should produce flowers and now half-length figures . . . The fact is that pictures which are unlike reality ought not be approved, and even if they are technically fine, this is no reason why they should offhand be judged to be correct, if their subject is lacking in the principles of reality carried out with no violations.” Vitruvius (1960): 211-212.

⁴⁷ For a discussion of the ugly in architecture see Cousins, M. (1994); (1995); (1995).

⁴⁸ However, the grotesque is not only presented as against nature. Victor Hugo associates the grotesque not with the fantastic but with the realistic. In the preface to his drama *Cromwell* (1827) Hugo argues for the grotesque as the characteristic mode of ‘modern art’, as a source that exists from nature and in the world around us. Philip Thompson credits Hugo for taking the grotesque from the fringes of artistic creation to a position of centrality by stressing the infinite variety offered by the comic, the horrible, and in particular the ugly, by contrasting it with the pre-Romantic confines of the beautiful and sublime. See Thompson, P. (1972). Similarly, G. K. Chesterton in his book *Robert Browning* (1903) asserted that it is one of the functions of the grotesque that it allows us to ‘see’ the world afresh.

⁴⁹ Barasch, F. K. (1971): 69. What made the chimera distinct was that it was as a specific hybrid figure or creature that was found not only within the art of the period but also in the Romance literature of that era.

⁵⁰ Barasch, F. K. (1971): 135. During this period the emphasis of the grotesque shifted from the fantastic figures of hybridity onto the immorality represented by such figures. The ‘grotesque figure’ could still be considered a chimera but that term had come to denote ridiculous and immoral human types. See Barasch, F. K. (1971): 138.

not to translate but to disguise this moment. Mendelsohn's sketches are caricatures in so much as they present an abstracted likeness, but this insists on a comparative state, which can only lie in either the thought or the building. Otherwise, his sketches are 'grotesques' of compromise between architectural thought and its resolution in a building.

Consequently Mendelsohn's sketch for his Einstein Tower (Potsdam, 1914-1918) [Figure 38] pre-emptively caricatures the built work. But were there no further resolution this same sketch would be caught between the states of pathos (the tragedy of the unbuilt) and ridicule (the ludicrousness of the untested) as an architectural grotesque. Philip Thompson points to the significance of the physicality of the grotesque and suggests that our reactions to the grotesque are in part reactions to the physically cruel, abnormal or obscene. The grotesque:

*. . . touches some hidden but very much alive sadistic impulse makes us react to such things with unholy glee and barbaric delight.*⁵¹

The grotesque is defined by a disparity between form and content - if content is understood as the 'purpose' underlying a particular act it quickly evokes the familiar form-function debate in architecture. In this case a failure to synthesis form and function would reveal the grotesque; and, where architectures display the 'grotesque' they could reveal unforeseen tensions between form and function, interiority and exteriority, idea and building, or any other dialectic included in representation which is made stable.

*. . . grotesqueness is constituted by a clashing contrast between form and content, the unstable mixture of heterogeneous elements, the explosive force of the paradoxical, which is both ridiculous and terrifying.*⁵²

The drawing as an architectural fetish

The deepest magic of the commodity fetish is its denial that there is anything magical about it . . . Like hieroglyphs, like language itself, commodities become a timeless, eternal code.

W.J.T. Mitchell⁵³

In his article "Fetishes in Architecture" Dennis Allen Mann has contended that the drawings of speculative urban projects by Tony Garnier (*La Cite Industrielle*, 1904), Antonio Sant Elia (*La Citta Nuova*, 1914), Frank Lloyd Wright (*Broadacre City*, 1935), and Le Corbusier (*La Villa Radieuse*, 1935) have all become 'utopian fetishes' due to their ability to create and maintain mythological 'visions.'

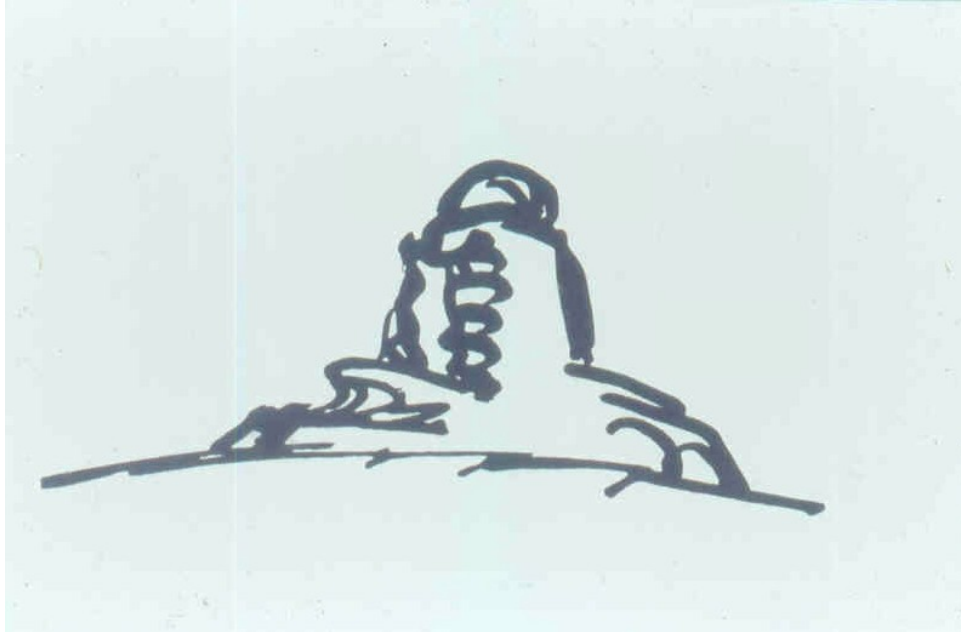
⁵¹ Thompson, P. (1972): 9.

⁵² Kayser, referring to the earlier Schlegel fragments in the first volume of the *Athenäum*, quoted in Thompson, P. (1972): 17.

⁵³ Mitchell, W.J.T. (1986): 193.

The drawings themselves have become fetishes for a magnified state of mind that paints a picture of an ideal world free from the inequities, chaos and unsightliness

Figure 38



Erich Mendelsohn
Einstein Tower
1914

*of existing reality. These illusive fantasies, given concrete form on the pages of so many history books, have developed the mythopoetic power of a fetish.*⁵⁴

Mann warns that the danger of the drawings lies in their ability to convincingly represent a new reality, while presenting only a symbolic version of reality in the form of a model - what he calls 'model fetishism.' The model has the potential to dissipate any authority the architectural drawing might have to communicate the architectural project. Fetish has recently gained something of a popular following within architectural discourse.⁵⁵ However, little specific attention has been paid to the problem of architectural drawing and the fetish - a relationship at once both obvious and detached. Jean Baudrillard has characterized the fetish as almost having 'a life of its own.'

*Instead of functioning as a meta language for the magical thinking of others, it turns against those who use it, surreptitiously exposes their own magical thinking.*⁵⁶

Emily Apter identifies this ability as "the uncanny retroactivity of fetishism as a theory, its strange ability to hex the user through the haunting inevitability of a 'deconstructive turn.'"⁵⁷

It is this faculty of the fetish I now wish to cautiously apply to the problem of the architectural drawing in an attempt to reveal something of the nature of the 'magical thinking' that 'haunts' these images.

The fetishism of drawing

To class an object as a fetish demands explicit statement that a spirit is considered as embodied in it or acting through it or communicating by it, or at least that the people it belongs to do habitually think this of such objects; or must be shown that the object is treated as having personal consciousness and power, is talked with, worshipped, prayed to, sacrificed to, petted or ill-treated with reference to its past or present behaviour to its votaries.

⁵⁴ Mann, D. A. (1983): 265. Italics added.

⁵⁵ See in particular *Fetish* Lynn, G., E. Mitchell, et al., Eds. (1992), and Anthony Vidler, *The Architectural Uncanny* (1992).

⁵⁶ Baudrillard, J. (1981): 90.

⁵⁷ Apter, E. (1992): 20.

E. B. Taylor⁵⁸

The key characteristic of the fetish is the presence of a substitution. W.J.T. Mitchell has distinguished between the fetish and the idol in Marxist theory.⁵⁹ In particular he describes the fetish/idol distinction as playing an analytic as well as rhetorical role in “Capital”. From a standpoint outside capitalism, Mitchell notes, money is a mere symbol, it is a substitution which has, in the internal logic of capitalism, ceased to be recognized as a symbol, and has become a fetish. This is the crux of Mitchell’s distinction between the fetish and the idol in Marxist thought. The idolater worships a value symbolized in some way, in this case money represented by commodities, while the fetishist finds within things, whether capitalist or primitive, a mystical or magical value that contain the principle of their value. Thus one value is found *outside* through symbolism, the other *inside* through the sorcery of the fetish. In broad terms the fetish may be understood as an interiorising of value akin to domestication, that operates by substituting one thing for another in any system of signification. This distinction between the exterior symbol and the interior fetish exhibits the characteristics of representation projection, where the architectural action of drawing is divided between *drawing in*, and *drawing out*. The domestic is, by definition, fetishistic, not by its lack of any projected values but through the suppression of the act of projection. The magic of the fetish depends on the projection of consciousness into the object, and then forgetting that act of projection.

In architecture, drawing is understood as requiring projection outside of the page into the realm of the building as a commodity for its validation. Architectural projects existing only on the page are commonly referred to as ‘paper architecture’ with the sense they have commercial value as a commodity.⁶⁰ If the projection of architectural drawing is seen to involve both a *projection of*, and then *forgetting of*, the commodity value of ‘architecture’ can be found within ‘paper architecture’ as the fetish. The architectural drawing is a substitute in a system of architectural meaning and is simultaneously refused its own value. To do otherwise would upset the translative responsibilities, with the effect that the drawing would become a site of architectural destination in its own right. This is

⁵⁸ E. B. Taylor quoted in Budge, E. A. W. (1934): 57. As one of the original Goddesses of fetish Wallis Budge names Net, the virgin mother-goddess of the Greeks. He notes that the oldest form of her name is a hieroglyph which has been argued as being also representative of a shuttle, and which could connect Net with weaving. Following Semper’s contention that weaving is the origin of architecture, one possible, if tenuous, extension of this argument is that architecture is itself the original fetish.

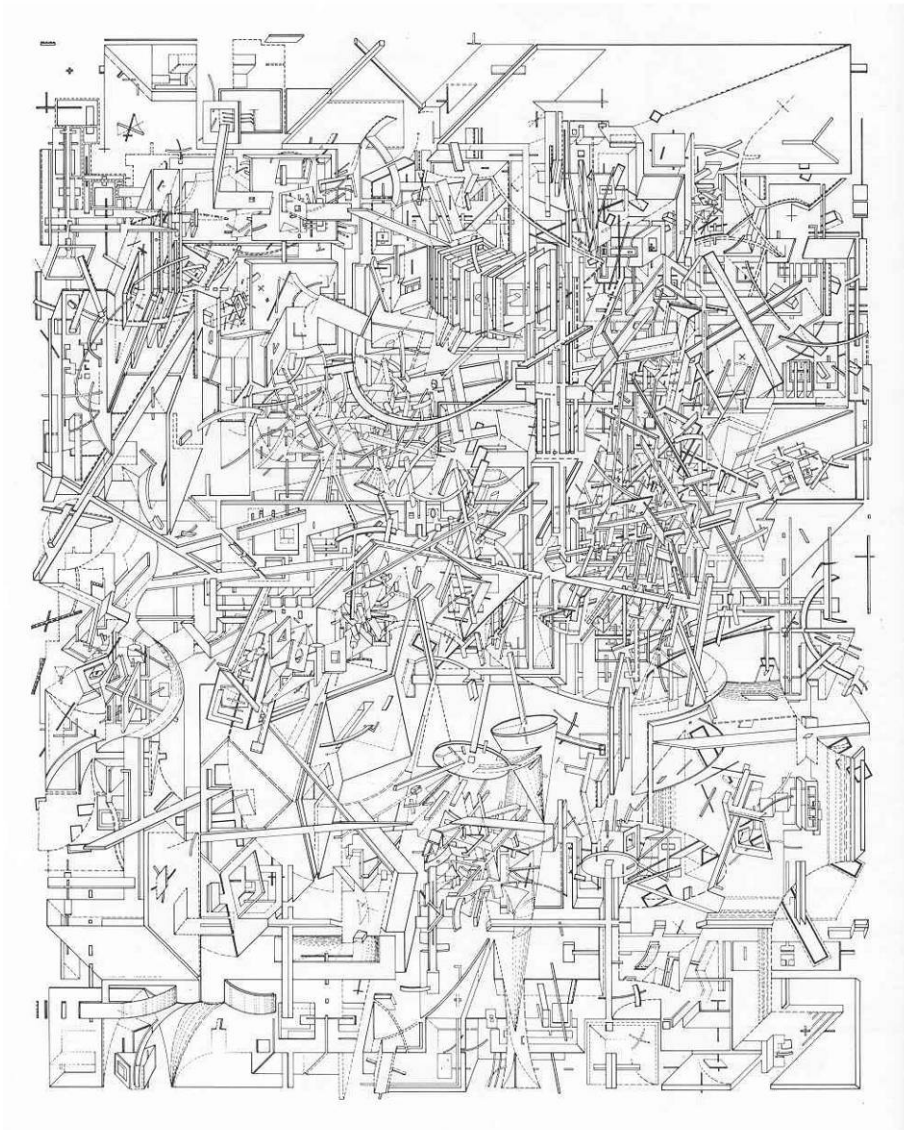
⁵⁹ Mitchell, W.J.T. (1986).

⁶⁰ Daniel Willis, for one, has recognized the ideological shift that has taken place about the architectural drawing during the development of the architect. He notes that the logic of building and the logic of drawing are not identical. Indeed, they may be seen as oppositional if only for the single observation that a drawing cannot be a building. Contrary to conventional thinking that holds the building as primary and the drawing as necessary, but secondary, Willis demands that we accept the *a priori* authority of the drawing and in turn understand the building as an ‘imperfect’ representation of the drawing. For Willis the logic of the drawing has superseded the logic of the building, resulting in buildings that aspire to be like drawings. This in turn may be loosely ascribed to those drawings that have come to be called ‘paper architecture’: “The late-twentieth-century professional architect’s drawings, on the other hand, are assumed to be complete, although abstract, representations of the ideal building, of which the constructed building is an approximation.” Willis, D. (1999): 178.

the case with those drawings that resist a clear referent to a built potential, as in Daniel Libeskind's *Chamber Works* drawings.⁶¹ [Figure 39] As Aaron Betsky has observed, these images do not bear comparison to a visually comparable reality, but operate as an esoteric and occult language of architecture:

⁶¹ See Libeskind, D. (1981).

Figure 39



Daniel Libeskind
Maldoror's Tower
1979

*Libeskind and his followers are known for their concentration on drawings representing the world's density, whose architecture surfaces and rewrites its hidden texts. Inherently hermetic, Libeskind's methodology produces enigmatic maps of worlds, offering possible constructs ungraspable by our senses. They rupture our known world, and suggest another possible construct, uninhabitable, but inviting us to explore and alter it in response.*⁶²

The emphasis in Libeskind's drawings is the failure to translate, and moreover, the failure to desire translation. Architectural reality is under challenge in these drawings, but this reality is one already conditioned and framed by a visual hegemony. Where his *Chamber Works* drawings confront traditional architectural representation is not in the substantive quality of the critique, but in the voice given to it. Without a nominal visual comparison between drawing and the potential for a built work, the traditional organizations of translation and project fail. The consequence is not however a questioning of this hegemonic state, but a degeneration of the drawing into its own visual pleasure of marks, lines, fragments and riddles.⁶³ With this, architectural drawing no longer substitutes for a longed-for project, but instead substitutes for architecture itself by removing the projective relationship to an exterior condition. The result is a double fetishization where the original substitution of drawing for translation, is substituted again with another drawing in a descending spiral of the grotesque, rather than a process of transcendence. As Robin Evans has observed it, Libeskind's *Chamber Works* drawings represent a 'demonic' energy:

*A drawn line will normally render something visible of the action that gave rise to it, which allows us to attribute human qualities - febrile, agitated, delicate, rapid or hesitant - to mere lines. Because these are architectural drawings, made with architectural instruments, because the lines are constructed, not thrown, it is impossible to do this.*⁶⁴

Libeskind's drawings are inexplicable hieroglyphs that deny the event of making, and become pure fetishes on two counts: firstly, for Libeskind personally as a form of substitution that replaces building with drawing, and secondly, for the discipline of

⁶² Betsky, A. (1990): 73.

⁶³ "While the classical axiomatic of architectural drawing elaborated its usefulness within an overall theory of order, by beginning with well-established theories of representation and attempting to unify them, contemporary formal systems present themselves as riddles - unknown instruments for which usage is yet to be found. Today, we seldom start with particular conditions which we raise to a general view; rather we descend from a general system to a particular problem. However, what is significant in this tendency (where the relation between the abstract and the concrete is reversed) is the claim which disengages the nature of drawing, as though the 'reduction' of drawing were an amplification of the mechanisms of knowledge; an instrument capable of revealing, at a stroke, new areas of the 'real'." Libeskind, D. (1981): 80.

⁶⁴ Evans, R. (1984): 89.

architecture where this drawing substitutes 'drawing' for the paradigms of translation and projection. This discussion is made possible by understanding that the fetish is, first and foremost, spatial. Mitchell has written that the modern fetish:

... like the image in the camera obscura, is an icon of rationality space-time. It is thus declared to be natural magic, a universal convention, in theory 'only a symbol' (and thus not a fetish), in practice 'the thing itself' (thus a fetish). Most important, the modern fetishism of commodities defines itself as an iconoclasm, and sets itself the task of destroying traditional fetishes.⁶⁵

The fetish is located in the 'space of cultural revolution' - the place where the truth of the object as fetish is revealed. Architectural production, where it is dependent on the architectural drawing, uses it as an optical illusion of continuity between the desire of the architect and the act of building. Before the building act begins the drawing appears as the manifestation of the project, but at the point of construction it vanishes as the reality of building denies the substitute of the drawn 'reality'. Drawing shifts from a space of representation to a representation of space, and with this locates itself between states in another space of revolution.

The fetish and ideology of the gaze

The fetish is not only spatial, it must also be understood in those terms of spatial description reserved by architecture; carapace, prison, furniture, clothes - the space of the fetish is a domestic room of property and love. The fetish is something intensely personal whose truth is experienced as a movement (projection) from the 'inside' (the self) into the outside (the material object in space). When Pietz designates categories to encompass the fetish he might also be referring to architectural representation.

Were one to elaborate a theory of the fetish, one might then adopt the following as fundamental categories: historicisation, territorialisation, reification, and personalisation. The fetish is always a meaningful fixation of a singular event; it is above all a 'historical' object, the enduring material form and force of an unrepeatable event. This object is 'territorialized' in material space (an earthy matrix), whether in the form of a geographical locality, a marked site on the surface of the human body, or a medium of inscription or configuration defined by some portable or wearable thing. The historical object is territorialized in the form of a 'reification': some thing (meuble) or shape whose status is that of a self-contained entity identifiable within the territory. It is recognizable as a discrete thing (a res) because of its status as a significant object within the value codes proper to the productive and ideological systems of a given society. This reified, territorialized historical object is also 'personalized' in the sense that

⁶⁵ Mitchell, W.J.T. (1986): 196.

*beyond its status as a collective social object it evokes an intensely personal response from individuals.*⁶⁶

If we understand architecture as a society in the context Pietz provides it becomes possible to see architectural drawing as the fetish (or *res*) within the value codes proper to productivity and ideology. The building, by comparison, stands outside these codes as the discipline to which the code, as hieroglyph, is directed. Building in itself does not necessarily contribute to the production of architecture. It is the drawing rather than the building that is attached to the architect as a personal inscription, and it also accounts for the architectural quality of the speculative project, necessarily both perceptible and imperceptible in the sense Guy Debord applies to the spectacle:

*This principle is absolutely fulfilled in the spectacle, where the perceptible world is replaced by a set of images that are superior to that world yet at the same time impose themselves as eminently perceptible.*⁶⁷

The fetish is a single articulated identification that unifies events, places, things, and people, and then them to their separate spheres. They exist in the world as material objects that embody socially significant values that 'touch' individuals in an intensely personal way. Among the examples Pietz names are: an earring, city, village, nation, a shoe, a tattoo, or phallus; a Giacometti sculpture or Duchamp's *Large Glass*.

*'Fetish' has always named the incomprehensible mystery of the power of material things to be collective social objects experienced by individuals as truly embodying determinate values or virtues*⁶⁸

For Mitchell the camera obscura and the commodity fetish are associated by the optical process as a metaphor for ideology. As Marx wrote:

A commodity is therefore a mysterious thing, simply because in it the social character of men's labour appears to them as an objective character stamped upon the product of that labour; . . . This is the reason why the products of labour become commodities, social things whose qualities are at the same time perceptible and imperceptible by the senses. In the same way the light from an object is perceived by us not as the subjective excitation of the optic nerve, but as the objective form of something outside the eye itself. But, in the act of seeing, there is at all events, an actual passage of light from one thing to another, from the external object to the eye. But it is different with commodities. There, the existence of things qua commodities, and the value-relation between the products of labour which stamp them as commodities, have absolutely no connection with their physical properties and with the material relations arising there from. There it is a definite social relation between men, that assumes, in their eyes, the

⁶⁶ Pietz, W. (1985): 12.

⁶⁷ Debord, G. (1995): 26.

⁶⁸ Pietz, W. (1985): 14.

*fantastic form of a relation between things. In order, therefore, to find an analogy, we must have recourse to the mist-developed regions of the religious world. In that world the productions of the human brain appear as independent beings endowed with life, and entering into relation both with one another and the human race. So it is in the world of commodities with the products of men's hands. This I call Fetishism which attaches itself to the products of labour, so soon as they are produced as commodities, and which is therefore inseparable from the production of commodities.*⁶⁹

So, the commodity (as fetish) is a 'fantastic' form, literally an imaginative vision - a form constructed from projected light, both 'perceptible and imperceptible to the senses.'

Ideology and fetishism are both forms of idolatry, one mental, the other material. The difference between the two hinges on a reversal of intent where the 'fantastic' objective characters of the camera obscura are projected outward, and 'stamped' upon, while the subjective projections of ideology are inwardly imprinted in the manner of a printing press duplicating 'characters' of graphic imagery. To underline this duality Marx puns on the term *Charaktere* to suggest both the ambiguous typographic-pictorial-hieroglyphic nature of the imprints, and their figurative status as inanimate objects endowed with expressive 'character.' Mitchell explains:

*Ideology and commodity, the 'fantastic forms' of the camera obscura and the 'objective characters' of fetishism, are not separable abstractions, but mutually sustaining aspects of a single dialectical process.*⁷⁰

The fetish then becomes a figure of synthesis by initiating an ideological projection that connects. This synthesis is at once both attached and separated. As commodity it is attached through the touch of the hands that produce, while simultaneously the realm of production is a conceptualisation existing only in the human mind. On the one hand the interior stamping of ideology and the eye, on the other the exterior stamping of the camera obscura and hands; between the two the commodity fetish negotiates a common ground as the material idol of primitive religion now understood as ideological projection. Fetishism is related to the drawing as a visual phenomenon of production that is ordered by the eye. It is therefore instructive to address sexual fetishism that prioritises the sense of touch.

Freud and the sexual fetish

In fetishism, an object serves in place of the penis with which the child would endow the woman (her 'incompleteness' threatening the child's own self-coherence). Fetishism thus accomplishes that separation of knowledge from belief characteristic of representation; its motive is the unity of the subject . . . We know we see a two-dimensional surface, we

⁶⁹ Marx, K. (1967): 72.

⁷⁰ Mitchell, W.J.T. (1986): 190.

believe we look through it into three-dimensional space, we cannot do both at the same time - there is a coming and going between knowledge and belief.

Victor Burgin⁷¹

The fetish was first given sexual currency in the 1880's by psychologist Alfred Binet⁷². However, it is Sigmund Freud's name that is synonymously associated to the fetish's sexual usage. Freud shows the fetish to be a substitute and in this way the architectural drawing is implicitly fetishistic, defined by, and standing in place of (the act) of building. But, according to Freud's account the fetish originates specifically as a *penis* substitute – “the fetish is a substitute for the woman's (the mother's) penis that the little boy once believed in and - for reasons familiar to us - does not want to give up.”⁷³ The boy refuses to surrender belief in the mother's penis because if the mother could be castrated then he must admit the possibility of losing possession of his own penis, and thus he nominates something to act as a phallic surrogate. Freud attributes the inevitability of this reaction to narcissism, protecting the phallus against attack. As for the mythological Narcissus, the mechanism for loss is structured by vision. The boy in Freud's account both perceives and refuses to perceive that a woman does not possess a penis - he refuses to believe his eyes. Linda Williams comments on this reaction:

*Since Freud's scenario of vision asserts a self-evident perceptual 'truth' of female lack, his very explanation originates in a fetishistic misrecognition of a sensuous thing, followed by the creation of a compensatory substitute, the fetish. It is as if Freud trusts the fetishist's vision in initially judging woman's sexual difference as lack but mistrusts the ability of the fetish to solve the problem of the 'truth' it confronts.*⁷⁴

Similarly McClintock writes that, “the primal scene of fetishism involves a delusion in the realm of spectacle.”⁷⁵ The origins of the fetish, then, lie in both a kind of seeing and as a type of blindness where it becomes necessary to sacrifice sight in order to witness some ‘truth’. Thus, Freud's boy does not ‘scotomize’ his perception of the woman's lack of a penis since that would suggest that perception “is entirely wiped out, so that the result is the same as when a visual impression falls on the blind spot in the retina.”⁷⁶ On the contrary, the fetish requires some lingering memory of perception, and an energetic action to maintain the disavowal. The fetish offers a surrogate to the threat of castration in the form of a token, while retaining an aversion to the real female genitalia as “a *stigma indelebile* of the repression that has taken place”.⁷⁷

⁷¹ Victor Burgin quoted in Colomina, B. (1994): 44.

⁷² See Alfred Binet, “Le Fetichisme de l'amour” in *Etudes de psychologie experimental*, Octave Doin, Paris, 1888.

⁷³ Freud, S. (1953): 152-3.

⁷⁴ Williams, L. (1989): 105.

⁷⁵ McClintock, A. (1995): 189.

⁷⁶ Freud, S. (1953a): 153-154. Compare this to Coop Himmelblau where they write: “We think that the drawing in architecture, that is, the unconscious act which calls logic into question, could be the ‘blind spot’.” Prix, W. D. and H. Swiczinsky (1996): 46.

⁷⁷ Freud, S. (1953a): 153. Freud's Italics.

Freud has noted that all relationships contain an element of the fetish, in which an object is overvalued the sexual aim or desire - particularly where the normal sexual aim is unattainable or unfulfilled. For some this condition becomes pathological when,

*... the longing for the fetish passes beyond the point of being merely a necessary condition attached to the sexual object and actually takes the place of the normal aim, and, further, when the fetish becomes detached from a particular individual and becomes the sole sexual object.*⁷⁸

The fetish exists in order to satisfy the Other.⁷⁹ Lacan points to a distinction between the fetish and mere fantasy where the fantasy, establishes an external relationship to the object-cause of its desire that constitutes itself in relation to this objective lack - that is, the fantasist necessarily admits to lack by desiring an Other. The fetishist, however, denies all recognition of their lack, placing him or her self in the space where nothing is lacking, and finds an objective focus for their subjective desire. Freud refers to this category of fetishist as the pervert:

*The meaning of the fetish is not known to other people, so the fetish is not withheld from him: it is easily accessible and he can readily obtain the sexual satisfaction attached to it. What other men have to woo and make exertions for can be had by the fetishist with no trouble at all.*⁸⁰

The Freudian fetish concerns a substitution of the phallus in order to satisfy a castration. From this account the architectural drawing does not immediately assume an easy sexualised position. Bernard Tschumi describes the drawings of Antonio Sant'Elia as one version of fetishism:

*His drawings become fetishes. If these fetishes do not assume Freud's direct sexual connotations - after all, it is the city they refer to, not a human partner - they similarly disregard the object of desire and replace it with a powerful substitute: drawing.*⁸¹

Sant'Elia's images of skyscrapers and power stations possess a function both transitional and substitutive: "transitional, because they inhabit the junction of the new and the old; substitutive, because they soon become key-images, ones that replace the inaccessible reality."⁸² In part this is a simple result of Sant'Elia's early death, and his lack of opportunity to bring his architectural ideas to fruition. Sant'Elia's drawings stand in lieu of executed buildings in such a way that they seem now to be fetishes rather than

⁷⁸ Freud, S. (1953b). 111.

⁷⁹ See Lacan, J. (1977).

⁸⁰ Freud, S. (1953a): 154. Joan Copjec has noted: "must be 'rigorously of no use' to the pervert, who makes no claims on any rights to the enjoyment and who busies himself with them only for the sake of the Other." Copjec, J. (1994): 111.

⁸¹ Tschumi, B. (1990): 43.

⁸² Tschumi, B. (1990): 43.

projections. This substitution is reiterated by Sant'Elia's friend Arata who wrote of him as, "the creator of buildings without plans."⁸³ Pictorial sketches take on such powers of replacement that they 'become' buildings. However, it is likely that Sant'Elia himself did not view such drawings as substitutes for the act of building; they are merely representative of a period in which he was unable to continue development. The drawing becomes a proxy of architectural vision rather than building. The fetishised drawing places attention back on the action and hand of the draughtsperson, suppressing the particular vision to a grander expression. As Tschumi points out, it is no coincidence that Sant'Elia constantly reproduces the same two or three sketches, "One Sant'Elia drawing suffices to express the ideas that animate it."⁸⁴ This reappearance of graphic elements indicates an impotence of the architectural 'seeing' that leaves Sant'Elia checking and rechecking the same information in a recurring anxiety of loss. There is behind this action a condition of figurative castration where the architectural drawing has been separated from the communicative function that defines it. Sant'Elia's architectural vision is caught in an action that severs the translation/projection relationship, and condemns the architectural idea to a role as a substitute to any fuller resolution. As such the castration anxiety, which underlies Freud's sexual fetish, is equally present in self-referential architectural drawing, as the eye serves for the architect the same reproductive functioning as the phallus does for Freud. For architects, blindness commits architectural drawing to a sterile fetishism, the potential for which is integral to the relationship between drawing, the phallus, and seeing:

Distortion may lend itself . . . to all the paranoiac ambiguities, and every possible use has been made of it, from Arcimboldi to Salvador Dali. I will go so far as to say that this fascination complements what geometrical researches into perspective allow to escape from vision. How is it that nobody has ever thought of connecting this with . . . the effect of an erection? Imagine a tattoo traced on the sexual organ ad hoc in the state of repose and assuming its, if I may say so, developed form in another state. How can we not see here, immanent in the geometrical dimension - a partial dimension in the field of the gaze, a dimension that has nothing to do with vision as such - something symbolic of the function of the lack, of the appearance of the phallic ghost?⁸⁵

Coop Himmelblau and the blind drawing

It has been observed of Coop Himmelblau that what makes them so difficult for architectural criticism is that they demand that the architectural critic makes a declaration of personal faith in their creative genius.⁸⁶ This thesis was most convincingly born out when the *Open House* by Coop Himmelblau was given an Architectural Design Award

⁸³ "The question of the modern plan has become irrelevant, the link with modern living and its formal means are the only things that count." Arata quoted in Tschumi, B. (1990): 43.

⁸⁴ Tschumi, B. (1990): 44.

⁸⁵ Lacan, J. (1977): 87-88.

⁸⁶ Lootsma, B. and M. Steigenga (1986).

by Progressive Architecture in 1991. For Coop Himmelblau principals Wolf D. Prix and Helmut Swiczinsky the 'Open House' project began as a programmatic concept of 'Open Architecture'.⁸⁷ They note that until 1983 they had resisted building individual living spaces because they weren't sure how to avoid the determination of a future user.⁸⁸ 'Open Architecture' became for them a design method which allowed for the creation of "differentiating and complex spatial situations that [could] be interpreted as different landscapes by the inhabitant."⁸⁹

One key mechanism that made such spatial gymnastics possible was their technique of 'blind drawing' that emphasised the emotional tactility of the hand over the rational influence of the mind: **[Figure 40]**

*Created from an explosive-like sketch drawn with the eyes closed. Undistracted concentration. The hand as a seismograph of those feelings created by space. It was not the details which were important at the moment, but the rays of light and shadow, brightness and darkness, height and width, whiteness and vaulting, the view and the air.*⁹⁰

Paradoxically, the blind sketch makes possible not only the formal spatial qualities of a building but also consideration of those features traditionally the domain of the sighted; light, shadow, brightness, darkness, height, width, and whiteness.

*Pencil marks on paper - like charged particles - create a field of energy that shows a configuration of only momentary existence. This opens up a multitude of possibilities subject to selection by the internality of straight lines.*⁹¹

Lootsma and Steigenga have suggested that it would be wrong to talk about a conventional design process for Coop Himmelblau since they postpone the design outcome for as long as possible, purposefully repressing any desires to visualize the scheme until the very last moment when the scheme manifests itself in a moment of revelation akin to some mystical event.⁹²

For Rem Koolhaas, the problem transcends mere formal and aesthetic concerns. Following the history of the 'Open House' as a project through the 1980's the work poses questions of what is new and emerging. He concludes that, ". . . we [are] discussing the

⁸⁷ The 'Open House' appeared on the front cover of their book *Architecture is Now* (Rizzoli International Publications, 1984). In 1985 Coop Himmelblau were approached by a person wishing to build the 'Open House'. By 1989 a suitable site had been found in Malibu, on the Californian coast, permit and construction drawings were produced, and fabrication of the structural steel had begun in Europe. But in 1990 the death of the client stopped the project. In order to revive construction Coop Himmelblau themselves purchased the land and continued the project that was to be marketed as a package auction by Sotheby's.

⁸⁸ Prix, W. D. and H. Swiczinsky (1992).

⁸⁹ Prix, W. D. and H. Swiczinsky (1992): 16.

⁹⁰ Prix, W. D. and H. Swiczinsky (1992): 16.

⁹¹ Prix, W. D. and H. Swiczinsky (1992): 16.

⁹² Lootsma, B. and M. Steigenga (1986).

ethics of this situation. If we give it an award, is it morally correct to do so?"⁹³ For him the question of the un-built (or un-buildable) architectural project, that is the lapse of time that occurs between concept and construction, is a fundamental ethical and moral dilemma for architecture. The 'Open House' must pay the price of not being considered on its aesthetic virtues. Instead it must be compared to all those realized works of

⁹³ Koolhaas, R. (1991): 85.

Figure 40



Coop Himmelblau
Open House, Blind Drawing
1983

building that already exhibit the 'Open House' through its represented influence. As Koolhaas writes, we are in the rare position of comparing ". . . the father to the children."⁹⁴ The 'Open House' has become a model example of architecture while still being an architectural model. Lacking the authenticity of building it has never-the-less entered into a dialogue with building, lending itself to other projects and receiving design awards. Thus, the problem that the 'Open House' presents is that of an architectural dialogue that no longer requires the validation of construction to maintain itself within the discourse. Architecture is separated from building without suffering any loss. Koolhaas refers to it as a ". . . house that is famous, that is already canonical . . . a world famous-house."⁹⁵ Through some sleight of hand the 'Open House' has un-grounded itself from the fundamentals of construction and built upon reputation and influence. This un-groundedness is more than simply semantic play. The 'Open House' is known to us through its representation, that is the drawings, models, and photo-montages that are its descriptive presence. Where projects usually remain speculative because of their representative techniques, the 'Open House' is made absolute in spite of them. The project is already authoritative precisely because it rejects the conditions of representational existence normally required. Coop Himmelblau have introduced a rupture into accepted architectural representation through which the 'Open House' has gained influence. This occurs as a moment of optical illusion that is the consequence of a particular blindness of drawing that is reproductive.⁹⁶

⁹⁴ Koolhaas, R. (1991): 86.

⁹⁵ Koolhaas, R. (1991): 85.

⁹⁶ Lars Morell suggests that optics and blindness exist as the one 'science' considered by all the French philosophers. This lineage begins with the publication of René Descartes thesis *La Dioptrique* in 1637. Descartes discusses the way in which a perspective image is formed in the human eye, and, as Morell points out, the significance of this book is that it is part of that period in which sight and seeing became the privileged sense of perception in Western culture. Since that time the subject of 'seeing' occurs in the works of Diderot, Merleau-Ponty, Heidegger, Lacan, Foucault, and Jacques Derrida. See Morell, L. (1995).

Touch and sight in drawing

The mark, or trace, or trait, that is the drawing, is made possible by the extension of the drawer's body. The hand reaches forward as an instrument of the drawing. The draughtsman pays particular attention to the finger and the eye, the finger traces and touches that which the eye traces and touches, the hand substitutes for the eye as a supplement of the mark. The hand lays a finger upon the drawing so that it may be seen by the eye, it gives sight to the eye by revealing the eye of the drawer as unseeing.⁹⁷ This 'laying on of hands' is what orientates the drawing, while simultaneously committing the drawing to a debt.⁹⁸ Rendering vision visible gives thanks to a memory of the event, whether it exists before the drawing or not. Memory makes possible the inscription that makes the invisible visible and this inscription is always in debt to those visible signs of the invisible that owe their existence to memory.

*What guides the graphic point, the quill, pencil, or scalpel is the respectful observance of a commandment, the acknowledgement before knowledge, the gratitude of the receiving before seeing, the blessing before the knowing.*⁹⁹

The laying on of hands orients the drawing toward its debt, a debt that may also be a gift, so that Derrida suggests that at the origin of the *graphein* there is a debt or gift, but not both, and not representational fidelity.¹⁰⁰ The fidelity of faith exceeds the fidelity of representation because faith is blind in a way that representation is not. Faith sacrifices the sight that representation requires and reveals in the process that faith must exist before representation, that it is preceded and commanded by faith. Faith offers sight as a gift so that it may see. Representation accepts this debt so that it may be blind to a certain truth of faith.

*Truth belongs to this movement of repayment that tries in vain to render itself adequate to its cause or to the thing. Yet this latter emerges only in the hiatus of disproportion. The just measure of 'restoring' or 'rendering' is impossible - or infinite. Restoring or rendering is the cause of the dead, the cause of deaths, the cause of a death given or requested.*¹⁰¹

Death restores sight to the representation but at a price. Drawing continues to mourn the lost sight of faith even as it experiences the un-veiling of representation. Blindness is always accompanied by mourning for the loss of sight. Blindness and death are the same.

⁹⁷ Derrida, J. (1993). Derrida imbues drawing with certain characteristics of medicine. He describes "drawing as surgery"(5). As the translators note: "Derrida is indulging in a certain jeu de mains by playing on the hand [main] in manipulations, manoeuvres, and manieres, as well as in the word "chirurgie" - surgery - which comes from the Greek kheir (hand) and literally means the "work of the hands." (translators footnote p.5). Derrida, J. (1993).

⁹⁸ "He wants to see or touch the law, he wants to approach and "enter" it, because perhaps he does not know that the law is not to be seen or touched but deciphered." Derrida, J. (1992): 197.

⁹⁹ Derrida, J. (1993):29-30.

¹⁰⁰ Derrida, J. (1993).

¹⁰¹ Derrida, J. (1993): 30.

Following this line of thought, Coop Himmelblau's 'blind sketches' for the 'Open House' can be re-evaluated.

*. . . architecture lives for seconds at the moment of conception. It can never be Past, because at conception it becomes Future. The instant of conception differentiates and decides. Is this instant free [sic] from pressure, cliché, ideology and formalism, then architecture becomes free.*¹⁰²

This is the self-described essence of Coop Himmelblau's 'open architecture' where the usual constraints of the architectural project are repressed in order to focus attention upon the original creative concept. Wolf Prix recalls the moment of conception of the 'Open House':

*We close our eyes and let the pencil record our feelings. Our hands, when touching the paper, sense the scale.*¹⁰³

This moment is however, fleeting - a few seconds - the moment of conception also contains an inevitable demise. This, of course, is contained within the action of drawing. Every person who makes a mark is blind as they sacrifice their vision to the mark.

By purposefully suppressing the privileged sense of sight, Coop Himmelblau make this moment acute. They reach out to the sketch in the manner of the blind finding their way through the dark - the conceptual sketch is drawn out of this touch. It is the product of an inquiry that searches out the connection between the body and the object, as much sculptured as drawn. Derrida writes that:

*. . . the eyes of the sculpture are always closed. 'walled up' in any case . . . or turned inward, more dead than alive . . .*¹⁰⁴

At the point of conception the architect surrenders to a type of death: each blind drawing is, in fact, a conceptual death. But contrary to an 'Open Architecture' where the instant of conception is free from external pressures, the blind drawing embraces this condition. The sketch, no matter what its original nature, is a recollection of some past experience.

*. . . the draftsman always sees himself to be prey to that which is each time universal and singular and would thus have to be called the unbeseen, as one speaks of the unbeknownst. He recalls it, is called, fascinated, or recalled by it. Memory or not, and forgetting as memory, in memory and without memory.*¹⁰⁵

In this paradigm the draftsman who attempts to retain their sight is destined to be blinded by it, to search endlessly through a visually dominated memory of drawing. Coop

¹⁰² Coop Himmelblau. (1983): 11.

¹⁰³ Coop Himmelblau. (1990):72.

¹⁰⁴ Derrida, J. (1993): 44.

¹⁰⁵ Derrida, J. (1993): 45.

Himmelblau, in blinding themselves, enter into the realm of pure memory, of pure past. It is only in this way that they are able to draw upon brightness and darkness, light and shadow, whiteness and vaulting, as their emotive qualities draw upon the memory. The blind sketch looks forward precisely by looking back, or more accurately, by looking back *into*. It seeks some reconciliation between past and future in order to exist in the same way that Derrida searches out the hesitation between the transcendental and the sacrificial. At the moment of contact, the point of the point, the instant at which the trait makes contact with the surface, there occurs this hesitation where the inscription of the inscribable is not seen. The heterogeneity between the thing and the thing's drawn trait remains abyssal.

In fact the 'trembling hesitation' is at the moment of abyss, the moment of transfer or translation between a transcendental and a sacrificial thought of the drawing of the blind: "a thought of the condition of possibility and a thought of the event."¹⁰⁶ This hesitation between the two thoughts exposes each as the supplement of the other, since there is neither pure transcendental nor pure sacrifice. As Derrida explains, the hesitation between states remains a violence of the sacrifice, and remains at the origin of mythic narrative - violence belies the origins of the seer and visionary¹⁰⁷. Indeed, such sacrifice is compensated for, and motivated by, the gift of visionary prophecy.

*Suddenly, in a moment of inspiration, the design appears. . . . This moment of design revelation is impossible to describe in words.*¹⁰⁸

At the critical moment of exchange (translation) when the drawing appears, another type of blindness occurs, that of the invisible. Peter Jeffrey Booker has argued that this is the desirable nature of the drawing.

*Drawings are like windows through which we see things. The draughtsman, who is a maker of these windows, appreciates the effort put into them much more so than the others, who can only see through drawings, as it were, to the things themselves depicted and so take drawing for granted.*¹⁰⁹

This metaphor of the window is also used by Alberti to account for the pictorial qualities of representation, and in both cases the window is apparent at exactly the moment it becomes the invisibility of the frame.¹¹⁰ The translation should never call attention to itself. In the work of Coop Himmelblau translation remains a critical element. They describe the way in which the current of the energy in the sketch needs to be 'translated'

¹⁰⁶ Derrida, J. (1993): 92.

¹⁰⁷ Here Derrida names the three types of violence concerned, "mistaking (ruse or deception), punishment, and conversion. Yet the structural logic is powerful or involuted enough to allow these three types to be converted into each other. They exchange themselves, in truth, or take themselves for each other." Derrida, J. (1993): 94.

¹⁰⁸ Lootsma, B. and M. Steigenga (1986): 28.

¹⁰⁹ Booker, P. J. (1963): xv.

¹¹⁰ Masheck, J. (1991).

into statics and construction.¹¹¹ What makes the development of the ‘Open House’ unique is the way in which the development of the design is held rigorously subordinate to the original blind sketch. The imperfections of translation are not only allowed to become visible, they are encouraged. Every ‘scratch’ and ‘bubble’ becomes a point of departure in the design. They become momentarily blind in order to see. They explore invisibility through the desire to be seen. It is a parody, exploiting the nature of translation. The project is removed from the traditionally defined ground of architectural criticism. For Coop Himmelblau the first sketch is more ‘architectural’ than the constructed building. Every part of the initial contains an absolute truth of the project from which any building is an unfortunate, if expected, departure. They challenge the conventional understanding of the architectural drawing as a neutral projection/translation device as stated by Robin Evans, for example, who will only allow for the translation ability of the drawing to operate either completely, or not at all.¹¹² In conflict to this position the blind drawings of Coop Himmelblau succeed precisely by providing for both these conditions. They provide for architecture at the point of conception while still allowing for the processes of building precisely by abandoning the hegemony of vision to the primacy of touch.

Blindness, touch, and consecration

The lines, the marks on the paper, are a transformation from one system of representation to another. They are a transformation of appropriate signs with a view to the predicting of certain architectural events, that is, on the one hand the phenomena of construction and the transformation by the builders, and on the other hand, the phenomena of construing and the transformation by the possible users.

Marco Frascari¹¹³

For Frascari sequences of marks on paper are analogous to the processes of construction and construing. Both strategies realize a process of interference that represents several layers of thought rather than one Cartesian projection.¹¹⁴ Citing Carlo Scarpa’s drawings, Frascari indicates how the development of his architectural detailing involved assemblages of drawings so that one sheet might provide multiple images of one detail, each image itself an analysis that may adopt and violate any of a variety of drawing techniques. The development of the built detail cannot be traced to a single original drawing from which a projection can be made. Instead the built form presents a process of transformation of the detail from one system of representation to another, “from drawing to building.”¹¹⁵

¹¹¹ Prix, W. D. and H. Swiczinsky (1992): 16.

¹¹² Evans, R. (1997b).

¹¹³ Frascari, M. (1984): 30.

¹¹⁴ For this reason Frascari prefers to describe the plan with the obsolete Vitruvian term *ichnography* (*ichnographia*) because it does not contain the same Cartesian connotations. See Frascari, M. (1988c).

¹¹⁵ Frascari, M. (1984): 30.

The transformation acknowledges that difference occurs but allows for this since it continues to contain the trace:

*The past interpretation of this translation was that an architectural drawing is a graphic projection of a deceased, or existing, or future building. The present condition of the phenomenon is that the building is a translation in built form of 'pre-posterus' drawings. In the past the symbolic and the instrumental representation were unified in the building; drawings were solely instrumental representations. In the present reality, however, the union of the symbolic and instrumental representation in the building depends on their presence and union in the drawing. The transmutation should take place in the drawings; angles should transfigure themselves into angels.*¹¹⁶

Coop Himmelblau, by demanding that architecture occurs fleetingly at the moment of conception, commit themselves to Frascari's union of the symbolic and instrumental in the drawing. These 'nervous' sketches contain both the angelic and the angular architectural requisite. Wolf Prix writes that these drawings contain ". . . simultaneously, traces of the future plans, cross-sections, significant structural details and subtle motifs from the final solution."¹¹⁷

The angel's appearance as the thing is made possible by its symbolic primacy.¹¹⁸ Frascari sees drawings as graphic representations analogously related to the built world through a corporeal dimension, while embodying technology in architecture, "where the *techne* of *logos* cannot be separated from the *logos* of *techne*".¹¹⁹ Concludes Frascari:

*From this angelic point of view, it is then possible to state: In architecture each angle is an angel.*¹²⁰

Following Cacciari, Frascari's angel/angle operates symbolically by combining the thing itself, and the name, to form a symbol.¹²¹ As such the angel/angle represents a union between two different kinds, an inconceivable union which is symbolized by the 'monster'. In this way the architectural drawing is also a 'monster', the inconceivable

¹¹⁶ Frascari, M. (1990b): 12-13.

¹¹⁷ Coop Himmelblau (1990): 72.

¹¹⁸ "The thing itself, instead, passes through the mesh of definition; it shines in every definition as that which always withdraws from it. It gives itself in the definition as its own indefinable. Yet what, in the definition, together withdraws from it is not at all an absolutely transcendent dimension but, rather, the thing itself, precisely the thing, the this-here *individuum* of the thing. The thing must be said to be the Angel. Precisely the thing itself . . . The thing itself and the name thus form a symbol." Cacciari, M. (1988): 160-161. Cacciari's emphasis.

¹¹⁹ Frascari, M. (1990b): 13.

¹²⁰ Frascari, M. (1990b): 12.

¹²¹ "The thing itself and the name . . . form a symbol." Cacciari, M. (1988).158-159.

union between design and drawing that is a construing that produces a monstrous demonstration.¹²²

The blind sketch is far more than a sketch done without looking. It gives itself up to the optical limits of representation and sight, and in doing so is able to restore the vision of architectural representation. The architectural drawing is no longer obligated to the projection of past, present, or future buildings, but instead focuses itself on the hesitation, drawing upon the limits of translation to translate the limits into drawing: the transcendental and sacrificial, symbolic and instrumental, the angelic and the angular.¹²³

Following Walter Benjamin, Massimo Cacciari has reiterated the significance of the figure of an angel as a symbol of the passage of from naming through a process of translation:

*The name, in which the thing 'saves' itself within itself, communicates to the Angel, to the dimension unreachable by the onomazein. One communicates with the Angel by way of the intransitiveness of the name.*¹²⁴

The name determines the giving of ideas only insofar as it attaches a symbolic meaning to it. The thing and the name form the symbol. The name may appear as a symbol of thing itself, but it is a symbolism that relies upon the 'intransitiveness of the name' – the fact that it cannot be translated. Further, it is only through the name as symbol that the idea gives itself up. Symbolically, the angel is able to represent the idea as concept by naming that which cannot be said, by giving a voice to the unspeakable, while still not actually allowing speech. The angel operates as the symbolic representation of the name, but it is always the name of man.

*The Angel follows man; it wants to be named by man's desire for the name.*¹²⁵

Derrida credits the angel with the restoration of sight. He relates the story of Tobit who was stricken blind following a loss.¹²⁶ Tobit's blindness is not natural, he sees it as an obscure punishment for having buried his community's dead, his mourning resulting in

¹²² Frascari points out that the 'monster' is a derivation of the Latin verb *monstare*, to show or to point out, which is already derived from the verb *moneo*, emphasizing the action of thinking. "Drawings must demonstrate the angelic image. Displayed as whole, the palimpsest of the angelic image is the matrix of the representational theories of the constructed world. This palimpsest is an act of projection, a casting forward becoming a point of projection itself." Frascari, M. (1990b): 14.

¹²³ Cacciari, M. (1988): 160.

¹²⁴ Cacciari, M. (1988): 161. "For Benjamin, philosophy is essentially the uninterrupted struggle for the restoration of the 'primacy' of the symbolic in order to make room for the name as symbol, for only in the name-symbol does the idea give itself" (161).

¹²⁵ Cacciari, M. (1988): 162.

¹²⁶ "That same night I washed myself and went into my courtyard and slept by the wall of the courtyard; and my face was covered because of the heat. I did not know that there were sparrows on the wall; their fresh droppings fell into my eyes and produced white films. I went to physicians to be healed, but the more they treated me with ointments the more my vision was obscured by the white films, until I became completely blind." Tobit quoted by Derrida, J. (1993): 24.

blindness. It is not until eight years later that his sight is restored seemingly by his own son, Tobias. Tobias spread fish gall on his father's eyes, following the advice of the angel Raphael. This moment of miracle that has been depicted through various drawings.¹²⁷ Derrida is particularly interested in the pen and ink drawing attributed to Rembrandt, *Tobias Healing his Father's Blindness*, in which Tobias is seen to be touching the eyes of his father with an instrument. [Figure 41] This calls to mind a surgical operation with a scalpel, or scalpel-like instrument, or perhaps an engraver or stylus. In Rembrandt the fish gall is absent, Tobias is seemingly able to restore his father's sight by *touching* his eyes, laying on his hands to facilitate the return of sight. As Tobias's sight returns he gives thanks, firstly to his returning vision but then to his son, the restorer and subject of that vision, his God.¹²⁸ He is able to see sight itself. In restoring his father's sight Tobias has made himself visible, but obscured the vision of the angel, making him invisible. Healing is the result of a vision that must remain invisible in order for it to be visionary. Tobias now owes a debt to God, one which he can only repay by writing, as it is only through making visible the signs of the visionary, that is by *inscription*, that the memory of the event be preserved.¹²⁹

The vision of the angel contracts an obligation from the 'visionary' to ensure its invisible presence, by recording the angel's memory as an inscription. The angel is owed such a reward because it makes possible the very vision of vision, the seeing of seeing. The angel makes it possible for Tobias to return sight to his father through a touch that is at once the touch of a son, the visionary, and the angel which operates between God and man. It is the presence of God that Tobias recognizes in his son, and it is God's presence that he must reconcile through writing and drawing. Drawing offers a type of salvation in description because it at once recognizes the primary action of God's touching, and therefore also the trait of God the creator. Derrida states that the thanksgiving grace of the trait suggests that at the origin of the *graphein* there is debt or gift rather than simple representational fidelity.

*More precisely, the fidelity of faith matters more than representation, whose movement this fidelity commands and thus precedes. And faith, in the moment proper to it, is blind.*¹³⁰

¹²⁷ Derrida refers to the works: *Tobias Healing his Father's Blindness*, Pietro Bianchi; *Tobias and the Angel*, Jacopo Ligozzi; *Tobias Healing his Father's Blindness*, after Peter Paul Rubens; and particularly the pen and ink drawing attributed to Rembrandt, *Tobias Healing his Father's Blindness*.

¹²⁸ "Blessed be God . . . May his holy name be blessed throughout the all ages . . . Now I see my son Tobias!" Tobit quoted by Derrida, J. (1993): 28.

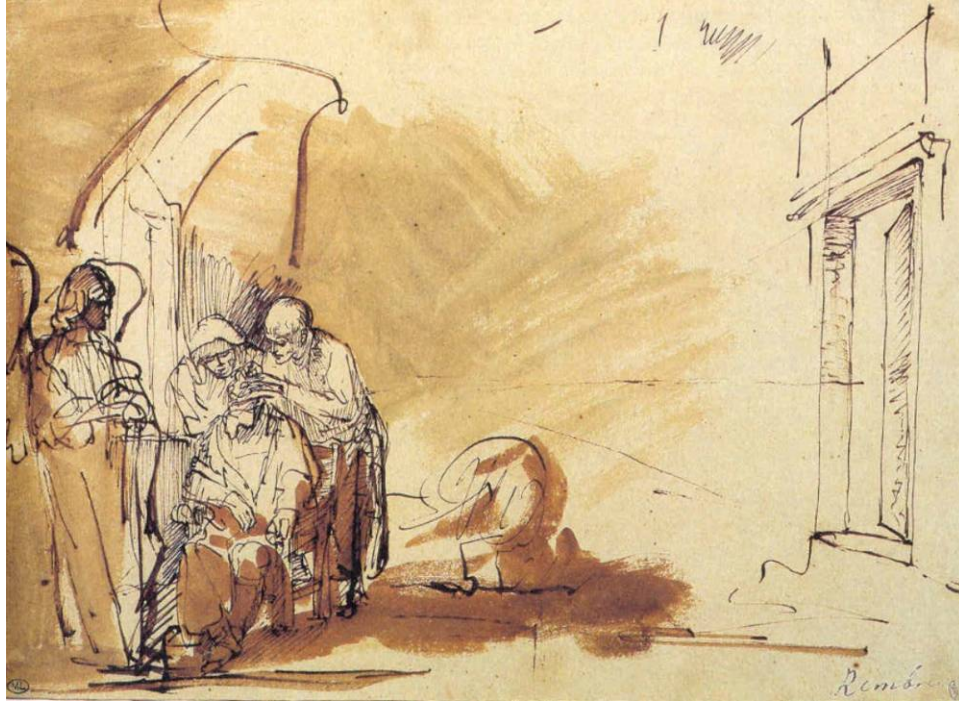
¹²⁹ "As archive of the narrative, the written story gives thanks, as will every drawing that draws upon the narrative. In the graphic lineage or descent from the book to the drawing, it is less a matter of telling it like it is, of describing or noting what one sees (perception or vision), than of observing the law beyond sight, of ordering truth alongside the debt, of ordering truth from the debt, of giving thanks at once to the gift and the lack, to what is due, to the faultline [*la faille*] of the 'il faut' ['one must'], be this to the 'il faut' of the 'il faut voir' ['one must see,' 'one will have to see'] or of an 'il reste à voir' ['it remains to be seen'], which connotes at once the overabundance and the failure [*défaillance*] of the visible, the too-much and the much-too-little, the excess and the default [*faillite*]." Derrida, J. (1993): 29. - All italics and parentheses by the author and translators.

¹³⁰ Derrida, J. (1993): 30.

All faith is blind faith by definition. That the restoring of sight to the drawing represents a loss of faith paradoxically makes it visionary. Faith sacrifices sight even as it attempts to restore seeing. The vision of the angel is never actually seen, as the angel is already a vision (of faith).

The bond of fidelity found in translation similarly governs the architectural drawing, as a conduit between the architect's vision and the constructed work. This relationship is ordered by a mimetic correlation regimented *in* the drawing, but not *by* the drawing. The

Figure 41



Rembrandt (attributed to)
Tobias Healing his Father
Louvre Museum

problem, as remarked on by Caccari, is the authority of the contract of communication that is facilitated. Contrary to the privilege given to 'vision', it is the tactility of the touching hand that forms a conduit between one state and the other, and which makes it possible for the miracle of insight to be transmitted. To this end, touch signals the severing of the eye from the communicative process and so initiates a representational castration which then reorganizes the hand as a tool of the fetish. The consequence of this is the construction of a grotesque space in which elements of touch and vision are thrust together in a hybridised form of partial seeing and partial touching that governs the representational procedures of architectural drawing. That this is presented as a 'translation' is the brilliance of a grotesque that disguises itself with a transparency constructed through this very hybridity.

Bodily projections in the drawing

This is the relationship Daniel Willis perceives in the *Open House* project where the logic of drawing supersedes the logic of building. He supports his argument with the observation that the gestural freedom of drawing displayed by Coop Himmelblau has given rise to much more complex buildings:

*... the uninhibited freedom of such drawings will often translate into a building that is very difficult to construct, and so the logic of the building stands in direct contradiction to the logic of the drawing that inspired it.*¹³¹

A change has occurred in the way that architectural drawing has come to be both understood and manipulated, but where the nature of this change is referred to through the mechanism of 'translation', we need to be particularly careful about what is *not* being discussed. Willis condemns the profession of architecture for its growing taste for idealized compositions in immaterial space, and which are "lacking any analogous relationship to processes of construction".¹³² For Willis blind drawing exemplifies the shift from the logic of building to a new logic of drawing, but the complexities surrounding the *Open House* need to be more properly stated in order to understand the full implication of this project. That is to say, we need to understand what is not being translated with this 'projection.'

Coop Himmelblau describe the process of the first *Open House* drawings as a non-visual exercise in 'translating' visual phenomenon - light, shadow, brightness, darkness, whiteness, view - into an emotional gesture of space through the pencil. The lead, in this case, traces something other than a 'vision' and in this way cannot be examined using traditional visual analytical techniques. Optical or geometric correctness are no longer suitable criteria to judge against. Coop Himmelblau's desire to represent spatial experience without the observational qualities of their own vision demonstrates a failure

¹³¹ Willis, D. (1999): 179.

¹³² Willis, D. (1999): 179.

of that representational process (architectural drawing) to operate in a pure sense, and indicates a suppression of other bodily architectural desires.¹³³ Robin Evans has identified a comparable bodily projection:

*In architecture, which has an imaginary (sometimes pictorial) component, we can project the body into the building empathetically and represent its violation.*¹³⁴

Empathy, and the right to empathize, are the obligations of architecture to project beyond the visual (the pictorial) and into the workings of architecture as a spatial experience. Jean Francois Billeter has asked by what process does it come about that the true self of the calligrapher (or architect in this case), their expressive and creative uniqueness, is realized in the hand.¹³⁵ The question is the location of the point where architectural empathy influences the drawing hand. The beginning of this process occurs with the distinctly spatial architectural observation that we ‘inhabit’ our bodies. The quality of the mark-making produced by the hand is directly proportional to the ease and directness with which those marks are made, so that the quality of the calligraphic artist involved is understood to have a significant influence on the subsequent work produced. In an account of his own ‘discovery’ of projection in drawing Billeter describes being able to draw a portrait because he could ‘feel,’ rather than simply ‘see,’ the essential character of his subject. More importantly, this shift of sensory dominance from ‘seeing’ to ‘feeling’ advances spatial concepts:

*The head that appeared on the paper was markedly spatialized, it had a volume, a depth and a pronounced corporal presence.*¹³⁶

¹³³ Here ‘desire’ corresponds to an action of projection as described by Robin Evans. In his essay “Architectural Projection” (Evans, R. 1989) he observes that projection is motivated by an absence: “Projections - the invisible lines that relate pictures to things - are always directional. Drawings arrest and freeze these vectors, but even in this fixed state, projected information can be mobilized by the imagination of the observer”(19). This demands a condition of departure and arrival where the presence of one constituent of this polemical relationship necessarily demands - that is desires - the presence of the other. Evans writes: “Architectural drawings are projections, which means that organized arrays of imaginary straight lines pass through the drawing to corresponding parts of the thing represented by the drawing. We are all very familiar with projected images. The pictures on a television screen are projections. Converging lines of light reflected from a subject are gathered by a camera lens and focused on a photo-sensitive surface. This is a projection”(19). Since the codifying of perspective by Brunelleschi there has been an easy acceptance of the term projection to refer to those lines which we may physically draw to demonstrate the manner in which the transfer of rays of light operates. Yet it may also be said that this process is itself an invisible one. The physical lines of plumb line that Dürer illustrated in Mechanical Method for *Making a Perspective Picture of a Lute* have long since been replaced by the knowledge that these lines are necessarily present, yet they remain ‘unseen.’

¹³⁴ Evans, R. (1991): 37.

¹³⁵ Billeter, J. F. (1990).

¹³⁶ Billeter, J. F. (1990): 138. “Thus the art of calligraphy is based entirely on the dynamic apprehension of reality by the active body. It makes visible what we feel when acting or witnessing action”(185). In part, Billeter is arguing for the significance of fluency for drawing. According to him the projection of our activity proper underlies our relation to the visible where: “our eye still rests on external reality, while in dreams we surrender entirely to the life of the body proper. We are now immersed in the spatiality that we project outside ourselves. Our existence is reduced to our activity proper perceiving itself”(145).

It is through this comment that we find a commonality between Billeter's 'body projection' and the design methodology of Coop Himmelblau.

There are two of us. While drawing, architecture is captured in words, the drawing is narrated into the three dimensional material of the model. (We cannot prove it, but we surmise very strongly that the more intensely the design is experienced by the designer, the better the built space will be experienced.) [until] we noticed that we gradually began to emphasize the verbal description of the design with gestures of our hands. And with projects for Paris and Vienna, the language of the body was the better drawing and the first model.¹³⁷

Coop Himmelblau have made direct analogies between the eye and architecture. Describing their process for urban projects in New York and Berlin, Prix and Swiczinsky recall taking photographic portraits on which they traced contours from the cities, and then enlarged them "until just the pupils of the eyes [were] visible. They are the plan of a tall building, and we intend to build it".¹³⁸

In this way Coop Himmelblau maintain an exclusive inverse relationship between the visuality of drawing and the ability of drawing to leave an emotional record. As Werner has noted, the blind drawing of Coop Himmelblau expresses itself less as a *l'art-pour-l'art*,

. . . but rather as a self-control of self-discipline in regard to the work being done. This again should, if possible, intensify and test the integrity of the architectural activities which occur in the labile field of tension between feeling and expression.¹³⁹

This return to expressionism is both the strength and the weakness of the blind drawing exercise. By advancing the experiential attributes of architecture in it's representation, and consequently refuting the dominance of the visual model of drawing, Coop Himmelblau position themselves against the orthodoxy of architectural drawing, whose rules and codes provide the very 'voice' of architectural speculation. For this reason Coop Himmelblau cannot simply nullify the conventions of architectural representation. Instead they must substantiate the role of drawing in order to contribute to an architectural discipline that depends upon visual stability to define its covenants.

The coincidence that is not a coincidence, leads us to a method of design in which the drawing becomes important. Free from the physical constraints, without thinking about spatial consequences, the drawing comes into being in an instant, and 'administrates' the building. And when you see the drawing, created in an explosive moment, you see the superimposition of plan, elevation and section.

¹³⁷ Coop Himmelblau (1992): 14.

¹³⁸ Coop Himmelblau (1992): 16.

¹³⁹ Werner, F. (1983): 6.

*Everything is in the drawing. As in cubist drawings, where not only the complete view, but in reality the psyche of the drawn object is also made visible.*¹⁴⁰

Vision becomes synonymous with the spatial and physical, and is responsible for the propensity for the drawing to be motivated by the bodily. In this sense physicality does not refer to the bodily aspects of the architect. On the contrary, Coop Himmelblau are critical of the ability of the 'visible' aspect of drawing to manipulate the consequences of representation onto the built work. Instead, under the guise of 'coincidence', the drawing is credited with responsibilities that are normally suppressed by the demands of neutrality or translation. The drawing is now able to 'administer' the project, that is, it becomes a servant to the responsibilities of translating the desires of the architect into space and form.¹⁴¹ Critical to this process is the emphasis placed by Coop Himmelblau on emotive bodily imperatives (as opposed to those themes of the body directed through the eyes) that shift from the architect into, rather than onto, an expressive built form. Much of their writing begins with basic bodily desires for architecture.¹⁴²

¹⁴⁰ Coop Himmelblau (1992): 46.

¹⁴¹ *Minister*, from the Latin for servant. To administer carries responsibilities of management, stewardship, and 'to tender'. *S.O.E.D.*

¹⁴² See especially their 'ode' to architecture, 'Architecture Must Blaze', where desire for both architecture and the body are comprehensively confused: "Architecture Must Blaze. You can judge just how bad the 70's were when you look at its super tense architecture. Opinion polls and a com-placent democracy live behind Biedermeier-facades. But we don't want to build Biedermeier. Not now and at no other time. We are tired of seeing Palladio and other historical masks. Because we don't want architecture to exclude everything that is disquieting. We want architecture to have more. Architecture that bleeds, that exhausts, that whirls and even breaks. Architecture that lights up, that stings, that rips, and under stress tears. Architecture should be cavernous, firey, smooth, hard, round, delicate, colorful, obscene, voluptuous, dreamy, alluring, repelling, wet, dry and throbbing. Alive or dead. Cold - then cold as a block of ice. Hot - then hot as a blazing wing." Coop Himmelblau (1992): 95.

The role of the hands

. . . touch answers the desire for the demonstration of love between people. Ordinarily, sight is necessarily out of touch because to see one must be at a certain distance from what one views. Touch is more immediate than the distanced eye.

Svetlana Alpers¹⁴³

One unavoidable difficulty of architectural drawing is that two-dimensional representations of three-dimensional figures require specific visual conventions that are unavailable to the blind.¹⁴⁴ Yet it is the character of these conventions that define and characterize the nature of architectural drawing, whether or not they are related to the orthographic set. The interpretation of an architectural drawing requires the translation of specific codes of visual representation that rely upon the recognition of line, shape and colour.¹⁴⁵ The two-dimensional medium of drawing makes the visual factor of distance an intellectual proposition of representation as scale and proportion replace actual spatial distance. At the same time, the practice of drawing adopts mechanisms of perception that Mark Hollins suggests are specific to the blind. Following his description, we find the architectural draughtsperson is actively engaged in the phenomenology of haptic sensation. During the action of drawing the hands of the drawer are engaged in perceptive exercises. The draughtsperson utilizes both hands to coordinate the action of the drafting instrument against the straight edge, and although the information being applied may be successive in its application, the construction of this action is none-the-less comparable to the way the blind operate, using simultaneous difference to advance their perception of the world. Similarly the definition of the word 'draw' demands the articulation and dexterity of the hand to perform in a manner that the eye cannot. At the most banal level the physiology of the eye, unlike the hand, is unable to hold the instrument of drawing. This is indicative of the differences between the senses of touch and sight where the action of 'looking' is paradoxically a passive exercise in receiving; while touching is an active searching out to experience sensory information. The drawing hand not only makes it possible to make a mark, it also brings back data about that mark. Perhaps the most interesting distinction is between the type of information received. The eye is a receptacle that excels at processing colour, brightness, darkness, and shape. Drawing generally finds its form in the contrast between dark lines and a light page, or coloured areas against each other, or combinations thereof that form particular patterns. By contrast, touch emphasises pressure, warmth, cold, and pain, all of which are sensations that the product of drawing successfully suppresses, but which remain central to any discussion of how drawing occurs. Without the physical feedback provided by the pressure of the mark, denoting a line of black against the white of the page, there is a risk of a loss of control that could lead to a breakdown in the codified features of architectural drawing. Furthermore the sensations of touch are more acutely related to the human condition where pain and cold recall mortality.

¹⁴³ Alpers, S. (1988): 24.

¹⁴⁴ See Kennedy, J. M. (1993b).

¹⁴⁵ See Hollins, M. (1989).

In this sense touch is primary to architectural drawing. Drawing can occur without sight but not without touch. Moreover, the physicality of a drawing appeals to the pleasure of the eye while the action of drawing 'speaks' to a physiological condition by suppressing the bodily act being played out - drawings are pleasure, drawing is pain. For Coop Himmelblau this is only accessible through a voluntary castration as the eyes are closed, and the dominance of vision is severed.¹⁴⁶

Morphosis, the *Venice III* drawing, and miniaturisation

I would like to return to Morphosis' *Venice III* via the question of the line and the *trompe l'oeil*. For Architecture 'drawing' explicitly refers to an act of delineation and construction by marking with an instrument across a surface, and the schema or motivation for this movement. Drawing is linked etymologically to the action 'to draw', an expression of pulling and dragging. To draw is to extract something from, to draw out the viscera of, to disembowel. The act of drawing is an act of removal, an amputation, coupled with an addictive content, a substitution for the loss. This action of marking and compensating has been doubly inscribed since the middle ages where the architectural drawing was firstly made in pencil on fine animal hides, then overdrawn with a scribe to produce grooves in the skin. When it was completely drawn ink was finally applied to the marked lines to render the invisible visible.¹⁴⁷

Through most of the twentieth century yellowed sheets of tracing paper were bound to a drawing board with tape or pins, to be worked over with machines and motion units. The phallic intent of the propelling pencil is apparent here - the extension of the architect's hand, and an answer to the architect's castration anxieties - if the lead is broken and the cap is pressed, an undying ejection of lead will continue to issue. The propelling pencil technologically sidesteps the anxiety of taking a scalpel to a broken point. Overlaid and redrawn the architectural drawing emerges from these grotesque scenes of ritual until its paradoxical condition is permanently etched into the surface of architecture and the erotic quality of drawing is repressed to validate the architect as the instrument of architectural production. The content of the drawing is secondary to the drawing's conventions where the technique of drawing has initiated an act of imposition. Such pressures operate within the social framework, and are reinforced through professionalisation, to culturally construct the necessity of 'the architect'. Historically the drawings of the architect are seen to function in the interface of the architect and the building. The drawing is the mechanism that initiates, regulates, and authorizes the building's completion. This relationship between drawing and building is a complex one that expresses the variation and diversity of technique that the term 'architectural drawing' incorporates.

¹⁴⁶ "In short, the castration is his, and indeed, many losses or separations (from the womb, the breast, the faeces . . .) precede the hypothetical sighting of castration - even if they are understood as such only retrospectively through this optic." Foster, H. (1993): 263.

¹⁴⁷ This time consuming project was finally superseded during the Renaissance by techniques of over laying tracing papers which provided opportunity for mistake and experimentation.

The conceptual sketch is generally considered to be the primal act of ambiguous creativity while the working drawing is relegated to a prosaic role of pragmatic implementation. More pointedly, the question is, does the conceptual sketch reflect the creative intent of the mimic, is the developed sketch a better mimic of the conceptual moment, or does the mimicry of drawing operate more generally.¹⁴⁸ The architectural drawing does not re-present architecture; rather architecture is described by the blurring of vision between a duality of mimicry and mimesis. Architecture is produced, that is written, in the slippage and excesses of difference between the two. Drawing is an action of camouflage that disguises this origin of architecture as colonial practice, or perhaps more accurately, drawing disguises the absence of architectural origins between mimesis and mimicry - but it is this absence in drawing that makes possible the 're-presentation' of architecture. The architectural drawing is a *trompe l'oeil* that the architect presents as an elaborately contrived illusion to validate their own authority over the discipline of architecture. The drawing is never the building that Bhabha describes as a partial Anglicising. Drawing is the colonial tool of the architect in the same way that the theodolite was the colonial tool of nineteenth century British imperialism. In this the *trompe l'oeil* is an active agent of seduction that manipulates the optical bias of pictorial representational in order to exploit the inherent limits of this same system. The consequence is an apparition that organises spatial experience while never partaking in that space. In reference to *trompe l'oeil*, Jean Baudrillard observes:

*The implication being that these objects are not objects. They do not describe a familiar reality, . . . They describe a void, an absence, the absence of every representational hierarchy that organizes the elements of a tableau, or for that matter, the political order.*¹⁴⁹

It is the world of the graphic apparition to which the *Venice III* drawing belongs. It is a lexicon of *trompe l'oeil* techniques. Although aesthetically comparable to the illusionary surrealist paintings of Rene Magritte, *Venice III* is actually quite paradoxical in intention. The semantic pedantry of '*Ceci n'est pas une pipe*' reminds us that this is indeed not a pipe, it is nothing more, nor less, than a painting of a pipe. In *Venice III* contradictory and confrontational representational techniques point to a more complicated implication for architecture.

In the foreground a model of the building's structural and mechanical components irrationally defies gravity to stand before a sectional single-point perspective that describes an architectural interior in terms of tonal gradation while the structure is conspicuously absent, displayed 'out front' in a show of oppositional duality. In the tradition of *trompe l'oeil* the illusionist spatial quality of the interior perspective is 'pinned up', it is framed by the absence of structure, then framed again through a formal display. Such reframing reveals a game of challenging ornament and structure. The perspective attempts a systematized representation of real experience, the success of which depends on the manipulated paradimetrics involved. Referring to the role drawings

¹⁴⁸ The impossibility of asking such questions highlights the significance of partial influence that Bhabha describes as the double vision of colonial ambivalence.

¹⁴⁹ Baudrillard, J. (1990): 60.

play in recording architectural history, Stuart Cohen argues that it is the axonometric that presents a model of reality.¹⁵⁰ As a drawing the axonometric approaches the intrinsic properties that Levi-Strauss has reserved for the 'miniature'.¹⁵¹ This involves the promotion of conceptual understanding by the reversal of the normal processes of cognition. As a miniature can be perceived all at once it allows knowledge to proceed from the whole to the parts rather than from the parts to the whole.¹⁵² As a miniature the axonometric is able to function as a traditional work of art – "objects of knowledge".¹⁵³ Levi-Strauss states criteria for the miniature's seductive success. The miniature, and the 'small scale model', offer a reversal in the nature of understanding, by enabling a more thorough aesthetic effect than a 'natural' real-life paradigm has on optical geometry. The miniature offers a simplified version of reality, one more easily grasped, assessed and apprehended, even at a glance. To understand a 'real' object in its totality requires a dissection to reduce the resistance dividing its unity. Levi-Strauss, however, maintains that reduction in scale reverses the processes of breakdown so that the miniature may be consumed in its entirety. Quantitatively diminished, it is also qualitatively simplified and less formidable, and thus our power of homocentric assimilation is increased. Levi-Strauss acknowledges that this action is illusionary, but maintains that we are quite ready to accept the consumptive pleasure it affords. Furthermore, the miniature is not only a projection of passive homologues of the object. Made by hand it actually constitutes an experiment with the 'original', as there will be as many solutions to the problem of a miniature's construction and the observer is presented with the general picture at the same time as a particular solution is offered. The observer is transformed into an active participant of the miniature artefact. By contemplating the model the observer is offered all possible means of its production, while the original author has rejected all possible means in favor of a particular one. Thus Levi-Strauss concludes that:

*... the intrinsic value of a small-scale model is that it compensates for the renunciation of sensible dimensions by the acquisition of intelligible dimensions*¹⁵⁴

This problem of scale appears only in relation to the physical world and thus there are no miniatures in nature, the miniature remains a culturally produced object that invites the manipulations (operations and fingerings) of a physical world. The miniature presents itself as a toy: the physical embodiment of a fiction it is the true device for fantasy and a beginning to narrative. The toy is the gateway to an interior world that lends itself towards fantasy and privacy. To toy with something is to play with and manipulate it, to

¹⁵⁰ Cohen, S. (1978): 3.

¹⁵¹ Claude L-S, (1968).

¹⁵² Cohen, S. (1978): 2-3.

¹⁵³ The axonometric objectifies its subject much in the same way as a work of art (already questionably defined) is framed, reframed and objectified by the context of its categorizing as art object. Thus in the works of Constable and other English landscape pictorialists one finds a strong and committed dedication to Renaissance perspective and indeed orthographic, architectural works of contemporary architects are finding their way into museums and galleries - contrary to Cohen's suggestion that the axonometric can operate in a particularly 'art-like' way.

¹⁵⁴ Cohen, S. (1978): 24.

enter a domestic realm of parlour games and card tricks. The desire to play with the toy is simultaneously the desire to release its inner and hidden life, and to transcend a named response to investigate other possibilities of meaning. Susan Stewart writes that the ‘toy world’ is a projection of the world of everyday life; the real world is miniaturized to establish the relationship between materiality and meaning.¹⁵⁵ It is in the automated toy that this finds its greatest exponents - they are the modern monuments to the products of mechanized labour.

Architectural drawing also attempts a projection beyond the tangible into the fantastic. Orthographic, isometric and perspective techniques all dabble with distortions and manipulations of imagination - projecting and planning, strategies and moves, acts of play. But it is only the axonometric that truly releases itself to the miniaturizing process. It is with the axonometric that the architect is able to miniaturize the real world. This allows for a shift of design power as the architect is able to produce not just a drawing but the building itself. Lines are drawn, organised according to master plans as the axonometric is built up and the building shrunk down.

The axonometric constructs its line from a plan, walls rise, windows and doors violate those plans. Roof forms modestly enclose the vulnerable miniature. The axonometric appropriates the language of its fancy, it assumes the domestic function of the toy it inhabits. The house within the house is the axonometric of a house, or an interiority within a larger house of architecture.¹⁵⁶ The miniature does not attach itself to lived historical time. The metaphorical world of the miniature makes everyday life absolutely anterior and exterior to itself. Reduction in scale skews time and relations proportionally - once consumed the axonometric enters into an infinite time that is able to transgress the flux of lived reality and negate change. The miniature is against speech, against an internal dialectic, thus its fixed form is manipulated by individual fantasy rather than physical circumstance. The arrest of time simultaneously fuses edifice and artefact, an absolute of time and space that is unique. Each axonometric rejoices in the craft of ground and instrument, pencil and paper, and also functions to evoke a melancholic sense of pre-industrial society.

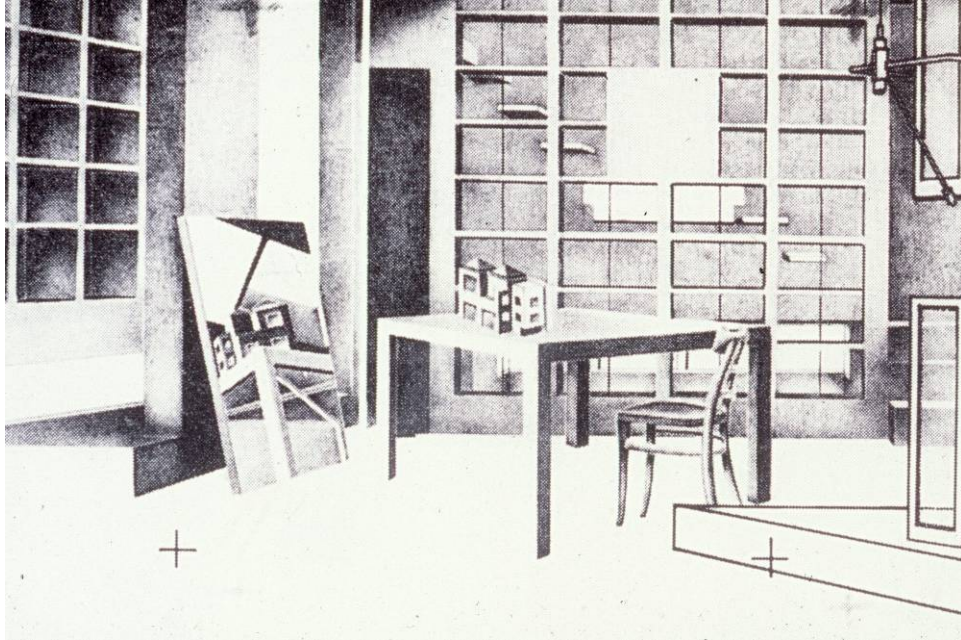
In *Venice III*, the location of the axonometric is marked by an ‘X’, visible only by the reflection of the under-side of the table. [Figure 42] The Axonometric is positioned above the mark describe by Adolf Loos as “the first ornament that came into being, the cross”.¹⁵⁷ Here the ‘X’ marks the spot of a particular limitation in architectural representation that is its strength and its weakness. An architectural drawing is not a building, but it is as close to the action of ‘building’ that the architect comes.

¹⁵⁵ Stewart, S. (1993).

¹⁵⁶ The axonometric houses the very thing that architecture has lost. Disguised within a secondary domestic realm it is invisible because it is in the place it is meant to be. Stewart describes the dollhouse as analogous to a locket or secret recess of the heart, an interiorising that promises an infinite search for the dollhouse within. The dollhouse of axonometric is constructed with secret rooms and moving panels that promise the impossibility of infinite returns. The dollhouse/axonometric is a particular form of interiority in which the subject experiences both sanctuary-fantasy, and the limits of prison - it cannot be lived.

¹⁵⁷ Loos, A. (1985): 100.

Figure 42



Morphosis
Venice III
Table and model detail

*Drawings and tracings are like the hands of the blind touching the surfaces of the face in order to understand a sense of volume, depth and penetration.*¹⁵⁸

The grotesques and fetish in architectural drawing

The *Venice III* drawing is a manifesto of loaded criticism that takes conventional drawing as it's beginning and then unravels the loose grip this has to organize an architectural authority.¹⁵⁹ Thom Mayne has repeatedly emphasized the importance to the Morphosis practice of blurring distinction between categories or conditions of control. Morphosis acknowledge that questioning metaphysical oppositions is a primary motivational factor in their projects, one of the most significant of which becomes that of artist verses convention. In the *Venice III* drawing this examination becomes an inquisition, as the integrity of the drawing as a space of architectural projection is thrown into doubt. For Thom Mayne the development of architectural propositions is necessarily bound to the orthodoxy of the representational techniques employed:

*. . . when we were working with drawings, they were based largely on right angles, and our responsibility as architects was to anticipate the impact of changes in section and plan on the three-dimensional spaces. The section was always the most interesting view for us, and it became more and more interesting to interrelate plan and section, for example, to define plans that are also sections and sections that are also plans. This was one of our strategies.*¹⁶⁰

In this way the principle critique in the *Venice III* drawing is of the discipline of architectural drawing itself, and thus the orthodoxy of Cartesian geometry that the orthographic set privileges. It is for this reason that this drawing particularly confronts the principle of projection. Thom Mayne is careful to distinguish between 'buildings', which he views as finite, and 'projects' which he views as trapped in a site of production:

We find it necessary to consider everything we produce, and everything in this book, to be a project. . . . we find ourselves reluctant to give up the investigations

¹⁵⁸ Hedjuk, J. (1986): npn.

¹⁵⁹ Rand argues that this is a principle quality of the actual extension: "Venice III is a project that compresses the cycles of daily life into a horizontally layered, multilevel vertical space. Being alone in the alley addition is a little like entering the twilight land between waking and sleep. In hypogogic imagery the ego is lulled into allowing forbidden fantasies to merge with perceptions of docile reality. Like the 'eyes open' process of free association on the analysts couch, ordinary reality becomes mixed in with unconscious reverie. The resulting emotions can be intense, even disturbing." Rand, G. (1989): 22.

¹⁶⁰ Mayne, T. (1999): Appendix II.20, n28.

*undertaken in each project, reluctant to surrender the optimism, and unwilling to erase the traces of our productive impetus.*¹⁶¹

In a similar way the blind drawings of Coop Himmelblau reject the dogmatic orthodoxy of orthogonality - although theirs is a more direct and physical response to the ideological functioning of geometric projection. This is not to say that these architects have abandoned orthogonal project – quite the opposite. In both these examples they remain committed to a nominal notion of Cartesian projection since any attempt to move purely beyond it is to reject architectural representation altogether. What we do find is a committed attention to not allowing the prevailing ideology of drawn architectural representation to wholly control the drawing process. Figuratively, both practices are attempting to re-define the frame of the drawing, and it therefore becomes more apparent that there is a historical precedent in drawing for this opposition in the *Carceri* drawings of Giovanni Battista Piranesi. The mechanism that Piranesi employs to explore this political confrontation is the perspective. [Figure 43] Each of the *Carceri* etchings describes, through an expert application of perspective, an architectural space that cannot be constructed. Piranesi exploits the ‘natural’ view of perspective to illustrate prisons whose volumes are filled with individuals lost within the unnaturalness of structures that defy the laws of logic and sanity. The rules of linear perspective ‘discovered’ in the Renaissance are violated by sightlines that refuse to converge on common viewpoints thus negating the notion of the privileged subject at the centre of vision.¹⁶² Nowhere in the *Carceri* series do we find an uninterrupted perspectival view into the depths as intersecting visions of columns, arches, passages, and bridges disrupt optical parameters. Sergi Eisenstein describes this constant interruption of the conventional perspective as ‘leaping’. This produces a new perspective mode of ‘double effect’.¹⁶³ Thus we again observe the figure of the double bind that operates metaphorically as the bridge. The dimensions and movement of architectural elements are directed through their framing by other objects. The eye expects to see behind the frame a continuation of the architectural theme but encounters, instead, another framing, and then yet another. The eye is made subservient to a more comprehensive understanding of represented space that must be ‘felt’, and not just seen. At each point the viewer’s attention is focused not on the impossibility of such construction but upon the promise of a possibility. This type of montage, suggests Tafuri, is an act of violence to our comprehension of representation.¹⁶⁴ Such violation maintains a separation between subject and object, setting one in opposition to the other, but more importantly it signals shift from the use of perspective to project a geometrically, and therefore sacred, view of the world.

¹⁶¹ Mayne, T. (1999): Appendix I.1.

¹⁶² Sergi Eisenstein describes the role of perspective in the *Carceri* series as twofold: “In the first place, the usual role, illusory-spatial, that is ‘drawing in’ the eye toward an imagined depth of space that is represented according to the rules of how one is used to seeing distances as they diminish in actual reality.” Sergi Eisenstein quoted in Tafuri, M. (1990): 86.

¹⁶³ Tafuri, M. (1990).

¹⁶⁴ “. . . we have the extreme aggravation of each of the juxtaposed terms, forced to ‘impale each other’ and to carry to an extreme their destructive dynamism.” Tafuri, M. (1990): 62.

Piranesi's polemical works argue that figures of hegemonic geometry are no longer satisfactory to represent architecture, and that architecture may already be dead. However, modern practice no longer maintains such pure values towards its representational responsibilities, and this is how the graphic tropes of the grotesque and

Figure 43



Giovanni Battista Piranesi
Carceri XIV

the fetish enter into the representational argument. Orthographic projection, once the rationality of divinity, has become an orthodoxy rather than an ideology. Where Piranesi challenged ideological and philosophical norms, Morphosis and Coop Himmelblau challenge cultural and social practice, and the difference is to shift the emphasis of discursive drawing practice onto internal rather than external elements, with the result that paradigm shifts become grotesque and fetishistic.

SECTION 4

Peter Eisenman: Drawing Origins

SECTION 4

Peter Eisenman and Drawing Origins

What is perspective? - A corpse with one eye closed. The architect of the Middle Ages was able to build because he could not draw descriptive geometry and perspective, etc.

Bruno Taut¹

In . . . 'House X (Ten)' (1975-77) Eisenman presented an 'axonometric model' in reference to the problem of 'object/object representation/object conceptualization'. This led to the idea of applying the axonometric 'distortions' not just to the three-dimensional model but to the building itself. Instead of an axonometric representation in the model or drawing of a rectangular object, plane-parallel representation of an axonometric object was intended to produce an irritation and 'ambiguity' of the subject-object relation. The result shows that this procedure is based on a logical reversal which does not apply to axonometry. The fact that axonometry seems to distort the object does not imply that a similarly distorted object becomes in itself axonometric. Axonometry is not - unlike perspective - a way of seeing but a way of drawing.

Bernhard Schneider²

The House X drawing

Peter Eisenman's representational images for the unbuilt *House X* share a particular discursive interest. [Figure 44] What appears in one photograph to be an axonometric drawing is revealed in another as a distorted model (that has no strict formal correlation to the scheme). [Figure 45, 46, 47] This is a purposefully built distorted model that appears as an axonometric drawing when photographed from one very specific point, and can be understood as a part of Eisenman's wider exploration of instability and dislocation.³ Superficially this model/drawing/photograph is a strategic move against Hegelian conditions of dialectic opposition:

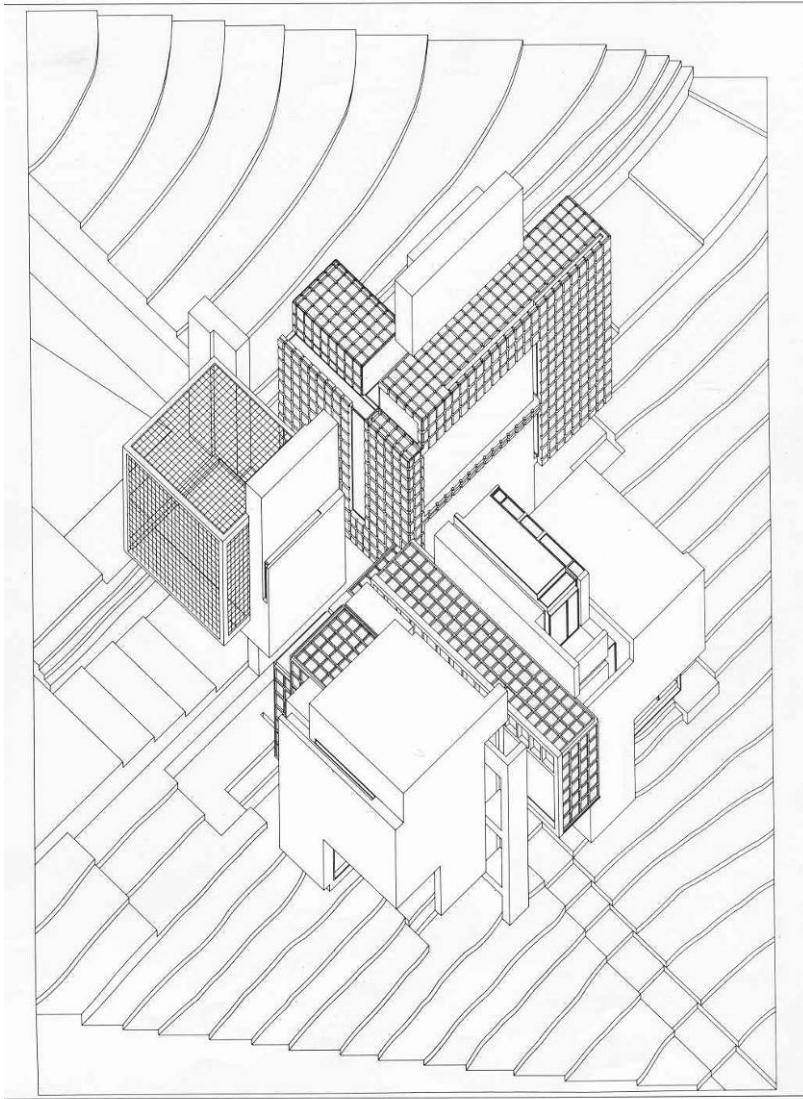
. . . the traditional oppositions between structure and decoration, abstraction and figuration, figure and ground, form and function, could be dissolved. Architecture could begin an exploration of the 'between' within these categories . . . This idea

¹ Bruno Taut quoted in Holländer, H. (1984): 87.

² Schneider, B. (1981): 91

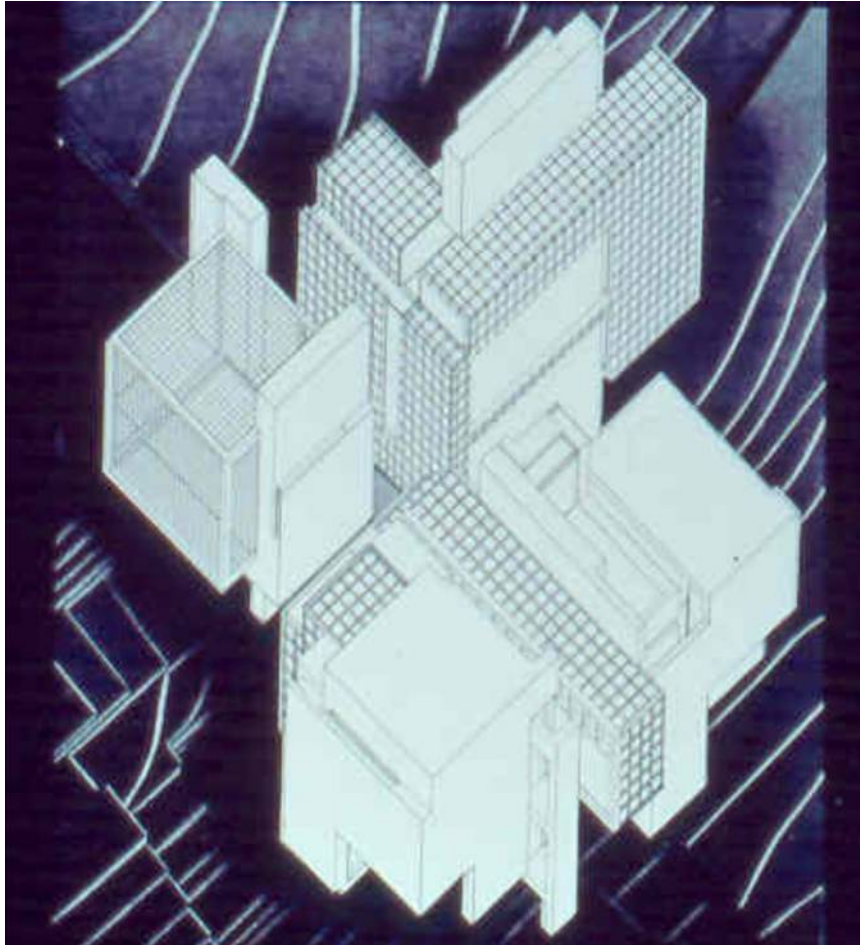
³ "Axonometry is chosen as a means of underlining the protension/retention oscillation which perspective had repressed, the words 'or the other way round' stressing the fact that unlike perspective, it does now rely on the choice of a necessarily arbitrary point of view - that there is, indeed, no point of view at all in axonometry." Bois, Y.-A. (1990): 31. "Parallel projection was used to detach earthly images from the human eye during the first thousand years of the Christian era, when the dawning spirituality of the religion was deeply imbued with neoplatonism. In Byzantine art, the glittering light of the gold background which projected the 'oblique' figures was cast onto the plane of the mosaic." Scolari, M. (1985): 76.

Figure 44



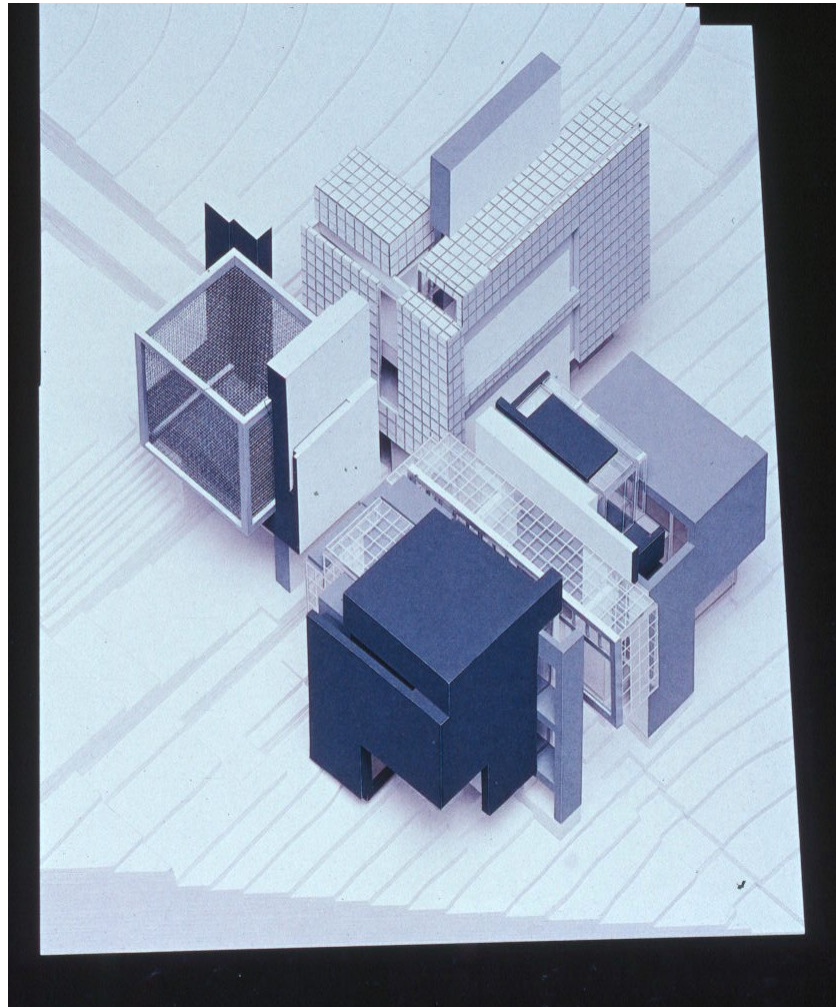
Peter Eisenman
House X
Axonometric Drawing

Figure 45



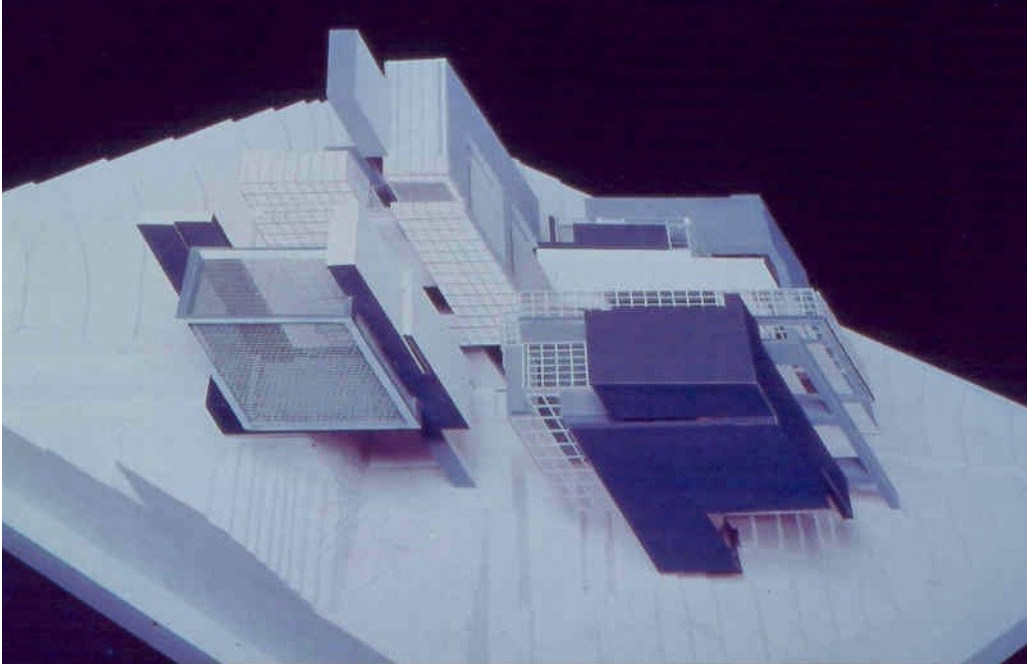
Peter Eisenman
House X
Axonometric Drawing / Model

Figure 46



Peter Eisenman
House X
Axonometric Model

Figure 47



Peter Eisenman
House X
Axonometric model

*of blurring is not less rigorous, less rational, but it admits the irrational to the rational*⁴

Eisenman is challenging not only these identified dialectical relationship but also the categorical restrictions of representation. In this way the image is never fully a model or simply a photograph. In the first photograph the most convincing graphic resemblance in the image is that of a conventional axonometric view, while in the second photograph this is shown to be the most distorted. At this point it might be tempting to dismiss the *House X* image as not the concern of drawing. While there is an illusion of the drawn convention of axonometric, the actual production of the image involves other representational systems. Yet there is a complexity to this image founded in the epistemology of drawing. Despite the three-dimensional model – or more properly because of the model – the representation of *House X* is never anything more than a drawing. The axonometric is seen to break free from the drawing board, but it nonetheless depends upon the same constructs as other drawing conventions.⁵ It is the nature and appearance of this foundation in drawing that will be discussed here.

House X

Peter Eisenman has described the House X project as a new kind of icon outside perceptions of the object:

*The new icon had to contain two things: its own condition, that is, the marking of how it was made and why, and second, something about objecthood, more specifically its own objecthood outside of the previous formalist canon.*⁶

Eisenman immediately confronts the object as representative of a hegemonic discourse of which drawing, as the instrument of hegemony, is implicitly involved. Conventional

⁴ Eisenman, P. (1988a): 8.

⁵ “[Eisenman’s] design for the House X project involves a series of stages in which an axonometric projection progressively breaks free from the confines of the drawing board, first to be detached as a flat and separate element, and then to extricate itself completely from the drawing as an independent and three-dimensional form.” Porter, T. (1993): 131.

⁶ Eisenman, P. (1982c): 46. “The houses . . . began with an attempt to identify an architectural sign. There is no straightforward analogy in architecture to the sign in language - architecture has no signs that stand for ideas of objects in a one-to-one correspondence. Elements like doors, windows, columns, and walls are not just signs, but also functioning objects in their own right. The act of opening a door does not necessarily involve any interaction with the sign of a door, it may only involve the door itself as a pragmatic instrument of entry, and basic entry. Virtually all architectural elements fall into this complex category of sign. Architecture therefore consists simultaneously of signification, function, and objecthood. But signification and function, unlike objecthood, can be manipulated. Objecthood, on the other hand, the properties of an entity’s physical presence, is irreducible. And so it was proposing that an architectural sign could be distilled by reducing away the meaning and function of the architectural object. This was the project of House I.” Eisenman, P. (1987b): 174.

objecthood cannot be discussed outside of those systems, protocols, and conventions that shape and frame our understanding and, through this institutionalization, our interpretation. It is inevitable then that Eisenman should extend his attack on dialectics into the realm of drawing since it is instrumental in encoding ideology as a conditional but authoritative graphic language.

The current work [House X] is perhaps best conceived as a series of palimpsests, a dynamic locus of figures and partially-obscured traces. Site-specific and scale non-specific, they record and respond to change. Although they are directed, they are ultimately authorless, that is, they refuse any single authoritative reading. Their "truth" is constantly in flux.⁷

The *House X* drawing can be seen as the culmination of this line of thought in Eisenman's work of the period. Here the palimpsest is less a graphic technique than a metaphor for the discursive tracings that condition any 'truth' in this image. Eisenman takes strategies of diffusion, transparency, and layering, and slips these into the representational system as a way of introducing such stratagems into the project. This judicious critique of architecture is inherently a critique of architectural representation. This is not simply a function of not being built, as Eisenman 'builds in' to the drawing an undecidability that cannot be resolved with construction. The architectural problem posed by *House X* is a problem of representation, in particular architectural drawing, and this is necessarily a spatial one:

House X . . . is totally involved with this process of dispersal. There, for example, one encounters it in rooms with transparent (glass) floors and ceilings, and opaque (windowless) walls. The plane on which openings normally occur is thus transposed to the planes that are expected to be visually solid. And the effect of this transposition is two-fold. The first is that a certain kind of somatic shock is delivered to the viewer. He is made to experience, through his own body, the fundamental opposition in an architectural language between closed and open fields. The second effect is the view of other parts of the same building produced by the transparent planes themselves, in which other sets of oppositions are manifested. The space in which the viewer finds himself is, then, one whose perspectives run vertically and diagonally through the system of the house rather than horizontally in relation to the viewer's normal plane of vision. Through this changed perspective, the occupant is forced to experience the space as a linked set of opposing terms - to encounter 'the room' less as an entity than as one part of a system of differences.⁸

⁷ Eisenman, P. (1987b): 186.

⁸ Krauss, R. (1987): 180. To make sense of the of this room Krauss suggests Le Corbusier's 1914 'Domino' diagram as a foundational precursor to Eisenman's formal and conceptual manipulations. Here, she suggests, we find the model for twentieth century architectural modernism - two horizontal slabs separated/connected by a Cartesian system of columns - and thereby the diagrammatic orthodoxy that Eisenman is challenging with *House X*. As Krauss notes, the 'diagram' makes it clear that any vertical plane that is added to this space is utterly dependent upon the structural skeleton: "The diagram is no longer orientated to the viewer as the centre of a perspective system, a system measured out on the horizontal ground on which he stands, stretching away towards his horizon. This horizon is blocked by the

House X is characterized by decay, by the crumbling of architectural order into ruin. Krauss's critique relies on the ability to discuss *House X*, and its architectural pedigree, in diagrammatic terms. It is the diagram that allows Krauss to slip between the conditions of idea and building, concept and realisation.

Tafuri has observed that, in Eisenman's work the diagram is a technique for placing attention on process rather than product.⁹ Tafuri's argument calls into question the 'authority of sight' that prevents the abstraction from the formal object of architecture. The diagram diverts attention away from representational matters by de-emphasising mimetic relationships of translation. For R. E. Somol, reading Eisenman as a 'diagram architect' the act of drawing (*disegno*) is the "previous *trait* of disciplinary identity"¹⁰. Traditional architectural drawing has become an anachronism of architectural representation. Following Colin Rowe architectural drawing is aligned with one pole in a dialectic between, on the one hand, *a priori* ideals (the 'paradigm' defended by Rowe) which include drawing, and, on the other hand the empirical solicitation of facts (the 'program') which can be more clearly aligned with the diagram.¹¹ The diagram is a more polemical tool than drawing precisely because of its ability to operate between form and word, "unlike drawing or text, *partis pris* or bubble notation".¹²

Somol calls the diagram a dominant device within "hybrid practices of the architect-critics of the neo-avant-garde" (the most prominent of which is Eisenman).¹³ But the diagram remains a tool of orthodox representation for architectural drawing, albeit one located in the domains of betweenness and hybridity. These conditions identify the diagram as a grotesque, that is, a figure existing between states. However, rather than seeing the diagram as a divergent from traditional drawing, the diagram should more properly be described as a transformation which relies on an existing relationship to, and with, drawing. This is evident in two photographs of the *House X* model. In the 'correct' photograph it appears as a drawn axonometric. In the improper image it appears as a

windowless walls, and that ground, by being transparent, is no longer predicated on the orientation of his body. The viewer may stand in the middle of the rooms of *House X*, but he is no longer their centre. This shade, which is pulled down over his view, is not one that returns it to him in the *Domino* guise of a set of theorems - about pure forms, organizational transparency, or Cartesian lattices" (182).

⁹ "The fact of the matter is that Eisenman, since the late sixties, has not been interested in results but in process. The diagrams of his projects clearly express this fact" Tafuri, M. (1987): 168.

¹⁰ "In general, the fundamental technique and procedure of architectural knowledge has seemingly shifted, over the second half of the twentieth century, from the drawing to the diagram. This is not to suggest that a diagram has become fully 'actualised,' that it has become almost completely the matter of architecture. Proceeding with halting steps through serial obsessions with form, language, and representation . . . the diagram has seemingly emerged as the final tool, in both its millennial and disparate guises, for architectural production and discourse." R. E. Somol, R. E. (1999): 7. The implications of Somol's position are quite reactionary. By this account architectural drawing, the discipline that emerged with - if not allowed - the development of the contemporary architect, has outlived its usefulness to any wider architectural discourse.

¹¹ See Rowe, C. (1976).

¹² Somol, R. E. (1999): 8.

¹³ Somol, R. E. (1999): 8.

fragmented and dislocated model. The effect is to emphasise the suspension of disbelief required to accept a model as a work of architecture. As Charles Jencks has noted of the improper version:

*House X was not built, but a version of it was, a squashed-down axonometric model which looked from every angle except one as though it had been carefully blown down by a very precise tornado.*¹⁴

In the improper photograph the model is a grotesque. It is neither complete nor incomplete, neither axonometric nor model. Outside of its controlling perspective point of the camera it satisfies Mark Cousins definition of the ugly, and it exposes the conditional authority drawing has over the represented subject.¹⁵

In this discussion, Somol's separation of traditional drawing from contemporary diagrammatic directions will become less obvious as a commonality of transgression suggests a continuity between the two states of representation. The *House X* image is more than a diagram. Despite its rupture with pure mimetic relationships, it is not a 'proper' abstraction. It is the ugly product of both these processes so that it presents itself as representational diagram, and a diagrammatic representation. This distinction is made possible not in spite of the conventions of drawing, but because of them. This is particularly true of Eisenman's use of the axonometric.¹⁶

The axonometric model and *House X*

Diana Agrest has stated that architecture is produced in three different textual registers; drawing, writing, and building, with the proviso that the model may be a fourth kind.¹⁷ With this assertion she identifies a textual difference between the architectural drawing and the architectural model, and therefore also in the distinct textual character of each representational system involved. Agrest does not elaborate on the nature of this difference, but the obvious quality that distinguishes the model from the drawing is that of sensory privilege. The model, unlike the drawing, may be perceptually understood through tactile exploration, as well as visually.¹⁸

¹⁴ Jencks, C. (1989): 128.

¹⁵ Cousins, M. (1994): 61-64.

¹⁶ Eisenman says of the Ugly: "The terms of the grotesque are usually thought of as the negative of the sublime. However, this is not quite the case in architecture, where the sublime deals with qualities of the airy, qualities which resist physical occupation, the grotesque deals with real substance, with the manifestation of the uncertain in the physical. Since architecture is thought to deal with physical presence, then the grotesque was acceptable as long as it was as decoration; in the form of gargoyles and frescoes. This is because the grotesque introduces the idea of the ugly, the deformed, the supposedly unnatural as an always present of the already within, that the beautiful in architecture attempts to repress." Eisenman, P. (1996): 568.

¹⁷ Agrest, D. (2000): 164.

¹⁸ Whether the model is generally experienced through touch in reality is a wholly different question. As a rule, models used for architectural presentation and student critique tend to be viewed and not touched. This is exemplified by presentations where the model is placed within glass boxes and thus reduced to a

In his critique of *House X*, Mario Gandelonas cites a tension between the use of the axonometric and the model in which the 'truthfulness' of these conventions is each registered as a conundrum:

the axonometric model of House X is a three-dimensional construction made to provide the image in a two-dimensional drawing. It does not provide knowledge of the object in a dimensional sense; it is not about reality, but about fiction; it provides phantasmagoric images - a sequence of anamorphisms - among which the 'right' image is very difficult to discover. It makes the 'normal' image appear to be an anomaly: we perceive it only at the instant where we see the false image - the model as a two-dimensional drawing - while the 'abnormal' images are in fact the only ones that describe the true nature of the three-dimensional object, the model.¹⁹

Eisenman's axonometric model is a non-experiential representation that nonetheless requires an orientation to a perspectival mode of seeing in order to be appreciated. Anamorphism is significantly more discursive than the *trompe l'oeil*, which is 'seen' only as long as its illusionary qualities go undiscovered. Conversely the anamorphism is an illusion that is unseen until the instant at which it is aligned to a privileged view, at which point it miraculously 'appears'. But where the *trompe l'oeil* can never return to a 'seen' state after its discovery, the anamorphism can be discovered over and over as its appeal lies in its violation of the rules of centralised view:

Like conventional perspectival construction, anamorphosis locates the viewer, but now in an oblique and de-centered position. The image coalesces only in the moment of turning away from the painting. The geometric dimension of vision is used in order to capture not the object now, but the viewing subject: a 'trap for the gaze'.²⁰

Similarly, the *House X* image is a representational ambush. Whenever it seems to have located its representational privilege, it shifts and transforms into another code: from model to axonometric to perspective to photograph to model again. Eisenman's use of modelling in the *House X* image provocatively questions the customary role of the model to clearly demonstrate the architectural project. Historically the model has accompanied drawings (particularly the plan) so that the model might explain the drawings, or address any confusion that occurs with the abstraction of three dimensions into a two-dimensional realm of drawing. Alberti, for one, is clear on the role of the model where he writes:

For this reason I will always recommend the time-honored custom, practiced by the best builders, of preparing not only drawings and sketches but also models of

purely visual phenomenon. However, anecdotal accounts of architectural models being broken, whether purposefully or accidentally, are widespread enough reminders of the dangers of tactility and representation.

¹⁹ Gandelonas, M. (1982): 28.

²⁰ Allen, S. (1992): 41.

*wood and other materials. These will enable us to weigh up repeatedly and examine, with the advice of experts, the work as a whole and the individual dimensions of all the parts, and, before continuing any farther, to estimate the likely trouble and expense. Having constructed these models, it will be possible to examine clearly and consider thoroughly the relationship between the site and the surrounding district, the shape of the area, the number and order of the parts of the building, the appearance of the walls, the strength of the covering, and in short the design and construction of all the elements discussed in my previous book.*²¹

Filarete's *Treatise on Architecture* emphasises the role of the model, "which one might also call a design in three dimensions."²² The drawing remains the primary form of description for the architect in a type of introspective examination that utilises specific hieroglyphic codes and keys. Conversely, the model appeals as an externalising of the design process. It becomes a tool of objective (object-based) display that emphasises the artefact of architecture. To this end it is an icon to the drawing's emblem. Where the drawing dismembers the architectural project, the model reassembles the fragments of inquiry into a whole, and thereby becomes the preferred architectural view for those expecting a complete body. To this end, the drawing and the model are complementary in so much as they present a duality, or more fully a series of dualities, that problematise the architectural project by separating various representational systems into opposites. The drawing becomes a primary, internal, privileged, and personal system, while the model is treated as a secondary, external, populous and public form of communication. This opposition stems from different information systems at the origin of drawing. Where the drawing represents a product, the model represents a process.

*Whereas drawing is a precise tracing of the movement of the hand, cutting and pasting do not by themselves give form to the model. Clay is probably the only material that achieves a close relationship between the movement of the hand and the product.*²³

Handa here presents an epistemological difference between the drawing and the model, or more properly, the act of drawing, and the act of modelling, while also constructing a difference that illustrates an origin of the drawing/model divergence in the origin myth of drawing. For Tafuri it is clear that the axonometric model serves as a metaphorical device to signal Eisenman's greater interest,

But let us instead start with the final product of the House X project: it is an axonometric plastic model worked out after the decision not to begin construction as a sort of synthesis of the already concluded planning. It is a rather unusual choice of axonometric model: unlike an axonometric drawing which aims at providing the most possible objective information regardless of the position of the eye, this model presents itself as a paradox, demanding only one point of

²¹ Alberti, L. B. (1988): 33-34.

²² Filarete quoted by Lotz, W. (1981): 7.

²³ Handa, R. (1992): 32.

observation and frustrating anyone who might want to take advantage of the possibilities presented by the three-dimensional reality of the model. . . Eisenman here is pursuing a further perverse aim: his axonometric model indeed frustrates the visual approach. The eye so punished is then forced to measure its own lack, to ask itself where it is at fault; the entire phenomenal universe is thus indicted. For some reason, the fact that House X is destined to remain on paper does not at all bother its author. The system of representation here coincides, as nowhere else in Eisenman's work, with the evocation of nonrepresentable processes.²⁴

Eisenman is not bothered that *House X* remains on paper precisely because the architectural quality he strives for resides as much in its representation as it would in a built work - perhaps more so.²⁵ With the 'nonrepresentable', Tafuri is acknowledging the singular dominance of vision in the representational realm in architecture. Eisenman breaches protocols of exclusiveness that define the role of the architectural model, and instead he hybridises these with other systems.²⁶ The effect is to irrevocably invalidate the suspension of disbelief that architects rely upon when discussing the representational as the actual:

The axonometric model is explicit about this: by evoking an image of the real it reveals its purpose to be to nullify, anamorphically, the substantiality of the real.²⁷

The axonometric and hybridity

The convention of the axonometric can be traced directly to Auguste Choisy, whose desire for truthful and honest principles led to his adoption of a modified isometric technique in order to graphically isolate architectural principles in his *Historie de l'architecture*.²⁸ In this tradition, Eisenman uses the axonometric as a sign of direct certainty, while singularly pursuing the opposite. In the face of objective stability, Eisenman uses the axonometric to achieve subjective instability of the representational focus.²⁹ Since Choisy the axonometric has been used to describe the rational

²⁴ Tafuri, M. (1987): 178-80.

²⁵ See Eisenman, P. (1974) and (1977).

²⁶ "Architectural models' in recent tradition, have been small scale constructions of chipboard, wood, or paper, rarely larger than the 1/16" scale, representing buildings. The limitations of such models were, not surprisingly, the limitations of the buildings they represented. The models emphasized massing, but did not encourage consideration for small scale detail, materials, or colors. The chipboard or Strathmore [was] modeled directly to the scaleless, monochromatic, monomaterial building." Halsband, F., R. M. Kliment, et al. (1978): 7.

²⁷ Tafuri, M. (1987): 180.

²⁸ Middleton, R. (1981): 37-42.

²⁹ "The axonometric image is reversible; it tears free of the ground (Malevitch's term), facilitating aerial views. Lissitzky, who excelled in the 'technical' application of axonometry in his architectural drawings, emphasized this reversibility even more by changing the axis of projection from one object to the next. This imaginary rotation was to achieve the total reversibility of the drawing. Malevitch was the first Western

determination of the modern programme in architecture. Eisenman's distinct preference for the axonometric over the perspective for three-dimensional representation owes much to his preference for structural programmatic mythologies over sensual or phenomenal experience. As Bruno Reichlin observes, the axonometric projection expresses a desire to de-anthropomorphise the architectural object.³⁰ For Reichlin, Eisenman treats the axonometric as a 'tool' of architectural representation which must first be tested for its limits. The inherent geometric parameters of this technique become points for the interrogation of the very problem of architectural delineation, particularly as an experiment in reversing the 'natural order' of representational mimesis.³¹ Against a common classification of the representational tool as benign and neutral, Eisenman identifies these same weaknesses as points of intervention.³² As Reichlin has noted:

*... axonometry is not so much a means of representation as a tool for work and for objectified work. It can be as perspicuous as you like (and it is not always so, since it's a fact that the public vary often can't decipher it). Nonetheless it first of all reveals a poetic standpoint and calls for specialized knowledge.*³³

'Specialized knowledge' alludes to the privileging of one particular reading over any other in any representational system. In this instance, Eisenman is able to display the institutional limits of architectural drawing by identifying the limits of conventional readability, with the result that the representational subject is not simply destabilized, but terminally so.³⁴

Nevins and Stern offer two distinct reasons that architects make drawings: to record an idea, and to document the development of that idea through to construction.³⁵ Following Reginald Bloomfield's categorisation of these two conditions as subject and object (to account for the idea drawing and the development drawing), Nevins and Stern introduce

painter, however, who recognized this complication: axonometric space is atypical and polymorphous - it is 'abstract'" Bois, Y.-A. (1981): 56-57.

³⁰ Reichlin, B. (1981).

³¹ This experiment into the discursive possibilities of the axonometric reaches its climax in the *House El Even Odd* project where the drawings successfully throw into doubt clear readings of front and back in the representational field: "It is not therefore altogether fortuitous that the lucid determination of P. Eisenman must take credit for having produced perhaps the first architectural object in which the reflection of architecture in its own image is the actual theme of the project. The *House El Even Odd* (1980) is conformed and deformed so that its roof and oblique corners describe a reticulum of lines which cause the observer to perceive the familiar image of the axonometric reproduction of a cube." Reichlin, B. (1981): 60.

³² "Architectural drawings, however, are only means to an end; steps in the realization of a completed building. They are not graphic works of art in their own right, but tools that explore form and materials." Brawne, M. (1990): v.

³³ Reichlin, B. (1981): 67.

³⁴ "The self-referential behavior of axonometric projection characterizes the initial moments of the modernist project, where it became a preeminent mode of visualization, decentering the subject from the perspectival model." Agrest, D. (2000): 166

³⁵ Nevins, D. and R. A. M. Stern (1979).

their own parallel categories of the conceptual and the perceptual.³⁶ They discuss the dialectic of the objective/conceptual and the subjective/perceptual drawing, where the former serves the architect, and the latter appeals to an external ‘viewer’.³⁷ Between the two they have identified a third condition – that of the hybrid - those techniques that confuse the categorical distinctions of the subjective and objective, and the conceptual and perceptual. For Nevins and Stern the drawing hybrid is typically a transgression of the dialectical relationship. Thus they cite the sectional perspective as a clear example of representational hybridity, neither properly for the architect alone nor for the spectator. To this we could add other crossover hybrids: the worm’s eye perspective that displays a (distorted) plan; the bird’s eye perspective can ‘flatten’ horizontal plans so that they can be read as flat; and, to a lesser extent, the one-point perspective where the parallel plan may appear so shallow as to present an elevation. Nevins and Stern point to axonometric projection as an acute example of the hybrid where the mathematics of the plan, section, and elevation, are synthesised (if erroneously) with the optical presence of the perspective to achieve an illusion. They suggest Peter Eisenman’s ‘drawing’ for the *House X* project as the most extreme example of such ‘illusionism’.³⁸ It is, they assert, an extreme and almost parodic comment on the relation of the axonometric projection to an ultimate built reality.³⁹

The origin of drawing

Perhaps the most popular view of architectural drawing is the one best expressed by Edwin Lutyens when, writing to the Lady Emily Lytton in 1897, declared his exasperation at the misunderstood nature of the architectural drawing.

*I was not cross only very dictatorial and impressive. They never realise that a working drawing is merely a letter to a builder telling him precisely what is required of him - and not a picture wherewith to charm an idiotic client.*⁴⁰

Lutyens expresses a common belief throughout the practice of architecture that the drawing serves as a neutral bridging device that allows the architectural idea to be transformed into an architectural project. Typically this transaction is seen as one of

³⁶ Blomfield, R. (1912).

³⁷ For Nevins and Stern, the category objective/conceptual is represented by the ‘abstract’ conventions of plan, section, and elevation, while their subjective/perceptual set includes those drawings that ‘appear’ as recognizable building, principally the perspective. They accept the optical perspective as an accurate and true visual representational despite the inherent abstractions the perspective adopts. See Panofsky, E. (1991). Nevins and Stern fail to address the status of the architectural sketch which often initiates the design process – and is therefore solely for the architect – and yet it is characteristically figurative rather than abstracted. Within their own categorical system the sketch is another hybridity of drawing.

³⁸ The parentheses used here are those of Nevins and Stern.

³⁹ Nevins, D. and R. A. M. Stern (1979): 14.

⁴⁰ Edwin Lutyens quoted by Lever, J. and M. Richardson (1984): 1.

projection, and it is often loosely referred to as a translation.⁴¹ Implicit in this construct is the hypothesis that the surface of the drawing corresponds in some direct way to the surface of a building. Robin Evans has suggested that:

*Through the miracle of the flat plane, lines transfer with alacrity from paper to stone and the wall becomes a petrified drawing, inscribed or embossed to lesser or greater degree.*⁴²

The architectural drawing is, by way of inscription and embossing, a particular type of relief carving, like a mark or stamp.⁴³ The problem is one of translation, due to which Derrida draws a parallel between the *pharmakon* and *biblia*. While the association between them may appear artificial or purely coincidental, they both exhibit the intonation of the translation.

*. . . one and the same suspicion envelopes in a single embrace the book and the drug, writing and whatever works in an occult, ambiguous manner open to empiricism and chance, governed by the ways of magic and not the laws of necessity.*⁴⁴

The translation makes the translated word more ambiguous precisely, and paradoxically, by attempting to remove the presence of ambiguity and thereby satisfy a demand for truth in translation. The problem of translation is also the problem of Platonic writing, as the representation of truth is disclosed through the suspect processes of an occult power.⁴⁵ Every translation is then an act of violation as the translation abandons the ‘truth’ of an original to maintain another version. At the core of this violation is the question of origin, or rather, origins. A testing of the neutrality of the translation throws into doubt all linear

⁴¹ For an introduction to these arguments see Allen, S. (1992a); Allen, S. (1993); Evans, R. (1989); Evans, R. (1986).

⁴² Evans, R. (1986): 8. Evans conditions this transfer as ‘simple’ and ‘primitive’, but not without some sense of appropriateness to the origins of drawing.

⁴³ “Stamp: To mark (paper or textile material) with a device either impressed in relief or intaglio, imparted to the surface by ink or pigment, or produced by both processes combined. Also to impress (a device) on paper, etc. by means of a die or engraved plate.” *S.O.E.D.*

⁴⁴ Derrida, J. (1981): 72-3. We risk over-simplification in saying of Derrida’s *pharmakon*, and the book, that the original truth of a translation is nothing other than an attempt to conceal the necessary absence of an original truth in translation. The translation of *pharmakon* is caught up in a train of signifiers that resist the possibility of any *single* word that can represent it through translation.

⁴⁵ “When a word inscribes itself as the citation of another sense of the same word, when the textual center-stage of the word *pharmakon*, even while it means remedy, cites, re-cites, and makes legible that which in the same word signifies, in another spot and on a different level of the stage, poison (for example, since that it [sic] not the only other thing *pharmakon* means). The choice of only one of these renditions by the translator has as its first effect the neutralization of the citational play, of the ‘anagram,’ and, in the end, quite simply of the very textuality of the translated text. It could no doubt be shown . . . that this blockage of the passage among opposing values is already an effect of ‘Platonism,’ the consequence of something already at work in the translated text, in the relation between ‘Plato’ and his ‘language.’ There is no contradiction between this proposition and the preceding one. Textuality being constituted by differences and by differences from differences, it is by nature absolutely heterogeneous and is constantly composing with the forces that tend to annihilate it.” Derrida, J. (1981): 98.

relationships that are traced back to one origin. In this way Lutyens' opinion on the passive communicative role of the architectural drawing relies on a stated integrity of the origin of drawing that supports a tenet of truth through translation.

The origin of the architectural drawing

Pliny's account of the origin of painting explains the first mark in terms of the drawing of a line that holds as present - and thus will hold as present - that which is absent. . . At the origin, between the shadow and the figure there is an opening. One is not the other. The shadow marks the presence of what it is not. The opening has particularity since the shadow also posits a closure to the extent that the shadow is interpreted as the immediate presence of the one who cast the shadow.

Andrew Benjamin⁴⁶

According to Pliny, the art of all drawing (and therefore necessarily architectural drawing) originates in the tracing of the profile of a shadow projected from a human body.⁴⁷ The potter Butades, whose daughter Diboutades, is about to be separated from her lover, a Roman soldier being posted abroad. By placing a light source in front of the soldier, Diboutades creates a profile of her lover's head, from which Butades builds his relief:

*Placing a lamp in front of the young man she drew around the profile cast on the wall behind. Butades then pressed clay onto the silhouette to produce a relief of the young man's face.*⁴⁸

Butades is able to provide for his daughter a lasting mimetic memento in the form of a relief silhouette of her (about to be) lost lover. This story has been given as the origin of the architectural drawing, but the complex nature of its genesis is not discussed.

*The myth of the origin of drawing, as it has [sic] handed down to prosperity by Pliny the Elder, tells us the story of Diboutades tracing the shadow of her departing lover on a wall. These traditional drawings are merely jigs and templates; they are intermediary step of a design process, where the interpreter is the architect.*⁴⁹

Frascari here restates the role of this story as an origin myth, but he also lessens any critical impact it might have by emphasising traditional drawings as jigs and templates, in the custom of blind guides, while reaffirming the right of the architect to act as a translator – that is, as the authority figure controlling the translation function of drawing. The problematical implications of this are immediately apparent in that this origin has

⁴⁶ Benjamin, A. (2000): 145.

⁴⁷ For a broad account that focuses on the significance of shadow, see Teysot, G. (1990).

⁴⁸ Pliny the Elder. (1991): 336.

⁴⁹ Frascari, M. (1989): 13.

two distinct components: firstly, the projection and initial recording by Diboutades, and secondly, the point at which Butades makes this recording permanent with clay. Writers on the origin of drawing and painting, like Frascari, tend to privilege Diboutades' act of projection over Butades' recoding.⁵⁰ This genesis also contains an inevitability of loss, and death. Butades records (draws) the profile of his daughter's lover so that she need not forget both who he is, and who he was - a condition concerned with locating place and time and motivated by the prospect of his loss. Without this drawing the soldier suffers an inevitable death at his new posting, a death through posting. Represented in this way the soldier is relegated to an act of memory, but this too is a dissolution, a separation through time and space. The relief of the soldier is, in fact, a death mask.

This prototype of the architectural drawing is done with relief, or more specifically, a relief, a device capable of leaving an impression or imprint. The memory of the departing soldier, of his posting, is etched into memory, a simultaneous drawing towards and away from the memory of contact. As an origin for architectural drawing this story serves to point out the distance that occurs between the mark and its referent. In Diboutades' case the invention of drawing is initiated by removal and separation so that it immediately speaks of a loss, but is also a mimetic substitution:

*The drawing is a substitute, partial record of the absent, desired thing. This story of origins is consistent with classical theories of mimesis, but is problematic from the point of view of architecture. In architecture, the object does not proceed [sic] its representation in drawing. Rather, the built reality is both imagined and constructed from accumulated partial representations.*⁵¹

Viewed in this manner the origin of drawing is also the origin of the fetish - through the absence of Diboutades lover the clay profile will become a sexualised totem replacing the physical and immediate presence of the soldier.

Robin Evans also recalls this story from Pliny the Elder.⁵² In a fuller account, Evans tells how Butades, a potter from Sicyon, became the first to introduce the modelling of portraits in clay. The occasion is initiated by Butades' daughter who is about to be separated from her lover.⁵³ It is this story that was taken into the visual arts in the eighteenth century, and as such became a popular subject matter for artists of the time.⁵⁴ Evans discusses the differences between two such works. The first, *The Origin of Painting* (1773) [**Figure 48**] by David Allan depicts Diboutades tracing the shadow of her departing lover onto a wall. The shadow is cast from an oil-burning lamp placed at the sitter's head and which gives Diboutades a clear shadow against the interior wall behind. The second work is by K. F. Schinkel and is likewise titled *The Origin of*

⁵⁰ Alberti's refers to a story (by Quintilian) about the origins of painting that is also told by Pliny. In the legend, painting began when a Corinthian maiden outlined her departing lover's shadow on a wall. Kaufmann, T. D. C. (1975): 262.

⁵¹ Allen, S. (1998b): 247.

⁵² Evans, R. (1986).

⁵³ Pliny the Elder (1991): 336.

⁵⁴ See *The Origin of Painting*, by David Allan, 1773, and *The Origin of Painting*, by K.F. Schinkel, 1830.

Painting (1830). [Figure 49] As Evans points out both these images show drawing as a basic function of projection. In each we find a source of light, a subject upon which it plays, a surface behind, and something to trace. However, Schinkel's representation differs from Allen's account in a number of ways. Schinkel's painting finds a shepherd tracing the profile of Diboutades while her head is being held in place by a second woman whose profile is also in evidence. In place of the lamp we find the light of the sun, and in place of the interiorised dressed wall Schinkel substitutes a natural surface of

Figure 48



David Allan
The Origin of Drawing
1773

Figure 49



Karl F. Schinkel
The Origin of Painting
1830

exposed rock, so that the differing light sources between Allen's and Schinkel's origins of painting correspond to two types of projection:

*. . . central projection, based on divergent projectors, which played a crucial part in painting through the development of perspective; and parallel projection, based on parallel projectors, which played an equally crucial, though far less well recognized role in architecture through the development of orthographic projection.*⁵⁵

Schinkel was, first and foremost, an architect. In Allen's account Diboutades is seen tracing the profile onto an interior wall thus placing the origin of drawing after that of architecture. Schinkel chooses to show Diboutades in a pre-architectural setting as the chronology of the architect requires that the drawing precede architecture. Schinkel makes explicit the division between the prior action of thought and the origin of drawing as pre-dating architecture, in such a way that it imposes an ordered and constructed vision onto nature. Under the direction of a partially disrobed female figure a shepherd traces the profile of a figure whose gender Stan Allen describes as ambiguous.⁵⁶ The cast shadow, the index of an androgynous face, is drawn onto, and into, the stone in an act of proto-graffiti that defaces the natural with the constructed. Further, this action of vandalism has the effect of adorning the surface of the stone, it is dressed by the indexical profile of androgyny. That the mark is one that of adornment is shown by the shepherd placing the point of the scribe at the shadow of the eye. Here Schinkel acknowledges the consequent action of building by exposing what Evans has called the 'reversed directionality' of the architectural drawing, where architecture is brought into existence through drawing and not before it.⁵⁷ In this way Schinkel also inscribes the eye of Renaissance perspectival vision by denoting the significant eye as center. All drawing is only as clear as the eye from which it both originates and enters. Schinkel, the architect, places the artefact of drawing before the edifice of building and in doing so reinforces the displacement between the "disembodied, notational form" of drawing and building.⁵⁸

*Drawings are the evasions, subterfuges and ruses through which they [architects] negotiate this gap.*⁵⁹

Stan Allen also compares the architect's drawing to the score of the musician, stating that both disappear at the moment of construction. Thus, the androgynous face disappears, and is 'replaced' by the recognisably masculine profile of Diboutade's lover. Androgyny

⁵⁵ Evans, R. (1986): 6.

⁵⁶ Allen, S. (1992a).

⁵⁷ "The subject matter (the building or space) will exist after the drawing, not before it. I could list various riders and qualifications to this principle, which may be called the principle of reversed directionality in drawing, to show that it may occasionally be complicated, but these would not alter the fact that, statistically speaking, if I may put it that way, it gives a good account." Evans, R. (1986): 7.

⁵⁸ Allen, S. (1992a): 40.

⁵⁹ Allen, S. (1992a): 40.

personifies the evasions, subterfuges and ruses Allen uses to define architectural drawing. Neither discernibly male nor female the androgynous figure maintains the possibility of either without exclusion. In negotiating the gap between genders, androgyny too is a disembodied notational form, of a sexuality that reduces two sexes to one on the conditional promise of an eventual and inevitable separation again. At all times the androgynous figure threatens to subvert traditional gender types. In Schinkel's painting this figure is sited between the commanding feminine on the left, and the subservient masculine on the right. At the woman's instruction the shepherd inscribes the profile on the rock. The shepherd is servant to the instructions of the woman and, as Evans points out, it is she who conceives, not him. The sitting figure is positioned between the direction of the woman and the action of the man in a mode of subjection between a mental and manual division of labour. This arrangement is further exemplified by the way that the feminine figure peers into the eye of the sitter, one hand raised in instruction. Opposite, the masculine figure responds to her directive, with charcoal in hand he begins to trace the profile. Schinkel chooses to depict the exact moment at which the carbon stick inscribes the androgynous eye. Werner Oechslin has emphasised that what Schinkel makes explicit is the abstract projectional relationship between the subject and the object of representation.

[Schinkel's image] suggests that painting literally originated from a projection, a shadow image: and that the shadow line as an abstraction from the model in projection, in the form of a line drawing, is the foundation of painting, even of art in general.⁶⁰

Oechslin argues that this is an essential concept for all theory of art, but especially the theory of drawing. Drawing is an act of intellectual activity that abstracts, through processes of reductive projection, our perceptions of a phenomenological world. Thus we find in Schinkel's painting the reduction of the androgynous face into an equally androgynous, but significantly simplified silhouette. This results in a projected shadow profile that remains in all drawing, and marks the invention of a shadow image.⁶¹ In Pliny's description the shadow determines the outline by distinguishing between the light and the dark, but the implication of this is much greater. Here drawing is located in the moment between light and dark, which equates in tactile reference to the difference between hot and cold. The drawing then is neither light nor dark; hot nor cold. It resides between these worlds in a state of transition. To this end the drawn line is a graphic metaphor, a marker of an inbetweenness that cannot be marked. That this shadow accounts for the origin of drawing suggests that the architectural drawing is conceived in the act of casting itself:

⁶⁰ Oechslin, W. (1981b): 25.

⁶¹ "Pliny also transmits the tale - especially popular in the nineteenth century - of the daughter of a Corinthian potter circumscribing the shadow profile of her lover about to go to war. . . . It suggests that painting literally originated from a projection, a shadow image; and that the shadow line as an abstraction from the model in projection, in the form of a line drawing, is the foundation of painting, even of art in general. This is, in fact, an essential concept of all theory of art, especially the theory of 'disegno': the drawing with its abstractive capacity as the principle, source and foundation of all arts, as 'speculazione divina', as divine inspiration, is privileged form [sic] of intellectual activity." Oechslin, W. (1981b): 25.

*. . . nobody and no object can be without a shadow unless they are in the most complete dark, where visual signs have no function. The casting of shadows is the ontological beginning of any meaningful construction or construing. Shadows are extraordinary visual signs with a triadic nature, in which the recondite corporal process embodied in architecture unfolds. This threefold semiotic nature of shadows reveals that they can be indexical, iconic and symbolic signs of our corporal semiosis. Shadows are aliquid stat pro aliquo, something standing for something else.*⁶²

The drawn line is something less than tangible, signalling the acceptance of a loss in the moment of action.⁶³

The shadow of love

Lacan wrote that, “As a specular mirage, love is essentially deceptive.” What one loves in the beloved object is one’s own image, so that, in transference:

*. . . the analysand says to his partner, to the analyst, what amounts to this - I love you, but because inexplicably I love in you something more than you - the objet petit a - I mutilate you.*⁶⁴

This remains one of the little discussed aspects of the orthographic set where architecture is dissected into section, plan, elevation, etc. The architectural body is mutilated through an orthographic dismemberment. Each convention cuts the architectural project into constituent parts that are then examined in order to understand the whole. This act is even more monstrous than a simple dissection as the project is understood as coming to life through the autopsy. Created through mutilation, the architectural project is vivisectioned to satisfy the architect’s search for the *objet petit a*, that they find of themselves in the act of building. Following this argument Allen has written:

*The drawing marks the absence of the lover, persisting as a memento and a substitute, to recall a lost presence. And even at the moment of creation, Diboutades traces not the body of her lover but his shadow - the already abstracted projection, a two dimensional foreshadowing of a soon to be absent body.*⁶⁵

Andrew Benjamin also defines the origin of drawing by an acknowledgment of loss:

⁶² Frascari, M. (1990b): 33. See also, Frascari, M. (1988a).

⁶³ “Usually an architect begins to work, takes a pen, produces a figure, one makes a profile, a framing, he or she makes a composition. That is all we can do with the hand-eye-mind instrument. In order to break away from framing, from the figure/ground opposition, one needs to find a way to figure without ground, to start from nothing.” Zaera-Polo, A. (1997): 20.

⁶⁴ Lacan, J. (1978): 268.

⁶⁵ Allen, S. (1992a): 40.

*At the origin, between the shadow and the figure there is an opening. One is not the other. The shadow marks the presence of what it is not. The opening has particularity since the shadow also posits a closure to the extent that the shadow is interpreted as the immediate presence of the one who cast the shadow.*⁶⁶

The drawing is an invention whose primary purpose is the recording of this shadowy absence. In Pliny's version the drawing records the imminent loss of Diboutades' lover, and it thereby becomes a graphic index to a death that is yet to happen⁶⁷. Similarly the architectural drawing is an index to an expected passing away as the architectural project executes its translation. The drawing is always an instrument for remembering, and in the need for the drawing is an acknowledgment of the inevitability of forgetting, which constitutes a death of the project. The architectural drawing registers the temporality of the moment between dialectics, and dialectical thought on architecture. Frascari has observed:

*The shadow is the icon presence, which is then a tool for memory, a sensitive icon, a template of love. The very notion of theoria is connected to the primacy of seeing.*⁶⁸

This seeing through loss is more than visual. Diboutades only *traces* the outline of her departing lover, it is Butades who it fully registers by constructing the line in clay and thereby making the loss of this soldier absolute. It is a mutilation of the relationship between the pair. In Diboutades' tracing is a declaration of love, but in the permanence of the clay profile is the certainty of death as the figure of love is eradicated.

Hieroglyph and the Bas-relief

Butades' formulation of the outline in clay forges a relationship between the drawn and the modelled that initiates the hieroglyph through bas-relief. In the history of architectural representation this moment is codified in Quatremère de Quincy's formulations on architectural type. He wrote:

*On the walls of the great Egyptian temples one sees sculptured hieroglyphs . . . a phenomenon that represents fairly well what one means by bas-reliefs as a form of architectural ornament.*⁶⁹

⁶⁶ Benjamin, A. (2000): 145

⁶⁷ "An index is something that refers to its own condition. In this sense its iconic role is more one of resemblance than it is one of representation. The facade of a building, while traditionally thought to be a representation, also has the possibility to be indexical. The plan, on the other hand, while clearly indexical also has iconic characteristics. Writing attempts to suggest that both the plan and the facade can be used as indices. In order to have writing in this context one must first make a distinction between a resemblance and a representation. A representation always refers to something external, while a resemblance also refers to internal characteristics." Eisenman, P. (1995): 35.

⁶⁸ Frascari, M. (1990c): 35.

For Quatremère, linking the hieroglyph and bas-relief is critical to establishing a linguistic relationship in the representational qualities of architecture, both built and drawn. Architecture, then, is a kind of book, from which meaning may be found through the translation of ‘speaking pictures’.⁷⁰ According to Sylvia Lavin, the hieroglyph allowed Quatremère to link language and architecture in a way that was at once substantive and a metaphorical:

*He believed that hieroglyphs were a frozen expression of the moment during which art and language had had simultaneous and identical births in drawing or, one might say, writing an image.*⁷¹

The significance of this caused him to pronounce that “it must be said that the arts of design veritably owe and owed their origin to the needs of writing.”⁷² The hieroglyph constituted an image of the very birth of art, and provided for Quatremère a proto-model for his formulations on architectural type, and following its association to the temple as a figure inscribed into the stone surface of the wall, Quatremère firmly fused this typological (linguistic) origin of the hieroglyph with bas-relief. By his own metaphor, if architecture is to be a book, then its representational figures will need to be inscribed into the pages, and not just onto a surface where they might be subject to temporality.⁷³

*The line of development from the architectural hieroglyphs of the Ancient Kingdom of Egypt to today’s renderings is a straight one, varying now and then, but always growing and developing toward a more versatile presentation.*⁷⁴

The bas-relief and the hieroglyph are therefore origin figures for representational codes, including two-dimensional codes. Lavin has concluded:

*Ultimately the hieroglyph would become for him [Quatremère] a crystallized image of the relationship between the typological origins and linguistic essence of architecture.*⁷⁵

⁶⁹ Quatremère De Quincy. *Encyclopédie méthodique*, 2:519. translated and quoted by Lavin, S. (1992): 94-95.

⁷⁰ Lavin, S. (1992).

⁷¹ Lavin, S. (1992): 95.

⁷² Lavin, S. (1992): 95.

⁷³ “With all their [Egyptian building] surfaces destined to receive inscriptions in symbolic characters, they must be regarded as enormous books always open for the education of the public . . . All [Egyptian] monuments were a form of public library; their ornaments were legends . . . These monuments were - utterly unmetaphorically - the depositories of the rites, dogmas, exploits, glory, in the end, of the philosophical or political history of the nation.” Quatremère de Quincy. *De l’architecture égyptienne*, 59. translated and quoted by Lavin, S. (1992): 93.

⁷⁴ Halse, A. O. (1972): 14.

⁷⁵ Lavin, S. (1992): 93.

Following Alois Riegl's theorem on the 'will to form', Rosalind Krauss describes the shadow as the index of Renaissance subjectivity, marking out the exact position of the spectator relative to the object.⁷⁶ However, the tradition of the twentieth century's so called 'classical modernist' period, exemplified by Piet Mondrian, replaced the shadow with the Cartesian grid as the index of the spectator. Krauss however suggests that the Renaissance should be seen as singularly a Cartesian project where subjectivity could be construed as a logic. She notes Riegl's desire to grasp things in the most objective way possible, that is, "by the merely happenstance and contingent vantage point of the viewing subject."⁷⁷ But, she warns, by acknowledging the object in terms of an experience of tactility (sculptural relief), shadow is necessarily introduced into the confines of the object as an intrinsic and subjective optical element.

*Like the Egyptian relief, the grid both enforces a shadowless linearity and is projected as though seen from no other vantage at all.*⁷⁸

Here Eisenman's axonometric model can be understood as one possible version of an architectural hieroglyph. In its modelled form it is a relief sculpture that, as Jencks has noted, operates in a flattened mode. Further there is attached to this formal graphic figure a condition of architectural knowledge that constitutes representational communication. Combined the two elements operate as a hieroglyphic form of exchange. This architectural hieroglyph is (significantly) three-dimensional, and as such contains information coded not just into a visual field, but also into a tactile field. This architectural drawing may be read by touch.

Perspective and the axonometric model

Krauss links the grid to the drawing not only through a casual association with the hieroglyph, and the exercise of projection, but also with explicit reference to the fundamentally architectural notion of perspective space as demonstrated by the signifier 'cloud'. This relationship first occurs at the origin of linear perspective where Filippo Brunelleschi holds to his eye an apparatus built specifically to construct and reveal the illusion, or craftiness, of perspectival space. It consisted of a painting of the baptistry in Florence through which a small hole was drilled at precisely the point of perspectival convergence. This was then placed opposite a mirror held at arms length so that when viewed from behind the peephole in the mirror offered a reflected 'correct' perspectival viewing according to the perspectival demand that the vanishing point and viewing point

⁷⁶ Riegl, Alois (1858-1905). Riegl is best remembered for originating the concept of *Kunstwollen* - the 'will for art' better known as the 'will to form'. This concept suggests that stylistic changes through history are not adequately explained by changes in materials and techniques, but proposed instead the idea of a 'dynamic aesthetic impulse', reflecting an innate desire for change, with each generation seeing differently from the last. His main works in which he propounds these ideas are his history of ornament (*Stilfragen*, 1893) and books on late Roman industrial arts (*Spätromische Kunstindustrie*, 1901). Chilvers, I., H. Osborne, et al., Eds. (1988).

⁷⁷ Krauss, R. (1994): 143.

⁷⁸ Krauss, R. E. (1994): 145.

must be geometrically synonymous. Krauss points out that the representation is the result of two constructed planes: the first a stationary, mono-ocular construction of the 'viewer'; the second that of the display constructed in terms of measurable bodies deployed in geometric space. In this construction of Renaissance space, between these two planes, Krauss has identified another, possibly measurable and definable, 'something'. In place of the sky above the recreation of the baptistry Brunelleschi mounted silver leaf so that it would capture the reflections of the real sky, and the reality of moving clouds, in the illusion of perspectival space.

*Perspective was thus understood from the first to be a matter of architectonics, of a structure built from delimited bodies standing in a specific space and possessing a contour defined by lines.*⁷⁹

By their nature immeasurable, ubiquitous, and without tangible surfaces, sky and clouds thwart perspectival institutionalising. Hubert Damisch emphasises the significance of 'showing' the sky:

*. . . this way of mirroring that he inserted into the pictorial field like a piece of marquetry and onto which the sky and its clouds were captured, this mirror is thus much more than a subterfuge. It has the value of an epistemological emblem . . . to the extent that it reveals the limitations of the perspective code, for which the demonstration furnishes the complete theory. It makes perspective appear as a structure of exclusions, whose coherence is founded on a series of refusals that nonetheless must make a place, as the background onto which it is printed, for the very thing it excludes from its order.*⁸⁰

Within this perspectival paradigm for a centre of architectural 'knowledge', the figure of the cloud serves to illustrate an inherent 'lack' in that model where perspective fails to adequately explain and represent the complexities of 'seeing'. Brunelleschi's genius lies then in his adoption of the mirrored surface of polished silver as an illusionary surface where actual clouds could become "the outside that joins the inside in order to constitute it as an inside."⁸¹ Following Damisch, Krauss concludes that the 'cloud' is primarily a differential marker in a semiological system where uniqueness lies in an ability to resist any attempt to be properly assigned with an autonomous 'meaning'. It takes value from the serial relations of opposition and substitution that it entertains with other elements of the system.⁸² Damisch suggests that this convergence of vanishing point and point of view may be seen as the 'origin' of the Renaissance.⁸³

⁷⁹ Krauss, R. E. (1994): 142.

⁸⁰ Hubert Damisch. *Théorie du /nuage/* (Paris: Editions du Seuil, 1972). Translated and quoted by Krauss, R. E. (1994): 142.

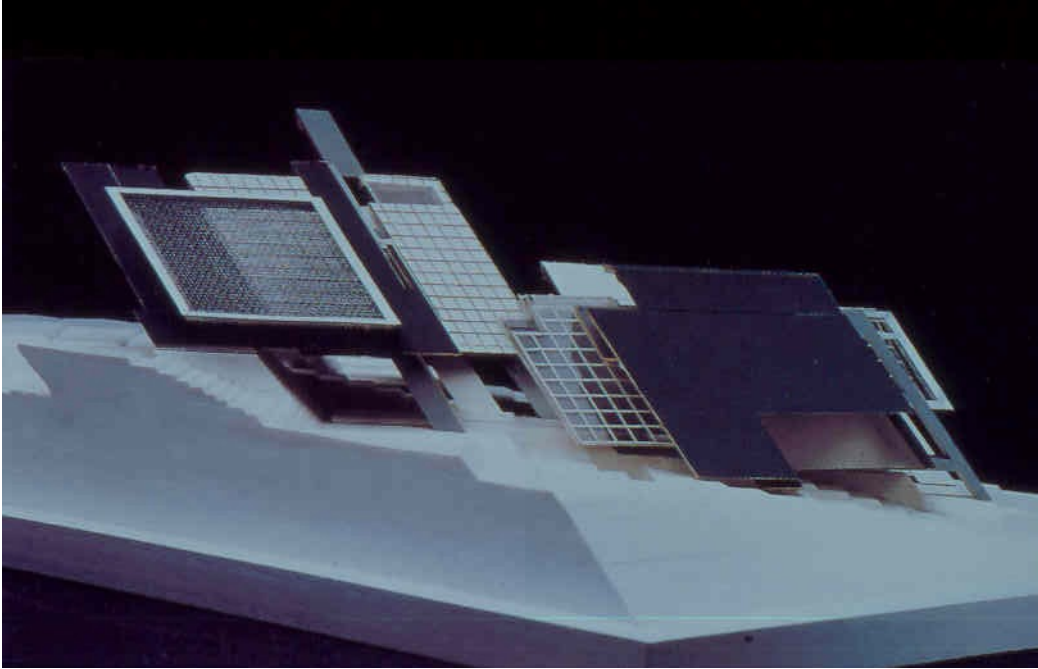
⁸¹ Krauss, R. E. (1994): 142.

⁸² Krauss, R. E. (1994).

⁸³ Damisch, H. (1994): 162-3.

Photographing the axonometric model radically alters the objective hieroglyphic quality found in the model, and replaces it within a dominant ideological view of the world that takes its framework from Renaissance perspective. In the example of the 'exploded' photographic view the model is revealed as an erroneous fabrication that violates principles of purity. It is displayed as an ugly grotesque. **[Figure 50]** Conversely, in the

Figure 50



Peter Eisenman
House X
Axonometric Model

other photograph the model is presented whole, but at the expense of having entered into a dominant mode of visual thought that has its source in the hegemony of perspective.⁸⁴

A basic principle of Euclidean geometry is that space extends infinitely in three dimensions. The effect of monocular perspective, however, is to maintain the idea that this space does nevertheless have a centre - the observer. By degrees the sovereign gaze is transferred from God to Man. With the 'emplacement' of the medieval world now dissolved, this ocular subject of perspective, and of mercantile capitalism, is free to pursue its entrepreneurial ambitions wherever trade winds blow.⁸⁵

While Eisenman's first photograph demonstrates the limits of representation, the second constructs an orthodoxy that moves the work from a debased grotesque, to be subjected and directed by an omnipotent gaze of divine bearing. The conceptual implications of this 'one-eyed' view of projection have been described by Vincent Scully in his account of Le Corbusier's lack of binocular vision.⁸⁶

A person in that state will never think about it and will function perfectly normally until all at once a staircase will flatten out before him or he will reach for something handed to him suddenly and miss it by a foot. Instantly, he will think the stairs back into perspective or adjust his hand. In other words, like all of us, he thinks in three dimensions but must keep thinking, even if unconsciously, all the time. This can enormously sharpen his faculty for seeing and heighten his excitement for it; he lives inside the drama of a world opening and closing around him. He 'sees' all planes as flat with linear edges, but he 'thinks' them into depth and rounded contours.⁸⁷

Scully suggests that for Le Corbusier the metaphor of vision was more than simply a figurative description applied to his thinking - his thinking was both physiologically and philosophically at odds with contemporary doctrines that privilege the three-dimensional conceptual model of creation over two-dimensional images that seek to reasonably represent a 'vision'.⁸⁸ The *House X* photographs shift from the 'pure' view to an 'ugly' one presents a transferral of the representational ideology from an illusion constructed by

⁸⁴ For a discussion of the hegemony of perspective see Jay, M. (1993).

⁸⁵ Burgin, V. (1987): 36.

⁸⁶ "L-C lost the use of his left eye when doing this drawing at night: separation of the retina. This first picture is a key to an understanding of his approach to plastic art: mass in space. Space." Le Corbusier (1960a): 55. Vincent Scully notes that to his knowledge Le Corbusier did not publish this fact anywhere else, nor can Francesco Passanti recall Le Corbusier ever mentioning it in private correspondence.

⁸⁷ Scully, V. (1987): 48.

⁸⁸ This ideology of drawing pervades Le Corbusier's work of this period. Scully notes that the interior of the Ozenfant house 'explodes' into space and light, "All planes are thin as paper, all frames are as taut as lines." Scully, V. (1987): 48. Similarly, Scully calls the entrance to the Stein Villa at Garches pure *disegno*, an optical effect where an entrance as thin as paper could only be drawn(50). If 'seeing' is the dominant metaphor at work for Le Corbusier, then drawing here becomes both subordinate to, and responsible for it.

orthodoxy, to a revelation of illusionism which then undermines representational authority. Between the first and second photographs Eisenman makes manifest the fundamental failing of the architectural representation.

Hieroglyphs and architectural drawing

Albert Halse goes so far as to argue that the architectural hieroglyph represents the singular origin of architectural drawing:

During the Amarna Period (1375-1350 B.C.), a style of drawing combining plan and elevation was developed and used not only for the guidance of builders, but also as part of the mortuary art on the walls of the tombs of kings. This pictorial type of drawing may be considered a distant relative of present-day delineation.⁸⁹

If we accept his contention then we find that the prototype for architectural drawing lies not only in the hieroglyph, but in the hieroglyphic register of death, and the crypt - incised into the walls they describe.⁹⁰ Perhaps this is the only way the origin of architectural drawing can be accounted for that offers a blind temporal paradox of architectural representation existing within the very material building it prophesies.

The original architectural drawing cannot exist before that which it is defined by, anymore than that which defines it can exist without it as it's necessary anticipation. Architectural drawing must be seen to exist at exactly the same moment as architecture but this can only occur where the architecture in question is already both of architecture and against it. The cryptic space of the mortuary or tomb is the only possible place for the origin of architectural drawing since the crypt, defined by its own absence, is already both before architecture and after drawing. The crypt itself is drawn out of another condition.

In his essay accompanying an exhibition of Daniel Libeskind's drawings Robin Evans accounts for the incomprehensible quality of Libeskind's works through the figure of the hieroglyph.⁹¹ Evans describes the parallel functions of architectural representation and hieroglyphs as similar repositories for arcane knowledge - a type of 'fount'.⁹² That architectural drawing and hieroglyphs are no longer cryptic systems is not an issue - for Evans they share a position in the popular imagination as graphic 'mysteries' that hold the promise of revealing secrets.

⁸⁹ Halse, A. O. (1972): 1. Halse continues: "The line of development from the architectural hieroglyphs of the Ancient Kingdom of Egypt to today's renderings is a straight one, varying now and then, but always growing and developing toward a more versatile presentation"(14).

⁹⁰ Writing of John Hejduk's drawings for his project, House 10 (1966), Kenneth Frampton describes them as "hieroglyphic" as they are presented without either legend or furniture, making it "impossible to know the program." Frampton, K. (1975): 9.

⁹¹ Evans, R. (1984).

⁹² Evans is no doubt aware of the semantic implications of 'fount' - a reservoir or fountain, but also an uncommon spelling of 'font' (following the French *fondre*, found). *S.O.E.D.*

*Behind the indecipherable marks there lies locked something about which we remain ignorant, perhaps a lost empire of meaning which we could disinter if only we had the key.*⁹³

But for the important temporal distinction between written recording and architectural prediction, this comment could well encapsulate much of the creative mythology surrounding drawing and architecture. As Evans goes on to note, the artisans who carved the ancient hieroglyphs, unlike Libeskind, know what they meant:

*His procedure is therefore more like augury than writing: first form the signs, knowing only how, never what, and then look to see if they signify anything: sometimes they do, sometimes they don't, sometimes good news, sometimes bad, sometimes nothing. Such a procedure shifts the weight of meaning from behind to in front, from before to after, from the verifiable to the unverifiable, and, as we have already noted, twentieth-century interpretation finds these positions difficult to identify - let alone deal with.*⁹⁴

Libeskind's drawings, indeed all architectural drawings to a greater or lesser extent, contain this latent quality of codified prediction, aspects of 'foreshadowing' and 'projection'.⁹⁵ The hieroglyph becomes yet another figurative expression of the paradoxical role of drawing to the practice of architecture (another 'key'), but one which posits drawing closer to the responsibilities of writing (or at least proto-writing) in a search to ground the pictographic qualities of drawing within a strict disciplinary boundary. Painting, unlike drawing, is incapable of telling stories because its imitation is static rather than progressive, and it should not try to articulate ideas as these are more properly expressed in language rather than in imagery. For Lessing any attempt to express universal ideas in pictorial form solicits the grotesque form of allegory and leads painting to "abandon[ing] its proper sphere and degenerating into an arbitrary method of writing"⁹⁶ - the pictogram or hieroglyph. 'Expression' in this case amounts to the artful planting of certain clues in a picture that allow us to perform an act of 'ventriloquism', an action which endows the picture with a non-visual and verbal eloquence which approaches the notational procedures of writing systems.⁹⁷

For Jennifer Bloomer there is a fixed relationship between the hieroglyph and drawing.⁹⁸ She turns to Walter Benjamin's demonstration of the condition of the modern attitude

⁹³ Evans, R. (1984): 90.

⁹⁴ Evans, R. (1984): 90.

⁹⁵ "They [Libeskind's drawings] are more like the tea-leaves in the cup, the spilt entrails of the eviscerated dove, distributions made in such a way that they cannot be fully understood by their author." Evans, R. (1984): 90.

⁹⁶ Gotthold Ephraim Lessing. *Laocoon: An Essay Upon the Limits of Poetry and Painting* (1766, Trans. Ellen Frothingham (New York: Farrar, Straus, and Giroux, 1969), x. Quoted by Mitchell, W.J.T. (1986): 41.

⁹⁷ Mitchell, W.J.T. (1986).

⁹⁸ Bloomer, J. (1992): 54.

toward the allegory/symbol relationship, whose template is the alignment of symbol with the expression of Idea, and allegory with the expression of content.⁹⁹ Benjamin utilises Schopenhauer's comments equating the expression of a concept with,

*. . . the trifling amusement of carving a picture to serve at the same time as an inscription, as a hieroglyphic.*¹⁰⁰

In this argument the concept cannot be considered outside of a pictographic image held in the imagination – we might say, inscribed on the mind's eye. Benjamin emphasises that the hieroglyph is a carved (and therefore raised) figure that operates mimetically to construct a relationship to an outside world. The hieroglyph is a communicative figure that takes its representational frame of reference from a known world, and then codes it into a new system that has as its primary motivation the desire to control a future state. While the architect's drawing is a projective act that is defined as representational by its a priori relationship to the architectural product, it none-the-less also relies on a tradition and history of that product - building - in order to figure this relationship. Without an understanding of the end of the projective relationship there can be no translative correlation.

Derrida and hieroglyph/pictograph

Pictograms communicating the essence and the main features are a way of controlling the total context.

Brigit Cold¹⁰¹

Following Warburton and Condillac, Jacques Derrida notes that the first moment at which writing attempts speech occurs through a reduction.¹⁰² Derrida's notion of a 'grammatology' removes spoken language from its dominant place in the study of language and communication, and replaces it with the general notion of the *graphein* or *gramme*, the graphic mark, trace, character, or other sign that makes "language . . . a possibility founded on the general possibility of writing."¹⁰³ Through an economic imperative writing reduces the dimensions of presence in its sign. The very form of writing is itself a derivative reduction, a miniature. According to Derrida, Warburton and Condillac propose that all systems of script occur sequentially through increasingly miniaturised and economic abbreviations of speech, each new script replacing the last in order to satisfy a desire for space and time. Writing, then, is a constitution of subjects - desires for time and space project the environment that writing inhabits beyond the fields of sight and sound so that writing becomes another name for constitution itself. Every individual is held responsible before the constitution of writing, as they are before the

⁹⁹ Benjamin, W. (1977): 160.

¹⁰⁰ Benjamin, W. (1977): 162.

¹⁰¹ Cold, B. (1995): 62.

¹⁰² Derrida, J. (1976).

¹⁰³ Derrida, J. (1976): 52.

law, the law of speech, and therefore breath itself. Warburton argues that it is at this point that writing occurs, the moment when the field of society extends to the point of absence, of the invisible and the inaudible:

*. . . when the local community is dislocated to the point where individuals no longer appear to one another, become capable of being imperceptible, the age of writing begins.*¹⁰⁴

The first operation of writing occurs as the least economical, the most basic miniaturisation of speech, that is the pictograph:

*Their imaginations then represented nothing more to them than those same images, which they had already expressed by gestures and words, and which from the beginning had rendered language figurative and metaphorical. The most natural way therefore was to delineate the images of things. To express the idea of a man or of a horse, they represented the form of each of these animals; so that the first essay towards writing was a mere picture.*¹⁰⁵

Like the first word, the first pictogram is an image, in both the sense of imitative representation and of metaphoric displacement. “The interval between the thing itself and its reproduction, however faithful, is traversed by transference.”¹⁰⁶ Therefore, at the moment of writing, there occurs an action of shifting between, the ‘transference’. The translation is always also a producer as the pictogram enters into the mode of representational image. An attention to the image as an imaginary supplement of the idea is critical to the pictogram’s acceptance as a sign of the idea. Derrida suggests that the idea has an essential involvement with the sign where it becomes a “represented substitute of sensation.”¹⁰⁷ In this way the first written word is, accordingly, a painted image where one finds a pure reflection of an object or action outside of all other symbolic involvement.¹⁰⁸ This becomes the basic tenet of the pictograph as the only universal writing. Pure reflection becomes impossible with the diversity of scripts that occur at the threshold of pure pictography. The pictograph employs a law of economy that contracts it to only one sign per thing; that which it resembles through representational transfer. Rousseau, also following Warburton and Condillac, distinguishes between two oppositional types of pictograph: one which proceeds allegorically and the other directly, both of which begin with savagery.¹⁰⁹ However, the

¹⁰⁴ Derrida, J. (1976): 282.

¹⁰⁵ Derrida, J. (1976): 282.

¹⁰⁶ Derrida, J. (1976): 282.

¹⁰⁷ Derrida, J. (1976): 282.

¹⁰⁸ “It is in all probability to the necessity of thus delineating our thoughts that the art of painting owes its original; and this necessity has doubtless contributed to preserve the language of action, as the easiest to represent by the pencil.” Derrida, J. (1976): 283.

¹⁰⁹ “The depicting of objects is appropriate to a savage people; signs of words and of propositions, to a barbaric people, and the alphabet to civilized peoples” Rousseau quoted by Derrida, J. (1976): 294.

pictograph cannot be productive without a displacement that evokes a condition that Derrida finds to be metaphoric:

*In it the thing most faithfully represented is already no longer properly present. The project of repeating the thing already corresponds to a social passion and therefore requires a metaphoricity, an elementary transference.*¹¹⁰

The pictograph does not simply represent through the introduction of a graphic sign, it seeks out an other to the thing itself that is already outside of and within that thing. The thing is transported within its double as an 'other', and the perfect representation is already other than what it doubles and reproduces. This is why there is no true or pure writing: writing is already economically corrupted within its own double and through its own reproduction. Derrida extends this argument to contend that there is no thing in itself at all. Rather the original possibility of the image is the supplement that serves to satisfy the emptiness that is the absence of the thing and which demands to be replaced.

*Writing as painting is thus at once the evil and the remedy within the phainesthai or the eidos.*¹¹¹

Word and drawing

The word and the drawing are again clearly opposed in their nature: for the drawing is dead, while the word lives; the drawing is visible, as the word is audible. The word and the drawing, therefore, belong together inseparably, as light and shadow, night and day, soul and body do. The faculty of drawing is, therefore, as much innate in the child, in man, as is the faculty of speech, and demands its development and cultivation as imperatively as the latter; experience shows this clearly in the child's love for drawing, in the child's instinctive desire for drawing.

Friedrich Froebel¹¹²

The architectural drawing, when examined in this context, reveals its lineage to the pictogram as a parallel graphic system that is partly defined by a mimetic relationship to a known object, and partly the result of coded and encrypted information that is governed by subjective controls. Unlike the pictogram, which functions as a proto-graphic language, the codings for architectural drawing are varied and complex. Take the convention of the elevation for example: it presents itself as the possibility of a project that may or may not be built, in this sense it is the possibility of something. However, the elevation also always refers to the facade of a building already built, indeed to all other facades. The differences that occur between all other facades and the projected facade

"In our society, where the civil type has appeared, the elements of pictographic writing would be savage, the ideo-phonographic elements barbaric. And who would deny the presence of all these elements in our practice of writing?" Derrida, J. (1976): 294.

¹¹⁰ Derrida, J. (1976): 291-292.

¹¹¹ Derrida, J. (1976): 111.

¹¹² Froebel, F. (1907): 79.

occur as differences of degree rather than those of kind. The elevation, as a communication or (writing) device is required to first and foremost refer representationally and metaphorically and this must not be projected. The elevation then is never properly only a projection as the condition of referring forward. Rather, the description pertinent to a project drawing occurs as a difference, or deviance, from what is understood as 'all other' elevations. This pictographic relationship underpins the projective/communicative relationship for all architectural drawing, and in turn organizes architectural action. Sylvia Lavin has noted that:

*The relationship Quatremère [De Quincy] perceived between hieroglyphs and architectural type, however, encouraged him to link language and architecture in a way that was at once substantive and metaphorical.*¹¹³

Edward Robbins has suggested that architectural drawing may operate as a type of quasi-linguistic order of communication but that it is one that cannot be readily described as a language.¹¹⁴ Robbins suggests that the inherent ambiguity of drawing creates a multiplicity of readings that negates the grammatical certainty found in verbal and written language. Yet he admits that the function of drawing is to provide for clear communication:

*While drawing is in general ambiguous, it must work, at certain points in architectural practice, as a clear and direct communication.*¹¹⁵

The historical development of the architectural drawing is understood to be primarily a communicative one designed to provide a number of crucial techniques for the development of the idea:

*First, they needed an instrument that would clearly communicate what they wanted to realize without having to remain on site. Second, they needed an instrument that would allow for the testing of their ideas without necessarily having the opportunity to test them on site. Third, it was imperative that architects use an instrument that would clearly be defined as an intellectual equivalent to writing and mathematics: one that could be used without mess and without significant manual labor.*¹¹⁶

Robbins argues that the architectural drawing is the device employed by architects to maintain pre-eminence over the domain of architectural design and as such is inherently concerned with the power of the architect, where the drawing is the instrument of social practice as well as professional practice. The communicative possibilities of drawing are 'ambiguous'. For drawing to function as an extension of the architect's power, ambiguity

¹¹³ Lavin, S. (1992): 95.

¹¹⁴ Robbins, E. (1994): 28. Robbins' argument follows closely the work of Nelson Goodman. See Goodman, N. (1968).

¹¹⁵ Robbins, E. (1994): 28.

¹¹⁶ Robbins, E. (1994): 17.

limits and regulates the possibilities for decoding. In this way the ambiguity of drawing is no different to that which occurs in formal written or verbal language except that controls over 'correct' usage are freely distributed.

In *Scribble (writing-power)* Derrida explores the 'theory of power' through a re-reading of Warburton in which Warburton proposes a common filiation between language and writing through 'action language'.¹¹⁷ The ancient Egyptians, he argues, "maintained the use of their writing in spite of its relative inconveniences because it was the treasure-house of their lore," whose antiquity is thereby demonstrated.¹¹⁸

The shift from the pictogram to the hieroglyph signalled a reduction that improved through constraint. Derrida calls this reduction a growth that was facilitated by three types of 'abridgement': the principle part for the whole; the instrument for the thing; and a substitution of one thing for another. It marks the second stage of graphic language, that of hieroglyphics proper.

As a form of architectural writing, the architectural drawing similarly follows this three-part abridgement (that accounts for the hieroglyphic nature of the architectural plan). The plan operates as an abstraction of a built reality that substitutes a conditional schematic diagram for a formal and spatial totality. In this relationship the plan satisfies Derrida's conditions for hieroglyphic communication: the plan is a principle part that describes the whole, the plan operates as an instrument of architecture, and the plan is a substitute for architecture. However, the premise of architectural drawing as a representational language also works within this hieroglyphic paradigm. The drawing is always a principle part rather than a whole, it is always an instrument for architecture, and it always functions as a substitute for the actualities of architecture (building). A re-evaluation of the hieroglyph as a concentration of displaced attention and significance reveals the hieroglyph to be the site of the first fetishism.

According to Jennifer Bloomer the hieroglyph is the instrument used by Walter Benjamin to demonstrate and elucidate the notion of allegory he discusses in *The Origin of German Tragic Drama*.¹¹⁹ Hieroglyphic writing comes down to us preserved as engraving upon stone tablets, obelisks, or sarcophagi; that is it has a direct connection to the action of cutting and inscribing.¹²⁰ Hieroglyphics are historically imbued with a quality of secretiveness that:

*[is] due to its displacement in time of translatability and their attendant theories concerning its probable use only by certain people authorized to learn its secrets.*¹²¹

¹¹⁷ Derrida, J. (1979a).

¹¹⁸ Derrida, J. (1979a): 130.

¹¹⁹ Bloomer, J. (1993a): 11.

¹²⁰ "The root meaning of glyph is 'to carve,' and write comes from an old English word meaning 'to tear' or 'scratch.'" Bloomer, J. (1993a): 195n6.

¹²¹ Bloomer, J. (1993a): 11.

Hieroglyphic writing may be construed as an instrument of communicating ideas that must be kept secret from some. Bloomer describes this as a writing that cannot be spoken, and which can also be tied to poetry and grammata. She portrays the hieroglyph as a type of writing that is ‘other’, a writing that is illegible in the traditional sense, “a writing in which repressions surface”.¹²² The ambiguity between picture and writing, between cut, incision and carving; reveals the dichotomy of the crypt, the slippage between boundaries of writing. Bloomer continues:

*Hieroglyphic writing is then cryptic as well as crypt like. In the sense that it consists of voids carved into solid material.*¹²³

For Derrida, the hieroglyph enters into a very particular kind of veiling where the veil is already veiled through encryption: “It consists in a supplementary and inverse veiling that overturns: a catastrophe, a strophic veiling of the veiling.”¹²⁴

Such extreme measures of disguise are necessary once the hieroglyphs “have ceased to serve to communicate thoughts openly and have become a means of keeping them hidden”, that is a vehicle for secrecy.¹²⁵ Warburton describes the development of hieroglyphics as, “an addition made by design to lead the vulgar astray” and “to render the matter still more mysterious”.¹²⁶ For such reasons hieroglyphics are affected by contradictory and paradoxical associations.¹²⁷ These inconsistencies are representative of the politico-symbolic workings of priesthood and mastery: “. . . the priestly interpreter come[s] into play between the two contrary meanings of the same mark or between two distinct marks with the same meaning.”¹²⁸

The interpretation of an Egyptian priest is both the function of Priesthood (the mastery of religion) and the construction of that function. Mastery maintains itself through its own necessity. This double bind is in the very status of the priest, and no one may attain this authority “without going through this veiling by catastrophes and this contrived undecidability of the mark”.¹²⁹ The mark remains undecidable, it represents while refusing to represent. It paradoxically maintains power over the ‘thing signified’ by shifting the focus of attention from itself and onto the ‘thing’ so that arbitrariness and

¹²² Bloomer, J. (1993a): 11. Bloomer terms this writing (s)crypt and finds examples of it in the etchings of Batsia Piranesi and the writing of James Joyce.

¹²³ Bloomer, J. (1993a): 11.

¹²⁴ Derrida, J. (1979a): 135.

¹²⁵ Warburton quoted in Derrida, J. (1979a): 135.

¹²⁶ Warburton quoted in Derrida, J. (1979a): 135.

¹²⁷ For example, one animal may be used to depict several contrary moral codes: “Thus the falcon signified loftiness, humility, victory, excellence, etc. On the contrary, and for the same reason, a single thing was represented by several and various hieroglyphs.” Warburton quoted in Derrida, J. (1979a): 135.

¹²⁸ Derrida, J. (1979a): 136. Omar Hasseh Fawzy has argued that the development of architectural drawing was a necessary control that allowed the oral based traditions of master builders and their guilds to be replaced by the dominant and singular figure of the architect. See Fawzy, O. N. (1991).

¹²⁹ Derrida, J. (1979a): 136.

power unite under what Derrida has described as the “veil of abstraction.”¹³⁰ The weakening of the attention lent to the symbol serves mastery by ‘abbreviating’ the symbolic language so as to emphasise the power of the mark rather than its symbolic signified.

*The power of the mark thus increases with its degree of arbitrariness. That is to say insofar as the mark seems to fade away in front of meaning - whence the devious twist of this power.*¹³¹

It is in this paradox of referential arbitrariness that the architectural drawing is caught. The convention of the plan holds a power over the orthographic set as the most rational and geometric organizer; yet the plan is also the most abstract and remote mode of recording spatial experience, and is therefore the most ‘unreal’ of the representational systems available to the architect. There is no obvious visual correlation between the plan and any built spatial experience. But the plan not only abstracts the visual relationship but also the communicative one where semiotic relationships become questionable. Reading a plan is more than an exercise in interpretation, it is one of fabrication. The architect presents the plan and reads into it qualitative and emotional information that the convention of the plan has carefully attempted to isolate. The power of the plan lies in the fact that it is not representational, and which allows the architect a literal power of fabrication - the architect takes on the role of priestly master of proceedings:

*Regardless of their design philosophy, architects try to capture the less tangible effects of a construction, waving their hands around representations of their projects like impassioned spiritualists, drawing invisible lines of force and predicting the arrival of certain intangible qualities. Models are mystified with a poetic turn of phrase. Drawings show the edges of buildings glowing or surrounded by a kind of haze that blurs the edges of the object, merging it with the atmosphere.*¹³²

Drawing as the marking of architectural power

The disappearance of the mark is not finite; the mark continues to ensure that the veiled veil is never exposed by allowing the discovery of yet another, and another veil. Each veil’s appearance reinforces the disappearance of the mark in a ‘continual revolution’ of encryption. This discovery takes the form of a continual ‘wearing-away’ of the veil that makes it transparent prompting the call for another veil. Derrida notes that, “This revolutionary wearing-away is also the law of language.”¹³³ Movement toward knowledge is not served by writing or language but, rather, it serves them. Knowledge is a ‘market effect’ in the cryptopolitics of writing.

¹³⁰ Derrida, J. (1979a): 137.

¹³¹ Derrida, J. (1979a): 137.

¹³² Wigley, M. (1998): 19.

¹³³ Derrida, J. (1979a): 140.

*Knowing how (or in order) 'to represent other things' - this is the first action, the first action language as well, dictated by need, by that which begins by lacking (words and concepts, for example, that is to say already representatives). Power, the power that the priest commandeers, results from the necessity of 'representing something else'; and it appears at the threshold of representation. When need supplies the lack by representation, a priest is born.*¹³⁴

The arbitrariness of the mark is a ruse that conceals political intention by creating the illusion of an internal system of writing. The continued use of marks by the Egyptian nation after the invention of letters signals the role of the hieroglyph as a repository for privileged cultural knowledge (and thus power) encrypted within the archive of the symbol. The power of the archive is to always maintain an irreducible adherence to power that is properly epistemic. "Adherence does not mean homogeneity, absolute synchrony, or immediate permeability, but a complex buttressing of all these."¹³⁵ Beneath these veils of scientific knowledge, hiding the impossibility of a pure history of knowledge, is the encryption of 'depravity' or 'degeneracy' associated with magic, superstition, or charms. The priests of this crypt gain their politico-religious power by accumulating a natural religiosity for their own benefit:

*. . . for the benefit of the caste and the hegemony it represents. It was 'natural' to worship the mark, to turn 'toward the mark' and toward divine representation.*¹³⁶

The epistemological drive is always in motion, always pressing toward 'knowledge' in order to continue the encryption of knowledge, and therefore also the encryption of the crypt itself through symbolic privilege.

*. . . the cryptographic stratagem presses toward knowledge. In order to occult by writing, Knowledge is needed. And the substitution of a supplementary crypt, the super encoding ad infinitum, takes on a truly compulsive air.*¹³⁷

The laws of origin are associated with divine sources that exist beyond the limits of the mark. Thus the crypt is sacred only in so much as it hides a complete absence of divine origins (that is the sacred that never was) by borrowing from the crypt of writing, to occult by writing the crypt of marking.¹³⁸ Mark Wigley argues that the critical architectural condition of the crypt is illegal: ". . . both the illicit pleasure it buries and the

¹³⁴ Derrida, J. (1979a): 140-141.

¹³⁵ Derrida, J. (1979a): 143.

¹³⁶ Derrida, J. (1979a): 146. Quotes within are from Warburton.

¹³⁷ Derrida, J. (1979a): 145.

¹³⁸ The common association of the occult to activities pertaining to the supernatural, that is magic, alchemy, astrology and the like, emphasis's only a part of the word which also describes the hidden, concealed and secret generally. More specifically, the 'occult' also refers to a line drawn in the construction of a figure but not remaining part of the finished figure; and also to a dotted line. - S.O.E.D.

site are illegal. The crypt hides the forbidden act within the very space in which it is forbidden.”¹³⁹

Wigley follows Derrida’s line of inquiry and similarly finds the crypt has been constructed because of the impossibility of using language in the normal way without revealing a shameful secret: “the impossibility of expressing, of placing words onto the market.”¹⁴⁰ The metaphors of writing are always borrowed from outside:

*It is a matter of writing by furrows. The furrow is the line, as the ploughman traces it: the road -via rupta- broken by the ploughshare. The furrow of agriculture, we remind ourselves, opens nature to culture (cultivation). And one also knows that writing is born with agriculture which happens only with sedentarization.*¹⁴¹

The mythology of drawing is also founded in the furrow – the inscribed trace that marks out a cultural field of productive activity. This furrow is not however an unregulated cultivation, quite the opposite, the drawn furrow is made fertile only through the active interpretation of the architect.

Calligraphy and the bas relief

Shutaro Mukai attempts to establish a formal relationship between Japanese culture and Japanese written script.¹⁴² Mukai points to the often forgotten hieroglyphic origins of Japanese characters in order to demonstrate how Japanese writing has a representational quality that transcends the metaphorical reading found in Western scripts. Kanji characters have a graphic quality in order that they might perform as visual signs that represent concepts. In this way Kanji emphasises the letter as material, while alphabetic characters represent sounds. This condition is also manifested in the way Japanese characters are organised on a page. Unlike alphabetic writing, which can be dissolved into a constellation of nothingness, the material association of Kanji ensures that it is never dissolved, as the ‘seeds’ of the constellation are already inherent in the representational qualities of the signs themselves. The relationship between the characters and the empty backgrounds is essential in establishing additional meaning. There are

¹³⁹ Wigley, M. (1993): 149.

¹⁴⁰ Derrida, J. (1986b): xlii.

¹⁴¹ Derrida, J. (1976): 287.

¹⁴² Mukai, S. (1991). The translator points out that the original Japanese title of this article is *Bunka* (culture) *o* (accusative) *Utsusu* (represent, reflect, translate) *Moji* (writing signs). The verb *utsusu* may be written with three different Japanese characters which mean the following:

copy, represent, reproduce, depict, trace, sketch . . .

mirror, reflect, project, throw [shadow] . . .

transfer, remove, displace, transpose, translate . . .

Provisionally it could be said that this character offers a limited model for the architectural drawing since it encompasses those aspects of this discussion on drawing where a single sign can hold multiple values without conflicting priorities. ‘Utsusu’ collects into a single figure the mechanisms of sketching, projection, translation, etc, without entering into contradictory definitions.

even ‘empty brushstrokes’ where the background itself is imbued with additional meaning. Teiji Ito has made a connection between these empty spaces and architecture.

*After a line has been drawn, the tip of the brush leaves the surface of the paper, determines the direction and force of the next sign, whereby an organic connection is created between the just-drawn and the immediately to-be-drawn . . . In Japanese calligraphy the empty brushstroke is of great significance, as is ‘imaginary space’ in architecture.*¹⁴³

Mukai illustrates this point with the example of ‘aerial perspective’, developed by the English painter Joseph Turner. As one half closes ones eyes towards a page of Japanese print the lines of black begin to blur with the empty spaces in the background. Mukai notes that:

*The difference in density of the letters produces a finely blurred scale of blackness, and through these variations in color the printed line is transformed into an atmospheric image similar to ink drawing.*¹⁴⁴

By contrast alphabetic texts retain the horizontal integrity of their written lines. Ernest Fenollosa saw in the graphic meaning-bearing quality of Kanji, the energy of an original language. In *The Chinese Written Character as a Medium for Poetry* Fenollosa demonstrates the hieroglyphic quality of Kanji using the example of the sentence: ‘man sees horse.’¹⁴⁵

The first figure depicts a man standing on his two legs; the second an eye mounted on running legs (the eye sees as a movement through space). The third depicts the horse standing on four legs. Each character is mounted on anthropomorphic limbs so that for Fenollosa this sequence retains the character of movement: “the group holds something of the quality of a continuous moving picture”, an attribute not present in a painting or a photograph.¹⁴⁶ This vividness, he argues, is the fundamental reality of time, and Fenollosa is able to point to the much larger number of characters depicting processes or actions.¹⁴⁷ In Chinese script there is no formal separation between thing and action, so that Fenollosa calls Chinese words ‘plastic’ and ‘alive,’ ‘like nature’.¹⁴⁸ Generally speaking, he considers the ability of these shorthand pictures to represent complex relational ideas as lying in the process of metaphor, “the use of material images to

¹⁴³ Teiji Ito quoted by Mukai, S. (1990): 67.

¹⁴⁴ Mukai, S. (1991): 69.

¹⁴⁵ Fenollosa, E. (1936).

¹⁴⁶ Fenollosa, E. (1936): 12.

¹⁴⁷ “It is not so well known, perhaps, that the great number of these ideographic roots carry in them a verbal idea of action. It might be thought that a picture is naturally the picture of a thing, and that therefore the root ideas of Chinese are what grammar calls nouns . . . For example, the ideograph meaning ‘to speak’ is a mouth with two words and a flame coming out of it. The sign meaning ‘to grow up with difficulty’ is grass with a twisted root.” Fenollosa, E. (1936): 13.

¹⁴⁸ Fenollosa, E. (1936): 21.

suggest immaterial relations.”¹⁴⁹ This is essentially a visual metaphorical condition where Chinese script retains a graphic representational link over time. Unlike other written languages, where a word may be stripped of its metaphoric origins, the visual quality of the graphic notation retains historical roots:

*In this Chinese shows its advantage. Its etymology is constantly visible. It retains the creative impulse and process, visible and at work.*¹⁵⁰

For Fenollosa the superiority of Chinese script is due to an ability to trace its metaphorical origins through the visual clues it offers so that language does not rely purely upon its phonetic values, but is also able to be quantified according to its visible metaphorical value.

Unlike Western script, which he argues has been stripped of all its richness through a separation of concept and graphic representation, Chinese words retain all their metaphorical richness by retaining their original metaphorical connection in visibly notational form. Instead of becoming poorer through derivative use, as with Western words, Chinese characters become richer as philosophical and historical usage is added to the visible metaphor. This imbues these symbols with a development and progression unlike that of other symbolic systems.

*It is true that the pictorial clue of many Chinese ideographs cannot now be traced, and even Chinese lexicographers admit that combinations frequently contribute only a phonetic value. But I find it incredible that any such minute subdivision of the idea could have ever existed alone as abstract sound without the concrete character. It contradicts the law of evolution.*¹⁵¹

Derrida has noted the way in which this position expounded by Fenollosa, and acknowledged by Ezra Pound and Stéphane Mallarmé, represented a challenge to the uninterrupted orthodoxy of Western metaphysics that revolved around theories of Logos.¹⁵² Fenollosa reveals the need for phoneticisation to be called into question just as the link between speech and writing in the Western tradition is already under question. Derrida describes the myth of origin as being linked to the very concept of origin itself, to speech reciting the origin. If the relationship between speech and writing is seen to be abstract then this calls into question all those systems which have relied upon this relationship as having a direct correlation. This calls to mind the hieroglyph as an origin of writing, but it also reiterates the calligraphic qualities of both the hieroglyph and the architectural drawing where there is a projection of the body (an incision) into the surface

¹⁴⁹ Fenollosa, E. (1936): 26. We should note here that Fenollosa considers poetic metaphor to be the only device that is able to reveal ‘nature’ to the modern mind, but that metaphor is also the basic linguistic mechanism of ‘primitive’ languages where the now poetic relationship between thing and action occurred unconsciously.

¹⁵⁰ Fenollosa, E. (1936): 29.

¹⁵¹ Fenollosa, E. (1936): 34.

¹⁵² Derrida, J. (1976): 92-93.

of these drawn speeches.¹⁵³ Architectural drawing is a writing onto, and into, the surface, and it accepts its position as being additional to an existing field that defines it until it with the risk that it could become decorative to that field.

For Hildebrand, bas-relief is principally an evocation of a general idea of space by means of the appearance of the object, and in its Classical origin it is no less the problem of the two-dimensional painter than it is of the three-dimensional sculpture – the general paradigm of which is found in the idea of the relief found in Greek art. Relief defines the relationship of surface in depth, and of two dimensions into a third. It is through relief that the representation forms an observable relationship with the natural by giving a stable centre to the visual sense:

*The principle surface of the relief should not be the rear surface but the front surface, which is defined by the high points of the figures. . . The inherent form and the effective form are not the same, and relief captures the effective form, not the inherent form.*¹⁵⁴

The key to the relief is then the naturalistic representational qualities that lie in the command of the vantage point in order to organise how the relief ‘wants to be seen’¹⁵⁵. There will always be one view that presents and unites the whole plastic nature of the figure as a coherent surface impression, and the relief can only be understood in relation to this specific position, which is in itself already in a mimetic relationship formed by the projective relationship.

Mimesis and echo in the drawing

¹⁵³ Bill Lacy offers another definition of architectural drawing where he emphasizes the responsibilities of the architectural drawing to ‘project’ (in the sense clarified by Evans) a future event – the building. But he goes further than most in describing this as a type of calligraphy. He writes: “Architects use drawings to give visual form to their ideas. In the non-verbal world of architecture lines on paper play a central role. Architect’s sketches are not the same as those by artists who depict people, places, and objects that already exist. The architect thinks visually about buildings that he ‘sees’ well before they exist. Whereas a mathematician might use numbers and algebraic notations, and a musician, notes and bars, the architect employs a personal calligraphic shorthand of lines and shadings to describe the earliest images that form in his mind’s eye.” Lacy, B. (1991): 9. Similarly, Massimo Scolari notes the calligraphic qualities inherent in the textual nature of drawing as another system for recording knowledge: “It is an almost logical consequence of the ignored demands in every field, that one turns to the ‘pleasure of the text’ without realizing that the calligraphy of the drawing is not necessary tied to reality.” Scolari, M. (1982): 39.

¹⁵⁴ Hildebrand, A. (1994): 254. “In applying the idea of the relief more particularly to the representation of a figure in the round, we find it important that the figure fulfill and express itself from various vantage points, as a relief. This in turn means that the various views of the figure always present a recognizable image of the object as a coherent surface layer. It is essentially that the figure in each of its views evokes the idea of a coherent layer of space and thus describes a total space through the clear unity of its surfaces. In this way the whole material form is transformed into a visible form and thereby – in contrast to the literal model or the cast from nature – becomes a purely apparent form”(256-257).

¹⁵⁵ Hildebrand, A. (1994): 258.

Eric Havelock has argued that the written word or graphic image need not necessarily exclude the sense of hearing. Indeed both are able to maintain the authority of the ear. Referring to the ancient tablets found at Assyria and Ugarit he suggests we would expect that they would be prosaic rather than mimetic.

*But we find repeatedly in these letters not only the rhythms of poetic speech but the familiar formulaic devices of oral technique - the ring form, the repetition with speakers changed, and similar devices which all at bottom utilise the principle of the echo.*¹⁵⁶

He maintains that this is evidence of a culture in which all communication continued to be shaped orally and that if it did happen to get written down then it was done so in order to preserve its oral structure exemplified by the echo principle. The echo enables organization according to rules of geometry, which, Havelock suggests, are based on acoustic properties “which exploit the echo as a mnemonic device.”¹⁵⁷

Le Corbusier frequently evokes the ‘echo’ in the context of his own architectural drawings. In *The Chapel at Ronchamp*, for example, he attributes the capability of transmutating from the conceptual to the actual to the ‘echo’:

*In the brain the idea is born, indefinite it wanders and develops. On the hill I had meticulously drawn the four horizons. There are only four: to the east, the Ballons d’Alsace; to the south, the last spurs leave a vale; to the west, the plain of the Saône; to the north, a small valley and a village. These drawings are missing or lost, it is they which unlock, architecturally, the echo, the visual echo in the realm of shape. On the 4th June 1950 . . . Give me charcoal and some paper.*¹⁵⁸

Le Corbusier’s use of the ‘echo’ here calls to mind the visually dominant mark/interpretation/mark cycle that Herbert considers the *modus operandi* of Le Corbusier’s drawing. Yet it is exactly this reference to the ‘visual echo’ of which we should be suspicious. Echo, in Greek mythology, was a nymph punished because of her unrequited love for Narcissus. According to Ovid, Echo ruminates over Narcissus who in turn pines to death after falling in love with his own shadow in a pond. Narcissus is consumed by the visual illusion of passion where that which can be seen is that which promises to be always unrequited.

¹⁵⁶ Havelock, E. A. (1963): 136.

¹⁵⁷ Havelock, E. A. (1963): 128. “This explanation can stand as debatable, but it conforms to the established fact that in the Classical Age the specific genius of the Greeks was rhythmic. What we call the Greek sense of beauty, in architecture, sculpture, painting and poetry, was more than anything else a sense of elastic and fluid proportion. This faculty, presumably shared to a degree by all races, was, we suggest, in the special Greek case perfected by an unusual degree of exercise in acoustic, verbal, and musical rhythms during the Dark Age”(128).

¹⁵⁸ Le Corbusier (1957): 89.

*He knows not what he sees, but what he sees, by it he is inflamed; and the same mistake that deceives his eyes, provokes them.*¹⁵⁹

Such 'blind love' brings to mind Plato who wrote that, "the lover is blinded about what he loves so that he judges wrongly of the just, the good and the honourable."¹⁶⁰ Yet, as Panofsky has noted, classical descriptions of love, through the figures of Eros and Cupid, rarely represent blindness.¹⁶¹ Love's blindness is an optical illusion that confuses through opposing conditions of stability that define sight. Narcissus is deceived by his desire to see. The passion for sight forfeits the responsibility of seeing. When Narcissus' eyes find passion in his own reflection it is a demonstration of his failure to express emotions in the world. Instead he peers into his own reflection in an act of self-obsession that refuses outside attention and constitutes mourning for impossible love. The reflection makes love dead, but a death made possible only through love.

*And now grief is taking away my strength, and no long period of my life remains; and in my early days am I cut off: nor is death grievous to me, now about to get rid of my sorrows by death.*¹⁶²

Echo too is consumed by grief as Narcissus' death leaves her unable to speak with her own voice so that she must repeat Narcissus' final words in lieu of her own mourning.¹⁶³ Alberti gives this account of Narcissus as the origin of painting, but the story is equally relevant to drawing.¹⁶⁴ Echo is a key to the mimetic relationship of separation and loss that associates drawing to the grief of melancholia:

*The place of absence and with it the forced retention of this melancholy places marks what can be described as the limit of representation . . . The identification of limits pertains to propriety and hence to what is proper to representation once it is taken as defining the status of the diagram or line.*¹⁶⁵

This can in turn be linked to Pliny's account of the origin of drawing where the melancholia of representation is founded in the projective action of recording the unnamed soldier's profile, which is fixed in the shadow.

¹⁵⁹ Ovid (1919): 104.

¹⁶⁰ Plato quoted in Panofsky.

¹⁶¹ Panofsky, E. (1962).

¹⁶² Ovid (1919): 105.

¹⁶³ Gayatri Spivak suggests that Echo is necessarily female, just as Oedipus has to be male, while Narcissus can be figured as either male or female: "Echo in Ovid is staged as the instrument of the possibility of a truth not dependent upon intention, a reward uncoupled from, indeed set free from, the recipient." Spivak, G. C. (1993): 24.

¹⁶⁴ See Janson, H.W. (1961).

¹⁶⁵ Benjamin, A. (2000): 149

*As echo is to sound, shadow is to sight, except that the echo's temporal lag contrasts with the shadow's simultaneity. As if the echo could sound together with its sound; here the representation appears together with the body it represents.*¹⁶⁶

It is instructive that the name of Diboutades' object of affection has been lost from the myth. By constructing a graphic cast of his profile, Diboutades and Butades replace his presence with a simulacrum (echo) which, having become a shifted signifier, no longer requires naming. The shadow is a graphic echo into which the identity of the soldier is lost, and out of which drawn representation is construed. There is a loss here, but it is not for the absent lover, it is for the naming of that love. The simulacrum becomes an end in itself that introduces a type of blindness of, and for, the love of the image.

The hegemony of vision and architectural drawing

Derrida's musings on the intertwining of vision and blindness (the shown and the said, the iconic and the graphic) were given a new opportunity for expression when he was invited by the Louvre to curate an exhibition of its drawings in 1989.¹⁶⁷ On the eve of his first curatorial meeting with the museum staff Derrida suffered an accident that would postpone the meeting for two weeks, and suggest the theme of the exhibition. The uncanny incident resulted in Derrida suddenly suffering a facial paralysis that left him unable to blink in his left eye.¹⁶⁸ The obvious irony here is that Derrida, about to curate the drawings of others, is now unable to blink and as such has suffered a certain type of blindness that he had himself referred to in a 1983 essay on "The Principle of Reason: The University in the Eyes of Its Pupils," in which he plays on the themes of light and vision at work in the Western tradition of education. On the subject of a non-technologically dominated university he wrote:

*The chance for this event is the chance of an instance, an Augenblick, a 'wink' or a 'blink,' it takes place 'in the twinkling of an eye,' I would say, rather, 'in the twilight of an eye,' for it is the most crepuscular, the most westerly situations of the Western university that the chances of this 'twinkling' of thought are multiplied.*¹⁶⁹

Caught in the full blaze of the light of reason the ability of the eye to shut is preferable to the blindness of peering unblinkingly into a destructive glare. Unable to blink, Derrida acts out the affliction that threatens, while defining thought in Western academies.

¹⁶⁶ Reed, A. (1990): 15.

¹⁶⁷ Derrida, J. (1993).

¹⁶⁸ "The autobiographical aspect of *Mémoires d'aveugle*' developed unexpectedly. After the curatorial staff of the Louvre's graphic department arranged a first meeting for July 5, 1989. Derrida, however, was unable to keep this appointment because he had been afflicted with a form of facial paralysis which left his face temporarily disfigured and his left eye stuck open, unable to blink. Sometime later, his doctors having put an end to 'two weeks of terror,' Derrida finally met with the people at the Louvre" Rubinstein, M. R. (1991): 48.

¹⁶⁹ Derrida, J. (1983): 20.

Furthermore, it evokes the experience of Le Corbusier whose own left eye was injured on the eve of his first painting. Both men, in different yet similar ways, manifest through eye ailments, however accidentally, medical conditions that carry intellectual and emotion significance.

*. . . it is not a matter of distinguishing here between sight and non-sight, but rather between two ways of thinking of sight and light, as well as between two conceptions of listening and voice. But it is true that a caricature of representational man, in the Heideggerian sense, would readily endow him with hard eyes permanently open to a nature that he is to dominate, to rape if necessary, by fixing it in front of him, or by swooping down on it like a bird of prey.*¹⁷⁰

For both Derrida and Le Corbusier it takes the event of a conditional blindness to liberate another form of ‘seeing’ that values tactile knowledge over the hegemony of the visual. Derrida exposes a blindness that motivates all seeing. Drawing is a function of blindness that calls for a touching in order to see. The instrument of the drawing is both the scribe and the hand working as one tool to compensate for a failure of vision:

*Blindness is not invoked with reference to a higher spiritual insight, but to call attention to the activity of touch as the embodiment of sight: seeing done with hands instead of with Descarte’s sticks.*¹⁷¹

Suffering the same affliction, Le Corbusier emphasises the contrast between visual and tactile architectural experiences and therefore, also, truths:

*The columns of the North facade and the architrave of the Parthenon were still lying on the ground. Touching them with his fingers, caressing them, he grasps the proportions of the design. Amazement: reality has nothing in common with books of instruction. Here everything was a shout of inspiration, a dance in the sunlight . . . and a final and supreme warning: do not believe until you have seen and measured . . . and touched with your own fingers.*¹⁷²

To see is to be blinded to other forms of knowledge, and to draw is to acknowledge this blindness while maintaining the tropes of insight, vision, and visualization. The architectural drawing is a space of sightlessness sited on foundations of touch. Moreover, architects do not simply ‘see’ the drawing so much as caress it. The drawing is monitored by this intimacy:

¹⁷⁰ Derrida, J. (1983): 10. The ‘caricature of representational man’ could be no other figure than that of Le Corbusier’s own Modular Man whose exaggerated form set in concrete relief in the side of projects such as the *Unité de Habitation* realises perfectly the description of hard eyes permanently open to nature, while the bird of prey is unmistakably evocative of *le corbu*, the raven; taken by Charles-Edouard Jennerate as his signature.

¹⁷¹ Alpers, S. (1988): 25.

¹⁷² Le Corbusier (1987b): xiii-xiv.

*. . . touch answers the desire for the demonstration of love between people. Ordinarily, sight is necessarily out of touch because to see one must be at a certain distance from what one views. Touch is more immediate than the distanced eye.*¹⁷³

It is the vision of sensuality offered by touch that Le Corbusier identifies in the pottery of Algiers, and which brings us back to the origin of drawing:

*You recognize these joys: to feel the generous belly of a vase, to caress its slender neck, and then to explore the subtleties of its contours. To thrust your hands into the deepest part of your pockets and, with your eyes half closed, to give way slowly to the intoxication of the fantastic glazes, the burst of yellows, the velvet tone of the blues; to be involved in the animated fight between brutal black masses and victorious white elements.*¹⁷⁴

Touch, drawing, and fire

I will go further and tell you in two words something both exciting and distressing: the potters ‘don’t give a damn’ about their own art. Their fingers do the work, not their minds or their hearts.

Le Corbusier¹⁷⁵

It is not surprising that the jug becomes emblematic in the work of Le Corbusier. Jennifer Bloomer has pointed out that the etymological origins of the word ‘emblem’ emerge from the Greek *emballein* meaning ‘to throw’ in, as in throwing a pot, or jug as the case may be. Bloomer goes on to say that :

*If we trace a trajectory back through ‘throw’ to the Latin, we encounter the verb iaceo, ‘I Throw,’ whose past participle is embedded in the object, the project, and the trajectory, as well as in rejection, abjection, and injection. And ejaculate.*¹⁷⁶

The word ‘drawing’ has its etymology root in pulling. The pot and the drawing are kindred desires. To this end the word ‘drawing’ identifies the line as a recording of the trajectory of the pencil. Where ‘throwing’ expels this desire as an externalised production, ‘drawing’ embraces it, but both are acts of declaration, and as creative inventions are therefore declarations of love. The potter and the architect share a longing for the object of productive desire that seeks to construct a realm of fertility that is defined by masculine terms.

¹⁷³ Bal, M. (1991): 24.

¹⁷⁴ Le Corbusier (1987b): 14.

¹⁷⁵ Le Corbusier (1987b): 18-19.

¹⁷⁶ Bloomer, J. (1992). 66.

Andrea Kahn argues that drawing provides for a structuring of architectural knowledge in which the drawing itself is a site of location, analogous to the site of building, and which can define architecture in its own terms.

*Whether explanatory or exploratory, drawing as both verb and noun is an inscription of architecture, an interpretation open to interpretation.*¹⁷⁷

Inscription then is also a mode of production that not only structures but actively restructures architectural knowledge. It continually re-draws the contractual obligation between addressee and addressor in a masculine model. Following his reading of Plato's *Republic* Derrida has this to say of the inscription:

*Inscription is . . . the production of the son and at the same time the constitution of structurality.*¹⁷⁸

The drawing, from the original relief by Butades, is always masculine, and of a particular kind of reproductive masculinity that defies biological sense to re-present its own self. It is necessarily accompanied by a 'constitution of structurality' since it is the constitutional condition of inscription that ensures its own survival. Butades, outlining the profile of his daughter's lover, inscribes not his daughter, nor her lover. Rather, it is the name of Butades that Pliny passes down. In this way Butades (and Pliny) successfully ensure their own masculine parthenogenesis by authorising the truth of their own recounted experiences. Pliny's story of Butades is added to itself through the action of repetition so that it supplements itself with its own truth - it becomes its own accessory throwing into doubt its own truths.

*The disappearance of the Face or the structure of repetition can thus no longer be dominated by the value of truth. The true and the untrue are both species of repetition. And there is no repetition possible without the graphics of supplementarity, which supplies, for the lack of a full unity, another unit that comes to relieve it, being enough the same and enough other so that it can be replaced by addition.*¹⁷⁹

Every architectural drawing provides for a repetition of the original drawing, extending through a perverse truth the contractual obligation of the architectural drawing to accessorise architecture, which it does by assigning the reproductive signature to the drawing. The drawn signature organises the institution of architecture in a masculine state. Constitution, Derrida reminds us, is an act of institutionalising, as too is the

¹⁷⁷ Kahn, A. (1992): 4.. Kahn continues: "Only when drawing is seen to inscribe its own architectural ground is it possible to accord it both a definitive role in shaping the conception of architecture and a substantive tectonic relationship to built form"(18).

¹⁷⁸ Derrida, J. (1981): 161.

¹⁷⁹ Derrida, J. (1981): 168.

signature which maintains a link with the instituting act.¹⁸⁰ Indeed the founding act of an institution is to maintain within itself the mark of a signature. The uniqueness of the signature is that it gives powers and rights ‘in the name of . . .’ as the signature invents the signer, “. . . it gives birth to itself, as free and independent subject, as possible signer, this can only hold in the act of the signature.”¹⁸¹

The signature becomes a point of boundary that demarcates transgressions beyond the institution of legitimate architectural representation. Deviations outside this institutional program violate the constitutional contract so that the unsanctioned signature reverts to primal shadow or trace rather than legitimate mark. Thus the signature distinguishes between the living and the dead by assigning contractual value to the architect rather than the building. Delineated in such a way the signature allows for only the legitimate or the illegitimate, condemning any transgression between the two as criminal.¹⁸²

*Between birth and death, the spacing of the between marks at once the distance and the link, but the link according to a kind of distension.*¹⁸³

Derrida accords this ‘dis-tension’ to the presence of the in-between of the very Being of *Dasein*,¹⁸⁴ “‘before’ any biological determination . . . The link thus entertained, held or drawn between, over or through the dis-tance between birth and death.”¹⁸⁵ The ‘dis-tension’ opens up a structural flaw that allows a drawing to cross between birth and death in a masculine hand.¹⁸⁶ Derrida introduces the figure of *Geschlecht* as that which passes on from one genre to another, from generation to generation.¹⁸⁷ This continued

180 “The constitution and the laws of your country somehow guarantee the signature, as they guarantee your passport and the circulation of subjects and of seals foreign to this country, of letters, of promises, of marriages, of checks - all of which may be given occasion or asylum or right.” Derrida, J. (1986a): 10.

181 Derrida, J. (1986a): 10.

182 “The crime has taken place (and every hymen intervenes, like a crime, ‘between perpetration and the memory of it’: here I draw a veil over ‘La double séance), and its dissemination dissolves or absolves it in the crowd only by multiplying it incalculably.” Derrida, J. (1979b): 154 .We should remember here that in Greek and Roman mythology Hymen is the God of marriage and is represented as a young man carrying a torch and veil. Hymen then is also a God of drawing, carrying as he does, the two devices of drawing, the touch to allow the projective practice of drawing, and the veil upon which the projection is made. But the hymen is also a signature of death, or more correctly a counter signature as the hymen gives life precisely to announce death. The death that is ‘given’ is always requested, demanded, by the one who receives it, and who immediately signs the death of the other, the other death in order to live-on (survivre). *S.O.E.D.*

183 Derrida, J. (1983): 77.

184 Literally ‘existence’ or ‘presence’.

185 Derrida, J. (1983): 77.

186 We should remember here that accessory is originally linked etymologically to access; as an approaching or being approached in various senses, as an entrance to. *S.O.E.D.*

187 “Within the path of his writings too, and the marked impression or inscription of the word *Geschlecht* will not be irrelevant. That word, I leave here in its language for reasons that should become binding in the course of this very reading. And it is indeed a matter of ‘Geschlecht’ (sex, race, family, generation, lineage, species, genre/genus) and not of the *Geschlecht*; one will not pass so easily toward the thing itself (the *Geschlecht*), beyond the mark of the word (*Geschlecht*) in which, much later, Heidegger will remark the ‘imprint’ of a blow or a stamp (Schlag).” Derrida, J. (1983): 65.

genealogical presence, despite its masculine precedence, is not made possible by an action of projection, but rather through one of throwing:

*Dasein is geworfen: that means that before any project on its part it is thrown.*¹⁸⁸

The sublime creative moment of conception is also characterised by *geworfen*, a throwing up that reveals the interior contents of existence. Likewise the tale of the original drawing reveals Butades as first and foremost a potter, actually ‘throwing’ the profile as he would a pot. In such a way Butades is able to become individually fertile, throwing out from within an immaculate masculine offspring. Through the action of this throwing, or throwing up, the nature of drawing (and existence) are brought together. Yet one point is missing here. For Butades’ delineation in clay to be of a different epistemological order to the first outlining by Diboutades, then a difference in registering this information has to be identified. Thus Robert Rosenblum further explores Pliny’s origin myth:

*In discussing the origin of clay modelling, Pliny tells the story of a Corinthian maid whose inventiveness was motivated by love. Knowing that her lover was to leave the country, she traced the shadow that her lover’s face cast upon the wall by lamplight. The story then goes on to tell how this mimetic image, which was to solace the Corinthian maid in her lonely days to come, was further improved by her potter father, Butades, who filled in the outline with clay and baked it with his other pottery.*¹⁸⁹

Two important points are made here. Firstly, it is not enough for the outline to be made in clay: this clay has to be fired with the other pottery. Secondly, and more significantly, Rosenblum gives this as the origin of modelling. Here drawing and modelling hold the same origin, and it is one that is forged in fire.

Drawing, friction, and fire

The drawing media are related to the strokes, for certain kinds of paper and drawing materials tend to create particular friction, influencing the movements of the hand.

Rumiko Handa¹⁹⁰

The fact that Butades is a potter is more political than is usually acknowledged in accounts of the origin of drawing. Ann Bergren records that Greek women used ceramic oil lamps as an instrument (apparatus) for pubic depilation. The thrown clay vessel is a demonstration of the politicised female form, a moulded metaphor for the female form “driven by the wheel and born from the potter’s thrust.”¹⁹¹ As a work of the potter’s

¹⁸⁸ Derrida, J. (1983): 78. *Gewarfen* is the past participle of the word *werden* in the sense ‘to throw’.

¹⁸⁹ Rosenblum, R. (1957): 281.

¹⁹⁰ Handa, R. (1992): 29.

¹⁹¹ Bergren cites the Greek comedy by Aristophanes, the *Ecclesiazusae* to introduce the period use of the lamp for removing pubic hair:

O shining eye of the wheel-driven lamp,

wheel, the lamp evokes the fundamental analogy, figured in the myth of Pandora, between the female body, the ceramic jar, and the *oikos* or ‘household.’ This analogy is an ideological construct, designed to mould women who will mould themselves according to the architecture of father-rule.¹⁹² The origin of drawing in the action of the potter is then implicitly an ideological origin of gender in drawing also. Thrown by Butades, the profile of his daughter’s lover is immediately a concretising of his daughter’s sexual expectations, a role he would have institutionalised on all those occasions when a potter of the period would have constructed clay lamps. The effect of this, as Bergren observes, is to ‘cut short’ female sexuality by instigating the twin strategies of fetish and father-house rule. Yet, perversely, this also initiates the primal architectural power of women with the figure of the matted pubic hair being a reconstruction of the invention of weaving. The architectural imperative of the female is thus to fetishize herself. The relevance of this to architectural drawing has been identified by Frascari in the essential craftiness of the architect:

*Crafty fabrication has its origin in the art or techne of weaving. All the lines used in architecture derive from the lines used in a loom. The tracing on the ground of a future building shows clearly the textile origin of construction.*¹⁹³

The plan, Frascari notes, is a “cunning textile,” but it is also one founded in a conjunction of production and reproduction.¹⁹⁴

In an extended essay on fire, Gaston Bachelard places an emphasis on the significance of the drawing action to initiate a flame. Fire was the first phenomenon on which the human mind reflected: fire alone was sufficiently prized by prehistoric man to wake in him the desire for knowledge (principally because it accompanies the desire for love). Throughout Bachelard’s account fire is attributed primary qualities of desire, reproduction, and primary sexualised behaviour. Thus Heinrich Leporini identifies the outline simultaneously with the first stirrings of civilised emotion:

Its original form is the outline, the projection of a formal limitation on the surface, as it is known from the prehistoric animal drawings of the mammoth and reindeer eras, which express the search for pleasure and the desire for empathy of

among clever men a discovery most noble and fair –
we shall disclose both your birth and your honors:
driven by the wheel and born of the potter’s thrust . . .
. . . Alone in the unspeakable recesses of our thighs
you shine as you singe off the flowering hair.

Quoted in Bergren, A. (1996): 77-78.

¹⁹² Bergren, A. (1996): 79. Bergren observes here that in light of this analogy, the Vitruvian ideal of the building as male body appears to be less an original principle than a secondary compensation for the primary correlation between the female and the house (93n2).

¹⁹³ Frascari, M. (1993b): 23-24.

¹⁹⁴ Frascari, M. (1993b): 24.

*the peoples of these early periods of human culture faced with the reality of nature.*¹⁹⁵

The line is an action of primitive fetishism that is disguised deep within the organizing structure of orthogonal projection. The orthogonal has the power of controlling architectural representation, and therefore of controlling all architectural production. In common terms, this power manifests itself in the banality of the line as the most realisable figure of orthogonal dogma. The act of drawing the line, the politics of representation are so evoked that the very notion of the line – lining, lining in, outlining, etc. – is immediately subjugated by controlling orthodoxies. In effect, the line (linearity) is about control, yet, as Ingraham notes, this hegemony does not make itself known. Indeed, it is the point of the dogma of the line that it actively conceals itself within the ‘transparent’ folds of design:

*The line is the means by which architecture displays its conceptual accretions and is therefore at the end of the act of design. And yet it is impossible to design anything without thinking the line itself first. So the line is also a kind of originary marking apparatus whose genealogy is written into the history of geometry, a geometry itself constructed inside a ‘geometrico-mathematical horizon’ that defines the line as pure extension without breadth or depth, without dimension.*¹⁹⁶

An apparatus rather than a concept, the line has the strategic function of grounding geometric and conceptual material while neglecting its own geometric or conceptual character. This, in part, is the ‘burden’ carried by linearity in Ingraham’s account; the responsibility of non-disclosure carried in the active mark. The line is a hypothesis for architecture rather than an effect of it, and this is at once the problem of representation in the architectural project: a conflict between communication on the one hand, and the limits of communication on the other. Into this polemic the orthographic set plays a structural role by constructing the paradigm for linearity. Ingraham terms it an ‘apparatus’, a ‘making ready’ for the realm of representation that at once constructs the result by defining the question, while introducing a certain mortality.¹⁹⁷ As with Rossi, the ‘apparatus’ is a space of death.

This space of death is not simply the concern of the represented object. It is a *spacing* that is signalled by fire – by the friction of the drawing instrument against a resistant surface. Between instrument and surface a heat is made possible by hesitation that is the essential quality of the line:

The degrees of intensity from pianissimo to fortissimo can be expressed in an increasing or decreasing sharpness of the line, that is, in its degree of brilliance.

¹⁹⁵ Heinrich Leporini. *Die Stilentwicklung der Handzeichnung* (Vienna, 1925). Translated and quoted by Kultermann, U. (1987): 73.

¹⁹⁶ Ingraham, C. (1991): 67. Ingraham takes the term ‘geometrico-mathematical horizon’ from Jacques Derrida’s introduction to Husserl’s *Origin of Geometry*.

¹⁹⁷ *S.O.E.D.*

*The pressure of the hand on the bow corresponds exactly to the pressure of the hand on the pencil.*¹⁹⁸

Eisenman and the *House X* drawing

Following a line of thought proposed by Deleuze and Guattari, Eisenman has argued for the Derridian concept of ‘spacing’ to account for relationships in architecture between the built form, power, and meaning.¹⁹⁹ Eisenman’s argument relies in part on a clear identification of the built form as architecture to ground his principles. However this discussion can be applied wherever a question of meaning in architecture occurs. On the topic of object/subject signification, Eisenman accepts Guattari’s assertion that the signified may organize the signifier because something is already given. For Eisenman this offers the possibility of classifying architectural signs in a different way, in a way that might challenge the traditional concept of architectural signification altogether.²⁰⁰ Eisenman’s direct concern is for the relationships between the object and the processes that bring it to realisation. The architectural drawing should be understood as another kind of architectural signifier, one itself already composed of architectural signifiers, but nonetheless able to operate as an autonomous signifier to a signified ‘architecture’. After Deleuze and Guattari’s ‘communicational reference’ the drawing can be understood as a determining precursor to the presence of architecture as a built object. At this point Eisenman adopts Derrida’s term ‘spacing’ to account for an interstitial relationship that organizes the distinction between drawing and building as problems of architectural representation.

*Spacing produces an other condition of the interstitial. The interstitial proposes a dissonant space of meaning. Where figure/ground was an abstraction, figure/figure is a figural condition that is no longer necessarily abstract. It is space as a matrix of forces and sense. It is effective in that it requires the body as well as the mind and the eye for its understanding. The interstitial, then, is the result of a process of extraction which produces a figural as opposed to a formal trope, and, it exists as a condition of spacing as opposed to forming, as a presence in the absence, that is between two conditions of figure as opposed to figure and ground.*²⁰¹

¹⁹⁸ Kandinsky, W. (1979): 99. “Because the surface affects the line quality, just as does the tool that draws it, it is troublesome for example to draw a clean line with pen and ink on an absorbent substance. The significance of this point is also highlighted by our simultaneous activations of the senses of touch and sight. A surface may affect the line quality simply from a visual standpoint, and we can imagine how a surface looks by merely touching it while our eyes are shut.” KENZARI, B. (1998): 84.

¹⁹⁹ Eisenman, P. (1997a).

²⁰⁰ “it is possible that there are other conditions of signification repressed by these traditional classifications. Equally, if other modes of transfer can be proposed between the sign and the signified, then other means of expression, different conditions of signing can be developed. While it is thought that one cannot change the object of architecture, only its signification, that is, the language with which one communicates, the above suggests this may be particularly true because of the embedded nature of the architectural sign in its being.” Eisenman, P. (1997a): 34-35.

²⁰¹ Eisenman, P. (1997a): 32.

All individual design processes, Eisenman writes, “whether using the hand or the computer” all end up as embodied systems; they are already conditioned by significance.²⁰²

*What I do is set up a series of ideas or rules or strategies and draw into [them] . . . trying to find some form in those ideas. In other words, my drawings are rather more haptic or circumstantial, and in them I find things that I wouldn't have found if I had said, 'This is what I want' to start with.*²⁰³

Ingraham cautiously rejects the assumption that the space of architecture exists solely within the boundaries described by walls, what she calls the visible ‘centre.’ Instead she suggests that this space has little to do with this ‘centre’ since the centre presents itself as the uncontrollable result of what is happening elsewhere. Within this wall that maintains itself as a sexless geometric line, Ingraham identifies the differences of sexuality being homologized as the sensuality of material differences.

*Here the mythology of ‘touch,’ for example, might come into play, as well as the very well-developed discourse of materials . . . This vocabulary is sensual without being explicitly sexual but, ironically, it is here that the geometric line first clarifies itself as not only not being in opposition to this order of the sensual but, in fact, extending this sensuality to the sphere of the sexual by giving a vital structure - a body - to this surface erotica . . . The cool geometric line in architecture, in fact, harbours a hot materiality.*²⁰⁴

Drawing is simultaneously a space of birth and death that is moderated through touch. The drawing facilitates the emergence of the architectural idea, but in doing so it signals the inevitable failure of the idea to survive translation.²⁰⁵ Nonetheless, the architectural drawing is a space of gestation for the architectural idea, and the notion of the drawing giving birth to the project underlies the ideology of projection. Rafael Moneo notes that:

*through the dialogue between the mind and the sheet of paper . . . architectural knowledge is born.*²⁰⁶

²⁰² Eisenman, P. (1997a): 33.

²⁰³ Herbert, D. M. (1992): 33.

²⁰⁴ Ingraham, C. (1992): 266-267.

²⁰⁵ “The first *idea* is ichnography, which depends on a competent use of compass and ruler; the second is orthography which is the vertical presentation of a future building; the third is sceneography which is the presentation of the front and the side with all the lines resting in the center of a circle. The *ideai* are born from the consideration (*cogitatio*) of all the parts and are found (*inventio reperta*) through a *techne*. Thus, the making of architectural drawings is based on cognitive representations or known objectivity.” Frascari, M. (1989): 14.

²⁰⁶ Moneo, J. R. (1987): 6. compare this to Hélène Cixous: “Acts of birth, potency, and impotency mingled are what I’m passionate about. The to-be-in-the-process of writing or drawing. There is no end to writing or drawing. Being born doesn’t end. Drawing is being born. Drawing is born.” Cixous, H. (1993): 91-92.

Architectural knowledge, drawing, and birth

Can you hear my writing?

Edwin Lutyens²⁰⁷

Although it is a photograph of a model, the *House X* image must be understood as an extension of the ideology of an architectural drawing practice that insists on principles of translation and projection. The difficulty with the *House X* drawing is that it makes obvious the way that the relationship between architecture and its representations is founded on institutional prejudice rather than neutrality. We are no longer able to sustain a suspension of disbelief that allows space and form to be discussed literally. Eisenman acknowledges this through his manipulation of three ‘objective’ representational systems: the axonometric, the model, and the photograph. In each case the system is revealed to be optically flawed. By shifting the privilege of the photographic viewpoint the model vanishes and the axonometric materializes. This emphasis on optical values in representation marks out the *House X* drawing as the antithesis of the diagram, and identifies it as ‘other’ to a communicative notational procedure:

*The blot and the diagram: these may be taken to express the opposite poles of our facilities and it is arguable that the connection between the two has produced what we call art. Perhaps I should be more precise about the word diagram. I mean by it a rational statement in a visible form involving measurements and done with an ulterior motive.*²⁰⁸

The *House X* axon-model is not an exercise in communication in the sense implicit in representational projection. There is no further understanding to be gained about the projected scheme from this representational system. To this end the axon-model imparts no diagrammatic function, and should be considered a ‘crypto-blot’ as defined by Kenneth Clark – a ‘blot masquerading as a diagram’.²⁰⁹ In the tradition of the blot, the *House X* axon-model makes a direct appeal to the eye (here manifested through the photographic lens) with no agenda of evoking an architectural intention beyond this immediacy, and yet, it cannot be called ‘art’ as it has rejected the qualities of ‘meaning’ conditional to artistic endeavour. By this route the axon-model actually becomes *more* architectural; arriving through a circular movement the same point of representational responsibility where subjective interpretative meaning must be removed in order to enforce the objective voice of the architect. Without architectural intention (that is, the desire for the architectural project, the ulterior motive) this voice becomes mute. A crypto-blot, the axon-model cannot be demonstrative. Where the diagram is a remote

²⁰⁷ Edwin Lutyens quoted in Lutyens, M. (1980): 282.

²⁰⁸ Clark, K. (1981): 19.

²⁰⁹ Clark gives as the exemplar of the crypto-blot the work of Piet Mondrian that, despite its geometric appearance, is not done to demonstrate but to appeal to the eye, and is thus a blot masquerading as a diagram.

schema masquerading as a graphic, the blot is its opposite - an immediacy of marking and touch without ordering. This is the point of Eisenman's *House X* drawing is not designed to order but to disorder representational information. It reaches out and identifies the limits of architectural representation, and the privileged role played by the drawing. If there is an ulterior motive, then it is organized to remove the projective responsibilities of an ulterior motive. The limits and inadequacies of drawing are exposed in such a way that the projective relationship is severed, the drawing floats free of referents, and the architectural project becomes lost.

Defining the word 'longing', Susan Stewart recognizes the significance of desire but notes that the direction of force in the desiring narrative is always a future-past:

*... a deferment of experience in the direction of origin and thus eschaton, the point where narrative begins/ends, both engendering and transcending the relation between materiality and meaning.*²¹⁰

Longing, extending the object paradigm of desire, seeks out the meta-narrative implications of birth and death so that, like eschatology, it is a science of death, judgement, heaven, and hell. This is also evident in the application of 'longing' to: 'the fanciful cravings incident to women during pregnancy'.²¹¹ This, Stewart writes, signals the truth of 'longing' as a desire for an imagined location of origin. In an ongoing search for the moment of distinction between the abstract and the tangible - in architectural terms the idea and the project - gestation provides an analogue to the notion of nature/culture thresholds, a condition that is at once already architectural.²¹² Stewart also observes that it is from this etymology that we find a second meaning in the longing of pregnancy - 'the longing mark' - the impression left by the mother's desire:

*Trace or scar, this impression finds its synonym in the generative metaphor of writing, which here is an unconscious inscription upon the developing consciousness of the child and the eruption of the mark that before had no name.*²¹³

The House X drawing is a scar on the surface of representation. Moreover, it demonstrates that all drawing is a concealment in the same way that the scar always conceals a wound. By forging a relationship between the realm of ideas and the realm of practice, architectural drawing suppresses the lack of a bond between these worlds so that

²¹⁰ Stewart, S. (1993): x.

²¹¹ *S.O.E.D*

²¹² Stewart argues for pregnancy as the margin between the biological 'reality' of splitting cells and the beginning of the symbolic. It is out of this dividing that the subject is generated by being both created and separated from what it is not, and from which we find the basis for the reproductive capacity of all signifiers. Following Kristeva, Stewart describes this 'elsewhere' of pregnancy as a threshold. Continuing she notes that the French term for pregnancy, *enceinte*, also describes a walled or fenced defensive enclosure. Continuing this theme, in English a pregnancy may sometimes be referred to as 'my confinement.' Stewart, S. (1993): ix-xi.

²¹³ Stewart, S. (1993): xi.

all drawing is an expression of lack, loss, and mourning. Birth is the most profound loss, a moment of biological origin that is identified by a permanent removal that finds its architectural equivalent in the origin of the idea, not the building of the idea.²¹⁴ Such creative birthing slips between concept and conception, each having its etymological origins in the Latin *conceptus* – fetus.²¹⁵ All concepts are, metaphorically, a type of mental embryo. Hollier notes that:

That the child is the concept produced by woman in the same way that the concept, in an intellectual sense, is man's product, that both are therefore products of the respective mental faculties of the woman and the man, is clearly apparent in the deep-rooted theory that would have the feminine imagination play a major role in the child's conception. It is desire that fires this imagination. Desire, therefore, through its intermediary, gives rise to active animal spirits whose effects will be felt by particularly sensitive sexual organs. In extreme cases these effects are enough to cause conception itself. (This power of imagination will have sufficient force to occasionally cause male pregnancies!).²¹⁶

To this end drawing realizes the correlation between birthing and writing.²¹⁷ It is the dilemma posed by Eisenman's image. The *House X* drawing is a realisation of principles of projection and modelling, both of which have their beginning in Pliny's origin myth. But this is already an engendered foundation. Drawing is invented in the preservation of love, but it is Butades the potter who literally fortifies drawing in fire. The sketched outline made by his daughter, Diboutades, is consumed in process. Thus the origin of drawing – its birth – is of a masculine order, and it is this engendering of all productive work as an immaculate birth that drawing makes possible. The *House X* drawing is no less masculine. It has not rejected the origin myth. It is a *trompe l'oeil* that demonstrates the full grotesqueness of a death disguised as a birth. It is an ugly blot that illustrates that the architectural project is not born, it is merely drawn.

²¹⁴ Cixous, H. (1993).

²¹⁵ *S.O.E.D.*

²¹⁶ Hollier, D. (1989): 148. Eric Mendelsohn similarly associates design drawing, particular the initial sketch, as an act comparable to child birth: "My sketches are only notes, outlines of sudden visions, although they are all in the nature of buildings. It is very important to record these visions on paper as they flash through the mind, because every new creation carries with it the seed of its potential growth, and, following a process of evolution, becomes a human being." Zevi, B. (1985): 24.

²¹⁷ "Acts of birth, potency, and impotency mingled are what I'm passionate about. The to-be-in-the-process of writing or drawing. There is no end to writing or drawing. Being born doesn't end. Drawing is being born. Drawing is born." Cixous, H. (1993): 91-92.

CONCLUSION

Looking Back to See Forward

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. . . the ability to bring into being a world outside itself in terms of a restricted set of relations entirely within itself. With writing, enormous sense can be made with a few scratches. A property far more pronounced in writing than in speech is that of being able to conjure up an almost corporeal vividness of impression with a system of conventionalized marks.

Robin Evans¹

Architectural drawing and architectural writing

Although ostensibly referring to the expressive ‘physical presence’ of architecture Evans’ references to ‘scratches’, ‘corporeal vividness’, and ‘conventionalised marks’ all reveal an underlying conviction that the architectural drawing has authority. He concludes:

These impressions are accentuated in such a way as to be quite different from those of seeing, hearing and touching unabated by language. It is not just that writing means something (a condition difficult to avoid), but that it means so very much, being so very little.²

Architectural drawing is no different from any other language system in that it requires a set of conventionalised and structured regulations that will allow some form of collective communication to take place. Much of the written discourse on architectural drawing is concerned expressively with these codes.

Less has been written about how the abstractness and arbitrariness of writing may contribute to our use of architectural drawing as a language. Daniel Herbert has traced this quality in architectural ‘study drawings’ but the description relegates the capricious nature of architectural drawing to the realm of ‘design drawing’ where misreading, slippage and confusion are often regarded as advantageous to lateral processes of design.³ This type of drawing is rarely discussed as architecture precisely because of its singular lack of clarity.

The question then is what happens to the singular integrity of architectural drawing if an absolute reading is demanded long before all the elements of uncertainty are within the control the set of restricted relations that define it.

¹ Evans, R. (1997b): 123.

² Evans, R. (1997b): 123.

³ Herbert, D. M. (1993).

Hélène Cixous has similarly argued for an understanding of the similarities between writing and drawing. For Cixous writing and drawing are both underpinned by the impulse of repentance. The slippages identified by Herbert are examples of Cixous' understanding of repentance where the arbitrary processes of progression are staged, one alteration on top of another as a positive pattern of advancement. She writes:

*We who draw are innocent. Our mistakes are our leaps in the night. Error is not lie: it is approximation. Sign that we are on track. . . I advance error by error, with erring steps, by the force or error. It's suffering, but it's joy.*⁴

The difference between error and truth is the distinction between pleasure and death. For Cixous truth, and therefore also pleasure, is identified through the sense of taste - truth is able to be tasted, "strong and fine and rich in memories of pleasure" while error is sensed by an absence of taste, "like a dead person."⁵ The tension between the two is a combat, as each sheet of paper becomes a field of battle where error and truth have fought.

The significant difference between drawing and writing is that drawing is required to reflect on its own representational characteristics in order to be communicative. Unlike writing, architectural drawing is constantly obliged to make reference to its own production in order to maintain an illusion of productive exchange. It is for this reason that architectural drawing is so regulated by codes, conventions, techniques, and prescriptions. Drawing does not free architectural thought: it incarcerates it in a referential system of elevations, plans, sections, and perspectives. Even those avant-garde attempts to bypass conformist expression – first the perspective, then the axonometric – have themselves ended up as graphic dogmas. The truth of architectural drawing is a succession of architectural drawings:

*What makes representation a crucial field in the understanding of architecture is the mediated character of representation itself. There is rarely representation of a 'reality,' or even of an idea or a belief. What representation represents is another representation in a chain of signifiers that circulate from one medium to another all the while believing, or letting us believe, that there is a direct referent.*⁶

The role of the architectural drawing

The relationship between drawing and birth turns on the figure of conception and drawing. Read one way this can be interpreted as a biological metaphor that posits the drawing as the site of genesis, read another way the drawing is merely a conduit for the architectural idea (a birth canal as it were). Neither of these accounts credits the drawing with making a contribution to architectural production beyond being a vehicle for the desires of the architect. This is coded into the origin myth. Drawing was 'invented' to

⁴ Cixous, H. (1993): 93.

⁵ Cixous, H. (1993): 95.

⁶ Agrest, D. (2000): 167.

replace the unreliability of memory with the ‘truth’ presented by pictorial record. This concept of truth underlies all architectural drawing, from the initial napkin sketch through to the fully rendered presentation perspective. In order to be termed an ‘architectural drawing’, and thereby be distinguished from ‘ordinary drawing’, it must carry an architectural intention. It is a paradox of architectural representation that this truth need not be tested, and the term ‘visionary’ is applied to those drawings whose architectural intention remains untried.

Denis Hollier explores the relationship between birth and sight, and correlates conceptualizing and blindness at a particular ‘spot’:

There does, in fact, exist a spot - a blind spot - in conceptualization that precludes an immaculate conception of conception. In the mind, the organ of conceiving, everything one cannot conceive of, everything one has no idea about, creates a spot. And, just as in the structure of the eye, the blind spot (because it does not see) is basic to vision itself, similarly the mind has a spot, which is conception; there conceptualization vanishes.⁷

The architectural drawing is such a blind spot. It works to camouflage the architect’s dependence on drawing by portraying drawing as a benign tool of architectural vision, rather than the site of envisioning. This spot has become so institutional that architects themselves are not privy to its presence. They too are blinded by this spot, and for the greater part they draw in ignorance.

In the work of Aldo Rossi, Morphosis, and Peter Eisenman, there are moments when this blind spot of drawing is lifted to reveal the thin ‘line’ of representational accountability of the architect to architecture.

Architectural drawing as the tool of blindness

This thesis might be judged a romantic work. It appeals to a recent period of manual drawing that existed immediately prior to the wide spread adoption of the computer in the production of architectural representation. This is not to say that the drawings under discussion exist outside of the onset of computerisation - some of them do, some of them do not. Similarly it would be naive to suggest that the computer has altogether removed the architect’s hand from representational work - metaphorically, symbolically, or figuratively. It has however fundamentally changed the epistemological relationship between the architect and the architectural projection. The drawings discussed here belong to a world that exists, if not before the possibility of computerised drawing, then certainly outside the dictates of the new digital medium. These images are heroic precisely because they represent the apogee of an older, perhaps more fallible, and increasingly arcane technology in the face of technological change. The computer has

⁷ Hollier, D. (1989): 111.

exiled the traditional architectural drawing to a place in architecture's recent romantic history.

The increasing redundancy of the manual drawing should not be viewed with complete regret. Adolf Loos identified the potential for abuse inherent in this medium that invests in qualitative line making:

*Architecture has sunk, due to the architect himself, to the level of a graphic art. It is not the architect who can build best that receives the majority of commissions, but the one whose work looks best on paper. They are antipodes.*⁸

Seduction is the curse and the blessing of the architectural drawing. For a drawing to have no seductive qualities at all is for it to have abandoned presentation charm and become wholly mechanical. For it to have only seductive qualities is for it to have embraced the 'superficial' world of the graphic. Architectural drawing – with responsibilities to both the mechanical and the graphic – is located between these two states. Where and how architectural drawing is positioned interstitially is monitored by the proprieties of 'translation' and 'projection'. While the drawing is contained within a paradigm of neutrality (translation) and accountability (projection), it is housed (domesticated) by the terms and conditions of that paradigm. The key mechanism that allows the drawing to be controlled in this way is the 'tool'. As an architectural tool the drawing is accorded a conditional neutrality that allows it to influence the action of architecture, but not the product. This is evident in Alvaro Siza's account where the act of drawing is a form of independent intoxication:

*Is there anything grander than sitting in an esplanade, in Rome, at the end of the afternoon, experiencing anonymity and a drink of exquisite color - monuments and monuments to see while laziness advances softly? Suddenly the pencil or Bic begins to fix images, faces in the foreground, faded profiles or luminous details, the hands which draw them. Lines, at first timid, rigid, lacking precision, later obstinately analytical, at moments vertiginously defective, free until drunkenness; later tired and gradually irrelevant. In the space of an authentic journey, the eyes, and by means of them, the mind, gain unexpected capacities. We perceive in a non-mediated way. That which we learned reappears dissolved amongst the lines which we later draw.*⁹

⁸ Adolf Loos. *Aus meinem Leben*. Translated and quoted by Kultermann, U. (1987): 75.

⁹ Alvaro Siza quoted in Frampton, K. (1991): 87. Frampton identifies a similar relationship in the drawing of Alvaro Siza: "In Ernst Mach's *Analysis of Sensations* there is a drawing made from the oculus of a being in the process of drawing itself. This act of auto-reflection returns us to an equally familiar sketch by Alvaro Siza if himself drawing, wherein for positional reasons what happens to be repeated is the hand holding the page of the represented book, upon which the right hand as drawn is in the process of representing the left hand in the act of holding. Siza's free-hand drawings, made *en route* in the most general sense imaginable, are always there in the unmarked, implied foreground of the delineated image inviting one to oscillate back and forth between subject and object, between the position of the viewer and that of the imagined, imaginary being or body of the building"(73).

The action of drawing is imbued with the qualities of a frenzied attack as the hand obeys the immediacy of a freed mind, but is never accorded an influence of its own – it remains an instrument. The hand is defined as a tool of drawing just as the drawing is made a tool of architecture. Both are subjugated to a higher ideological order so that there is no breach in the idea - building relationship:

*As a tool, architectural drawing is primarily a translator or mediator at the interface of a mental vision and that vision's physical manifestation.*¹⁰

The development of digital technologies for architectural representation has brought the role of the drawing as a tool into question. In a digital age it is the computer itself that is regarded as the tool. In the former relationship the hand is a physical manifestation of the myth of neutrality. In the latter condition the computer is less a mythology of neutrality than its actualization. The computer, unlike the hand, contributes no other information outside of its stated software and hardware values. The result is a fundamental shift in architectural conceptualization that transfers figurative vision from the hand to the screen:

*The tool is divorced from the hand and has become the monocular vision of the computer screen. The imaginative construction of the mind's eye is taken care of automatically by the computer. Images that once were fabricated within the mind are outside of ourselves, rotating freely within the cathode-ray tube. No longer experiencing the world, we are blinded and our experience is only of the machine. Our experience becomes opaque.*¹¹

There is a significant risk here that the traditional relationship between architectural vision and the vehicle of the 'neutral' hand is undergoing what will be a permanent change. The mark, or trace, or trait - the drawing - is made possible by the extension of the drawer's body. The proper body of the drawer's hand that reaches forward is an instrument of the drawing. The draughtsman pays particular attention to the finger and the eye, the hand of the drawer substitutes the eye of the drawer with the supplement of the mark. The hand lays a finger upon the drawing so that it may be seen by the eye, it gives sight to the eye precisely by revealing the eye of the drawer as unseeing.¹² This 'laying on of hands' is what orients the drawing, while simultaneously committing the drawing to a debt.¹³ Rendering the vision visible gives thanks to a memory of the event, whether it exists before the drawing or not. Memory makes possible the inscribing that

¹⁰ Dittmar, G., K. Rogers, et al. (1980): 4.

¹¹ Ellis, E. V. (1997): 43.

¹² Derrida, J. (1993). Derrida imbues drawing with certain characteristics of medicine. He describes "drawing as surgery" (5). As the translators note "Derrida is indulging in a certain *jeu de mains* by playing on the hand [main] in manipulations, manoeuvres, and *manieres*, as well as in the word "chirurgie" - surgery - which comes from the Greek *kheir* (hand) and literally means the "work of the hands." (5). Derrida describes the miracles of Jesus of Nazarus as he restores the sight of the blind by touching them.

¹³ "He wants to see or touch the law, he wants to approach and 'enter' it, because perhaps he does not know that the law is not to be seen or touched but deciphered." Derrida, J. (1992): 197.

makes the invisible visible but the inscription is always in debt to those visible signs of the invisible that owe their existence to memory.

*What guides the graphic point, the quill, pencil, or scalpel is the respectful observance of a commandment, the acknowledgement before knowledge, the gratitude of the receiving before seeing, the blessing before the knowing.*¹⁴

The laying on of hands orients the drawing toward its debt, a debt that may also be a gift, so that Derrida suggests that at the origin of the *graphein* there is a debt or gift, but not both, and not representational fidelity.¹⁵ The fidelity of faith exceeds the fidelity of representation because faith is blind in a way that representation is not. Faith sacrifices the sight that representation requires and reveals in the process that faith must exist before representation, representation is preceded by and commanded by faith. Faith offers sight as a gift so that it may see; representation accepts this debt so that it may be blind to a certain truth of faith.

The portrayal of the architectural drawing as a tool of neutrality has much in common with Merleau-Ponty's description of the blind:

*The blind man's stick has ceased to be an object for him, and is no longer perceived for itself; its point has become an area of sensitivity, extending the scope and active radius of touch, and providing a parallel to sight.*¹⁶

As a tool for the interpretation of an external world the white stick is no more neutral than the eye. The blind person using a stick will gather a 'view' of the world that has been filtered by the stick, the hand, and the mind. Historically the architectural drawing has operated in a similar way. The hand of the architect has used a drawing instrument to organize a 'view' of the architectural project on a drawing surface. The ability of the architect's hand to 'feel' the drawing is itself already a corruption of a neutral paradigm. The hand orders and filters information in the same way the blind person's stick extends, but controls, a lack in sight. The architectural drawing is also a reaching out that acknowledges the inability of the architect to form a relationship to architecture outside of the 'blindness' of drawing.

There is an inherent instability in this representational system, but it is one obscured by likeness. That the architectural drawing evokes a future state makes no difference to the mimetic authority that reinforces it. Architectural drawings are not pictures in a traditional fine art sense; they do not reflect a visual spectacle mimetically. But the architectural drawing nonetheless relies upon an expected relationship between a representation and its subject that takes the notion of likeness as its principle.¹⁷ It is the

¹⁴ Derrida, J. (1993): 29-30.

¹⁵ Derrida, J. (1993).

¹⁶ Merleau-Ponty, M. (1962): 143.

¹⁷ "The drawing does not work on the viewer in the same way as in a building. Depending on its style and intention, the drawing offers a possibility of being received and its object possessed in a (relatively quick) act of attentive concentration. Additionally, the drawing can be taken for itself rather than for the building

existence of the possibility of building that maintains the secondary order of the drawing; it is organized and regulated by the promise of building. Architectural drawing is an act of faith in a future state that can, and will, exist for it to be defined.

The challenge of the digital age

Architectural drawing can be understood as a type of matrix that maintains a tripartite relationship between architecture, architect, and building. In this model architecture is understood as a form of cultural production: the architect as a professional; and building as the physical artefacts of a constructed environment. The only factor that straddles these three components, and links their constructive parts, is the reproductive capability of the architectural drawing. This is particularly true for the architect whose relationship to building and architecture is contingent upon being able to control a representational realm that carries a mimetic power. It is this relationship that has been turned into a 'translative' or 'projective' one in order to disguise the dependence architects have on the architectural drawing. This authority depends upon the fetishization of the relationship between hand and eye. Accounts of drawing as a neutral tool constitute propaganda on the part of architects in order for them to maintain their control over the representation of architecture (and therefore their authority in the building industry) and an architectural culture. The computer presents a threat to the tradition of the architectural drawing as it shifts the coding of drawing from an action to a technology. Whereas architects have been able to control and thus limit the act of drawing, emergent digital technologies are being defined by their availability.

It is inevitable that the digital drawing will for the most part replace the manual one, and, just as linear perspective heralded the Renaissance, we can expect that architectural practice in the technological age will change dramatically. What we need to remember during the period of transition is that architectural practice as it has been known for the last five hundred years has relied upon the drawing not just as a graphic translator, but also as a repository of architectural desire.

What will bring about the death of the architect - what will leave the architect blind - is a denial that the drawing contains orders of knowledge beyond the realm of neutrality.

which it represents. That is, the rules of drawing and the reception of drawing may come to determine what is seen and what is drawn. Drawing in architecture is a way of having a likeness of a building. A drawing, by its nature, is always 'less' than the building itself, and must find ways of intimating the full and surrounding nature of a building in the flatness of a page. Drawing will pry an object (real or intended) from its shell in reality, but in doing so runs the risk of losing the original power of that object." Whitman, J. (1987): 144.

APPENDIX

Glossary of Architectural Drawing

The worship of drawing is a peculiar kind of professional atavism, architecture withdrawing from a hostile world to comfort itself in a security blanket that no one can take away from it. For drawing, the essential skill in earning the right to hang up your professional shingle (if what happens in architecture schools all over the world is any indicator) is something that can continue whether or not you are building anything at all. Doing drawings is a way of continuing to make an architect without serving the architect's social function of creating buildings. Yes, if you insist, masturbation.

Banham, R. (1978): 19

No matter how stunning its technique or elaborate its image, it exists as a means to an end. Architectural drawing is simply a tool for design and communication.

Porter, T. (1993): 9

The realisation in stone, iron and glass of an architectural drawing, taken literally, even though one would have to admit to the drawing as being a graphic work, is a horrifying sight; and there are many such graphic artists amongst architects. The mark of a building which is truly established is that it remains ineffective in two dimensions.

Loos, A. (1985a): 106

Analytical Drawing

Analytical drawing proceeds from the whole to the subordinate parts and finally the details. Subordinating parts and details to the structure of the overall form prevents a piecemeal approach that can result in faulty proportional relationships and a lack of unity.

Ching, F. D. K. and S. P. Juroszek (1998): 68

The analytical drawing is one where the primary attention is given to expressing critical and judicious criteria relating to the description, development, and resolution of a project. Typical this consists of a series of images that attempt to define a scheme in a comprehensive and hierarchical manner.

In the analytical process of drawing, we build on geometry. We can amplify many familiar objects into basic geometric forms. If we break down what we see into regular geometric volumes or a geometric arrangement of parts, we can draw them more easily. We can organize the forms in an additive manner or transform them in a subtractive manner. The resulting structure then serves as a framework for developing and refining the forms and intervening spaces.

Ching, F. D. K. and S. P. Juroszek (1998): 74

Analytique

The analytique, a drawing of various scales and types.

Kahn, A. (1992): 8

Generally, an elevation drawing of a facade, surrounded by a decorative arrangement of drawings of important details and sometimes a plan or section of the facade. Usually in the Beaux-Arts tradition of presentation drawing.

The analytique is completed only when it is 'modeled' by rendering to express the form. There are many kinds of rendering: the wash of water-color is the usual method of modeling an architectural drawing, but the method of modeling is the same whether the rendering be with wash (water-color or Indian ink) pen and ink, pencil, oil or mixed processes.

Oechslin, W. (1987): 75

It is important to distinguish between two separate uses of the term 'analytique': one of which refers to a comparative proportional study of various architectural elements (walls, doorways, balustrades, etc), and the other which is used to describe a single drawing composed of a number of separate architectural views. This later use, with its reinforcement from the Beaux-Arts tradition, is the more commonly understood, and its use is given by Kahn.

The analytique goes further than the multiple-view to establish resonance, not simply between orthographic dimensions, but between graphic scalar conventions as well. The analytique brings together diverse scales and views which all share the space of a single drawing: a site plan, often nestled in the shadows of a doorway or window, fragments of plans and sections, elevations set in a landscape, ornamental details. Their suggestive yet fragmentary construction evoke the entirety of an architectural project.

Kahn, A. (1992): 12

Anamorphosis

In the extreme, anamorphosis, another type of perspective projection, involved the distortion of the reality it represented. Here a geometrical theory, now clearly dominant, subjected normal perception to its own structure by placing the point of view in unexpected places, often on the surface of the drawing or painting itself. By geometrizing the world in such a confounding way, man gained access to a new transcendental truth. The dual nature of baroque perspective is evident in anamorphic works, whose perspective both revealed the truth of reality and reflected man's power to modify it; that is, it was a kind of magic.

Pérez-Gómez, A. and L. Pelletier (1992): 31

The question which is the true image, the illusion [trompe l'œil] or the anamorphosis, is ultimately unanswerable.

Holländer, H. (1984): 75

Axonometric

The axonometric is a fiction that evokes the omniscient gaze of fascism.

Bermann, K. (1994): 16

In all variations of axonometry - isometric, dimetric, or trimetric (identical standard measurement in all three, in two, or in none of the three axes: height/width/depth); rectangular or oblique (geometrical projection of one of the sides of the object or not) - the center of projection is in infinity, and the rays of projection run parallel [sic], so that there is no diminution in depth and no limit or stopping point of space.

Bois, Y.-A. (1981): 44-45

Axonometric drawings have been slid in between the perspective and orthographic projections as an expeditious way of representing the third dimension without sacrificing the scale measure of plan, elevation, and section.

Evans, R. (1995b): 337

The use and performance of the axo or iso are instructively ambiguous. In spite of their all-dimensions-true quality, they cannot normally be used as a means of giving instructions to the building industry. They are not a convenient convention for production drawings in spite of their ability to explain how things fit together in space - the old 3-coordinate, 3-view, orthogonal projection is still the normal language of production, supplemented by devices like the 'exploded' perspective.

Banham, R. (1978): 18

The self-referential behavior of axonometric projection characterizes the initial moments of the modernist project, where it became a preeminent mode of visualization, decentering the subject from the perspectival model.

Agrest, D. (2000): 166

Axonometric space is essentially atypical; the fixed point of the spectator is abolished. From Theo van Doesburg to Peter Eisenman, architects have exploited the implied reversibility of depth and foreground which characterizes axonometric projection and links it to early modernist spatial investigation. Infinity, if not represented, is at least rendered thinkable.

Allen, S. (1993): 128

'Axonometric' is the common name given to a drawing type generically called parallel projection methods. Axonometrics, and all other para-line techniques, produce a visual image that does not obey the optical laws of perspective. An axonometric includes three axes that correspond to width, depth, and height. Each line drawn parallel to these axis is scaleable, meaning that it can be measured with a scale throughout its length. The effect of this system is to remove optical distortion form, and so present a objective (non-visual) representation.

Precisely because the surfaces of an axonometric projection are measurable and not distorted in relation to the laws of optics, the view of reality they purport to give is false; axonometric projections are at once mathematically accurate and untrue in the sense of unreal.

Nevins, D. and R. A. M. Stern (1979): 14

The ability of the axonometric to be misread as either entering or leaving the picture plane has enabled it to resist a pure objective rendering of a plan while avoiding the subjectivity of the perspective. It is this 'undecidability' that sets parallel projection aside:

I am not certain if architects had celebrated the ambiguities of axonometry without the earlier enthusiasm of the painters. Choisy himself, whose drawings often border on the 'undecidable', followed the advice of Jules de la Gourneric in shading his drawings. Today, however, it is exactly this fundamental ambivalence, this play on '+/-', which dominates the architectural use of axonometry; consider e.g. the drawings of the 'Five Architects' which are frequently denounced as 'unreadable'. If they do not present the truth of architecture, this must be attributed to the fact that the 'modernists' were painfully aware of their former monological concept of truth; for them, axonometry not so much attacks or negates this concept but reverses its meaning. Similar to the optical prejudice of the Western world with a lateral movement or a general suspension. In fact, the history of axonometry should include a chapter on aerial views and photogrammetry.

Bois, Y.-A. (1981): 57

The self-referential behavior of axonometric projection characterizes the initial moments of the modernist project, where it became a preeminent mode of visualization, decentering the subject from the perspectival model.

Agrest, D. (2000): 166

The axonometric is identified through its difference from all other drawing techniques, and as such it becomes a technique of hybridity:

The axonometric drawing is a unique form of representation because it integrates attributes of both orthographic projections and perspectives. Easily constructed from a plan, an elevation, or both (as in the case of a frontal axonometric), it shows the parts in orthographic projection. The whole of the related parts, however, is shown as a three-dimensional object similar, though not equivalent, to the way it is perceived in reality.

Dittmar, G., K. Rogers, et al. (1980): 7

Nineteenth century enthusiasm for shadows also explains the unabating resistance of architects to axonometrics.

Bois, Y.-A. (1981): 50

In this type of projection, one of the planes of the represented solids is projected without any foreshortening - one face of a cube is represented as a perfect square. More important is the fact that in this mode of projection receding parallel lines do not converge in a vanishing point but remain parallel.

Bois, Y.-A. (1990): 27

Birds-Eye View

The earliest systematically constructed examples of this method, which henceforth we shall call birds-eye view, are found in the oeuvre of Leonardo da Vinci, who began as a painter and who was largely responsible for developing the basic forms of plane and perspective architectural drawings.

Lotz, W. (1981): 9

Cavalier Projection

Etymologically, the term means perspective of a horse rider, that is: seen from above.

Bois, Y.-A. (1990): 27

A model of parallel projection developed in the 16th century for military engineering. Massimo Scolari is informative on the etymology of the term 'cavalier perspective', noting that it is 'almost certainly' derived from the word 'cavalier' as L Marini defined it in his *L'architettura militare di F March* (Rome, 1810):

A circular or polygonal elevation . . . which dominates the other parts of the fortress like a man on a horse, a cavalier, who by virtue of his elevated height can survey all that surrounds him.

Marini in Scolari, M. (1985): 78n14

In this type of projection, one of the planes of the represented solids is projected without any foreshortening – one face of a cube is represented as a perfect square. More important is the fact that in this mode of projection receding parallel lines do not converge in a vanishing point but remain parallel.

Centerline

In setting up a drawing, particularly an elevation or section . . . Scarpa's first act would be to draw the centre line from which the drawing would progress towards the margins. This was a device paradoxically not for achieving symmetry but for avoiding it while retaining the notion of balance in a composition.

Murphy, R. (1990): 12

Charcoal

When Le Corbusier reached for charcoal and a large sheet of tracing paper, he choose materials that encouraged free arm and hand movement . . . materials that invited - or even demanded - the sweeping gesture of the drawing. Charcoal allowed Le Corbusier the wide range of line weights noted above, and permitted him to rub out and smudge lines directly with a finger, without breaking his concentration to pick up another tool. His use of charcoal discouraged fine finger movements; he could not have used charcoal if he had intended to trace the lines of the existing ruins as a basis for the new building or if he were drawing in a pocket sketchbook. The drawing shows Le Corbusier's tacit, intuitive assumption of a graphic strategy.

Herbert, D. M. (1993): 65

Chiaroscuro

Chiaroscuro is the most common means of considering the play of light on forms.

Woods, L. (1992): 6

Working throughout his career almost exclusively in carbon pencil, Ferriss developed a rich chiaroscuro technique in which he shaded the entire surface of the drawing in grays and blacks, then created details by erasure. Buildings became tenebrous forms of great weight and solidity, but also a certain softness due to the blurring of the edges and an overall subtle modelling of planes. In both his commercial renderings and his independent drawings, he preferred to veil the building in a mist of romance. In daylight scenes, he often manipulated atmospheric effects to dissolve forms and to subordinate details, and in his frequent night views, he used darkness and artificial light to reduce buildings to their major masses.

Willis, C. (1987): 83

Colour

People didn't understand my use of color; they thought that the colors in the paintings would be the colors of the buildings. Sometimes it is, sometimes it isn't. The paintings show that depending on the time of the day there could be red, but the building isn't necessarily painted red. So, although there was a very strong link with the renderings, it was misunderstood.

Hadid, Z. (1986): 18

When the scale drawing was submitted to him, Scarpa applied colors to enhance its legibility, and to isolate sequences or levels. This color never was applied in a painterly way, to lend the object reality, but always in an abstract manner, appropriately enough to accompany the abstract nature of the line. He almost always used the same shades of yellow, pink and green, to indicate thickness of walls, the heights above and below, a cutaway in a partition, or a strategic point because some detail had been planned for it.

Albertini, B. and S. Bagnoli (1988): 20

Compass

We need to see the thing whole, distinct, clear; one can find the truth precisely with compasses.

Giovan Battista Delici in Scolari, M. (1985): 74

He is an excellent judge of the weight of objects and the capacity of vessels, and can measure with his fingers as with a pair of compasses, so that in that respect I would take his measurements rather than those of twenty people with eyes.

Diderot, D. (1971): 254

The compass is the primary tool of translation from drawing to building or from building to drawing. The drawings developed for the construction of an edifice are themselves a process of translation by which the data of an architectural project become the reality of a building . . . a complex intellectual procedure is embodied in this simple act of translation. The mystery of architecture is in this compass metaphor of translation.

Frascari, M. (1993a): 7

From the mid-sixteenth century onwards it is essential to differentiate between drawing compasses and plain compasses (later known as 'dividers') which were intended solely for use in taking and transferring measurements. Drawing compasses always include provision for a pencil or ink point and should never be confused with dividers, which have permanent steel points.

Hambly, M. (1988): 69

A critical development in the evolution of the tool is its separation from the hand on man. Like language's isolation from the oral tradition, the tools disjunction from the body signals a significant schism. For architects, the separation of tool from body is the completion of a paradigm shift that began in the Renaissance.

Miller, R. (1988): npn.

Construction Drawing

The standard interpretation of construction documents as something other than 'paper architecture' detaches the corporeal from the conceptual property of drawing. In each case, one property is privileged, implying two contrary roles for drawing. One role suggests that drawing is predicated upon building; while the second proposes drawing as altogether 'other' than built. These conventionalized views of the two drawing types establish false polarizations among the epistemological dimensions of drawn work.

Kahn, A. (1992): 7

Contour Drawing

Contours are the touchstone of the architect; in dealing with them he is forced to decide whether he will be a plastic artist or not. Architecture is the skill, accurate and magnificent play of masses seen in light. Contours go beyond the scope of the practical man, the daring man, the ingenious man; they call for the plastic artist.

Le Corbusier (1931): 218

Le Corbusier drew the contours directly onto the rough white, chalk dust covering of the concrete wall. He then shaved the dust off in such a way that broad dark lines exposed the underlying concrete while narrow lines merely left scratches in the plaster. These finer grooves were finally painted in black.

Moos, S. v. (1980a): 93

Contour Line

It is in his contours that we can trace the plastic artist; the engineer is effaced and the sculptor comes to life. Contours are the touchstone of the architect; in dealing with them he is forced to decide whether he will be a plastic artist or not. Architecture is the skill, accurate and magnificent play of masses seen in light. Contours go beyond the scope of the practical man, the daring man, the ingenious man; they call for the plastic artist.

Le Corbusier (1931): 218

We climbed down to the beach, a broad expanse of sand, like dunes; for the water has receded considerably. We had a competition in the sand. Wright drew with angular lines a massive garage which he is working on at the moment, with a fantastic superstructure. I did a sketch with a rounded contour.

Erich Mendelsohn in Andrew, D. S. (1985): 7

Cryptogram

In this later work of Hejduk's, architecture is not a compositional exercise. His efforts are directed toward the exploration of that primitive state of visual expression in which function and representation seem to merge into an emblematic and total construction. The elements of architecture – the way they have been understood in traditional theories – disappear in order to give way to figures reminiscent of Egyptian cryptograms. The building is concerned once more as much with the representation of function as with the obviousness of the image.

Moneo, J. R. (1987b): npn

Cutaway Drawing

The Renaissance interest in solid masses and positive volumes is made strikingly clear in a new method of architectural presentation exploring Brunelleschi's invention: a plan and a cross-section are coordinated in a single perspective projection so that the building appears to be sliced open like a melon. This cutaway method appears to have been developed by Leonardo, whose interest in defining negative volume may be judged by the fact that he was the first to discover the precise shape of the cavities inside the brain - a feat he accomplished by filling them with molten bronze wax in the manner of a bronze caster.

Pierce, J. S. (1967): 55

A drawing or model having an outer section removed to display the interior. The cutaway is based on the same conceptual notion of the section and utilizes a theoretical 'cut' through and removing of the 'foreground' to reveal otherwise hidden spatial qualities, particularly those of pure interiority. As Pierce notes, like the section, the cutaway owes its historical development to Renaissance interest in anatomy and dissection. However, where the section is charged with scientific impulses of examination - looking into the cut - the cutaway is concerned with looking beyond the cut into what is revealed. Both are intrusive procedures, but the section asks questions, while the cutaway demands answers. Karen Bermann observes this in a discussion of an axonometric cutaway drawing of the house Anne Frank was sequestered in:

The cutaway axonometric, employed here to optimize understanding, is under laid with another meaning, because the act of revealing is in this case charged with both the danger it represented to those inside and the pain that we feel upon looking back.

Bermann, K. (1994): 16

Detail Drawing

The detail drawing is a process of cutting up a building into discrete parts for the purposes of clarification. The motivation behind such dissection contains the ideological presence of 'truth'.

It also postulates that to describe means to see well, and that to see well means to see the truth. Since everything can be seen and exhaustively described, everything will be known, verified, and legitimized.

Didi-Huberman, G. (1989): 152

At risk with the detail drawing, is a loss of the relationship of the parts to the greater whole. In practice this relationship is maintained through the careful annotation of the drawing with cross-referencing characters, but underlying this is a tacit understanding that these fragments are connected as a part of a 'same system' of drawing. Cross-referencing does not so much join one detail to one project as it serves to *remove* this detail from all other projects.

All detail is linked, to a greater or a lesser extent, to the act of drawing a line, this being the act that constitutes stable differences, the act of making graphic decisions and distinctions. It is also associated with the act of mimetic recognition, and therefore with meaning. It is generally through operations involving line - threads, needles, even knives and corkscrews - that images turn themselves into signs, and that signs become iconic.

Didi-Huberman, G. (1989): 152

With the widespread dominance of the orthographic set (particularly the plan) as the organizational convention in architectural design, the detail drawing is often relegated to a secondary or tertiary role to order construction processes, finishes, or specifics. Carlo Scarpa represents the rare example of an architect prioritizing the detail drawing in order to develop and direct the project at a conceptual stage. His procedure is worth examining in full:

The Bristol board now offers a perfect representation of what the actual building will be, because nothing has escaped attention on the trimming process. It is now possible to change scale and go into smaller detail. The study process is identical: from the rough to proportioning, from refining to trimming, etc., a process that is repeated for subsequent enlargements, progressively focusing on parts, almost all of which already have been foreshadowed in the previous phases. From the stratifications on a single board, the separate items are extracted and drawn up in Indian ink on tracing paper, thereby producing a number of different drawings. These are the working drawings, copies of which were to be handed out to the various skilled workers involved on the job: masons, smiths, bricklayers, etc. Scarpa also colored these copies, certainly to enhance their

legibility, but also, perhaps subconsciously, in an attempt to modulate the technical drawing and soften its rigidity. These had to be scrupulously elaborated drawings, immediately legible, with measurements and proportions explained, symmetries marked in, accompanied by notes and specifications for materials. Certain parts might overlap, as much to exploit the space of a sheet to the maximum as to enhance its visual appeal. At the last moment there might be further retouching, second thoughts penciled in on the copy, accompanied by more precise instructions or recommendations to the worker involved.

Albertini, B. and S. Bagnoli (1988): 23

Diagram

A diagram is not a sketch (therefore it evokes nothing, points to nothing), and a diagram is not a plan (therefore it cannot be built). It is a kind of 'neither/nor' of delineation, a neutral zone, where certain relations are mapped precisely but without affect, with no qualitative information; there is, one might say, nothing superfluous in the diagram.

Vidler, A. (2000b): 6

The diagram in architecture persists in predominantly falling into the definition of a line drawing of some kind. The residual persistence of the diagram as a 'thing' that then becomes instrumental (as a kind of truck that enables design to set out on an exploratory journey) sits awkwardly within the diagramming aspirations voiced in contemporary discourse.

Ednie-Brown, P. (2000): 72

The diagram is the place of a mapping and remapping in which finitude is always an effect of an ineliminable infinite.

Benjamin, A. (2000): 153

Drafting

All these vital items of the architect's stock-in-trade can be painlessly assimilated whilst the student gradually acquires fluency in draughtsmanship.

Chitman, R. (1980): 3

Draughtsperson

The best draftsman [sic] can be a bad architect, the best architect a bad draftsman. A talent for graphics is required at the very choosing of architecture as a profession. Our entire new architecture has been contrived on the drawing-board, and the resulting drawings are given three-dimensional form, much in the way paintings are displayed in the panopticum. To the old masters, however, the drawing was merely a means of making themselves understood to the craftsman who does the work - just as the poet must make himself understood through the written text. But we are not yet so devoid of culture that we would let a boy with calligraphic handwriting learn to write poetry. For all we know each work of art is subject to such rigid internal laws that it can only appear in one single form.

Loos, A. (1985a): 302

Literally, a person who draughts, and who is identified as distinct from the architect. In the same way that the drawing machine of computer is a tool in the draftspersons hands, the draftsperson is often seen as a tool of the architect which enables the architect to expand their range and application. Joseph Gandy would write to Sir John Soane describing such a relationship:

My ready hand, and your mind, would be perhaps useful; pardon my presumption, I am teaching what I want to be taught.

Gandy in Lukacher, B. (1987): 52

Similarly, Frank Lloyd Wright forge a hand / mind relationship with Louis Sullivan while serving as a draughtsman in the Adler/Sullivan office:

A good pencil I became in the Master's hand, at a time when he sorely needed one. Because I could be this to him he had more freedom now than he had ever enjoyed before.

Wright, F. L. (1946): 126

Drawing

The act of drawing is a crafty knowledge long considered the cardinal virtue of architects.

Frascari, M. (1993b): 23

To draw, this means first of all to look with your own eyes, observe, discover. To draw means to learn, to see how things and people come about, grow, prosper and die. One needs to draw in order to absorb what we have seen, so that it remains recorded for the entire lifetime in our memory.

Le Corbusier in Weber, H. (1988): npn

Drawing Set

A full set of drawings for a project may include atmospheric studies but those studies are not meant to threaten the authority of the line.

Wigley, M. (1998): 26.

Esquisse

The twenty-four hour sketch tested the student's intelligence in analyzing the programme and his clarity of purpose in defining a general solution. The problem was to distinguish the significant elements, decide on a parti, or scheme of organization, and then compose the elements into an appropriate form. While certain rules or conventions governing composition were almost always adhered to, there was also quite a large area for individual choice and variation.

Levine, N. (1982): 83

Fantasy Sketch

The fantasy sketch is rooted in the work of the late 18th century French visionary architects Claude Nicolas Ledoux, Etienne Louis Boullée, and Jean Jacques Lequeu, whose drawings expressed utopian ideas without regard to their structural and economic feasibility.

Graphic

Architecture has been degraded to a graphic art by the architect. The most contracts are not given to the one who builds best, but to the one whose designs look best on paper. And those two are antipodes. If we place the arts in a row and begin with the graphic arts, we find that there are gradations from them to painting. From it we can go to plastic art by way of colored sculpture, and from the plastic art to architecture. Graphic arts and architecture are the beginning and the end of a row. The best draftsman can be a bad architect, the best architect a bad draftsman. A talent for graphics is required at the very choosing of architecture as a profession. Our entire new architecture has been contrived on the drawing-board, and the resulting drawings are given three-dimensional form, much in the way paintings are displayed in the panopticum. To the old masters, however, the drawing was merely a means of making themselves understood to the craftsman who does the work - just as the poet must make himself understood through the written text. But we are not yet so devoid of culture that we would let a boy with calligraphic handwriting learn to write poetry. For all we know: each work of art is subject to such rigid internal laws that it can only appear in one single form.

Loos, A. (1985a): 302

The graphic elements involved (in drawings, sections, elevations, visual tableaux with silhouettes or figure, etc.), which are familiar to architects, serve as reducers of the reality they claim to represent - a reality that is in any case no more than a modality of an accepted (i.e. imposed) 'lifestyle' in a particular type of housing (suburban villa, high-rise, etc.). A 'normal' lifestyle means a normalised lifestyle. Meanwhile, the reference to the body (the 'modulor'), along with the figures and the promotional patter, serve literally to 'naturalize' the space thus produced, as artificial as it may be.

Lefebvre, H. (1991): 338

Graphic Standards

The reference book Architectural Graphic Standards, found in most North American architecture offices, is intended to provide a kit-of-parts for the physical environment supporting the daily needs of persons living in industrialized societies. The architect, like some ethnographers, may see themes or institutions of a culture as microcosms of the whole. But relative to the social critic or theorist, the architect is situated uniquely vis à vis a culture and its institutions. The architect designs the physical form of the institution. By this, I do not only mean the larger institutions of prisons, hospitals, schools, offices and the like, but also the micro-institutions of parking lot, playground, single-family house, kitchen, bathroom, and backyard. By designing these spaces with assumptions of normalized forms of behavior, the architect directs peoples activities towards those planned, and discourages cultural, regional or individual variation with the condemnation: 'deviant'.

Macy, C. (1993): 154

Graphic standards provide architects with quantitative information relating to relative and absolute relationships, particularly between the built form and the human frame. This knowledge is present in a pictorial form, with clear dimensional information applied. Ostensibly this serves to enhance the quality of the built fabric by ensuring minimum design standards relating to safety, mobility, and convenience are met at all times. Unfortunately graphic standards also serve to produce standardized answers to architectural problems, and may inhibit architects from seeking innovative solutions in design. For George Barnett Johnston, graphic standards represent a threat to the independence of the architectural designer. While they do provide useful reference information to

architects, the encyclopedic form of this information presents itself as absolute and exact, and if used unquestioningly risks usurping the freedom of creative questioning with prescriptive answers.

In its beginning, Graphic Standards served as a handbook for the accommodation of technical progress within the bounds of existing building custom; today it serves as an instrument for the promotion of the progress of technology as the single motive of a new and unbounded standard.

Johnston, G. B. (1988): npn

Hatching

Hatching with the draughting pen has produced the epidemic of the grid. No window frame, no marble slab remains without mark, at the scale of 1:100, and bricklayers and masons have to scratch out and retouch this graphic nonsense with their own painstaking efforts. If by chance the artist had the ink in his draughting pen, then gold leaf would also be applied.

Loos, A. (1985a): 103

Ideogram

If we take a look over the architect's shoulder at the private and initial conversion of design concepts into graphic marks we find, more often than not, a use of embryonic ideograms – that is, flow- and bubble-diagrams and doodled plans. By being drawn quickly, in receptive line mediums, these diagrams emerge to explore early concepts as patterns of spatial relationship.

Porter, T. (1990): 6

The ideogram is not often identified as an architectural graphic type, being mostly associated with the picture based writing scripts best represented by Chinese characters. In his discussion of Chinese poetry, Ernest Fenollosa points to the fundamental metaphoric character of the Chinese ideogram:

Chinese notation is something much more than arbitrary symbols. It is based upon a vivid shorthand picture of the operations in nature.

Fenollosa, E. (1936): 12

In the same way the architectural drawing operates as a type of 'shorthand' for a greater model that is yet to come, the 'project'. The 'picture writing' quality of architectural drawing lies in its ability to forecast the nature and extent of the architectural project in a way that holds a responsibility of communication inherent in the structure of all linguistic systems. But if the architectural drawing is to be understood as a specialist kind of ideogram, the metaphoric relationship of the graphic character, and a represented object, challenges the normative association between the drawing and the project. In this sense the architectural drawing - all architectural drawing – is an evocation of architecture as a metaphor of its (projected) presence, with the differences from one project to another being like calligraphic differences in the ideogram. Thus all plans evoke an architecture understood planometrically, and all sections represent the expression of an architecture viewed through a vertical cut. This ideographic nature of the architectural drawing introduces a primary metaphorical notion of 'an architecture', above the secondary order of specific architectural design, as the concept of 'architecture' has to exist before a variation on it can be understood. In this way the graphic quality of architectural drawing - that is to say the codes and conventions it employs - transcends (Western) cultural difference so that an architectural drawing can be 'understood' by architects with different verbal languages, a criterion which returns the architectural drawing to the ideogram.

In this Chinese shows its advantage. Its etymology is constantly visible. It retains the creative impulse and process, visible and at work.

Fenollosa, E. (1936): 29

But furthermore, Fenollosa traces the origin of the Chinese ideogram as a primary metaphor for the act of speech. The ideogram substitutes for the speech act. Referring specifically to the Chinese ideogram he notes:

It is not so well known, perhaps, that the great number of these ideographic roots carry in them a verbal idea of action. It might be thought that a picture is naturally the picture of a thing, and that therefore the root ideas of Chinese are what grammar calls nouns. But examination shows that a large number of the primitive Chinese characters, even the so-called radicals, are shorthand pictures of actions or processes.

Fenollosa, E. (1936): 13

As a second condition to the primary evocation of architectural drawing, it is also a repository for the period of architectural building when drawings were not the dominant instructive device employed in building. Thus, the ideogrammatic quality of the architectural drawing, with its inherent graphic 'verbalisation', replaces the oral tradition of building through direct site contact and the guilds tradition. In fact, drawing has become the graphic metaphor for the spoken instruction in building.

Image

I think people have images, preconceived images. Most people design with an image in their head; the drawing is a materialization of the visual image.

Eisenman in Herbert, D. M. (1992): 28

Index

The indefinite retracing of the index actually permits its own reversal, its iconic and symbolic elevation. It is like a baptism of sight that the hermenutic of the holy shroud demands in the sense that as in baptism, 'by receiving the imprint (to antitupon: the index) of the Holy Spirit', everything is accomplished in you as image (eikonikôs: as icon), because you are the images (eikones) of Christ.

Didi-Huberman, G. (1984): 81

Inflection

As for inflection, this word exceeds its mathematical context, since it refers to changes of tone or accent in the voice, concerning regional dialects, grammatical conjunctions, and emotions. This is all very interesting, but it is only of marginal interest so long as it fails to provide rigorously the figure of the inversion of the curve. The Latin inflexio, the act of bending, of inclining, is already closer to what we are looking for. In fact, this category will include a whole series of images, ranging from the profile of a geographical relief via the curve of a sinusoidal function to a volute on the facade of a baroque church.

Cache, B. (1995): 24

Investment Drawing

To be worth a lot, a drawing must be either decorative or important in the context of architectural history, preferably by a famous architect or designer.

Duthy, R. (1987): 140

Since the 1970s the interest in architectural drawings as independent aesthetic objects worthy of collection has had the effect of creating a commodities market for the work of architects. Architectural drawings have begun to exist as artifacts in their own right, however this should be seen within the larger context of art developments in the 1970's which saw architectural drawings entering art auctions and gallery. At this point architectural drawings are removed from their architectural context and are judged in terms of the artistic production, i.e. in terms of aesthetics and 'beauty'. The popularity of architectural drawings for collectors rose in the speculative art market economy of the 1980s, and this period corresponds with the emergence of 'paper architecture' in exhibition, publication, and practice. The leading figure in these developments is Michael Graves, whose paintings and drawings were a popular choice amongst drawing collectors of contemporary architectural architects. As a speculative market, an investment drawing is valued according to certain characteristics of 'worth'. Where possible the drawing should be in the hand of the architect; it is desirable that it has a pictorial aspect; it should be in excellent condition; and if possible, it should be traceable to an identifiable project or building. Historical drawings should have a clear provenance. All these characteristics point to the significance of 'originality' for a market to place value on a drawing by an architect. For contemporary drawings this means a testable association to a particular architect – and therefore the fame of that architect – rather than a particular building. For historical drawings the significance of a connection to a building increases. While the identification of architectural drawings as 'investments' is a recent phenomenon, the monetary value of high quality drawn works is not.

Isometric Drawing

How simple it is to issue carefully drawn details showing the details of a window in plan and section, missing out the information the builder really wants to know most, which is how the stiles and the rails meet at the corner, and whether they are halved, tenoned or dowelled. It is for this very reason that most of the best books on building construction use isometrics.

Winter, J. (1986): 39

Leader Line

He would sit down at my board for a moment, take the 'HB' pencil from my hand and, sure enough, there it would be. Alive! 'Take care of the terminals, Wright. The rest will take care of itself.'

Wright, F. L. (1949): 55

Lettering

The introduction of packing-case style lettering by Le Corbusier in the 1920s was highly influential. It was probably based originally on the use of such lettering in Cubist paintings by Picasso and Braque, where it represented a sort of non-associated objet-type like the pipe or the playing card. It had the advantage of being quicker and easier than traditional drawn lettering, as well as giving an immediately identifiable 'modern' look to drawings on which it was used.

Powell, H. and D. Leatherbarrow, Eds. (1982): 187

Line

The line already marks a space, marks it out by dividing and creating space. And yet, a line neither draws nor plots of necessity.

Benjamin, A. (2000): 144

There is, at the very least, a problem in speaking meaningfully of the architectural 'line' as if it were a conceptual possibility - an entity available to the act of conception. The line seems more an apparatus than a concept, since its tacit role is to enable other conceptual functions.

Ingraham, C. (1991): 67

The line is the means by which architecture displays its conceptual accretions and is therefore at the end of the act of design. And yet it is impossible to design anything without thinking the line itself first. So the line is also a kind of originary marking apparatus whose genealogy is written into the history of geometry, a geometry itself constructed inside a 'geometrico-mathematical horizon' that defines the line as pure extension without breadth or depth, without dimension.

Ingraham, C. (1991): 67

A geometric element generated by moving a point and having extension without breadth or thickness. For Wassily Kandinsky the line is more profoundly and fundamentally a geometric concept, positioned between the point and the plane. If a line is imagined as a moving point, then a line moving obliquely produces a plane. At this moment of transformation – from point to line to plane – each new state completely and irreversibly replaces the last so that Kandinsky consider the process one of 'greatest antithesis' rather than progression.

The geometric line is an invisible thing. It is the track made by the moving point; that is, its product. It is created by movement - specifically through the destruction of the intense self-contained repose of the point. Here, the leap out of the static into the dynamic occurs.

Kandinsky, W. (1979): 57

Lineamenta

Conceptually, architecture begins with the lineamenta, the outline of the architectural project in the mind. The word lineamenta does not refer to the drawing of the ground plan or, indeed, any material drawing whatsoever. It refers to the act of conceptualizing a building.

Ingraham, C. (1991): 74

Mark

To take a place (hold down a space), however, is paradoxically to lose your proper name and to assume an acronym, initial, or pronoun - an abbreviation, epigram, or mark.

Ingraham, C. (1992): 258

A mark can also be a shimmering thing at the edge of analysis: one instant it will seem to be solid and homogenous, and then it will resolve into parts and exhibit a determined structure. . . . When marks are swirled into washes, or scrumbled into larger areas, or smudged into continuous gradations, they lose their disjointedness but not the idea of disjunction.

Elkins, J. (1987): 858-859

Mechanical Drawing

Mechanical drawing is the alphabet of the engineer. Without this alphabet the workman is merely 'a hand'.

Nasmyth in Ferguson, E. S. (1992): 111

Models

A scale model of a campus, with green paper-mâché for grass, pink cardboard for brick, plastic film for glass, etc., is analogue with respect to spatial dimensions but digital with respect to materials.

Halsband, F., R. M. Kliment, et al. (1978): 7

'Architectural models' in recent tradition, have been small scale constructions of chipboard, wood, or paper, rarely larger than 1/16" scale, representing buildings. The limitations of such models were, not surprisingly, the limitations of the buildings they represented. The models emphasized massing, but did not encourage consideration for small scale detail, materials, or colors. The chipboard or strathmore modeled directly to the scaleless, monochromatic, monomaterial building.

Halsband, F., R. M. Kliment, et al. (1978): 7

Napkin Sketch

A sad vestige of the traditional analytic or process drawing is the 'napkin sketch', stereotypically representing the flash of intuitive insight that structures the solution to an architectural project. Interestingly enough, it is the napkin sketch that within modern architecture seems to animate the otherwise lifeless program upon which so much depends. The napkin sketch, of course, was not new to modern architecture. It is only its intentional spontaneity and independence from traditional architectural form that was new. Its pre-modern counterpart is found in the Ecole des Beaux-Arts' esquisse. But while the napkin sketch is seen as a rush of creative insight which, like the esquisse, fixes the essential features of the concept, the esquisse called into play a knowledge of building type and formal order (which we may call 'morphologies' as in biological taxonomies), and was conditioned by a selection process that was quite conscious, even to the point of being codified. Thus, the napkin sketch has pretended to perform the structuring role that had previously belonged to the study of parti and type.

Crowe, N. A. and S. W. Hurtt (1986): 11

The extent to which the creative mythology of the architect is attached to the sketch is illustrated by the so called 'napkin sketch' where the genesis drawing of a project has been quickly roughed out on the table napkin during a meal. Nevins and Stern suggest, that the exigencies of nineteenth and twentieth century practice on an architects time prevent designing at the office board. However, it seems more probable that the hurried in-situ sketch has a higher profile than the office

one simply because it emphasizes the immediacy and spontaneity expected of the moment of genesis. None-the-less, the sketch maintains its aura of impulsive genius. Note Nevin's and Stern:

This situation [work load exasperation] has given rise to a subspecies of the initial sketch known as the napkin sketch, which is the most glamorous and evanescent drawing of all and which would disappear were it not for the historical self-consciousness of many architects who make them or of their dinner companions who treasure them.

Nevins, D. and R. A. M. Stern (1979): 15

Orthographic Drawings

The discipline of architecture defines its boundaries and design capabilities according to the workings of orthogonality - strictly defined, the 'right-angledness' of the line - seems indisputable. Modes of representation in architecture, drawing and model-building for example, are the literal examples of this dedication to orthogonality, but even in epistemological accounts of its own artistic practice, architecture depends on the orthogonalities of intention, creativity, and intuition.

Ingraham, C. (1991): 66-67

Orthographic projection is the language translator's dream. Within its axioms the most complex figures may be moved at will into perfectly congruent formations anywhere else, yet this rigidly defined homogeneity made distortion measurable.

Evans, R. (1997b): 181

Palimpsest

Both the final print and the plotted sheet attempt to erase all signs of difference – these are the xeroxed [sic] palimpsests which can no longer be held up to the light to expose the skeletons of the past.

Macy, C. (1993): 147

In the Middle Ages, manuscript copyists would wipe or scratch clean old texts to re-use the precious vellum, or parchment skin below. A palimpsest is such a parchment – written on, wiped, and re-written on, often many times. Under certain lighting conditions, an attentive eye can see fragments of vanished texts beneath the most recent layer. The architectural working drawing (also a vellum) is a twentieth century palimpsest. But today, the architect is not interested in saving the paper, but rather selected fragments of information which are useful for the time being, until they are erased to be re-worked, updated or abandoned. Each sheet may be re-worked completely several times from the first time it is taped down, until it is put away in indexed storage.

Macy, C. (1993): 146

This process of alteration and amendment, with its requisite process of partial removal and erasure, will be familiar to any one who has spent any time at a traditional drawing board. But the increased adoption of computer based (CAD) drawing systems fundamentally alters the palimpsest relationships from a material to a conceptual one. Whereas the architectural representation will always be subject to process driven change (be it sketch, development, presentation, or working stages), the move into digital media allows for the complete removal of obsolete information, unlike the conditional deletion that marks on paper or film allow for. The effect is to shift the nature of the palimpsest from material realm to a conceptual one. In the first case the palimpsest is evident to a reader through the trace remains on the surface. In the new condition, only the author

of the revised edition understands it as a palimpsest as the remaining fragments are held as memories of alteration rather than physical evidence.

Paper

Tony, office cub, found several draughting boards with the manila-paper stretched in general use there. I laid one good one on my table, delighting in the clean blank paper surface. A smooth untouched sheet of fine paper is the fairest of sights.

Wright, F. L. (1946): 117

Another great stimulus to the drawing of the Renaissance was the invention of paper. When Egyptian papyrus was brought to Europe it quickly became popular because it cost less than the animal skins than in use, and could be rolled. It continued to be used occasionally in Italy until the eleventh century, when parchment and cotton paper were introduced. . . . While the Italian architects found paper still expensive and scarce, it was more abundant and easier to draw upon than any of the materials previously available; this fact encouraged experimentation, and therefore progress.

Halse, A. O. (1972): 7

I want to see things. I don't trust anything else. I place things in front of me on the paper so that I can see them. I want to see therefore I draw. I can see an image only if I draw it.

Carlo Scarpa in Murphy, R. (1990): 12

Architecture's status as a discipline turned on its connection to paper. It was able to be included in any system that privileged disegno. In fact, in Vasari's view, it belonged at the top of the system. Architectural drawing was the standard example of how a drawing could be indistinguishable from an idea.

Wigley, M. (2001): 39

A necessary ground upon which the drawn line depends as a foundation and friction, but once made the line has an ontological authority over the drawing sheet, which then recedes in significance at exactly the same moment it becomes more apparent in contrast to the line. For John Berger the presence of paper is critical to the drawing; we choose to ignore either its presence or its influence, and yet it intrinsic:

The secret is the paper. The paper becomes what we see through the lines, and yet remains itself.

Berger, J. (1987): 60

This significance of this may also be extended to the format of the paper involved. For Peter Collins, Thomas Jefferson's introduction of paper printed with squared lines fundamentally changed the formal nature of drawing in freehand for architects:

The use of graph paper was to be of incalculable importance in the subsequent history of architecture, since it constituted the origin of what is now termed the 'modular' system of design, formed on the basis of Durand's system which, from 1795 onwards, was taught to engineering students at the newly founded Ecole Polytechnique.

Collins, P. (1962): 161

Parti

The architectural authority represented in the parti recalls two characteristics of the architectural authority visible in the working drawings: it's a-temporal and totalizing view and its claim for authorship, as a personal 'style'. The building is represented in the parti as no-where, in a utopian space. The viewer sees the 'god's-eye view'. Also, each architect must have a new one for each building - the parti is doubly stamped unique. The parti continues, in architectural teaching and practice, to be essential in the valorization of a building as a work of architecture.

Macy, C. (1993): 143

Pencil

The lead of the architect's pencil disappears (drawn away), metamorphoses.

Hejduk, J. (1986): npn

You must fix all the pencil drawings. I cannot confine myself to ink. Sometimes even fluid is too unyielding. The pencil line appeals more to the imagination because it leaves gaps and room for variation.

Erich Mendelsohn in Beyer, O., Ed. (1967): 40-41

But it is the dashing draughtsman who rules today. It is no longer the craftsman's tools that create the forms, but the pencil. On the basis of a building's profile and decorative manner an observer can judge whether the architect uses a number one lead or a number five lead. And what responsibilities the compasses must bear for the confusion of tastes which they have caused!

Loos, A. (1985a): 109

Your pencil will uncover some surprising asymmetries and some unexpected symmetries.

Le Corbusier (1960b): 37

In its most common variety, a pencil consists of a conduit of 'lead' encased in a wooden sheath. The word 'lead' is a misnomer and originates from the much earlier use of a lead stylus as a scoring instrument, which left a black or gray mark. Contemporary pencil 'lead' is actually a baked mixture of ground pure graphite and moist clay formulated by Nicholas Jacques Conte (patented in 1795) as a substitute for graphite in short supply after the French revolution. This remains the principle formula, with variations of the graphite/clay ratios allowing different degrees of darkness and hardness to be controlled. Until the 17th Century, the word 'pencil' was used to denote a fine paint-brush, and the first encased graphite rods used for drawing were called 'dry pencils'. Graphite, while classed as a mineral (carbon), has an organic base like both coal and diamond. The mark of a pencil leaves a residue of ancient plant and animal matter across a page, and thus is a recording of death and decay.

In graphite, the carbon atoms are arranged in layers, the atoms right beside each other closely linked but those above and below only loosely linked. This internal structure makes graphite tend to slip apart in thin, easily broken sheets. When you rub it, it will cover your fingers with dark little pieces of itself, which at the tip of a nicely sharpened pencil would form a dark line on a piece of paper.

Lawrence, G. (1996): 14

Pentimento

The Preparatory study. . . . Generally didactic in nature, these studies instruct as much by what is left out as by what is drawn. The manner in which they are able to team ideas and provide the foundation for subsequent development involves a method of leaving questions open through the presumption of incompleteness and the techniques of pentimento - the erasure and subsequent reconstruction of thematic and figural representation.

Graves, M. (1977): 384-386

Michael Graves's use of the description *pentimento* to describe the working process of preparatory drawing is erroneous, and what he describes is more properly a palimpsest effect applied to a developmental drawing. Graves evokes the Renaissance effect of *pentimenti* to account for a working technique in architectural drawing of referencing changes to a design through the layering of altered information. Historically, this was achieved by drawing and erasing on a single opaque surface, or more recently by taking advantage of the translucent properties of contemporary drawing papers and films. Of contemporary practitioners, Carlo Scarpa is the finest example of a working method that can be appropriately termed *pentimento*. Here it becomes an entire system of working. The drawing, its process, and the final result, all demonstrate the influence of the *pentimenti*:

Bristol board is effectively the most ductile surface to work up a drawing on. One can erase without entirely losing one's preliminary work, the first idea or drawing that will serve as a reference. A nucleus of notes or conceptions can be stratified, an important detail, specifications for a material or the measurements of a fixed point, some essential intuition, all these can be jotted in a margin, ready to hand. The studies on Bristol board bear all the traces of the stratifications that accumulated over quite a long period, during the progressive definition of the various parts.

Albertini, B. and S. Bagnoli (1988): 20-21

Perspective Drawing

The best way he can learn it [perspective], by himself, is by taking a pane of glass, fixed in a frame, so that it can be set upright before the eye, at the distance at which the proposed sketch is intended to be seen. Let the eye be placed at some fixed point, opposite the middle of the pane of glass, but as high or as low as the student likes; then with a brush at the end of a stick, and a little body-colour that will adhere to the glass, the lines of the landscape may be traced on the glass, as you see them through it. When so traced they are all in true perspective.

Ruskin, J. (1896): xxiv

What is an issue in geometrical perspective is simply the mapping of space, not sight. The blind man may perfectly well conceive that the field of space he knows, and which he knows as real, may be perceived at a distance, and as a simultaneous act. For him, it is a question of apprehending a temporal function, instantaneity. In Descartes, dioptrics, the action of the eyes, is represented by two sticks. The geometrical dimension of vision does not exhaust, therefore, far from it, what the field of vision as such offers us as the original subjectifying relation.

Lacan, J. (1977): 86-87

Before the middle to the fifteenth century, the term perspectiva (or prospectiva) never referred to artistic attempts to represent illusionary space. Alberti, in fact, never uses the word in his treatise. In his time, perspectiva referred exclusively to optics, and Dante once called perspectiva the 'handmaiden of geometry.' Since ancient Greek times, optics had been considered a branch of mathematics.

Edgerton, S. Y. (1975): 60

Alberti's treatise, specifically on painting, thus became the first document ever – anywhere in the world – to relate the optical laws of vision to the aims and aspirations of artists.

Edgerton, S. Y. (1975): 6

the early users of the art-science thought of it as a tool which might help restore the moral authority of the Church in a world becoming progressively materialistic. In this sense, the advent of the new perspective represented not a revolt by a recrudescence.

Edgerton, S. Y. (1975): 7

Leonardo da Vinci is both a scientist, on account of his dioptric constructions, and an artist. Vitruvius's treatise on architecture is not far away. It is in Vignola and in Alberti that we find the progressive interrogation of the geometrical laws of perspective, and it is around research on perspective that is centred a privileged interest for the domain of vision - whose relation with the institution of the Cartesian subject, which is itself a sort of geometral point, a point of perspective, we cannot fail to see.

Lacan, J. (1977): 86

Perspective Projection

The pretence of the Renaissance theoreticians was unequivocal: perspective is a form of objective representation of the world which can be construed in mathematical terms. At the same time it leads to pictures which closely approximate the way we see the world, i.e. objects in space.

Holländer, H. (1984): 76-77

Pictorial Drawing

A special form of architectural drawing is the picture which for archaeological, topographical or simple, practical reasons (where the building in question is to be converted or extended), depicts the building in its existing state. Drawings of this kind, which by their very nature are objective and impersonal, may require great historical value if they portray buildings which have since disappeared or been altered, or if they are the work of artists whose personal imprint has artistic merit.

Hutter, H. (1968): 89

Picture Plane

The material surface upon which the individual figures or objects are drawn or painted or carved is thus negated, and instead reinterpreted as a mere 'picture plane.' Upon this picture plane is projected the spatial continuum which is seen through it and which is understood to contain all the various individual objects.

Panofsky, E. (1991): 37

Plan

The plan is the generator. The eye of the spectator finds itself looking at a site composed of streets and houses. . . . if the relationship of mass to space is in just proportion, the eye transmits to the brain co-ordinated sensations and the mind derives from these satisfactions of a high order: this is architecture.

Le Corbusier (1931): 47

The sign of a truly felt architectural work is that in plan it lacks effect.

Adolf Loos in Colomina, B. (1994): 64

Plans are two-dimensional diagrams and consequentially they are conceptually and graphically incapable of fully expressing the perceptual elements of the vertical dimension.

Graves, M. (1974): 13

The adventure of the architectural plan is that it embraces a totality of vision, forcing a re-reading of anything which falls within its power. Plan making, 'plan-ing' is the result of a close vision.

Rhowbotham, K. (1995): 24

In the plan resides the esprit of the architect; the plan is a cunning textile.

Frascari, M. (1993b): 24

The drawing of buildings, so far as the architect is concerned, therefore should be divided into three parts, of which the first is the plan, or rather the ground plan, the second deals with the exterior . . . the third, with the interior.

Lotz, W. (1981): 21

On the subject of the architectural plan David Leatherbarrow calls for an appreciation of the plan as a device of abstraction for the construction of enclosed space. The plan as a mechanism for the design of architectural enclosure, states Leatherbarrow, is so deeply embedded in architectural practice, and accepted so uncritically, that we fail to comprehend the processes of reduction at work in the plan. Through reduction the plan fails to adequately reflect the human experience of life, but it does quicken design practice. Yet in Leatherbarrow's discussion the reductive process that quicken practice utilizes a visual model where the reductive action is analogous to a loss of sight.

To see a plan an architect must be blind to anything locally visible. It is called a 'view' metaphorically; really it is not a view at all, as long as a view signifies a visible aspect of a built construction. Plan blindness reduces the full reality of enclosed space to the two dimensions of a flat plane by abstracting depth in order to make boundaries linear and graphic, just the opposite of the thick and palpable boundaries of anything built.

Leatherbarrow, D. (1993): 67

For Leatherbarrow all graphic conventions, whether section, elevation, or perspective, are a 'view' that introduces blindness to locality in the interests of architectural 'vision'. However, of all the codes of representation available to the architect it is the plan that is given vital authority precisely because it offers the greatest abstraction, and therefore the greatest loss of sight. Architectural 'space' being known through the abstraction that reduces the characteristics of particular places to the most simple spatial quality - extension. Architectural 'space' then is not seen but imagined as the sight of the architect is replaced with the gift of architectural sight in the manner of a blind seer.

If anything is described by an architectural plan, it is the nature of human relationships, since the elements whose trace it records - walls, doors, windows and stairs - are employed first to divide and then selectively to re-unite inhabited space.

Evans, R. (1997a): 57

Although architects frequently refer to 'floor plans' in fact a plan is the name given to any view where an object is observed vertically from above. The traditional floor plan is a conceptual cut made horizontally through a building 1 meter off the ground so that the top part of the building can be removed and the now open floor can be looked into from above. However, the looking down may also be utilized to produce a site plan, roof plan, reflected ceiling plan, or used schematically as an electrical plan, plumbing plan, or services plan. Nelson Goodman, for one, identifies the plan as a distinct variety of representational conundrum:

Because a plan is a drawing, with lines and angles subject to continuous variation, the first guess would be that it is technically a sketch. But on the plan are measurements in words and figures. This suggests that we have here a combination of sketch and script, But I think this again is wrong. In the first place, the drawing is used to indicate the relative location of elements and measurements. Careful drawing to scale is merely for convenience and elegance; a rough and distorted version, with the same letters and numerals, qualifies as a true copy of the most precisely drafted blueprint, prescribes the constitutive properties as rigorously, and has the same buildings as compliants. In the second place, while the numerals as characters in the unlimited set of fractional numerals are scripts, the numerals admissible in architectural plans are tacitly restricted - e.g., so that measurements are to be given only, say, to the nearest thirty-second of an inch. So long as any restriction is in force, the admitted part of numerical language does not, like the whole, violate the condition of finite differentiation, but qualifies as notational. Thus although a drawing often counts as a sketch, and a measurement in numerals as a script, the particular selection of drawing and numerals in an architectural plan counts as a digital diagram and a score.

Goodman, N. (1968): 218-219

Digital, in the sense evoked by Goodman, refers to a system with a discontinuous, and differential, schema. Thus a digital instrument is able to 'jump' between informational sources without recording a chronological or sequential passage between, and the real virtue of digital instruments is for registering definiteness and repeatability. The diagram, by contrast, is defined by Goodman as the recorded output of instrumentation. If the instrumentation is purely analog then it produces a graphic, but where it is digital then it is registered as a diagram proper. In this way Goodman reiterates the observation that the architectural plan is the most abstract (digital) of the conventions operated by the architect. While the plan may appear to record absolute values of a project – principally through scalar convention – it is none-the-less the least 'visible' of the architectural drawing techniques, and therefore carries a diagrammatic quality more akin to musical scoring than pictorial representational. That is, it becomes a character in a wider notational system.

There are those of us - I am one - who have made a sort of cult of the pretty plan. It's a wonderful crutch because you can give yourself the illusion that you are creating architecture while you're making pretty drawings. Fundamentally, architecture is something you build and put together, and people walk in and they like it. But that's too hard. Pretty pictures are easier.

Johnson, P. (1979): 137

Plot

Most simply, plot is a measured piece of land. It is also a small area of planted ground; a graphic representation, as in a chart; and the outline of a literary work. The act of plotting implies careful foresight and intrigue, as in a devilish plan. . . . A plot is similar to a scheme in that each is a systematic plan, a representation of some type, and also devious in connotation. Thus, the plot at once demarcates the piece of land for building, represents the land, and conveys the intended plan of action for change: to plot is to scheme is to design. Architectural design is by definition a 'plot,' a plan of positive action intending to promote change as a deviation from given reality. Each small area of measured land reveals the constructively deviant character of architectural thought.

Burns, C. J. (1991): 157

The drawings are made in order to reveal what might be, they are a kind of synopsis – a plot.

Cullum, H. (1986): 27

Point

The geometric point is an invisible thing. Therefore, it must be defined as an incorporeal thing. Considered in terms of substance, it equals zero.

Kandinsky, W. (1979): 25

The point is the meeting point of the of the tool – pencil, chisel, brush, drum stick – with the original surface, the enigmatic PO which is presented successively as page of writing, sheet of wood or metal, canvas, and percussive membrane. Even dance is a part of the system.

Cache, B. (1995): 28

The point in infinity is therefore a mathematical concept, a metaphysical question, and a problem in the division of labour at the same time, once one tries to replace the raised hand by a tool in order to leave the architect in his drawing room and entrust the markings on the spot to a mason who cannot draw.

Cache, B. (1995): 30

Poché

Architects derive this term from the poking style of the pencil that applies fine dots to areas designated as being 'inside something,' the poke and the pocket (poché) come very close. A poke in the eye, a pocket of space.

Kunze, D. (1997): 148

Traditionally, the interstitial figure in architecture is seen as a solid figuration generally known as poché, which is an articulated solid - usually a wall of facade - between to spaces. While the interstitial is a containing presence that is figured or articulated, it is also primarily inert of static. This interstitial is figurative in the Deleuzian sense because it already embodies its contents as a container that encloses, shelters, and has an aesthetic.

Eisenman, P. (1997b): 243

In front of the focal point, what is seen is poché, black spots on the eye. Resident poché we call floaters: bits of detritus floating passively in the vitreous humor, like plankton (the wandering ones). Alien pochés - Piranesi's drawing, a collection of black spots - held in front of the eye describe a screen or window through which to see. The section of information begins at the point of a V, or at the intersection of Vs, at the back of the eye. The section, the poché, is in front of the eye, in the eye, at the back of the eye. Behind the eye, it can remain intact - an object seen; it can become a center - an object analyzed; or it can become disseminated - an object, thrown-in-the-way, cut apart into bits that drift and explore - inquire, seek, ramify, connecting to other bits, forming new text in which shards of the old object are embedded.

Bloomer, J. (1991): 47

Presentation Drawing

The effective presentation of an architectural project necessarily presupposes the complete mastery of the techniques of representing the individual architectural elements with precise values of colour and volume - comparable to the painter's pattern books which contain numerous variations of anatomical details such as hands, feet, noses, and ears.

Oechslin, W. (1987): 71-72

Projection

Its original form is the outline, the projection of a formal limitation on the surface, as it is known from the prehistoric animal drawings of the mammoth and reindeer eras, which express the search for pleasure and the desire for empathy of the peoples of these early periods of human culture faced with the reality of nature.

Heinrich Leporini in Kultermann, U. (1987): 73

The architectural drawing stands as an analogue for the real building. It is drawn according to a set of recognized conventions which allow it to be used as a means of communication; the more messages the drawing has to transmit to others, the more emphasis there is on a rigorous observance of those conventions. An architect's quick sketches as part of his own exploration of a problem are personal and may only loosely follow the accepted rules, a drawing intended as an instruction for use on the site has to be entirely unambiguous, and it normally achieves this by an adherence to the known methods and symbols.

Brawne, M. (1992): 200

The original architectural ideas were transformed into universal projections that could then, and only then, be perceived as reductions of buildings, creating the illusion of drawing as a neutral tool that communicates unambiguous information, like scientific prose.

Pérez-Goméz, A. (1982): 3

With its genesis in the Latin *projectum* (a stem of *proicere*, throw forth, expell) the term 'projection' is inescapably determined by conditions of distance, interval, and space. To project something is to make it remote from a point of origin towards some defined destination. Generally speaking projection may be said to be concerned with the construction of a space of distance through which certain particulars are permitted to pass within define parameters. Within the discourse of architectural representation the term projection is synonymous with the processes of constructing particular types of two-dimensional geometrical delineations; the generic organization of which is known as the orthographic set whose components consist of the plan, section, and elevation. Through a geometric relation to the orthographic set, projection is also used to discuss the relationships that exist in the construction of illusional three-dimensional objects in two-dimensional space, systems known collectively as perspective and paraline drawings. 'Projection' is also evoked to account for the movement of the architectural project from mere representation to the status of a fully realized building. More recently critical writers on architecture have questioned the appropriateness of this use of the word 'projection' to account for such a complex relationship. Much of this discussion focuses on the internal incongruity that exists in the definition of the word 'projection' itself. Whether in the sense of 'casting forth' or the drawing 'through' of lines, the use of the term 'projection' intimates an event of abandonment - the point of departure - with a target of purpose - the point of destination. Yet the relationship between departure and destination is by no means predefined. The conditional interpretation of the word is perhaps best illustrated by the use of the word in alchemy where 'projection' is utilized as a pseudo-scientific description to account for the space of miraculous transformation of base metals into a silver of gold. In alchemy this space of 'projection' is objectified as the philosopher's stone, the supreme object capable of the initiating the transformation from base to noble material. In architecture the term 'projection' is often used to account for the shift of the architectural project between the realm of ideas and the field of building. This relationship suggests that the architectural drawing could be understood as another kind of philosopher's stone, as a device of miracle that contributes some essential quality that initiates the transformation from idea into practice. Yet most discourse on architectural drawing posits exactly the opposite proposition. Drawing is declared a device of neutrality that allows for the shift between the immaterial and the corporeal as a translation rather than transformation. The intended implication of this is that drawing offers no critical insights of its own, either conceptually nor physically. Drawing is not

allowed to be a active participant in the creative processes that lead to production of architecture, and yet this same production can only be enacted through the same mechanism. But the paradox of this proposal lies within the word 'projection.' The same space within 'projection' that allows the relationship of departure and destination to be established also sanctions the denial of relationship. The philosopher's stone, having been thrown, is now without direct guidance, the event having been set in motion in advance. Robin Evans observes:

What connects thinking to imagination, imagination to drawing, drawing to building, and buildings to our eyes is projection in one guise or another, or processes that we have chosen to model on projection. All are zones of instability. . . . Composition, which is where the geometry in architecture is usually sought, may still for convenience be considered the crux of the matter, but it also has no significance in and of itself. It obtains all its value via the several types of projection, quasi-projective, or pseudo-projective space that surround it, for it is only through these that it can be made available to perception. That is the thesis of this book.

Evans, R. (1995b): xxxi

Projection is, first and foremost, a device of perception but, crucially, it reinforces visual perception. The figurative model of projection, throwing and catching, departure and arrival - has been the historic model for vision.

The key realization in the development of projective geometry was that while figures deform according to the point of view, lines of sight do not deform. So rigidity is transferred from objects to the medium of their transmission, which is most easily imagined as light.

Evans, R. (1995b): xxxiii

Referential Drawing

The referential drawing may be thought of as the architect's diary or record of discovery. It is a shorthand reference which is generally fragmentary in nature and yet which has the power to develop into a more fully elaborated composition when remembered and combined with other themes.

Graves, M. (1978): 25

Rendering

The mechanical projection of the lines from plan and elevation to third dimensional view was done by us. But at that stage of the drawing, he came into the drafting room, sat down and rendered it with coloured pencils, erasing, adding, shading, making certain lines stronger, contrasting with other more delicate ones. Transforming an accurately made but otherwise dry and lifeless work, he breathed exquisite life into it.

Wright, F. L. (1982): 124

Now that I have appealed to your sense of truth, I should like to give you, you the student of architecture, the hatred of rendering.

Le Corbusier (1991): 1991

Why is there such widespread mistrust of all those architectural drawings which fascinate the eye of the beholder with their striking color effects and their beauty?

Oechslin, W. (1987): 68

'Rendering' is commonly taken to describe a process of adding information (pertaining, for instance, to lighting, or building material) to an already existing drawing. Augmenting lines with color or shading may add a sense of materiality to the image, but the effect is superficial. The underlying information is not substantially altered by the overlaid medium.

Kahn, A. (1992): 16

The rendering accomplishes a number of other things for the architect. It permits him, in one of the few approved ways, to 'sell' the job to his client. Many a project has been abandoned in the sketch stage because the client was simply not inspired by a good rendering to want to build. The rendering also offers an early opportunity for determining textures and colors of materials. If these look well in the rendering, they will indeed be handsome in the finished building. The rendering is more than a pretty picture; it is a guide for actual construction.

Halse, A. O. (1972): 16

Even architects sometimes see in the three-dimensional result only that for which they longed on the two-dimensional surface of their drawing board; and when they ask for a rendering of their building, what they really want is a rendering of the preoccupations.

Ferriss, H. (1925): 100

For to render is only to cover a sheet of paper with seductive things; these are the 'styles' or the 'orders'; these are fashions. Architecture is in space, in extent, in depth, in height: it is volumes and circulation. Architecture is made inside one's head. The sheet of paper is useful only to fix the design, to transmit it to one's client and one's contractor. Everything is in the plan and section. When you have created a pure functional organism with the plan and section, your facade will result from it; and if you have within you some power of harmony, your facade could become moving. Say to yourself that houses are for living in, all right; but you will be a good architect if your facades are beautiful. Proportions are enough. A lot of imagination is needed to succeed in them and even more when the problem is small. Architecture is an organization. You are an organizer, not a draftsman.

Le Corbusier (1991): 230

Scale Drawing

When the scale drawing was submitted to him, Scarpa applied colors to enhance its legibility, and to isolate sequences or levels. This color never was applied in a painterly way, to lend the object reality, but always in an abstract manner, appropriately enough to accompany the abstract nature of the line. He almost always used the same shades of yellow, pink and green, to indicate thickness of walls, the heights above and below, a cutaway in a partition, or a strategic point because some detail had been planned for it.

Albertini, B. and S. Bagnoli (1988): 20

The graphic elements involved (in drawings, sections, elevations, visual tableaux with silhouettes or figure, etc.), which are familiar to architects, serve as reducers of the reality they claim to represent - a reality that is in any case no more than a modality of an accepted (i.e. imposed) 'lifestyle' in a particular type of housing (suburban villa, high-rise, etc.). A 'normal' lifestyle means a normalised lifestyle. Meanwhile, the reference to the body (the 'modulor'), along with the figures and the promotional patter, serve literally to 'naturalize' the space thus produced, as artificial as it may be.

Lefebvre, H. (1991): 338

Scale Rule

An essential piece of an architect's drawing equipment is a scale. Without it one wouldn't get beyond square one. The earliest scales were machined from brass strip but later models were made in ivory or boxwood. Ivory scales were considered to be superior since they allowed for clearer markings, which possibly explains why the first plastic scales were made in 'Xylorite' which bore a strong resemblance to ivory.

Shepherd, J. (1983): 52

Sciagraphy

I would also warn students against the abuse of skiography, which has become far too common in recent years; and that is, the habit of projecting shadows over every part of the plan. The result is that the drawings are illegible. I have seen plans which look like an arrangement of haystacks, in which the shadow of the column is far more prominent than the plan of the column itself. Nothing whatever is gained by this, and besides making the plan unreadable it also makes it very ugly. In geometrical drawings students should eschew all such tricks and devices, and be content to do a plain thing in a plain way.

Blomfield, R. (1912): 8

Don't draw shadows. The contractor doesn't supply them.

Daniel Castor in Dijk, H. v. (1996): 18

Sciagraphy, or sciography, derives etymologically from the Greek skia (shadow) and graphou (to describe). It thus becomes related to the projection of shadows in linear perspective. In the architectural tradition, however, sciagraphy meant a 'draught of a building, cut in its length and breadth, to display the interior.' in other words, the profile or section.

Pérez-Gómez, A. and L. Pelletier (1992): 28n23

Skiagraphia was an impressionistic technique, using divisions of bright colors and relying on the phenomenon of optical color fusion.

Keuls, E. (1975): 1

Don't draw shadows. The contractor doesn't supply them.

Daniel Castor in Dijk, H. v. (1996): 18

Shadow is the obstruction of light. Shadows appear to me to be of supreme importance in perspective, because without them opaque and solid bodies will be ill-defined; that which is contained within their outlines and their boundaries themselves will be ill understood unless they are shown against a background of a different tone from themselves.

Kaufmann, T. D. C. (1975): 269

Scribble

It was obviously only with the pencil that Sullivan could so easily produce the modulations of line and tone which his graphic aesthetic demanded. The delicate rhythms of fine line, darker hatchings, rollings, and scriblings, and still darker heavily-pressured points of graphite yielded a gossamer effect that was intimate and personal.

Sprague, P. E. (1979): 4

Section

By the end of the nineteenth century reference between anatomical dissection and the building section had all but vanished. The last residual allusion occurs in engineering drawing where the fabric cut in a mechanical section was usually coloured red – a subtle citation of cutting through flesh.

Baynes, K. and F. Pugh (1981): 11

A section is an assemblage of dark spots on a plane. It maps the residual of a surgery on an object by a plane of incision. Each spot marks an instant of convergence of an axis of inscription with an axis of incision. The Sectioned object undergoes permutations in a logical system of representation - a system of coordinates. The logic of the representation resembles the logic imposed upon the physical world: the logic of gravity. Within this imposed structure, objects are ascribed an orientation with respect to the center of the planet, which becomes translated into an orientation with respect to the surface of the planet. Thus, objects are endowed with tops and bottoms (the parts most distal and most proximal in respective to the planet's center).

Bloomer, J. (1991): 43

Sheet

A sheet of paper is the Utopian's true medium.

Wolfgang Pehnt in Lacy, B. (1991): 11

Is there anything more pleasurable to the mind than unsullied paper?

Wright, F. L. (1946): 56

Signature

A Wright drawing is considered authentic if it was signed by him; in some cases, he may actually have drawn it, but in most cases he will have caused it to be drawn and will have indicated his approval of it by his signature. Many of the most distinguished American architects of our day have never made a drawing in their lives.

Gill, B. (1987): 14

THE RESPONCIBILITY OF THE ARCHITECT: The architect alone is responsible for the product which emerges from his drawing board and bears his signature. No politician or financier will take the cultural blame form the architect's shoulders for a mis-planned environment. It is the responsibility of our universities to prepare future generations of architects for this overwhelming ethical and moral task.

Krier, R. (1982): 5

Site Sketch

I see the site, the surface area, the space above it. My surface, my space - which I seize upon eagerly. Generally the architectonic idea already appears spontaneously at this moment. I fix it in the form of a sketch. This means that the knowledge, the exact information about the actual requirements enters one's subconscious; the surface area comes to life as a ground plan, the

empty space as a spatial shape, a two-and-three dimensional experience at the same time. I keep this first sketch. For, as a vision, it has concentrated reality, plan and structure into one architectonic organism. An inspiration, an act of creation.

Eric Mendelsohn in Beyer, O., Ed. (1967): 98-99

Sketch

The first sketches set in motion the poetic and reproductive faculty of the soul which in an instant finishes and completes what was merely sketched out Thus they greatly resemble the art of oration and of poetry which . . . [use] signs and utterances.

François Hemsterhuis in Naginski, E. (2000): 78

My sketches are data, the contour lines of an instantaneous vision. In accordance with their architectural nature, their immediate appearance is that of a whole, and this is how they must be taken. The moment of conception remains essential; it contains within it all the seeds, but their sympathetic humanity can only come in the development.

Eric Mendelsohn in Beyer, O., Ed. (1967): 43

All those who attempt to express too much in a few strokes . . . we call sketchers. This term does not refer to those masters who outline proposed compositions for their own or others' judgement; we mean those who have never developed beyond sketching, and have thus never reached the goal of art, which is completeness.

Goethe, J. W. v. (1980): 46

Possibly, we can say every building is a caricature, but a caricature relies upon representation. The caricature requires reference to the original figure to ridicule. The sketch needs to find the personality and hidden meaning to envisage the caricature.

Smith, K. S. (1990b): 55

There was . . . with the beginning of the modern architecture and the introduction of constructive, function-orientated designing, an abrupt change. Ever since, sketch and perspective view directed at appearances and persuasion, the sketch as principle and dialogue.

Reidmeister, A. (1982): 27

The sketch is a caricature of the finished building. Additionally, the plan and elevation have a similar relationship; with a few extra lines the plan could become an elevation. The proportional caricature reflects from plan to elevation or reverse.

Smith, K. S. (1990b): 52

Sketch Book

The Sketchbook of painter, sculptor and architect should differ. The painter sketches to paint, the sculptor draws to carve, and the architect draws to build.

Louis Kahn in Wurman, R. S., Ed. (1986): 124

It goes without saying that what the artist or architect chooses to draw, using his sketchbook as a record of observation, reveals the examination of his artistic conscience.

The sketchbooks serve a double role: as repositories of existing, often much older, practices and theorems; and as intimate reflections of the actual creative process. . . . They also offer us a unique catalogue of design choices available to the architect . . . within a tightly defined theoretical system.

François Bucher in Crowe, N. A. and S. W. Hurtt (1986): 12

For Marco Francari, the architectural sketchbook of the Renaissance is an instrument of scientific inquiry comparable to the significance of the dissection table to artists of the period. Within the sketchbook pages buildings of antiquity are ‘autopsied’ by the sketch into fragments, glimpses, and impressions, in an attempt to accumulate quantitative architectural information that would then form the basis of a reference manual:

These architects filled their notebooks with drawings of fragments of Classical buildings. Their graphic annotations were not merely records of historical pieces and patterns, but rather, carefully done anatomical studies of parts of buildings.

Francari, M. (1988a): npn

Study Drawings

Study drawings are graphically rough and informal – drawn on thin paper, at the margins of larger drawings, on paper scraps, place mats or envelopes – and are almost instantly superseded by some new study drawing.

Herbert, D. M. (1988): 27

Drawn on thin paper, at the margins of larger drawings, on paper scraps, place mats or envelopes – and are almost instantly superseded by some new study drawing. And while presentation drawings preserve conventional scale relations and spatial illusion, study drawings are often drawn only in rough proportions, often not to any conventional scale, and may represent only parts of buildings or express purely abstract qualities of a design idea.

Herbert, D. M. (1988): 27

Contrary to his own statement, Le Corbusier used his study drawings not as a medium for recording already conceived mental images but as active participants in his thinking. He used them, in short, to generate new information within the design task.

Herbert, D. M. (1993): 62

Stylus

Both the literatus and the peritus graphidos are writers and are using the same tool, the grapheion (stylus), for demonstrating their knowledge and producing their writings.

Francari, M. (1988a): npn

Technical Drawing

Drawing - technical drawing - performs as a notational system. It presents us both with processes of coding that are partly analogue and partly digital.

Agrest, D. (2000): 164

Technical drawings idealize by removing nonfunctional textures; circuit drawings drop any pretense of mimetic depiction - they are topological insofar as they represent relationships and use icons to refer to component parts. Actual spatial positions and distances do not matter.

Galison, P. (2000): 162

Thumbnail Sketch

Under this general classification we plan to consider tiny freehand sketches (not necessarily the size of the human thumbnail, but no larger than a couple of inches or so in any dimension) as used for several distinct purposes.

Guptill, A. L. (1925): 49

[Thumbnail] sketches should be sketches, not miniature renderings crowded with detail at the expense of the eyesight and reserve of patience of the artist, - not labored over, erased, changed. Instead, they should be drawn directly, boldly, crisply, with the work in suggestive outline or simple values.

Guptill, A. L. (1925): 57

Thumbnail refers to their small size, often on the order of two or three inches square. This format allows for a type of graphic shorthand, an economy of expression where one can strike a few lines to depict rapidly and laconically the essential elements of a scheme. A single line in these small drawings can represent an architectural element such as a pier, column, or row of windows.

Fraser, I. and R. Henmi (1994): 65-66

Trace

That architectural tracings are apparitions, outlines, figments. They are not diagrams but ghosts.

Hejduk, J. (1986): npn

Tracings are similar to X-rays, they penetrate internally.

Hejduk, J. (1986): npn

If architecture is primarily presence – materiality, bricks, mortar – then otherness or secondarity would be trace, as the presence of absence. Trace can never be original, because trace always suggests the possibility of something other as original, as something prior to.

Eisenman, P. (1996): 569

Tracing Paper

It has been said that the modern architect has made but one contribution to the techniques involved in the conceptualisation of the building - the use of transparent paper. This medium, capable of being overlaid with successive reworking of basic themes, may be in part responsible for the conceptual transparencies expressed in some modern building. The accuracy of this assertion is slightly beside the point. However, it is true that the difference between working on

opaque and transparent surfaces will ultimately affect the understanding and conceptualisation on any composition.

Graves, M. (1977): 387

Tracing paper did not become readily available until about 1850, when it became common practice in larger offices to employ tracers to prepare the required number of copies on tracing paper. With the advent of first blue prints and later diazo and dyeline prints it became common practice to prepare the master drawings on either translucent linen (for durability) or on heavy duty tracing paper.

Shepherd, J. (1983): 52

During the initial stages the 'see-through' qualities of such surfaces allow an evolving design to be quickly extracted, transformed or transferred by tracing from one surface to another.

Porter, T. (1990): 14

Travel Sketch

When one travels and works with visual things - architecture, painting or sculpture - one uses one's eyes and draws, so as to fix deep down in one's experience what is seen. Once the impression has been recorded by the pencil, it stays for good, entered, registered, inscribed.

Le Corbusier (1987a): xiii

Detailed and realistic rendering is a characteristic feature also of the travel illustrations, etchings and engravings. These were the work of so called 'topographical artists': men of some prior architectural training commissioned to illustrate the travel and scenery books extremely popular at the time.

Bozdogan, S. (1988): 42

Trompe-l'oeil

What is it that attracts and satisfies us in trompe-l'oeil? When is it that it captures our attention and delights us? At the moment when, by a mere shift of our gaze, we are able to realize that the representation does not move with the gaze and that it is merely a trompe-l'oeil. For it appears at that moment as something other than it seemed, or rather it now seems to be that something else. The picture does not compete with appearance, it competes with what Plato designates for us beyond appearance as being the Idea. It is because the picture is the appearance that says it is that which gives the appearance that Plato attacks painting, as if it were an activity competing with his own.

Lacan, J. (1977): 112

The arts of illusion reappeared, however, in a new medium - printed wallpaper. In the 1780s, French wallpaper manufacturers had introduced mechanised printing which turned the luxury of exclusively created trompe l'oeil decoration into a readily available commodity. By the turn of the century, the full range of exotic, antique and picturesque subjects, in the form of panoramas by the set and trompe l'oeil details by the metre, were available to petit and grand bourgeoisie alike, and, partly as a result, the fashionable taste moved into an altogether more austere phase.

Meade, M. (1984): 32

Vanishing Point

The term vanishing point . . . was not coined until modern times. We do not know what epistemological significance, if any, either Brunelleschi or Alberti gave to the phenomenon; that is, whether they thought of it as a mathematical point, a distinct place, or a symbol of infinity. Alberti simply referred to it as the 'centric point.' Although he understood its relation to infinity, his only expressed concern was that it be placed by the artist in the center of the drawing space and operate as the single locus for all converging architectural lines.

Edgerton, S. Y. (1975): 26

Vellum

To see the architectural vellum as the site of heterogeneous drawing is to question the idea of a single author for the drawing, design and drafting. The heterogeneity of contributing hands – male and female, student, graduate and licensed architect, draftsman and designer – is evidence of a diffused and multiply-originating architectural production.

Macy, C. (1993): 147

Working Drawing

If words ever come close to buildings then perhaps they do so on the one site where legally they must come together: the working drawings.

Wigley, M. (1986): 30

Working drawings with their instructions can indeed be agreeably systematic and appealing in form and content, or they can be as confusing and careless as the sort of speech that remains ineffectual because it offends or defeats the attempt of others to grasp it.

Neutra, R. (1954): 302

The working, there is more than one way to be representational. The working drawing is representational largely in the way written words represent sounds, abstractly.

Sorkin, M. (1991): 36

I was not cross only very dictatorial and impressive. They never realize that a working drawing is merely a letter to a builder telling him precisely what is required of him - and not a picture wherewith to charm an idiotic client.

Edwin Lutyens in Lever, J. and M. Richardson (1984): 1

Anybody who has used a Mies office drawing for any purpose whatsoever will know that he has held a masterpiece. His are working drawings; they give instructions on how the building is to be assembled from its component parts; they direct care to the details. They also stand at the exact point where the process of intellectual creation transforms into a process of physical creation. Therefore, like all good working drawings, they have the kind of authority that no other kind of architectural drawing can have because they are, so to speak, the architect's last word before the building slips out of his hands.

Banham, R. (1978): 20

If I want a wood paneling or wainscot to be a certain height, I stand there, hold my hand at that certain height, and the carpenter makes his pencil mark. Then I step back and look at it from one point and from another, visualizing the finished result with all my powers. This is the only human way to decide on the height of a wainscot, or on the width of a window.

Adolf Loos in Neutra, R. (1954): 300

A working drawing used on the site is fingered by many men many times a day, it is splashed with cement, covered with lime and morning tea, rubbed, doodled on, soaked by the rain and dropped in the mud. By the end of the job the drawings are usually a sad pile of tattered pulp ready for the bin.

James, J. (1979): 544

Often called 'contract drawings,' working drawings are the only set of drawings that architects are legally bound to present as evidence if there is any question about liability after the building is completed.

Robbins, E. (1994): 36

X-Ray Drawing

Put it on anything dishonest or in bad taste - it hits you in the eye. It is rather like an X-ray of beauty. It is a court of assize in permanent session. It is the eye of truth.

Le Corbusier (1987a): 190

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