

## The emptying out and the abstracted detail

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### **Abstract**

*This paper considers the drawn detail as a means of archiving the interior not in terms of the familiar fullness or comfort but rather through the idea of absence and emptiness. Empty drawn details could be understood as intervening spaces, ordinarily empty, or as relatively small or narrow spaces, between things or parts of a body. This paper will consider the empty drawn detail as something other than being without interstice, without meaning, without purpose but rather as a system of reference that enables rather than states further making and imitation. Here the empty detail, full or empty of context is temporarily extracted from context, without reference, until it is used in a particular place or moment of exchange.*

*This paper attends to the drawing archive of the Auckland University for the 'Building Queen Street For Dingwall Trust' (1934) designed by Gummer & Ford & Partners and in particular singled out for closer examination are seven sheets of earthquake calculations for the building. At one and the same time the seven sheets show complexity, incompleteness and the promise of structured emptiness. These drawings tamper with the limits of construction, control and safety. They set the scene for the fullness of space and empty space, complex, without meaning and yet full of it.*

*The empty drawn detail is represented as a series of woven calculated notations across an ordered series of grids. The seven sheets suggest an historic emptiness and yet of meaning for both architect and engineer. Calculations caught in the margins of the drawings become the detail of the practitioner, a draft of abstract thought, all of which is deliberately hidden within the architecture. The drawn becomes abstract detail, a dark place hidden from view, a matrix of potent emptiness.*

### **The emptying out and the abstracted detail**

This paper considers the drawn detail as a means of archiving the interior not in terms of familiar fullness or comfort but rather through the idea of absence and emptiness.

Architect Marco Frascari suggests that the empty drawn detail can be seen as a drawing of nothing, holding nothing, an empty white sheet with an absence of materiality. He writes;

The most difficult assignment for architects is to draw by virtuous reflections a construction that is to extract from the empty surface of the paper the inauguration of a building...well-tempered drawings that elaborate the relationships between the mundane, the sacred, the dream and the solid stuff in a transhistorical condition.<sup>1</sup>

From this point of view architectural drawings assemble in a set of lines, marks and strokes, the potential of construction that is a conjuring of tectonic structures. Blank sheets of paper can be seen as single undifferentiated absences containing an infinity of absences that can be fragmented endlessly, like layers of paper, of drawings yet to be and their layers of permutations. The drawn architectural detail as a mark of matter and construal, the joining of surfaces, the marking of place, position and a desire of the architect for precision and unity.

This paper will consider the drawn architectural detail as full or empty of context and temporarily without reference, until used in a particular place or moment of exchange. An empty / full drawing in this sense does not signify a lack of marks, an empty white sheet, but of absence rather than presence.

Writer, Timothy Walsh in *'The Dark Matter of Words: Absence, Unknowing and Emptiness in Literature'* writes of emptiness in terms of textual gaps, narrative lacunae and strategic vagueness in literature. He writes;

The parallels between the aesthetic function of absence in literature, art, and music suggest that there is something fundamental about the manipulation of silence, darkness, ellipsis, and other forms of absence within human constructions...just as architects exploit the potential of empty space by enclosing it, writers, composers, and artists have likewise developed special strategies for harnessing emptiness, for domesticating nothing...<sup>2</sup>

In these terms, absence, indeterminacy and uncertainty can have productive roles within the overall design of a work, and the architect in an attempt to capture or enclose space must confine it so that it can be more easily seen. Walsh through the analysis of various

literary devices and tropes involved in generating a sense of absence demonstrates how structured forms offer intricate patterns and networks of uncertainty and that this structure can increase exponentially through a deft orchestration of absence. Walsh argues that it is through the use of absences such as silence, shadow, blankness and void that the limits of human consciousness and language are encoded in aesthetic constructs.<sup>3</sup> For Frascari architectural drawings hold similar qualities he writes that the ‘... accurately imprecise nature of drawing manifests itself in a stubborn struggle between the celebration of form and the diffusion of parts, between a will to represent and the evanescence of representations, between a search for certainties and an awareness of their relativity...’<sup>4</sup> For Frascari architectural representations are a nexus linking architectural objects, a survey that takes place sitting at a drafting board intersecting architectural intentionality with conscious and unconscious courses of action, the intuition of the imaginative world and the mediate materiality of architectural practice.

Architectural drawings while abstract are also inherently coded, representational and hierarchical. In this sense they can be argued as anything but empty. Architectural detail drawings have a similar potential to offer other means for mapping dreams than the conventional use of plan, section and elevation. A drawn image or device may require the ability to speak of the unspeakable, or name the unnamable, declare the unknowable. Drawing in this sense becomes a descriptor of an intangible or indescribable thought, a precise unknown structured through absence and evidenced in structuring. In a discussion of absence, the ineffable or nothingness may require another type of language by the architect that is bent to another use; makeshift absences may represent the juncture between the word and the wordless or the imagined and the constructed.

This paper attempts to model Frascari and Walsh’s theory of the empty detail with a study of ‘Building Queen Street For Dingwall Trust’ (1934) designed by Gummer & Ford & Partners.<sup>5</sup> In particular singled out for closer examination are seven sheets of seismic moment distribution calculations for the building. At one and the same time the seven sheets show complexity, incompleteness and a modern kind of promise of structured emptiness. These drawings interfere with the limits of construction, control and safety. They set the scene for the fullness of space and empty space, complex, without meaning and full of it.



**Figure 1.** Gummer W. J. & C. R. Ford, Building Queen Street for Dingwall Trust (1934), 87-93 Queen Street, Auckland City.  
(Photo authors own.)

The empty drawn detail of the Dingwall Trust building's resistance to an earthquake is represented as a series of woven calculated notations across an ordered series of grids. The seven sheets suggest an historic emptiness that is yet full for the modern architect and engineer. The calculations become a detail of the practitioner, a draft of abstract thought, which is deliberately introduced and hidden within the architecture. The drawn becomes abstract detail, a dark place hidden from view, a matrix of potent emptiness.<sup>16</sup> The drawn architectural detail is viewed as an account of numeracy, a discipline of experiential explanations and predictions through the use of numbers and measures in an architectural project, a seismic moment in the calculations of the Dingwall Trust building.

### **The construal and construction of emptiness**

In literature structured absences and intentional use of elliptical language calls attention to something missing in a specific and recognizable way. For Walsh structured absences can refer to the innumerable things that are said and unsaid and those that are implicated, he suggests that a word is only a 'significant shape' like an 'empty doorframe' that facilitates communication only because of the 'freight' we send through such an opening that is not itself part of the frame.<sup>17</sup> The lack of sign or a signal is encountered and perceived as absence, an attempt to discuss the things that cannot be named, invisible and undetectable.<sup>18</sup> In this light the architectural drawing set may have a need for other types of drawings, the traditional nature of convention being unable to describe the complex nature of architecture. The additional forces that may exist within the built world, shifting ground, weather, atmosphere, light and other ephemeral forces that can and must be calculated. These absences may inevitably result from the ordered nature of

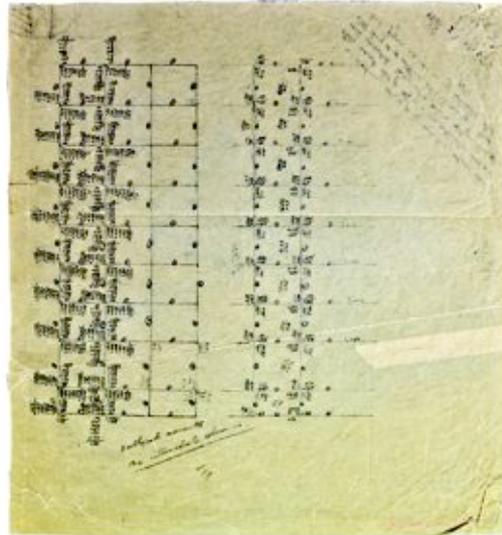
the drawn language, the conventions of architectural form and structure. Drawing thus offers a structured absence, an intentional use of language to call attention to something that is missing. Frascari writes;

Architecture is constantly in itself a result of hybrid factures, i.e., the building of architecture results from amalgams of high technology, low technology, sophisticated and naïve structures, complicated and simple systems, and refined and elemental construction events.<sup>9</sup>

Drawings become a calculated alternation between the representable and the non-representable, the result of tactics dealing with contraction and miniaturization, conversion and suppression, accommodating more by offering less. In architectural drawing abstract geometry deals with abstract concepts such as limits, differentiation and integration, studies of shapes and space, in particular groups of transformations that act on spaces.<sup>10</sup> Frascari sees geometry and mathematics as a source of wonder and in architecture can explain the interactions of material with light, the projection of shadows and the distortions of surfaces. He writes:

Architecture is based on geometric actions of production, which are used to evoke future constructions. They are both a class of geometric procedures and acts of imagination, the one making the others visible.<sup>11</sup>

For Frascari, 'descriptive geometry is a sapient playing of constructive designations, motivated by certain pleasure in elegance and economy and its results are well tempered drawings, an essential part of the architectural process of constructing and construing architectural meaning and edifices.'<sup>12</sup> Geometry of the Euclidian kind can be seen as the attempt to remove everything unnecessary in order that the essential may emerge, a tension between clarity and multiplicity, and the interaction between form and content. Yet the construal and construction of imagined architectural design can require images of mental discipline and mathematical consideration beyond the Euclidian kind, an abstract accounting of form that organises and tests concepts of inclusion and exclusion. The empty drawn detail will be tested in an ordered set of seismic moment distribution calculation grids across seven sheets of fragile faded butter paper.



**Figure 2.** Unnumbered Engineering Sheet, Gummer W. J. & C. R. Ford, Building Queen Street for Dingwall Trust, (1934), Gummer & Ford Collection, GF6, Architecture Archive, University of Auckland Library. 450 x 510 graphite on butter paper.

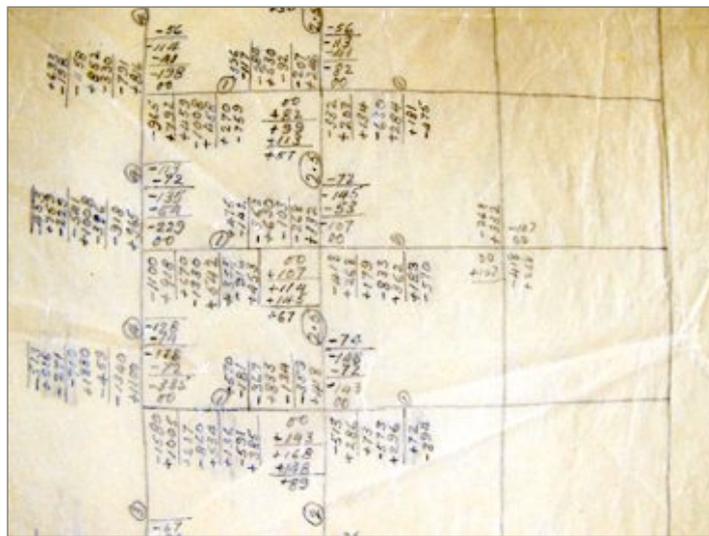
### **The empty drawn and an empty archive**

The Dingwall Trust Building in Auckland City was designed in 1934 and completed in 1936. It was one of the first multi-storey buildings to be designed under new earthquake regulations following the 1931 Napier earthquake and was an important in the development of high-rise architecture in New Zealand.<sup>13</sup> Designed by Gummer and Ford and Partners, the commercial building was intended to provide income to support the Dingwall Orphanage Trust. The eight-storey building was initially designed as five stories and signaled a shift from the skyscraper gothic and art deco to a more 'modern' design apparent in the reduction of ornament and the introduction of large expanses of glass.<sup>14</sup> The building also showed a shift to modern semiotics of seismology.

The archived drawing set of the Dingwall Trust Building consists of 155 drawings three of which are undated. The archive also holds drawings of alterations to the building from 1936 through to 1972 over which time there were more than twelve alterations to the interior of the building. The drawing set, like other drawing sets from this period in the archive begins with plans of the eight floors of the building and ends in verandah and window details.

Of specific interest are seven un-named and un-numbered drawings showing earthquake calculations relating to the structural frames within the building. Three of the sheets show numerical notation ordered in 3 columns by 9 rows one of which is noted with the words 'disregard' and 'see revised corner'. Two of the sheets show notation in 9 rows by 7

columns. Around the periphery of the sheets are sketches and notes to the overall outline of the building, checked sums and reinforcing details showing the calculations and thoughts of the architect. Two of the sheets contain notes referring to the Earthquake moments. One writes of the, '400,00 lbs. to 1 inch, East to West Earthquake Moments – Column Bent, filtered to conform with no intermediate columns'. While another note writes to a Mr. Dickson, 'Mr. Dickson, this is for E/q moments in Flexible Bent States, moment sheet for this is in my calculation book and it would necessitate tearing out a page to let you have it. Will bring it up with me when I come up. Rigid Bent figures are also in my calculation book. JB.'<sup>15</sup> The final drawings reveal an orthogonal grid with an overlay of twisted movement, the columns bent under a shifting ground. The drawn sheets show structural calculations to the buildings eight stories.



**Figure 3.** Detail Unnumbered Engineering Sheet, Gummer W. J. & C. R. Ford, Building Queen Street for Dingwall Trust, (1934), Gummer & Ford Collection, GF6, Architecture Archive, University of Auckland Library. 230 x 480 graphite on butter paper.

This structural analysis is calculated through the Hardy Cross method where statically indeterminate frames are designed through series of approximations, each of which is successively nearer the exact solution.<sup>16</sup> Building frames consisting of more than one storey are loaded with vertical and eccentric loads; the shears in each storey must balance independently of the other storeys. After the first moment distribution there is a residual unbalanced shear in all storeys and each storey is then treated separately and correction moments are applied to the stanchions. The final correcting moments are found by multiplying the results obtained by a different factor for each storey.<sup>17</sup> Relationships between the inflexible moments of connection and the bending of materials

are reflected in the drawings, a physical conception implying the deformation of a structure under various conditions and its ability to be conceptually visualized.

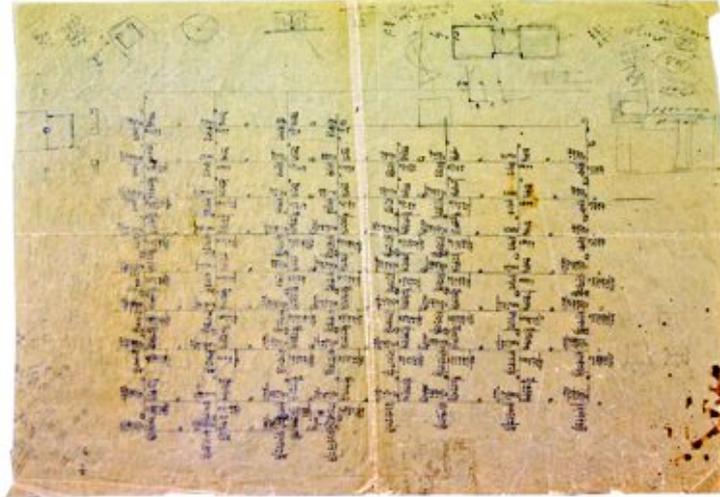
The seven sheets ruled surfaces of abstract geometry appear as indeterminate connections; their source lies not in geometry or measurement but in the taut warp of drawn threads. Graphite on the frail sheets of butter paper appear disconnected and abstracted from the main drawing set, a complexity of intertwining grids and numerical calculations alter and shift over the seven sheets surfaces. Frascari writes;

Seen and understood as mere syntactical expressions, numbers determine arithmetical links among the parts and the elements of construction or between drawings and buildings. They do not carry semantic value in themselves, and if meanings are achieved this is done though metaphorical allusions.<sup>18</sup>

The numerical aspects of the gridded sheets organise the instrumental aspects of the imagined building giving an account of its suspected movement. For a new generation of architects and engineers these images of mathemes were soon to become the complete picture of architectural design, organised by its own frame, an abstract accounting of form. The drawn abstracted frame of The Dingwall Trust building orders its own exclusions and inclusions and submits these to the test of its concepts. They become the work of an undreamt construction and reveal the seamless regularity of an articulated grid, the marks of the abstract drawn infrastructure scoring and crossing its surface. The drawings visually suggest the potential intensification of a blank grid and a new order of vacancy.

The abstract geometries and algebras of a new age are devoid of a fixed referent, its interpretation changing through time and cultural space. Abstract calculations ignore the mass of the imagined building and retain the form, which is supposed to be invariable after the disappearance of the matter.<sup>19</sup> Reduced to a 'pure' form, the reader is left to imagine exterior contour, the ideal envelope that contains the volume. Lines depict the suture of two surfaces, whose actual thickness disappears in the abstraction. Points of intersection, the place of encounter of surfaces become detail. The drawings focus on abstract volumes, surface lines and points, the space designated by paper-thin threads. Geometry is an analysis of abstract entities best conceived in ideal space and best explored on paper, and yet calculations measure not just shape but volume, mass and the physical force of immaterialities like wind, heat or cold.<sup>20</sup> For Frascari '...the resulting

topological chiasm is not merely a verification method; but also becomes its generative method...forces of an abstract nature can be substituted for concrete and ponderous materials.<sup>21</sup>



**Figure 4.** Unnumbered Engineering Sheet, Gummer W. J. & C. R. Ford, Building Queen Street for Dingwall Trust, (1934), Gummer & Ford Collection, GF6, Architecture Archive, University of Auckland Library. 640 x 480 graphite on butter paper.

Woven tracks of numbers across ordered grids and associated floors and columns are difficult to discern amongst the tightly packed order of numbers, additive and subtractive moments extend from each row, the assumed steady ground, planned for shifting movement. For Walsh, '...an aesthetic of absence may seem to reduce the complexities of form to formula, but the art of leaving things out does not proceed according to any recipe, and there is no guarantee of success.'<sup>22</sup> These drawn modern architectural texts are seen as displays of reason, rationalized, coded and abstracted. Abstracted intersections are markers of a point of connection, a transparent representation of surfaces of The Dingwall Trust building. Notes, sketches and calculations become undeniable presences upon the page.

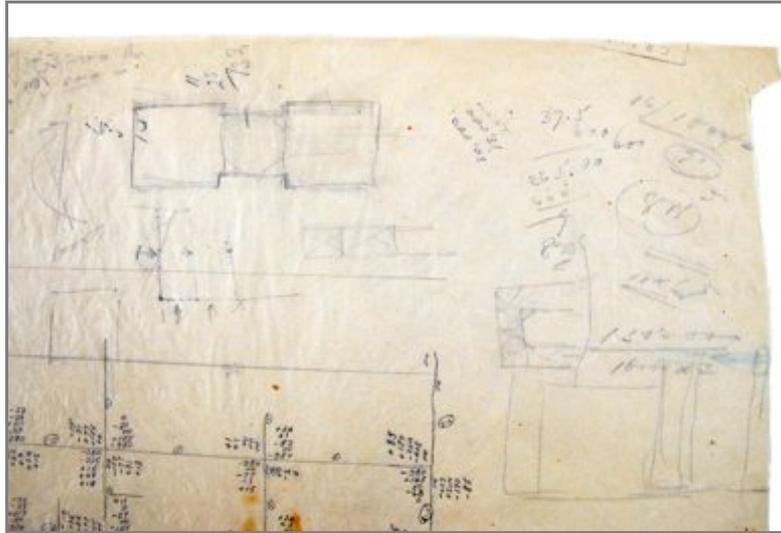
The seven drawn sheets provide the theoretical or mathematical structure of the building's movement in an applied rotational moment, the details of the work of architects in a previous age. Each calculation marks a point within the structure, the sums establishing constraints for future spaces, surfaces and constructions. Each point appears as a self-contained unit with four sums that differ across each point, the telescopic fall of one element into another that is endlessly renewed, repeated and recalculated. Once established the calculated notation imitates an imagined structure; the drawings become tangible indicators of absence and carry the making of architecture, its

rationalization as an abstract representation of thought. The Dingwall Trust building's abstract geometries are an abstract accounting of form organised by a frame that tests concepts of inclusion and exclusion.

Notes become a continuous physical conception where the deformations of the structure under various conditions is imposed and visualized. A metonymic series with obsessive repetition in the story of the building's construction, the architect shapes the suspected movement, the buildings mobility and the structure emerges from the woven surface like springs of a mattress, the reader attempting to fill the emptiness. The calculated drawings represent the pressures and forces woven into the structure of the building. Numbers are the representation of movement not visually present but there. Drawings of emptiness and fullness become a means of conveying the unspeakable, the elusive parts of the construction and life of a building.

The gridded drawings become an architectural signifier within a delicate framework, at once a diagram of the hypothetical structures of the site of a fictive archaeology, a material support for the buildings functions. The visionary moments directly present in language become impressions of something now absent. The sheets can be likened to figurative footprints in the snow, a shape pressing forcefully against the page like a signet stamped into wax that leaves only an impression of substance.

The drawings propose emptiness as an unstable condition, the potential of the movement of the building and its structure. Recoded in a series of gridded numbers is the oscillating condition of the drawn structure, a moving restlessness. The drawing appears as apparently empty, it is other than empty and it is the scene of emergent construction. It offers complexity, incompleteness and emptiness, seeing what is not there is a form of speculation and forms of speculation appear in and depend on the weaving, on the size and frequency of alternately filled and empty space that create surfaces and textures. The seven sheets drawn notation marks the intersection between space and that of engineering.



**Figure 4.** Detail Unnumbered Engineering Sheet, Gummer W. J. & C. R. Ford, Building Queen Street for Dingwall Trust, (1934), Gummer & Ford Collection, GF6, Architecture Archive, University of Auckland Library. 640 x 480 graphite on butter paper.

A type of narrative is created in the drawings of The Dingwall Trust building where every movement, like every line on a page has the possibility to grow rhythmically not just from the possibility of the movement of the earth but out of the drawn floors above and beneath laying the groundwork for the next. Unknown potentialities are offered in the numbered saturation of the page and marks appear to move away from the edge of disclosure, one step ahead of the reader.

The seven drawn sheets promise lifeless blocks of numbered calculations, which seem to have formerly been attached to a context. They mark the absence of their former presence, in so far as absences are inevitably structured, structured absences that signal something is shaped by discernable parameters that shift from instance to instance.

The emptiness of the drawn sheets becomes legible in an ambiguous way, they have been decoded and recoded as something else and refilled with something else. Imaginary movements and an imaginary aura of public safety are offered in the drawings, an invisible subject, a ground supposedly settled but always ready to fracture and fail. A text of inscriptions, a network of written calculations, forewarning movement and caught on a sheet of paper. Reading these historical texts requires its own explanation, its own application.



sheets becomes a reading of fragments, resisting total re-construction where drawing sets are supplemented by technical calculations, on site improvisations, templates, mock-ups, prototypes; a record of the everyday in practice.

The construed nature of the drawn architectural detail offers an empty narrative as an imagined empty shifting ground. They are not stable but may undergo variations and give new possibilities of seeing. In attempting to review the drawings, to try to find out how they are constituted on one level refuses to make manifest a meaning that lies behind them. The reader must look elsewhere for the things that the drawings might yet suggest, might lead to, might provoke, for what is full in them rather than what is empty or absent.

## Endnotes

<sup>1</sup> Using the work of Italian architect Mario Ridolfi (1904 – 1984) Frascari explores the link between drawing and building, he writes, 'For Ridolfi, it is clear that it is one thing to apprehend directly an image as an image, and another things to shape ideas regarding the nature of images in general cognitive representation of constructive processes.' Marco Frascari, 'The Well-Tempered Drawings of a reflective Architect', in *The Reflective Practitioner*, 2, (2002), Unpaginated.

<sup>2</sup> Timothy Walsh is a senior advisor at the Cross-College Advising Service at the University of Wisconsin at Madison. Timothy Walsh's poems, short stories and essays have appeared in numerous literary magazines and journals. He earned his PhD in English at the University of Wisconsin-Madison, where he taught for a number of years and now works as a senior advisor. Timothy Walsh, *The dark matter of words: absence, unknowing, and emptiness in literature* (SIU Press: Illinois, 1998) 15.

<sup>3</sup> Walsh, *The dark matter of words*, 5.

<sup>4</sup> Marco Frascari, 'Horizons at the Drafting Table: Filarete and Steinberg', in Alberto Perez-Gomez, and Stephen Parcell (eds.), *Chora Volume 5: Intervals in the Philosophy of Architecture* (McGill-Queen's University Press, Montreal, Canada, 2007), 188.

<sup>5</sup> W. H. Gummer & C. R. Ford, Building Queen Street for Dingwall Trust (1934), 87-93 Queen Street, Auckland City.

<sup>6</sup> Marco Frascari, 'Architectural Traces of an Admirable Cipher: Eleven in the Opus of Carlo Scarpa', *Nexus Network Journal*, 1, (1999), 18.

<sup>7</sup> Walsh, *The dark matter of words*, 79.

<sup>8</sup> 'In real acts of architectural drawing that which is marked, inked, or pencilled, brushed or chalked comes into being through any Cartesian rations process of *mathemes* even when Cartesian plans of representation are used to trace the image. Architectural drawing is, in other words, wholly based on a sapience of material manifestations with which tangible lines became carriers of fluid and invisible links that guide intangible thoughts.' Marco Frascari, 'Lines as Architectural Thinking'. *Architectural Theory Review*, 14, 3, (2009), 202.

<sup>9</sup> Marco Frascari, 'Architecture and Wonder: Hybrid Architectural Drawings', <http://grimoirearchitecture.blogspot.com/2008/03/architecture-and-wonderhybrid.html> (12 March, 2008).

<sup>10</sup> Marco Frascari, 'The Compass and the Crafty Art of Architecture', *Modulus*, 22, (1993), 5.

<sup>11</sup> Marco Frascari, and William Braham, 'On the Mantic Paradigm in Architecture: The Projective Evocation of Future Edifices', *Theory and Criticism Session, Poetics in Praxis: 82nd ACSA Annual Meeting, Montreal Quebec* (1994), 263.

<sup>12</sup> Marco Frascari, 'The Teaching of Descriptive Geometry', <http://grimoirearchitecture.blogspot.com/2008/03/teaching-of-descriptive-geometry.html> (01 March 2008, Accessed 11 January, 2011).

<sup>13</sup> Julia Gatley (ed.) *Long live the modern: New Zealand's new architecture, 1904-1984*. (Auckland, N.Z.: Auckland University Press, 2008), 20.