An investigation into the history and metamorphosis of the linguistic discourse of architectural drawing within the visual discipline of Architecture

MArch Thesis - Joe Travers-Jones
The Architectural Drawing

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Hackney Green,
Hackney Bowls club, abattoir and ham sandwich shop.
Author’s Own
First Year design work
Abstract

The architectural drawing is a visual language that is rigorously used in both architectural practice and education, however there is little research and investigation surrounding this subject beyond the construction and presentation of a drawing. This document outlines the history of the architectural drawing and investigates the morphological shifts this language has undergone through time; questioning the language as we know it today.

The term drawing is derived from the Italian word ‘designo’, which was later adopted as the general phrase for design. Drawing coupled the practice of the visual arts with the sphere of ideas to conduct the process of design. It was during the Italian Renaissance of the fourteenth century that drawing transformed architectural practice, initiating a division between manual work and mind work. Thus, unlocking the status of the architect. Leonardo Da Vinci augmented the conception of painting and drawing as an honourable intellectual device that was an alternative to mathematics or writing. It could be distanced from the labours and mess of construction:

‘the painter sits in great comfort before his work…He can be dressed as well as he pleases and his house can be clean and filled with beautiful paintings’
Leonardo Da Vinci

Still today, the drawing serves as a linguistic device to communicate information from architect to patron and more importantly, records a series of morphological changes which the profession has undergone through time. Drawing offers a unique vantage point from which to view the profession, acting as both an impartial territory and tactical apparatus to mediate between the author and the audience. This thesis provides a concise historical account of the development of the architectural drawing, apportioned by several short essays that explore different subjects that have defined the architectural drawing to provide a comprehensive explanation of the purpose and processes that have shaped the architectural drawing.

Algaeiddy Thermal Baths, Seaweed Baths in South Wales. Author's Own Second Year design work.
Introduction: The Emergence of the Architectural Drawing
Prior to the 14th Century

The role of the architect has changed significantly throughout history; a notion that remains constant is that architecture is the visual discipline within construction. This theory has been substantiated not through the concern for aesthetics but because of the architect’s relationship with the drawing.

‘Architecture is produced in three different registers, through three different texts: drawing, writing, and building.’

Drawing is a sophisticated visual language that serves as the primary method of communication within architecture. This specialised language acts similarly to Bathes definition of literary criticism: ‘a discourse upon a discourse; it is a second language, or a metalanguage…which operates on a first language’. The architectural drawing is independent from yet subservient to architecture; it is a reactive metalanguage that is responsive to the cultural and social changes within architecture.

To communicate information effectively it is paramount that this metalanguage is constructed in a legible manner. Therefore, within architectural education the drawing remains ‘the bedrock for all architectural student’s’. During the formative years of study, the ‘core skill’ of drawing is learned through speculative didactic exercise, to establish a repertoire and method free from the constraints and conventions of the professional world. This research affirms the importance of the architectural drawing and examines how this metalanguage can legibly communicate architectural information to an audience of varying visual literacy and training.

Akin to the written language, drawing has emerged over time as the product of significant morphological change. The first seminal change in the emergence of the architectural drawing was the movement from the depiction of narrative to the instructional. The Egyptians were first to communicate the narrative through drawing. A feather quill dipped in ink was used to mark-make over the surface of stone, and later with more technique and precision on papyrus. Drawing was used to illustrate stories of the Pharaoh, his enclosure in a tomb, and to speculate his chronicles in the afterlife(Fig.1.1).

Egyptian drawing underwent substantial change to enable the construction of the pyramids; shifting from the figurative to the propositional. Drawing fragments dating to 1500BC were found depicting plans and instructional information for reference onsite(Fig.1.2). Literacy of the author was imperative; calculations and drawings were compiled as a package of legible information for construction. Although flat and pictorial, drawing was used to solve the complexities of construction as an alternative to mathematics and writing. This formalised linguistic form acted as an impartial territory for the exchange of information; this was the beginnings of the architectural drawing.

Fig. 1.1: Egyptian Book of the Dead, 16th Century.

Fig. 1.2: Construction drawing for the Astronomical Ceiling within the Tomb of the Senemut, 16th Century.

The Emergence of the Architectural Drawing

Fig. 1.1

Fig. 1.2
The representation of depth and three-dimensions within the image was the second seminal stage in the development of the architectural drawing. Three-dimensionality is intrinsic to the comprehension of space; a fundamental semblance that separates architecture from the arts. This shift is most apparent when examining early stained glass within Europe. Augsbury Cathedral's glass-1065AD(Fig.1.3) shows the Prophet Daniel as a flat image lacking depth; evidencing how drawing was used for storytelling and not to construct space. These qualities are also evident in the Bayeux Tapestry(Fig.1.4-1.5) whose embroidery showed no awareness of depth. The flattening of the image continued into the 13th Century.

It was the glass of Cathedral Soissons(1275)(Fig.1.6), that first showed comprehension of depth within an image. By the 14th Century the expression of the three-dimensional form was common; demonstrating great advancement for spatial consideration within an image(Fig.1.7), capturing a more realistic image. I propose that it was these qualities of spatiality and instruction that altered the perception of the drawn language for the visually literate artist and the untrained audience.

This thesis provides a concise historical account of the development of the architectural drawing apportioned by several short essays that explore different subjects that have shaped architectural drawing: Drawing Systems and Convention focuses on the legacy of the drawing; Relationship with the Implement explores the physicality of the drawing process; Tactical Drawing examines how the drawing can be calibrated to suit a specific purpose; The Legibility of Drawing investigates the successes and shortcoming of the architectural drawing; and The Visualisation considers the implications of the rendered image on the profession today. These notional essays extend from the chronology of the main text to provide a comprehensive explanation of the purpose and processes that have shaped the architectural drawing.
Death in Peckham,
Crematorium and
Columbarium garden
landscape.

Author's Own
Third Year design work
The emergence of the architectural drawing

15th Century

The reformation of the drawing was beginning to take hold. Architects were beginning to see drawing as more than just a way to present architectural concepts and ideas; it was becoming a means of expression and storytelling. This shift was marked by the emergence of drawing as a new medium for architects to explore and communicate their ideas. Drawing was not only a tool for construction, but also a means to express the architect's vision and ideas. Architects began to see drawing as a way to 'think on paper', to visualize and articulate their designs before they were built. This period also saw the emergence of the concept of perspective, which allowed architects to create more accurate and realistic depictions of their designs. The use of perspective in drawing allowed architects to create more believable and immersive representations of their designs, which were not only useful for construction but also for presentation and communication.

16th Century

During this period, the focus on drawing was expanding to include more than just the architectural drawings of the previous century. Artists like Leonardo da Vinci and Michelangelo were using drawing as a tool to explore and understand the natural world, and their work had a profound impact on the development of drawing as a medium. The concept of perspective was becoming more widely accepted, and architects were beginning to use it in their drawings to create more realistic and accurate depictions of their designs. The use of perspective allowed architects to create more believable and immersive representations of their designs, which were not only useful for construction but also for presentation and communication.

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18th Century

The 18th Century brought an increased regularity in the way architects worked concomitant with a change in the uses of the drawing. The emergence of the architectural drawing which was used as a means to emphasis the harmonic proportion and aesthetic expression of ideas; architects thought and imagined in the way of drawing. In the 18th Century, architects began to use drawings as a means to explore and experiment with different ideas, and drawings became a way to communicate and share ideas with others. This period saw the emergence of the concept of the 'architectural drawing', which was used to convey ideas and concepts to others. The architectural drawing was becoming more than just a tool for construction; it was becoming a means to express the architect's vision and ideas. Architects began to see drawing as a way to 'think on paper', to visualize and articulate their designs before they were built. This period also saw the emergence of the concept of perspective, which allowed architects to create more accurate and realistic depictions of their designs. The use of perspective in drawing allowed architects to create more believable and immersive representations of their designs, which were not only useful for construction but also for presentation and communication.

19th Century

The 19th Century was a period of great change in the way architects used drawing. The use of drawing was becoming more widespread, not only serving as a technical means for architects to plan and construct buildings, but also serving as a means to communicate ideas and concepts to others. This period saw the emergence of the concept of the 'architectural drawing', which was used to convey ideas and concepts to others. The architectural drawing was becoming more than just a tool for construction; it was becoming a means to express the architect's vision and ideas. Architects began to see drawing as a way to 'think on paper', to visualize and articulate their designs before they were built. This period also saw the emergence of the concept of perspective, which allowed architects to create more accurate and realistic depictions of their designs. The use of perspective in drawing allowed architects to create more believable and immersive representations of their designs, which were not only useful for construction but also for presentation and communication.

20th Century

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Late 20th Century

Late 20th Century

21st Century

The emergence of digital drawing technologies has seen the production process undergo a profound transformation. The advent of CAD has enabled complex design methodologies to be approached in ways that were previously unimaginable. Digital programs and drafting tools became established in the professional world, enabling the development of new methodologies and processes. The development of a building in two-dimensional form has become more accessible, and the design process has become more democratic and participatory. The emergence of digital technologies has enabled architects to explore new ways of working, and the design process has become more participatory. The development of digital technologies has enabled architects to explore new ways of working, and the design process has become more democratic and participatory. The emergence of digital drawing technologies has seen the production process undergo a profound transformation. The advent of CAD has enabled complex design methodologies to be approached in ways that were previously unimaginable. Digital programs and drafting tools became established in the professional world, enabling the development of new methodologies and processes. The development of a building in two-dimensional form has become more accessible, and the design process has become more democratic and participatory. The emergence of digital technologies has enabled architects to explore new ways of working, and the design process has become more democratic and participatory.
The Systems of Drawing
14th-18th Century

The oldest surviving architectural drawing is the St Gall Plan of 820AD (Fig.2.1). This drawing clearly communicates information concerning context, proximity, and scale of a Benedictine monastery. During the middle ages the processes of design and construction were interwoven, drawings to communicate between disciplines were not required. For complex buildings like Cathedrals the master builder would lay grand plans on site using rudimentary instruments, sticks, and cord. Although based on calculations, there was little concern for measurement. Full plans, sections and elevations were never drawn, the master builder was capable of conceiving and constructing structures directly on site. The only drawings were produced as templates for mouldings5. In 1235 Villard d’Honnecourt was the first to consolidate design principles and technique into The Reims Palimpsest or Renaissance sketchbook (Fig.2.2). This document contained the Sansedoni elevation (Fig.00), the first drawing depicting an overall building. The Renaissance sketchbook documents a point of fundamental change in construction where drawing was undertaken before commencing construction6. ‘Drawing took hold as the dominant instrument of design and as the symbol of what makes the architect unique’7. Facsimiles of the Renaissance sketchbook became widespread and drawing became the intellectual language of construction, replacing the mathematical, written and spoken languages. Literacy skills were required to interpret this language, the Renaissance Sketchbook provided this cognitive visual training.

Although respected within architecture, drawing had connotations of illegibility and being nothing more than a personal pursuit for information. The Italian Renaissance challenged this perception by presenting drawing as a method to share accurate information of the three-dimensional world. By the 14th Century the architect had adopted command over the drawing, polarising the construction industry and initiating the division between the manual and mind work, elevating the status of the architect.

Fig. 2.1: St Gall Plan, 820AD.

Fig. 2.2: The Sansedoni Elevation, 13th Century, The Reims Palimpsest.

A Change in Viewpoint

One of the most significant shifts in the evolution of the architectural drawing was the formulation of the perspective. Giotto di Bondone’s paintings were central in this transformation (Fig. 2.3) by introducing ‘depth and foreshortening’ via non-mathematical pictorial representation. However, Leone Battista Alberti was first to codify perspective theory as a system of ‘harmonic boxes…projected onto a flat plane’ (Fig. 2.4). The ‘cavalier projection’, as it became known, was more concerned with pictorial visualisation in lieu of accuracy yet was inherited as a working method through Alberti’s assistants. During the Italian Renaissance (14th Century) the plan was primarily used as a construction guide with the perspective and verbal descriptions providing supplementary information.

The perplexity and the potential of perspective construction fascinated Leonardo DaVinci. He investigated the optic limitations of Alberti’s ‘harmonic boxes’ perspective theory through optometry (Fig. 2.5). He concluded that by not dealing with the curvature of straight lines at the periphery of an image the ‘true’ proportion of an object was distorted. Also perceiving architecture from a fixed viewpoint, the drawing primarily served to exhibit the volumetrics of a space. To emphasise this quality the sectional perspective, which eliminated the projection of walls, became common. Therefore, the perspective became known as a design tool rather than to construct a building.

Throughout the 15th Century, the perspective became a common visual register due to its comprehensibility. Most architects adopted this drawing format as it was perceptible to the untrained. However, during the 16th Century the perspective fell under great scrutiny, polarising the visual discourse. In 1514, Bramante favoured the central perspective to design St Peter’s Cathedral from ‘inside the space’ (Fig. 2.6). However, classicist Raphael Sanzio da Urbino, who succeeded Bramante in 1514 as principle architect of St Peter’s, pioneered the abandonment of the perspective for its static nature and inability to communicate movement through the building. He insisted that measured orthographic drawings should be used. Instructional drawings were separated into the triadic registers of plan, section, and elevation. Further to this, Baldassare Peruzzi who succeeded Raphael in 1520, preferred the combination of orthographic and perspective projection. Peruzzi’s ‘ideal perspective’ laid the plan in perspective with the elevation and section projecting from this ground plane. Although this composite gave an impression of spatiality, it did not record measurement nor represent the true interior. Peruzzi stated this register offered greater readability however the ‘ideal perspective’ resulted in the abstraction of information onsite. Until the 18th Century, orthographic and perspective projection were used in parallel to provide readable construction information and demonstrate the quality of the space. In combination these drawings set working parameters for construction.

8 Powell and Leatherbarrow, 1983, p. 15.
9 Ibid. p. 15.
10 Ibid. p. 15.
11 Ibid. p. 16.
12 Ibid. p. 16.
13 Ibid. p. 16.
14 Ibid. p. 18.
15 Ibid. p. 18.
The Formulation of Convention
16\textsuperscript{th} -18\textsuperscript{th} Century

During the 16\textsuperscript{th} Century there was a greater awareness of different formats and systems of drawing. It was during this period that more formalised systems and conventions began to emerge and the working method of the architect homogenised as a result. A vast number of publications featured woodblock printed drawings to provide a reference for standardised drawing systems. In 1537 Sebastiano Serlio's L'Architettura was the first book to 'provide a parallel or comparative analysis for architectural orders'\textsuperscript{16}. This material became the first formal visual resource for training the architect by promoting literacy through a set of common, legible standards. In 1570 Andrea Palladio published Quattro Libri dell'Architettura which featured numbers and letters to mark architectural features. This allowed for greater comprehension and understanding when reading drawings for both the architecturally trained and the visually untrained.

By the 17\textsuperscript{th} Century, the rise in architectural publications positioned architecture as a subject of special interest beyond the profession. Drawings printed alongside text were often the most recognised record of an architect's work. The drawing became the calling card of the architect, not the building. The ability to comprehend architectural information filtered down to the public who showed interest in the visual discourse\textsuperscript{17}, audience shifted from the mono-centred to the multi-centred.

During the early 17\textsuperscript{th} Century the role of the professional architect arose in England. Orthographic 'platts' (plans) and 'uprights' (elevations) were common with the occasional crude perspective\textsuperscript{18}. The architect received limited formal training in drawing, commonly using only simple linework. Painters such as Issac Oliver were greatly influential to architects of the time. Robert Smythson and Inigo Jones (Fig.2.7) attempted to use watercolour to provide greater clarity through drawing. Delicate washes, ink, and hatched fills introduced colour and shadow, architects soon developed a linguistic style, a feature used to differentiate one architect from the other\textsuperscript{19}.

During the late 17\textsuperscript{th} Century the Rococo art movement greatly influenced the decoration and coding of the drawing. The fascination with toys and the ability to reposition and reconfigure space was translated into drawings to excite. William Kent exemplified this by projecting elevations from the plan, deconstructing a room into a set of modular scaled components (Fig.2.8). Continuing into the 18\textsuperscript{th} Century the architectural drawing became more perceptible to the public by using decorative techniques and conventions that were representative of real life. Hatching was used to communicate texture, and coloured wash to indicate colour and shadow. Through the establishment of formal systems and conventions the architectural drawing became a legible communication device, effective communication was dependent on the training and literacy of the audience.
Giovanni Battista Piranesi (1720–1780) was the first architect to radically challenge convention, using drawing as a narrative instrument to investigate architecture. Piranesi manipulated established conventions to create fantastical, ambiguous architectures that constructed discomfort. Piranesi revolutionised drawing through the manipulation of the vanishing point and positioning of the viewer in perspective. Drawing became a speculative language to construct new realities of exhilaration and horror not confined by the constraints of reality (Fig. 2.9-10). Etienne-Louis Boullee also used the construct of drawing to test new and unchartered principles of design. His Cenotaphe for Newton project (1784) celebrated ‘Newton’s infinite genius’ and explored architecture as a schism between art and science. Through drawing, Boullee manifests the conceptual idea of manipulating form to capture star constellations within a hollow dome by day and projecting them out at night (Fig. 2.11). The introduction of the conceptual to architectural drawing was not confined to the speculative. The drawings of Sir John Soane (1780–1815) explored abstract concepts which motivated a scheme through unambiguous painted perspective views. In pursuit of the picturesque and sublime, Soane would test his proposals at idealised moments in time, depicting ruination and the objectification of a building (Fig. 2.12-13). Drawing became an exercise of fetish to test the ‘immutable laws of proportion’ by forecasting the effects of the domineering forces of nature. Soane saw drawing as a ‘literate and highly esteemed skill’ which brought close contact to the client, advancing the role of the architect.

By the late 18th Century the standard of drawing was so high that office clerks were emboldened into assisting with drawings. This didactic exercise acted as a form of training and increased the literacy of those immediately surrounding the profession. Eventually, the difference between work of the architect and the clerk was indistinguishable. JM Gandy rose to fame in this position within Soane’s office completing drawings for projects like the Bank of England (Fig. 2.12), exquisitely depicting light, materiality, ruination and the immortalisation of the building as an object (Fig. 2.13). The standard of drawing in England rose exponentially, the right draftsman could turn the humblest building into something dramatic. Drawings became revered by the professional and the public, the visual literacy required to engage with architectural drawings had decreased. Overtime, drawing developed as a spontaneous process to explore conception, intention, and instruction. The development of systems and convention partially regulated drawing to promote legibility and prevent the abstraction of information. Nonetheless, these regulations did not confine the architect within a singular prescribed methodology; Piranesi, Boullee and Soane evidence this by communicating complex narratives through radical yet comprehensible drawings.

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21 Ibid, p.36.
22 Ibid, p.57.
Fig. 2.11
Fig. 2.12
Fig. 2.13
Wish You Were Here,  
Experiential Holiday Stuga.  

Author's Own  
Fourth Year design work
The Processes of Drawing 
19th - early 20th Century

During the 19th Century, architects began to devote great time and effort into beautifully crafted architectural drawings that were intelligible to a multi-centred audience. The Gothic style underwent a revival in the UK, attempting to defy the neo-classical aesthetic with a deliberate unsophisticated approach to drawing less concerned with formal convention. A greater value was placed on drawing as a design tool prior to construction to advertise a scheme to the client. The focus remained on the built as ‘inspiration counted for little without execution’\(^\text{23}\). The sketch became a common tool used to deconstruct a design at differing scales, not dissimilar to the way drawing was used before the 14th Century. Drawings were commonly reproduced for publication and exhibition, and the value of the image transcended art into architecture. Architecture became a venerable subject with a multi-centred audience. Drawing emerged as a social exchange of information between the architecturally trained and the visually untrained that was no longer purely concerned with mathematical and geometric accuracy. The drawing was slowly becoming the universal currency of the architectural discourse and had developed into a language unto itself.

Greater value was placed on the drawing to communicate iterative design, architects could interrogate singular elements and track design process, demystifying the process of design within the public sphere. Ernest George was a Gothic revivalist who used sketching to study details in isolation. He built a glossary of his travels through Europe, drawing for private didactic exercise with little concern for formal systems of scale and measurement(Fig.3.1). Returning to work in the UK, George re-used these sketches within his own designs; often undertaking *buildings in perspective before working out the plan*\(^\text{24}\), something of an anathema to the classical method. German neo-classical and neo-gothic architect Carl Freidrich Schinkel also worked through a premediated iterative approach. Often working with tracings and lithography Schinkel could re-work and re-examine a drawing. This technique suited the reductivist outline style used by Schinkel, clearly recording decoration and detail from the point of view of a user. The tonally flat perspectival drawings of the inhabited Altes Museum(Fig.3.2) carefully positioned people to communicate scale, interaction, and the ‘softer’ experiences that were comprehensible to a visually untrained public audience.

By mid 19th Century competitions were regularly held for all new public buildings\(^\text{25}\); entries were shared with the public and had great potential to propel an architects’ reputation. For an architect to communicate effectively with the contractor, public or judge legibility was paramount. The perspective was the preferred visual register to communicate a user’s experience. During this time, the role of the architect had become more business orientated and a good perspectivist was essential for all competition entries, as the architect had ‘*neither the time or skill to make them*’\(^\text{26}\). This led to the employment of ‘ghost renderers’\(^\text{27}\) who were sought after to sell a project through a single image, comparable to Gandy’s role within Soane’s office. Stylish and exaggerated perspectives gave an unfair advantage\(^\text{28}\); consensus was that over-embellishment of a design could be misinterpreted, distracting from the substance of orthographic drawings. Competitions placed strict constraints on the number and position of

\(^{25}\) Ibid,p.53.
\(^{26}\) Ibid,p.52.
\(^{27}\) Ibid,1983,p.52.
\(^{28}\) Ibid,p.52.
perspectives. In 1835 the Palace of Westminster competition, which received over ninety-seven entries, limited each submission to three perspectives which were to be drawn from specific viewpoints and rendered in monotone in attempt to level the playing field.
The regulation and control of information was not exclusively used to enforce fair practice. Concealment and accentuation through drawing often served as tactical motive. The Skogskyrkogarden project designed by Erik Gunnar Asplund and Sigurd Lewerentz tells a story of persuasion and disagreement. The architects winning entry for the woodland cemetery beat fifty-two others in the 1914 competition by proposing a harmonious balance between architecture and nature. The project drawings record a confluence and conflict of interests when working in collaboration after winning the project. Both were architecturally trained and highly literate in the common language of drawing. However, over the course of the project Lewerentz used colloquial tactics to deliberately withhold information through illegibility and misdirection.

Lewerentz, designer of the classicist Resurrection Chapel and overall landscaping, exerted control over the project through the landscape (Fig.3.3-6). By adjusting the height and positioning of hills and pathways he obscured Asplund’s Woodland Chapels and directed users to his chapel. Overtime Asplund noticed subtle changes at the intersections between their proposals and forensically compared the two schemes. In response, Asplund made revisions of his own, substantially changing his design numerous times to keep up with the onslaught of changes.

The drawings grew more explicit and insistent throughout the project in a bid to track changes and reach an agreement through drawing. This dispute through drawing resulted in huge delays and the pencil-drawn linework plan was agreed upon as a neutral register to debate explicit changes in a legible way (Fig.3.9-13). Asplund’s drawings record many schemes designed in response to the onslaught of changes although many of Lewerentz’s drawings (Fig.3.7-8) were thrown away and damaged in frustration. Understanding the intellectual and cultural value of the drawings Lewerentz’s assistant retrieved and preserved them. Today these drawings are priceless and archived in Asplund’s Stockholm Library.

Lewerentz was dismissed from the project in 1930, also withdrawing from the Stockholm 1930 Expo which the pair had also undertaken together. Lewerentz became disillusioned and turned away from architecture for many years. The only contribution of Lewerentz retained in the 1930 Expo was his stacking of logos positioned on Asplund’s advertising mast. Asplund’s drawings used vivid colours and joyous inhabitation, evidencing visible change in his attitude and approach after parting ways with Lewerentz (Fig.3.14-19).


Relationship with the Implement

The preceding research evidences how one cannot preconceive what will be discovered through drawing, many interferences disrupt the outcome. Since the development of the ruling pen in 1890 (Fig. 3.20-21), the process of drawing was further distanced from the physical act of laying grand plans onsite. The relationship with an implement introduced a new consciousness to the process of drawing. These pens were specifically designed for drafting and consisted of a pair of calipers, one leg flat and one bowed, applying pressure at the grip of the pen created an opening between the calipers and released a steady stream of ink. The pen must be kept at a right-angle to the paper to produce the best clarity of line as these instruments were incredibly sensitive and required absolute control; piercing the meniscus of the ink could result in the haemorrhage of ink onto days of work. The architects’ positioning was dictated by their dexterity and which direction they would move through the drawing. The proximity to the drawing was dependant on the working area; the draftsman could maintain a posture for only seconds, hovering above the chair to stretch to the top of the drawing board, or stepping from the chair altogether to extend down to the bottom of the page. Drawing was a process of revealing, protective masking would prevent direct contact to avoid moisture marks and smudging as the architect tipped from the balance of the nib.

In the 1950’s fountain pen was developed which held a compressed ink shaft that could draw lines consistent in diameter. Drawing remained a physical task although less control was required; the consciousness of the implement lessened although inking a drawing was the final stage in a long process of iterative study and required patience and precision, often inducing anxiety. This self-awareness often manifests as moment of irritation that halts the cognitive process of drawing, resulting in failure to express a thought on paper. Contemporary architect, professor and writer Sir Peter Cook suggests that to appease ‘self-doubt… the architect spends time developing the skill and defining a repertoire’. This development of a signature technique provides comfort through a known visual register and familiar implement. Often it is the crudest sketch drawn with a familiar implement which creates momentum and begins the didactic process of drawing. This ‘thrust’ is critical in the crystallisation of an idea and subsequent drawing, rapidly advancing the project although unfortunately often fails to communicate to others.

Today, architects turn to formal methods of presentation earlier in the project to exert control over the legibility and persuasive qualities of a drawing. The relationship with the implement has changed substantially since sat at the drawing board using lithographic pens through the digitalisation of drawing. The ‘machine becomes an extension of the mind as the pencil once did’, acting as an electronic brain which overrides the human physicality of drawing. Today, the architect sits perched at a computer, paper is switched for a digital monitor and the pencil a handheld mouse. The physicality of the exercise is no longer a human representation of a drawings’ scale, instead the physicality of drawing is a digital action whereby a building is physically maneuvered on screen. The draftsman of today transcends scale by building a three-dimensional world that can vary in scale.

34 Ibid, p.9.
The Architectural Drawing

The Processes of Drawing

Fig. 3.20

Fig. 3.21

Fig. 3.22
from the masterplan to the minute. With a single scroll the architect can zoom from
the inconsequential detail back to the urban. This capability accelerates the maturity of
drawing, potentially introducing great risk. This is not dissimilar to the overspill of ink,
sacrificing the architect’s most precious resource, time.

Vienna based Coop Himme(l)blau make the transition between the conceptual
representation of intention and the intelligible drawing seamlessly through a close
relationship with the implement. To begin a project founding partner Wolf Prix will
sketch; energetically swinging and punching his thoughts onto paper using techniques
more akin to art than construction(Fig.3.23-24)33. This is evident in the Rooftop office
project where the building perches in contraction ready to take flight; a concept so
surefooted in the sketch that this linguistic quality becomes objectified within the
building(Fig.3.25). For Prix the sketch and the building are one; his buildings objectify
the dexterity and dynamism of the initial pencil sketch achieved through many, more
technical drawings undertaken on the computer. Prix exploits his relationship with the
implement, advancing the building through known processes of drawing, retaining
absolute control of the project through the maturity and explicitly of computer
drawings.

35 Cook,2008,p.17.
Fig. 3.23

Fig. 3.24

Fig. 3.25
Return to Sender,
Postcard Shop on the Skogskyrkogarden Site.

Author’s Own
Fourth Year design work
The Value of Drawing
20th Century

In the 16th Century Michelangelo became the “first artistic celebrity”, introducing the notion of connoisseurship to the profession. Michelangelo’s drawings were the first to be collected as works of art that communicated ‘the mood of his mind at the moment of creation’ (Fig.4.1). The value was in the hand that touched the paper, immortalising the point of conception and motivation within an image. Even with greater publicity through competitions and publication during the 19th Century, the cross-over from architectural to artistic remained uncommon until the 20th Century when higher financial and intellectual value was placed on the architectural drawing. This dramatically changed the culture surrounding the drawn metalanguage. Cook suggests that the ‘most definitive architecture comes forth at a moment when a set of ideas exists as a form of attack’. This was true of the 20th Century Italian Futurists who used drawing to depict narratives with an underlying spatiality that exaggerated and monumentalised, demonstrating the power and dominance of Fascism. Public interest in the image allowed drawing to gain equal power to writing and speaking as a disruptive political device. Futurist Antonio Sant’Elia greatly influenced later generations with his imagined cities that emphasised scale through exaggerated perspective (Fig.4.2). Sant’Elia used drawing to play a cognitive role in sharing knowledge to assert and influence public opinion. His drawings were explicit and extreme, depicting future cities which extended discussion the realm of architecture. Drawing became a radical device that extended conceptual theory beyond the architectural audience.

Throughout the 20th Century if architecture was to go beyond the drawing board there was a need to ‘compromise, by the insistent demands of what is real and what is practical’. The value placed on conceptual drawing within the profession diminished, draftsmanship for construction was the most valued skill. The architectural drawing was a consensual agreement paid for by the client, indulgence in the process of drawing was a distraction. In the 30’s-40’s the profession became divided and gradually the more individualistic designers were whittled away. Some remained defiant against the prescribed way of working, using drawing as a tool of amplification. Drawings were perceived as the image of the architect; at ‘The Skyline of New York’ themed 1931 Beaux-Arts Ball architects modelled their own drawn elevations, impersonating their most famous building to protest the depreciated value of architecture.

Some architects escaped the trappings of business and focused more on the narrative potential of drawing. Bruno Taut became more known for his unique representation of intention (Fig.4.3-4) than for his buildings of precision and technical resolution. This marked the end of the cultural conformity within drawing, LeCorbusier equally stands at the end of this period whilst at the forefront of something new. Rejecting ornament in favour of the functionalist, modern, machine-aesthetic LeCorbusier brought forward a preference for the outline style, overtly rejecting the ‘envogue’ flat, washed Art Nouveau international movement. LeCorbusier’s used drawing as a simple tool for communication. His pencil sketches were soft and tactile in comparison to other drawings of the time, showing great concern for the narrative aspects of a project.

38 Cook, 2008, p.10.
41 Ibid, p.7.
LeCorbusier demonstrated how drawing could vary in tone and information in response to the temperament of an audience; those who were not architecturally trained were reassured with a scheme that was personal, explicit in inhabitation, soft furnishings and open books(Fig.4.5). His construction drawings did not carry the distraction of persuasion, they were concerned with mathematical and geometric accuracy, designed to instruct(Fig.4.6). This exaggerated the division between the poetic client drawings and the instructional construction drawings; both registers were legible yet targeted a specific audience. Arne Jacobsen, architect of Aarhus Cityhall, also followed this trend(Fig.4.7-4.9). Drawing formed a consensual agreement based on invested interest; the client saw experience and the builder instruction. This tactical structuring of information became common.

By mid-century architects looked internationally for influence and exchange. This was most apparent in Vienna, a city which had profound influence on the architect through intense cross-pollination between all aspects of the arts. This small city became a hotbed for talent and was greatly influential to foreign architects, hyper-aware that this cultural exchange did not occur elsewhere. Key players within this architectural interchange carried enhanced status, thus the intellectual and financial value of the visual metalanguage increased. Raimund Abraham did not take on the full professional role of an architect yet his project House without Rooms(Fig.4.11) investigated the architectural atmospherics of space, acting as a provocation through drawing. Similarly, Walter Pichler was able to greatly push the visual discourse through his expression of intellect within his ferociously gentle drawings that carefully manipulate media and surface(Fig.4.12). Pichler has since constructed several small buildings paid for from the sale of drawings of those same buildings. Pichler’s ‘Austrian…drawn form of attack’ was also evident in Gunther Domenig’s work. Alike the 19th Century Gothic architects, Domenig communicated the dynamics of space and constructed through sketching. His sketches acted as primitive visualisations for buildings like the Z-Bank, radically communicating the perceived tension and excitement of a space(Fig.4.13-17).

One of the best examples of this change in the value and status of drawing can be seen in the late 1960’s with the Archigram movement in London. Born out of frustration for the profession and questioning the unyielding political dogma of the time, the non-political movement tempted change within the public sphere with a high-tech future captured through a new anthology of drawing. Their success was in the ability to legibly communicate with the public ‘using and exploiting the power of the drawn image years before anyone else’. Maximum impact was delivered through legible graphic images inspired by comics and graphic culture. Archigram’s drawings challenged the current understanding of architecture, attempting to reshuffle contemporary urban constructs. The biggest criticism of Archigram was that the drawings were pseudo-scientific and not technically substantiated, although their legibility provoked ‘debate that is usually
more constructive than bricks and mortar. The Monte Carlo project (Fig. 4.18-19), was
developed technically, pre-empting the world we live in today with the 'departure into an
organic analogy and sensory allusion' via mechanised service systems. Even with a
determination to build the drawings did not change in accessibility. The work of the
collective set out 'to elevate architecture and the contribution of architects to society',
amplifying the message more than if they had operated alone. Of the Archigram
collective Michael Webb was considered the most talented regarding spatial design and
graphic dexterity. He developed sophisticated drawing techniques, which were more
refined than the typical Archigram methodology. This is most evident in Webb's Temple
Island drawings which are forensic and seductive in equal measure. In this project Webb
examines observation, perception and geometry of the seen and unseen as one moves
along the Henley River (Fig. 4.20). Webb's drawings demonstrate how the construction of
drawing can add intrinsic value to a drawing. His visual literacy and persuasive talents
gave him the reputation as the leading graphic communicator within Archigram.

To explore unprecedented latent opportunities Lebbeus Woods (Fig. 4.21) similarly
uses hand crafted techniques to assemble conceptual thought and legitimise an idea
through the speculative formulation of space. Woods trained as an engineer although
was more valued for his hand-crafted pencil renderings. Woods demonstrated power
in the investigation process combining the visual processes of thinking, drawing and
analysis. In 1978 Rem Koolhaas's Delirious New York was originally published. Madelon
Vriesendorp illustrated the text producing some of the most iconic and well-recognised
drawings, which have possibly become more influential than the text (Fig. 4.22). Her
literal interpretation of the writing brought wit and humour to the visual discourse
by substantiating academic theory and promoting cumulative understanding. Today,
Perry Kulper similarly augments ideas through a 'visual field of study that is discovered in
the act of drawing'. Kulper constructs formal depictions of concept and space which
lack an identifiable architecture. His drawings place value on a space of construction,
rather than the construction of a building, broadening the scope of study through
the visual discourse. Ultimately this interplay between architectural academia and
practice reveals new lines of enquiry that extend beyond the traditional ideology of
architecture (Fig. 4.23). This way of working generates drawings that are intriguing and
dynamic although the focus and agenda are not immediately evident. Due to illegibility
these drawings are often classified as art, undermining the importance and contribution
which the visual discourse.

Over a period of forty years the drawing underwent a transition from a simple tool
of communication to august artwork and venerable socio-political stimulus. By late
20th Century the hand-crafted drawing from architects like Zaha Hadid became an art
commodity internationally (Fig. 4.24). The financial value was in the hand of the architect,
a signature that could not be replicated. The architect would relinquish complete
ownership of the drawing; all preliminary sketches and development were handed over

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46 Cook et al., 1985, p. 6.
47 ibid, p. 1
49 Ibid, p. 36.
with the drawing to ensure it could not be reproduced. In 1982 the first digital drafting software was released. AutoCAD became widespread within the profession, superseding the hand-drawn. The digitalisation of drawing immediately erased the financial market for architectural drawings as the digital could be printed infinitely.
The Legibility of Drawing
Drawing a Pedagogy

By reaching the end of my education and moving into practice, I am currently at a unique intersection within my career. Throughout education, I have developed core values that are inherent in my working methodology that will remain visible for the duration of my career as shown by my predecessors. Education, creates a microcosm within architecture wherein 'architects speak more about the drawings than about architecture itself'[^51]. The Ecole des Beaux Arts, Paris commenced formal architectural education in the early 19th Century. Primarily teaching through drawing, the school valued atmospheric graphic convention over individuality[^52] and set precedent for education (Fig. 4.25). The education system today is a direct outcome from the traditions of the Ecole des Beaux Arts. A century later, London's Architectural Association (AA), led by Alvin Boyarsky, positioning education as a global concern, revolutionising drawing. The school became a hub for innovation and exchange. Boyarsky initiated a unit system and culture that had a magnifying effect, re-shaping the method and style of drawing within education[^53]. Cooper Union in New York underwent a similar transformative process at this time; it was ‘difficult to separate the physical and mental existence when describing the state of the school’[^54]. The work of preceding students and professors was palpable, a huge focus was placed on the legibility of drawing, promoting a philosophy of intellectual thought through unconventional didactic exercise[^55]. By late 20th Century the Bartlett had replicated this culture, emerging as a school of international outlook that used drawing as a critical tool for innovation. A strong studio culture and lasting influence of tutors, such as Laura Allen and Mark Smout’s (Fig. 4.26) unit 11 (Fig. 4.27-28), exaggerated the central ideals inherent in the ethos of the school, propelling the reputation of the school. The biggest criticism of the Bartlett is that drawing is a tool of over-indulgence and fetish. I believe this denomination is a result of the audience. At the Bartlett drawing is a pliant pedagogical process to provoke intellectual and social discussion within a mono-centred, highly literate audience. This licences students to deviate from conventional grammatical logic to communicate using experimental registers of drawing. The output is seductive and can transform the audience ‘into a form of séance’ although carries a dense sediment of record and intellect that ultimately can be completely illegible to those who are not presupposed.

[^51]: Robbins, 1997, p. 28.
[^52]: Ibid, p. 43.
The Legibility of Drawing: Audience Perception Study
Full transcript located within Appendix

To further question the successes and failures of the architectural drawing one must examine the audience. Upon examining the history of the architectural drawing, it is evident that the audience’s visual literacy and training is the biggest influence when gaining knowledge from a drawing. Drawing within education plays to mono-centric audience, however in practice the audience is multi-centred, varying in level of literacy and visual training. To investigate the influence of the architect and the impact of literacy on the legibility of drawing I have undertaken a series of comprehension studies with three individuals of varying visual training and literacy. The participants included: an architect who had received formal architectural training; a textile designer who had high levels of visual training; and a geneticist who had no visual training. After completing the study, I discovered the geneticist was actively interested in architecture and design, consequently having a much higher literacy level than expected. To prevent bias and ensure that I had a wider field of study I introduced a fourth participant; a social worker who had no visual training and no interest in architecture. Each participant represented an audience who would engage with the visual discourse in a different way, as client, public consultant, architect or user. The opinions of these participants are subjective and provide only a glimpse into each respective group, however as a comparative study the four participants form a singular cross-section of society.

The study asked participants to complete a comprehension exercise for thirteen independent architectural drawings. The participants observed each drawing individually, then was asked to describe their perceptions of the drawings legibility by answering seven questions concerning the systems used to impart knowledge: focus, purpose, logic, composition, interest, originality; the participant was lastly asked if additional information was required to aid their understanding. The selected drawings (Fig. 4.29-41), a combination of my own and select architects work, varied in terms of visual format, system and convention. The drawings ranged in maturity from early conceptual sketches to construction drawings to provide a comprehensive examination of the successes and shortcomings in communicating information throughout the lifetime of a project.

Results

The drawing ranked most legible by all participants except for the geneticist, who ranked it fifth, was a verified view rendered for Steven Holl’s Maggie’s Centre (Fig. 4.41). This drawing was deemed to be clearly legible by all, explicitly showing an image that was true to reality. Nevertheless, the participants felt that the drawing was ambiguous, lacked hierarchy and was ‘disorientating’ without a clear focus. The architecturally untrained felt that an image of the whole building was lacking and would provide more clarity.

The second most legible drawing was an arrangement of sketched perspectives from my design project (Fig. 4.34) which was ranked highly by all participants excluding the architect. The social worker, without visual training or interest in architecture, suggested that the three-dimensionality helped to communicate ‘how it would actually look’, later stating that this would be the preferred register over the visualisation if the difference in cost was high. Other participants cited that colour was an effective coding tool. The only participant who did not rank this drawing highly was the architect, although demonstrating good understanding of the drawing additional information was requested in plan better communicate the location of the perspectives.

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56 Appendix, p. 94.
57 Ibid, p. 84.
58 Ibid, p. 84.
The third most legible drawing was a detailed construction drawing of Hutteldorf’s façade by Otto Wagner (Fig. 4.36). This drawing was ranked highly by everyone except for the geneticist despite demonstrating very good understanding of the drawing\(^{59}\) and describing it as ‘very explicit’\(^{60}\). All participants could comprehend the external elevation, although struggled to understand the relationship between the surrounding plan and sections. The architect, though the use of known conventions, could understand ‘projections from the façade…size, depth, and how they relate to internals’\(^{61}\), crediting the ‘highly logical and rationalised’\(^{62}\) presentation, ‘making it easy to read’\(^{63}\).

The lowest ranking drawings were unanimously Coop Himmelblau’s Open House conceptual sketch (Fig. 4.39) and Carlo Scarpa’s Castelvecchio Setting Out drawing (Fig. 4.37). Both exhibit ambiguity through the sketched quality, although were produced for very different purposes. All participants agreed that they would not typically see drawings depicting ‘thinking’\(^{64}\). All participants noted the appearance of a logic created by the grid and colours in Scarpa’s drawing although felt this too ambiguous to interpret.

The non-architecturally trained all demonstrated good literacy skills in reading explicit notational systems to codify and explain. Colour and pattern were especially good mechanisms for delivering information, although was more effective when vivid, more contrasting colours were used. Text also promoted legibility, especially when large and used sparingly as this was clearly legible and fast to interpret (Fig. 00). The visually untrained had difficulty deciphering information that lacked the context of the whole, also failing to translate information that was not orthogonally folded from a reference point (Fig. 00). The geneticist and the textiles designer were more capable in interpreting abstract information, however the social worker and architect favoured explicitly.

**Findings**

The non-architectural audience experience limited exposure to architectural drawings, typically the visual formats of visualisations, plans and the occasional section or elevation are beheld. This restricts the accessibility of the visual discourse; schooling the public into perceiving the architectural drawing as proposition, the publics comprehension of the conceptual and narrative is very limited.

Albeit the public do have a greater understanding of the sketch and the detail; both viewed apprehensively for public discussion. To communicate effectively, understanding the audience is paramount and evades the misinterpretation of information and disinterest within an audience. Students master this skill for a mono-centric audience although fail to extend dialogue beyond the architect, a deficiency that is taken into practice. Education should enable student to move beyond the institution to develop a register of drawing that creates a comprehensible dialogue.

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59 Ibid, p. 87.
60 Ibid, p. 87.
61 Ibid, p. 93.
63 Ibid, p. 93.
64 Ibid, p. 94.
The Architectural Drawing

04

The Value of Drawing

Fig. 4.35: Peruzzi, 1502. St Peter’s Ideal Perspective.

Fig. 4.36: Otto Wagner, 1901. Hutteldorf Facade Details.

Fig. 4.37: Carlo Scarpa, 1920. Castelveccio Setting Out Drawing.

Fig. 4.38: Archigram, 1964. Monte Carlo Conceptual Axo.

Fig. 4.39: Wolf Prix, Coop Himmelblau, 1983. Open House Plan.

Fig. 4.40: Lebbeus Wood, 1995. Inhabiting Quake City.

Fig. 4.41: Steven Holl, 2015. Maggie’s Centre, Rendered Verified View.
The Digitalisation of Drawing
21st Century

Since the invention of AutoCAD in 1982 the computer has become the principal implement for drawing within architecture. The digitalisation of drawing has created a whole new raft of opportunities for how the architectural drawing can be executed. High-speed processing and the digital sharing of information no longer confines the architect to the drawing board, instantly sharing files across continents. The once intransient solitary task of drawing is now remote and collaborative. The computer can work simultaneously through thousands of processes, presenting innumerable predetermined solutions for each problem. Parametric design software such as Grasshopper calculates the complex manipulation of parameters through algorithmic equations to conceive a solution that best aligns with the design intent and desired response (Fig.5.01-2). This method of drawing enables the architect to review many inconceivable design solutions that are directly responsive to structural, urban and environmental requirements.

The role of the architect has become more like a driver, navigating through this binary trajectory to screen a series of potential outcomes and select the most desired result. The architectural drawing has evolved through this depiction of data to a sophisticated linguistic library of mathematics and geometric accuracy that symbolises high financial investment.

Today, the architect has an inherent preoccupation for the numeric information and has moved away from the sketch and other visual registers of conjecture, predominantly working through a true scale three-dimensional virtual model. The architect is no longer required to incrementally work through a layering of two-dimensional drawings, alternatively orthographic information is extracted as planar cuts through the digital model. These drawings follow the same universal linguistic systems and conventions established in the 16th Century although they are deployed from a predefined digital palette (Fig.5.03). In extreme cases this vocabulary is not formally taught but instead acquired through osmosis whilst operating digital software; bypassing basic design principles that are learned through hand-drawing. This knowledge gap can inhibit the process of design and eliminate self-critique through an unawareness of the limitations of digital drawing. In contrast, those trained in the ‘traditional’ approach to design exhibit an obstinate reluctance to exclusively work on the computer. Drawings are printed in frustration and examined in a review process that takes place away from the inhibitions of the screen. This hand-drawn marking-up process is imperative in controlling the binary nature of the computer. The mark-up is ‘creative and reflective’, forming a consensual agreement within the mono-centred design team hereby enabling the architect to regain control over the linguistic form of drawing (Fig.5.04).

The main pressure on the architectural drawing today is efficiency, the clients unyielding pursuit for financial viability. The financially driven market now reduces the architect’s drawings to basic metrics; a digital screening process undertaken using specialist software which enables the quantity surveyor and client to examine efficiency and cost.

66 Ibib, p. 152.
The Architectural Drawing

The Digitalisation of Drawing

Fig. 5.01

Fig. 5.02

Fig. 5.03

Fig. 5.04

Fig. 5.05

Fig. 5.06
These advanced analytical programs exert intense stress on the architect to pare down a design in pursuit of a numerical ideal. The traditional approach to architectural drawing is obliterated during this process and is often dispelled by the financing authority in favour of Building Information Modelling (BIM). This software was introduced to architects in 2004 and has since become more widespread within the profession forming a second digital revolution. Initially developed by engineers in the late 20th Century for the coordination and management of information relating to infrastructure and services, the software provides three-dimensional drawing capabilities for the architect and concurrently records numerical descriptions of every building component, this information can be extracted as schedules, programs and drawings (Fig.5.05). BIM software caters to a blinkered multi-centred audience of trained professionals, however output information is typically non-visual. Information can be extracted in formats chosen from predefined list that adhere to professional conventions and strict systems of economic testing.

Many clients demand BIM capabilities as a prerequisite to win a job, encouraging the use of BIM earlier and earlier in the design process. This software was not intended as a design or public communication tool therefore is not sophisticated enough to capture the nuances and subtleties of architectural information that cannot be condensed into numerical data. This process devalues the architectural drawing through the standardisation of space and has allowed the drawing to slip from the hands of the architect; questioning the position and role of the architect within the design team and disregarding the human considerations explored through architectural drawing. These changes enforce quicker progression through the program, reducing the amount of time and money spent drawing for conjunction and information purposes. This is true of the detail drawing, which is now commonly novated to a delivery architect. Traditionally the detail was the ultimate means of regulating information; symbolising the control of the architect. Carlo Scarpa preferred to work through the detail drawing early in a project, demonstrating absolute commitment to the integrity of a project (Fig.5.06-7). This process is not dissimilar from Otto Wagner’s methodology. In a ritual more akin to paganism than architecture Wagner developed the basic, unadorned design of a building through a premeditated system of drawing and thinking, later Wagner would applicate intricate detail that emerging from the bare bones of the building. Finally, the whole building was constructed through drawing, communicating presentation and measurement to a multi-centred audience (Fig.5.08-9). BIM-centred practice could present opportunities for the architect to re-introduce the detail as a way of regulating information earlier in a project, resulting in greater coordination between disciplines and eliminating the abstraction of information. BIM enables the architect to reinvest in the detail drawing to set design parameters which can be positioned and examined within the shared model.

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The Visualisation

The acceleration through the drawing process can also sidestep the architect’s ‘superfluous’\textsuperscript{72} conceptual and presentation drawings, favouring the outsourced visualisation which absorbs little time from the architect. The visualisation captures a snapshot from the model and accurately wraps the three-dimensional form with pre-defined materials and light. Favoured by clients and planners for their explicitly these refined drawings produce photo-realistic images that provide universal legibility, although can rival the cost spent of the design of a building. Nevertheless, if undertaken too early in a project the visualisation can bypass pivotal design decisions initiated through architectural drawing. Peter StJohn states that the visualisation is ‘inevitable in the profession, there is a demand for the finished image earlier and earlier in the project’\textsuperscript{73}.

To combat this, early in the project Caruso StJohn satisfy the requirement for rendered images but circumvent the confines of an erroneous image by choosing to render in a style that is more illustrative(Fig.5.10). These more presentational drawings can be much more telling of the design intent and does not force the architects hand in making critical decisions early in a project. Cook proposes that by undertaking these more nuanced drawings the author can ‘ratchet forward the discovery of the architectural character’\textsuperscript{74}. Thus, enabling the architect to regain control of the visual language and take ownership of intimate yet critical design decisions; ‘The desire to manipulate the metal is developed through the drawing’\textsuperscript{75}(Fig.5.11). Equally Cook sees the benefit in drawing to reveal the rendered realities of a proposal, although suggests approaching with caution; ‘After all, the computer can get it to look very real-only then can we step back from this near-reality any number of steps we care to?’\textsuperscript{76}. This notion of proximity is fundamental for the construction and observation of the rendered drawing. Whilst the photo-realistic visualisation has its merits, the harsh-realities of this premature depiction of the building can have heavy restrictions on a project. By calibrating the visualisation in-house and introducing appropriate notational systems the architect can regain control of the architectural drawing. Architects likeMorphosis (Fig.5.12-13) and Zaha Hadid (Fig.5.14) mastered this sophisticated language tool to communicate in a language that is comprehensible yet does not commit to an uncompromising image of the building. This analytical augmentation of an idea is neither abstract nor exact, commanding drawing as a responsive linguistic form in the same way they did before the digital revolution.

\textsuperscript{72}Cook,2008,p.152.
\textsuperscript{74}Cook,2008,p.167.
\textsuperscript{75}Ibid,p.167.
\textsuperscript{76}Ibid,p.108.
Tour-in Heritage Masterplan, Tourino's first post-industrial cultural landscape.

Author's Own
Fifth Year design work
Drawing a Conclusion

To begin this essay, I proposed that architecture was the visual discipline within construction as drawing is the architect’s primary method of communication. However, upon reflection I believe that this is because the metalanguage of architectural drawing constructs a visual dialogue between the architect and the audience. It is this dialogue through drawing which makes the discipline of architecture a visual one. Cook suggests that this System is comparable to ‘the musical score and the music itself’; two interdependent systems that together construct music. Alike music, drawing is a reactive system that is responsive to itself and external circumstances simultaneously through the processes of thinking, testing, observing, reassessment, and discussion(Fig.6.1-2). The exchange of information from architect to audience promotes a sustained dialogue through visual comprehension and interest; developing a reasoned argument of persuasion through drawing. Although this has not always been the case, the architectural drawing, and the resulting dialogue, has undergone many morphological changes through history that have been pivotal in shaping the role and position of the architect and their relationship with an audience.

The language of architectural drawing initially evolved through the depiction of the narrative to a linguistic form used to communicate information and instruction with mathematical and geometric accuracy. Overtime drawing has gone from a simple tool of communication to august artwork and back again. One of the best examples of the change in the status of the architectural drawing can be seen between the 20th and 21st Century where the hand-crafted drawings of the 60’s, 70’s and 80’s were supplanted by the digital drawings of the 90’s and onwards. The intrinsic value of the discourse transformed, high financial value placed on the hand-crafted drawing became high corporate investment embedded within the digital. The resulting effect on the role of the architect was a shift from a position of venerable public status to a servant of the client, each defined by a centralised audience and respective dialogue.

The constant characteristic within this process has been the role of drawing as a conceptual and linguistic form of communication. The former a tool of instruction and accuracy and the latter a cognitive device of conjecture. The dialogue created through this communication promotes the complex cognitive exchange of information from the architect to an audience. Alike the drawn language, the audience has also undergone substantial change from the mono-centred to a multi-centred audience of varying levels of literacy. Therefore, the dialogue between the architect and the audience must ‘assume it’s degree of rhetoric according to it’s presumed audience’. For the architect to communicate effectively several factors must be considered: existing visual training, level of literacy, precise visual register, appropriate timing, and most importantly the legibility of the architectural drawing itself. This ability to regulate the degree of rhetoric within a drawing can be inhibited with the use of software such as BIM and Grasshopper, pose the risk of removing drawing from the hands of the architect. By condensing architectural information into basic metrics, drawing becomes a dialogue that requires

Fig.6.1 - 6.2 : Peter Cook, 1988. Way Out West-Berlin.

77 Cook, 2008, p. 179.
78 Saint, 1983, p. 15.
translation by the presupposed. Therefore, the prerequisite knowledge required to engage with drawing would return the audience back to a mono-centric one.

To retain a dialogue with the audience it is essential that the architect reasserts control over the linguistic form. Frank Lloyd Wright evidenced this strongly during the early 20th Century, a time when the profession was under strangling constraints and the status of the architect was low\textsuperscript{80}. Wright refused to succumb to the pressures of big business and used drawing as a persuasive tool to ‘hypnotise’\textsuperscript{81}, reasserting the status of the architect. Since the turn of the century there has been an emerging culture for the abstract image not only as a tool of conjecture, but also one of escape as the constraints on practice tighten and the role of the architect diminishes. This enables the architect to position drawing as an apparatus that communicates the circumstantial benefits of architecture that are designed beyond numeric data.

The investigation into The Legibility of Drawing, summarised in Section 4, outlines the sketch as being a legible visual register to communicate information. This affirms that a high value should be placed on the sketch as a tool of conjecture that could escape the constraints of practice. Over this period the status of the sketch has been questioned within the profession, often used as a primitive form of visualisation. As outlined in Section 4 the architecturally untrained responded well to this register for its accurate depicting in demonstrating how the building ‘would actually look’\textsuperscript{82}. This evidences that there is scope within the profession to shift from the prescribed working methodology to a visual language that can be more responsive to the target audience. As the sketch is one of only a few forms of the hand-crafted drawing remaining within practice its value could be considered perversely high.

Alvaro Siza calibrates the visual register of the sketch to the literary requirements of an audience, as ‘everyone understands the perspective—and not only architects.’\textsuperscript{83} Siza employs ‘a posteriori’\textsuperscript{84}, a superimposition of the sketch to the accurate proportions of the more technical computer drawings(Fig.6.3-4). He undertakes the posteriori at critical times to produce legible information that is true to both experience and measurement; demonstrating how the sketch can be used to exert control over the visual discourse as a persuasive tool of conjecture and escapism. Another architect who successfully uses the visual metalanguage of drawing for persuasion is Steven Holl. Holl breaks the traditional conventions of the sketch by candidly introducing colour to ‘demonstrate a huge level of precision and formal correspondence for the building’\textsuperscript{85}, undermining the modern relationship between drawing and building. His sketches have a ‘direct link’ and cooperation with the more conventional drawings and visualisations through a common vocabulary of colour, patina and convention(Fig.6.5-9). This legible visual language transcends through the entirety of the project to increase the literacy and understanding of both the conceptual and linguistic forms of communication.

\textsuperscript{80} Saint,1983,p.15.
\textsuperscript{81} Ibid,p.16.
\textsuperscript{82} Appendix – social worker
\textsuperscript{84} Robbins,1997,p.157.
The metalanguage of architectural drawing has undergone many complex morphological shifts throughout its history in response to a variety of social and cultural circumstances. Drawing remains a fundamental core skill for the architect as it constructs an impartial cerebral dialogue between architect and audience that is beyond numerical data. The importance of the architectural drawing lies in its reactive ability to communicate with a multi-centred audience of varying levels of literacy and training. This powerful apparatus should be exploited for its potential to escape the constraints of practice and reshape how information is delivered to a multi-centred audience. To achieve this drawing should be used as a pedagogical device to educate: the architect in how to legibly construct this reactive linguistic form; and the audience in how to better comprehend architectural information. The ability to communicate information effectively using the dialogue constructed through the language of drawing will enable the architect to re-affirm their value within the construction industry and to argue the strengths of a proposal at times of intense pressure and constraint.
List of Drawings

Figure 1.1: https://www.emaze.com/@AOWQCQIZ (Accessed 15/03/18)
Figure 1.2: https://en.m.wikipedia.org/wiki/Decan#/media/File:Semenut.jpg (Accessed 15/03/18)
Figure 1.3: http://passion-mediavale.com/vitraux_roman.html (Accessed 15/03/18)
Figure 1.4: http://www.bayeuxmuseum.com/en/la_tapisserie_de_bayeux_en.html (Accessed 15/03/14)
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Figure 1.6: http://enacademic.com/dic.nsf/enwiki/5373802 (Accessed 15/03/18)
Figure 1.7: https://sistersheila.files.wordpress.com/2013/12/visitation-41.jpg (Accessed 15/03/18)

Figure 2.3: http://n1999k.blogspot.co.uk/2015/02/nikos-deja-vu-my-unpublished-photos.html (Accessed 15/03/18)
Figure 2.4: https://mu3d.wordpress.com/home/3d/3d-history-a-review-of-the-literature/ (Accessed 15/03/18)
Figure 2.5: http://www.discoveringda Vinci.com/adoration-of-the-magi/ (Accessed 15/03/18)
Figure 2.7: http://collections.rmg.co.uk/collections/objects/143239.html (Accessed 15/03/18)
Figure 2.8: Powell, H. and Leatherbarrow, D. (1982). Masterpieces of architectural drawing. London: Orbis. p.34.
Figure 2.9: http://art historyblogger.blogspot.co.uk/2011/08/imaginary-prisons-of-piranesi.html (Accessed 15/03/18)

Figure 3.1: http://www.victorianweb.org/art/architecture/petogeorge/studiopart5.html (Accessed 15/03/18)
Figure 3.3: http://www.googleearth.com (Accessed 15/03/18)
Figure 3.4: Authors photo
Figure 3.5: Authors photo
Figure 3.6: http://www.googleearth.com (Accessed 15/03/18)
Figure 3.7: https://www.moma.org/artists/24452 (Accessed 15/03/18)
Figure 3.8: ibid.
Figure 3.9: https://www.moma.org/collection/works/146?artist_id=27&locale=en&page=1&sov_referrer=artist (Accessed 15/03/18)
Figure 3.10: https://i.pinimg.com/originals/e0/53/2e/e0532ee952045213657d40b27aafc8e6.jpg (Accessed 15/03/18)
Figure 3.11: http://www.estudoprevio.net/en/papers/46/dossier-teses-joao-ortigao-ramos--building-a-temple-sigurd-lewernitz-three-case-studies (Accessed 15/03/18)
Figure 3.12: https://www.moma.org/artists/24452 (Accessed 15/03/18)
Figure 3.13: ibid.
Figure 3.15: Ibid.
Figure 3.16: https://theswedishrugblog.wordpress.com/2016/09/13/the-stockholm-exhibition-of-1930/. (Accessed 15/03/18)
Figure 3.17: https://theswedishrugblog.wordpress.com/2016/09/13/the-stockholm-exhibition-of-1930/. (Accessed 15/03/18)
Figure 3.18: https://www.metmuseum.org/art/collection/search/336901 (Accessed 15/03/18)
Figure 3.19: https://www.moma.org/collection/works/134 (Accessed 15/03/18)
Figure 3.20: https://www.etsy.com/uk/listing/265474961/edwardian-draftsmans-set-in-the-original?ga_order=most_relevant&ga_search_type=all&ga_view_type=gallery&ga_search_query=technical%20drawing&ref=sr_gallery-1-33 (Accessed 15/03/18)
Figure 3.21: ibid.
Figure 3.22: ibid.

Figure 4.1: https://en.wikipedia.org/wiki/Sistine_Chapel#/media/File:Rome_Sistine_Chapel_01.jpg (Accessed 20/03/18)
Figure 4.3: http://socks-studio.com/2015/05/27/alpine-architecture-an-utopian-city-by-bruno-taut-1917/ (Accessed 20/03/18)
Figure 4.4: http://skyscraper.org/EXHIBITIONS/PAPER_SPIRES/chitrib01.php (Accessed 20/03/18)
Figure 4.5: http://elarquitectohamuerto.blogspot.co.uk/2012/11/croquis-dibujos-arquitectos.html (Accessed 20/03/18)
Figure 4.6: https://www.espazium.ch/gli-intonaci-di-le-corbusier (Accessed 20/03/18)
Figure 4.7: https://i.pinimg.com/1200x/2a/dc/78/2adc789444fb190ae3fa1d86fde3e9e0.jpg (Accessed 20/03/18)
Figure 4.8: ibid.
Figure 4.9: https://www.moma.org/collection/works/146?artist_id=27&locale=en&page=1&sov_referer=artist (Accessed 15/03/18)
Figure 4.10: https://i.pinimg.com/originals/e0/53/2e/e0532ee952045213657d40b27aaf8e6.jpg (Accessed 15/03/18)
Figure 4.12: ibid, p.155.
Figure 4.13: https://www.domusweb.it/en/from-the-archive/2012/06/23/remembering-gunther-domenig.html (Accessed 20/03/18)
Figure 4.14: Ibid.
Figure 4.15: Ibid.
Figure 4.16: Ibid.
Figure 4.17: Ibid.
Figure 4.19: Ibid, p.137.
Figure 4.21: https://archpaper.com/2016/07/lebbeus-woods-zagreb-free-zone/22_zagrebfreezoneat25-estate-of-lebbeus-woods-courtesy-of-room-east/ (Accessed 22/03/18)
Figure 4.22: http://socks-studio.com/2015/02/02/madelon-vriesendorps-manhattan-project/ (Accessed 22/03/18)
Figure 4.27: http://www.presidentsmedals.com/Entry-24811 (Accessed 23/03/18)
Figure 4.28: https://www.chris-delahunt.com/ (Accessed 23/03/18)
Figure 4.29: Authors Own
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Figure 4.31: Authors Own
Figure 4.32: Authors Own
Figure 4.33: Authors Own
Figure 4.34: Authors Own
Figure 4.36: http://www.interiordesign.net/articles/13356-josef-hoffmann-museum-shows-rare-drawings-of-otto-wagner-monument/(Accessed 15/03/18)
Figure 4.37: http://visicert.tumblr.com/image/16352269886 (Accessed 15/03/18)
Figure 4.39: https://www.archilibs.com/drawing/open-house-coop-himmelblau/ (Accessed 15/03/18)
Figure 4.40: https://www.wired.com/2013/02/lebbeus-woods-conceptual-architect/ (Accessed 12/03/18)
Figure 4.41: https://www.dezeen.com/2017/12/19/maggies-centre-london-steven-holl-st-barts-hospital-coloured-glass-facade/ (Accessed 12/03/18)

Figure 5.1: http://savinaleggieriitaad16.altervista.org/grasshopper.html (Accessed 15/03/18)
Figure 5.2: https://www.dezeen.com/2014/07/01/designs-of-the-year-2014-zaha-hadid-saffet-kaya-bekiroglu-interview-heydar-aliyev/ (Accessed 15/03/18)
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Figure 5.7: http://www.archiviocarloscarpa.it/web/disegni_scheda.php?lingua=i&scheda=264 (Accessed 15/03/18)
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Figure 5.12: Ibid, p.76.
Figure 5.13: Ibid, p.76.
Figure 5.14: Ibid, p.62.

Figure 6.3: https://www.world-architects.com/md/architecture-news/headlines/alvaro-sizas-archive (Accessed 15/03/18)
Figure 6.5: http://www.stevenholl.com/projects/maggies-centre-barts (Accessed 15/03/18)
Figure 6.6: Ibid.
Figure 6.7: Ibid.
Figure 6.8: Ibid.
Figure 6.9: Ibid.
Figure 6.10: Authors Own
Bibliography

Books


Journals

Drawing Architecture AD Neil Spiller – numerous articles:


Drawing: The motive force of Architecture Peter Cook:

Websites


Lectures

Architecture on Stage: Adam Caruso and Peter St John
In-text: (Caruso and St John, 2018)

Steven Holl film drawing:
https://www.youtube.com/watch?v=qnp3g-6VoaU
Steven Holl
Wednesday, April 17, 2013 – Campbell Sports Center
Drawing as Thought

Field Research / Visits

Sir John Soane Museum and Drawing Archive – Lincoln’s Inn Fields, London
Museo di Castelvecchio – Verona, Italy
Drawing Archive at the Carlo Scarpa Study Centre – Verona, Italy
Appendix
The Legibility of Drawing: Audience Perception Study

Thank you for agreeing to take part in the study. The interviewer has set up this study to investigate the legibility of the architectural drawing.

Legibility: The quality of being clear enough to read

Brief: The study asks for participants to complete a comprehension exercise using a number of different architectural drawings. These drawings are to be treated as independent of one another, the participant need not relate the drawings to one another in a comparative study unless they so choose.

Drawings:
1. Authors own, Rendered long section, Year 3 - 2014
2. Authors own, Plan, Section, Elevation composite sheet, Year 2 - 2013
3. Authors own, Perspective section with diagrams, Year 4 - 2017
4. Authors own, Masterplan, Year 5 - 2018
5. Authors own, Rendered Postcard moments, Year 4 - 2017
6. Authors own, Sketched moment sheet, Year 5 - 2018
7. Peruzzi, St Peter’s Ideal perspective: plan, section, elevation, 1502
8. Otto Wagner, Hutteldorf Façade Details, 1901
9. Carlo Scarpa, Castelvecchio Setting out drawing, 1920
10. Archigram, Monte Carlo conceptual axo drawing, 1964
11. Wolf Prix, Coop Himme(l)blau, Open House, 1983
13. Steven Holl, Maggies Centre verified rendered view, 2015

The study is separated into two parts:
Firstly: The participant will have 30 seconds to observe thirteen architectural drawings individually before a set of 7 questions are asked of the participant. The participant will have as much time required to answer these questions before moving into the next drawing. The questions can be answered with either yes, somewhat or no; however, the participant can expand on this should they choose.
Secondly: After the set questions the participant will then be asked to then rank the drawings in terms of legibility. The participant is asked to order the drawings from the most legible to the least legible, taking into account their thoughts during the first part of the study

A - Questions:
1. Does the drawing have a clear focus?
2. Do you think the drawing has a defined purpose?
3. Is there a logic to the way information is communicated?
4. Does the composition influence how information is communicated?
5. Do you find the drawing appealing/ of interest?
6. Does the drawing communicate architectural thought in an original way?
7. Do you require additional information to be able to understand this drawing?

B - Please order the drawings from the most legible to the least
The participants verbal answers will be recorded and later typed up as a manuscript to document this session and printed as part of my MArch Thesis.

Questions:
Does the drawing have a clear focus?
Yes, the door.
Do you think the drawing has a defined purpose?
Yes, to show the house from the outside as if you were walking past.
Is there a logic to the way information is communicated?
Yes, the details of the house have a thick outline and are white bringing these to the foreground. The door is red - drawing your attention.
Does the composition influence how information is communicated?
Yes, the viewer is positioned within the drawing to look directly at the front of the house.
Do you find the drawing appealing/ of interest?
Somewhat
Does the drawing communicate architectural thought in an original way?
No
Do you require additional information to be able to understand this drawing?
No
Results: TEST 01
No visual training, no interest in architecture – Social Worker
Authors own, Rendered long section, Year 3 - 2014
Subject: Yes, the size and shape of the building, showing levels.
Purpose: Yes, show the outline of the building.
Logic: Yes, Colour coding, sky and other green colours could have more variation – more opposing colours would translate better. The colour is useful but not clear, needs more contrast.
Composition: Yes, it is clear because there is only one thing you are looking at.
Interest: Somewhat, the shape of the building is interesting, and the visible structure is interesting but the colours are too flat.
Originality: Somewhat, the use of colour is something I haven't seen before.
Additional Information: No
Authors own, Plan, Section, Elevation composite sheet, Year 2 - 2013
Subject: Yes, showing the building layout.
Purpose: Yes, the layout of the building.
Logic: Yes, in the annotation.
Composition: Somewhat, it is not clear what the connection is between the different rotations of the pieces, can't easily compare.
Interest: Somewhat, the colours are quite dull.
Originality: Yes, never seen the positioning of drawings like it.
Additional Information: Yes, how the drawings relate to the overall building.
Authors own, Perspective section with diagrams, Year 4 - 2017
Subject: No
Purpose: No, it's not clear.
Logic: Yes, it's colour coded.
Composition: No, because I don't understand how one piece corresponds to another.
Interest: No, the lines and shapes are too close so I can't understand what's going on.
Originality: Yes, the use of colour and that it is so busy.
Additional Information: Yes, a lot.
Authors own, Masterplan, Year 5 - 2018
Subject: No, too many things on it.
Purpose: No, there is some things as outlines and others in detail – I'm not sure what it is.
Logic: No
Composition: No
Interest: Yes, there's lots of things to look at, but I don't know what they mean.
Originality: No
Additional Information: Yes, Clear distinction of inside and outside, less busy.
Authors own, Sketched moment sheet, Year 5 - 2018
Subject: Yes, specific features and details of that building.
Purpose: Yes, showing specific details of certain parts of the building, showing what I wanted from the last.
Logic: Yes, it's 3-dimensional so I understand what goes where and it's easy to see. The contrast in colour is good.
Composition: Yes, it's clear – there's not too much going on, each individual drawing is clear in its own right.
Interest: Yes, I understand it.
Originality: Yes, understand it.
Additional Information: No
Authors own, Rendered Postcard moments, Year 4 - 2017
Subject: No
Purpose: No
Logic: No
Composition: No
Interest: No
Originality: Yes, it's unusual with the colours.
Additional Information: Yes, the colours are uniform so it's not clear what is in the front and back.
It is not clear why something is in front, the ones behind are not clear – all merge together. Can't distinguish one room from another, one building from one another.
Peruzzi, St Peter's Ideal perspective: plan, section, elevation, 1502
Subject: No
Purpose: Somewhat, to show the layout.
Logic: No
Composition: No
Interest: No
Originality: No
Additional Information: Yes, Is it one building, is it indoor or outdoor.
Otto Wagner, Hutteldorf Façade Details, 1901
Subject: Yes, front view.
Purpose: Yes, to show what the front of the building will look like.
Logic: Yes, simple and realistic.
Composition: Somewhat, but I am not sure what is going on around the edges.
Interest: No, to dull.
Originality: No
Additional Information: Yes, Is it one building, is it indoor or outdoor.
Lebbeus Woods, San Francisco Project: Inhabiting the quake: Quake city, 1995
Subject: Yes, the strange looking building.
Purpose: Somewhat, to show the building in it's surroundings.
Logic: No, I don't understand it if there is.
Composition: No, it distracts from the main drawing; the scribbles and lines.
Interest: Yes, it's unusual, there's a lot to look at.
Originality: Yes
Additional Information: No, not the bit in the middle, but on the edges, yes.
Archigram, Monte Carlo conceptual axo drawing, 1964
Subject: Somewhat, the middle of the drawing.
Purpose: No, not clear.
Logic: No, not that I am aware of.
Composition: No
Interest: Yes, it's unusual and I like the contrast in colours.
Originality: Yes
Additional Information: Yes, it's not clear what it is suppose to be.
Wolf Prix, Coop Himme(l)blau, Open House, 1983
Subject: No
Purpose: No
Logic: No
Composition: No
Interest: No, I don't know what it is, it's just scribbles – it could be a spider; it could be a building.
Originality: No
Additional Information: Yes, what's the subject matter?
Carlo Scarpa, Castelveccio Setting out drawing, 1920
Subject: No
Purpose: No.
Logic: Yes, it looks logical, it is all in rows and there seems to be a coding with the colours and numbers. If I understood the key then yes it would. The colours are not distinct or contrasted enough to make them out.
Composition: Yes, the fact it is on a grid.
Interest: No.
Originality: No
Additional Information: Yes, I need to know what the code/ key is.
Steven Holl, Maggies Centre verified rendered view, 2015
Subject: Yes, but there is two – you don't know if you're looking at that building or the other one.
Purpose: Somewhat, I assume it is to show the setting of the building, which I am assuming should be the brightly lit modern one. If that is the focus then I don't think it focuses enough on that building.
Logic: Yes, it’s realistic. All of the building, which I assume is the focus, is shown whereas the other one is obscured. If I was building something then this is how I would like to see it. If I was paying for a building this is the most clear and realistic way of seeing it and this is the drawing I would choose but if it was a big difference in cost then I would be happy with the earlier drawn one too.
Composition: No, there is too much of the first building.
Interest: Somewhat, it is realistic and clear.
Originality: No, it’s like a photo.
Additional Information: No, it would be more clear if the subject matter was more the focal point.

Order of Legibility:
1. Steven Holl, Maggies Centre verified rendered view, 2015
2. Authors own, Sketched moment sheet, Year 5 - 2018
3. Otto Wagner, Hutteldorf Façade Details, 1901
5. Authors own, Rendered long section, Year 3 - 2014
6. Authors own, Plan, Section, Elevation composite sheet, Year 2 - 2013
7. Authors own, Masterplan, Year 5 - 2018
8. Authors own, Perspective section with diagrams, Year 4 - 2017
9. Peruzzi, St Peter’s Ideal perspective: plan, section, elevation, 1502
10. Archigram, Monte Carlo conceptual axo drawing, 1964
11. Authors own, Rendered Postcard moments, Year 4 - 2017
12. Carlo Scarpa, Castelveccio Setting out drawing, 1920

TEST 02

No visual training, an interest in architecture and design – Geneticist

Authors own, Rendered long section, Year 3 - 2014
Subject: Yes, the structure of the building shown through the cut through of it, and also the different rooms or spaces.
Purpose: Yes, showing the different functions within each space.
Logic: Somewhat, there appears to be in the way that it is cut-through, but I am not quite sure how.
Composition: Yes, the way it is cut-through you can see underground and the way that different structures protrude underground which gives a better sense of the buildings function.
Interest: Yes, I guess this is the same as my previous point with the levels and the way that it is cut-through.
Originality: No, I don't think so because I have seen different drawings which have been cut like this before.
Additional Information: Yes, a key or a legend to indicate what the rooms are if that is what is supposed to be communicated.

Authors own, Plan, Section, Elevation composite sheet, Year 2 - 2013
Subject: Yes, it’s a building plan, structure of different floors and levels from the outside and inside.
Purpose: Yes, architectural planning for different space and layout.
Logic: Yes, very standard, and homogeneous throughout, the inside, this is one section that’s the roof and there is good, clear labelling throughout.
Composition: Yes, the way it's structured. It's a bit confusing how this is laid sideways to the top bits.
Interest: No, it's a lot of information and it's not that appealing to look at.
Originality: No, I don't think so.
Additional Information: No, I don't really think so.

Authors own, Perspective section with diagrams, Year 4 - 2017
Subject: Somewhat, its different materials used in different rooms
Purpose: Yes, to structure out how you put materials out, for planning but not visually more for what I put where. If it was for visual purposes I think you would have the glass there and the fabric more visible, this is coloured by material.
Logic: Yes, it's very well thought out, I think the colours relate to a specific type of material.
Composition: Yes, the composition does give the information, but I think as someone who's not an architect I see the colours more in more of an abstract way until I read the fine print I don't get the information from the context.
Interest: Yes, it's very appealing and visually attractive and I think the colours it gives it a clear purpose and thought process of how you can convey this to people. The more I look at it, the more I understand the schematic, although I'm not sure what that is there.
Originality: Yes, I think it does, I don't think I have seen anything like it before.
Additional Information: Somewhat, I think I'd need more time with it to look and ask questions.

Authors own, Masterplan, Year 5 - 2018
Subject: Yes, It’s a bit building, an estate, or a factor of some kind. It appears to be the planning of
the buildings and where they are by the roads – like on an industrial estate or something.
Purpose: Yes, to visually see where everything is in relation to everything else. The colours do
something different which I'm not sure, but they stand out.
Logic: Yes, you are drawn to the centre where you can make out different buildings and stairs.
Composition: Yes (see above)
Interest: Yes, but there is a lot of information, so I don't know what I should be looking at in
comparison to the other images.
Originality: No
Additional Information: Yes, I would need a lot more information to understand it.
Authors own, Sketched moment sheet, Year 5 - 2018
Subject: Yes, the focus is the different spaces of the places I was shown in the last drawing.
Purpose: Yes, to convey, I don't think its colours per say, but I think it’s how spaces work and their
purpose. Cultural parts of the building.
Logic: Yes, different areas are colour coded depending on what their function is.
Composition: Yes, it does, obviously there is different colour coding, there is text to explain, its
visually attractive, so the way it is constructed gives me that information.
Interest: Yes, it's interesting in terms of the colours and text, which I can read what that means, but
also its visually attractive and a bit abstract but I can still understand what is being said.
Originality: Yes, I think so, yea.
Additional Information: No, I don't think so.
Authors own, Rendered Postcard moments, Year 4 - 2017
Subject: No, I don't think so. I don't know what that is.
Purpose: No, I don't know what it is if there is one.
Logic: Yes, I think there is a logic – it is all very similar in what is being shown, it is very colourful,
almost transparent.
Composition: Yes, the way the pictures are on the page, but I don't know what I am supposed to
get from looking at it.
Interest: Yes, it looks great, I like the colours. But I think this is something I would look at and think I
don't know what's going on.
Originality: Yes, I think so, yea.
Additional Information: Yes, definitely.
Peruzzi, St Peter’s Ideal perspective: plan, section, elevation, 1502
Subject: Yes, I think this is the inside of a church. It’s showing the columns and the spaces inside.
Purpose: Yes, to show space inside this building, like where the entrance is.
Logic: Yes, I think this has been draw to specifically show this nave or whatever it is. The columns
are distinct even when the drawing fades out.
Composition: Yes, the way it has been drawn draws me to look at the back wall and I can interpret
what I think it is.
Interest: Yes, I think it's interesting in how its drawn abstractly, where there is no roof. It’s not what
you would normally see from an architectural point of view in terms of the layout in a bird’s eye
view. The way its conveying the information is interesting.
Originality: Yes, I'm not sure historically if this was the way, now I think yes.
Additional Information: No, I would like more information, but I think I know.
Otto Wagner, Hutteldorf Façade Details, 1901
Subject: Yes, It's like the façade of the building.
Purpose: Yes, to show the how the new fits in with the original building.
Logic: Yes, you can see the façade and there is an extra part on the side.
Composition: Yes, I think it is very explicit, you can see the windows and the drawing is split where
the new bit enters, which is the bit they are adding on. The drawing is split into three, no four
parts, to add extra information. It’s showing how the expansion fits in and how the levels work. The
gap gives me the assumption that it’s not actually there but it gives clarity on what is added on.
Interest: No, It doesn't really appeal to me – that's what it is.
Originality: No
Additional Information: Yes, for me.
Lebbeus Woods, San Francisco Project: Inhabiting the quake: Quake city, 1995
Subject: Somewhat, I think the focus is the sculpture in the middle but its very abstract what
changes the focus. It's more like art with the scribbles. It doesn't tell me much about the sculpture.
Purpose: No, I don't know.
Logic: Yes, you can see the façade and there is an extra part on the side.
Composition: No, it's not giving me anything about the image.
Interest: Yes, I think its really intriguing – what's it made of. The scribbles are interesting.
Originality: Yes
Additional Information: No, I could take my own interpretation of what that is.
Archigram, Monte Carlo conceptual axo drawing, 1964
Subject: Yes, a quirky French restaurant and nightclub.
Purpose: Yes, I don't think it is ment to be architectural, but it is the theme of the room; red and opulent or green and outside.
Logic: Yes, with the colours and the drawings and how its styled with the chameleon and the back drop, it's more of a style based drawing rather than a technical one.
Composition: Yes, definitely with the different colour schemes used, the little people, the structure. The way that it looks doesn't make me think that someone is going to sit down and construct this. It's creative.
Interest: Yes, the colours are very interesting. I like that there is text on it, it gives you a sense of what the purpose and space of the building would be, it would make me want to go to it.
Originality: Yes
Additional Information: No
Wolf Prix, Coop Himmel(l)blau, Open House, 1983
Subject: No, very ambiguous.
Purpose: Yes, it looks like scribbles that an architect would do at the very beginning to work it out in their head to plan something and conceptualise their ideas.
Logic: No
Composition: No, it is well composed and like the person who did it knew what they were doing but I don't get any information from that.
Interest: Yes, I would be interested to know what it's supposed to be. I will use my imagination because I know that it is architecture, so I will kind of guess myself and I like that. I think it makes me appreciate the drawing as its own thing and if there was text on the wall then I could read that too after thinking about it.
Originality: Yes, I think it's interesting but if you are going to design something then you probably sketch it out a lot but I wouldn't normally see that, I'm not an architect. I would like to see more of that stuff.
Additional Information: No, I would need more information to understand what it is, but not for the drawing.
Carlo Scarpa, Castelveccio Setting out drawing, 1920
Subject: No, is it a calendar?
Purpose: Yes, it probably does, but I can't find out what it is.
Logic: Yes, there is colours and boxes and a key with colours and ticks but I still don't understand it.
Composition: No, not to me.
Interest: No, I don't think so.
Originality: Yes, I think so
Additional Information: Yes
Steven Holl, Maggies Centre verified rendered view, 2015
Subject: Yes, what a new building would look like in between existing ones.
Purpose: Yes, I think it's to show how something fits together, so if someone was paying to build this what would it look like? You would show this to people and say I'm going to building this building.
Logic: Yes, it seems like a photograph of what it will be.
Composition: No
Interest: No, very standard.
Originality: No
Additional Information: No

Order of Legibility:
1. Authors own, Sketched moment sheet, Year 5 - 2018
2. Authors own, Perspective section with diagrams, Year 4 - 2017
3. Authors own, Plan, Section, Elevation composite sheet, Year 2 - 2013
4. Archigram, Monte Carlo conceptual axo drawing, 1964
5. Steven Holl, Maggies Centre verified rendered view, 2015
6. Otto Wagner, Hutteldorf Façade Details, 1901
7. Peruzzi, St Peter's Ideal perspective: plan, section, elevation, 1502
8. Authors own, Masterplan, Year 5 - 2018
9. Authors own, Rendered long section, Year 3 - 2014
10. Authors own, Rendered Postcard moments, Year 4 - 2017
12. Carlo Scarpa, Castelvecchio Setting out drawing, 1920
13. Wolf Prix, Coop Himmel(l)blau, Open House, 1983

TEST 03
Visual training – Textiles Designer
Authors own, Rendered long section, Year 3 - 2014
Subject: Yes, it’s about depth, foundations and how far down you would have to dig.
Purpose: Yes, it’s about foundations and structure.
Logic: Somewhat, it seems to be colour coded, it looks like there must be a logic in the colour coding.
Composition: Yes, you can tell that it’s a big building.
Interest: Yes, the colouring helps with that and there are obviously some very high bits in it.
Originality: No, I think I have seen one of these before.
Additional Information: Yes, I would need more information to see what it is like on the outside. I think it’s sociable and I want to see that.

Authors own, Plan, Section, Elevation composite sheet, Year 2 - 2013
Subject: Yes, it communicates that it’s a big sociable space with big halls or something.
Purpose: Yes, I’s trying to split the building to see the different floors and the uses inside and in the outside bit.
Logic: Yes, but I am not sure what it is. It looks like this part of the building is for this and that is for something else, breaking it into sections.
Composition: Yes, because of the way it’s been drawn, sectioning it off.
Interest: Yes, the colouring.
Originality: Somewhat, it’s different in the way it is coloured.
Additional Information: Yes

Authors own, Perspective section with diagrams, Year 4 - 2017
Subject: Somewhat, showing how something is constructed.
Purpose: Yes, to show construction in certain areas.
Logic: Yes, but I don’t know what it is.
Composition: Yes, the colouring shows the different areas of construction.
Interest: Yes, I haven’t seen one done like that before, its different – I like it.
Originality: Yes
Additional Information: Yes

Authors own, Masterplan, Year 5 - 2018
Subject: Yes, It is showing where a building is.
Purpose: Yes, to show the building on site and how the other buildings lie around it.
Logic: Yes, but I don’t know what it is.
Composition: Yes, it’s very intricate, it is more difficult to read than others but it’s very clear how it sits on site.
Interest: Yes, I want to know more.
Originality: Yes, I would say so.
Additional Information: Yes, definitely.

Authors own, Sketched moment sheet, Year 5 - 2018
Subject: Yes, I think it’s showing where it lies on the site.
Purpose: Yes, to show the spaces on site.
Logic: Yes, it’s picked little bits out of the plan to show how it might work.
Composition: Yes, In the way that there are the little diagrams to zoom in, it is much clearer.
Interest: Yes, it looks like it is hand drawn and freer.
Originality: Yes
Additional Information: No, the drawing is quite clear in what it is trying to communicate.

Authors own, Rendered Postcard moments, Year 4 - 2017
Subject: Yes, I think it’s about space.
Purpose: Yes, to show how different spaces might work.
Logic: Yes, I think there is but I don’t know what it is.
Composition: Yes, in the way they are ordered and the colour.
Interest: Yes, it looks like a fine art painting.
Originality: Yes
Additional Information: Yes
Peruzzi, St Peter's Ideal perspective: plan, section, elevation, 1502
Subject: Somewhat, To show the ruins.
Purpose: Yes, to show what might have been there before.
Logic: Somewhat, it could show how things looked before and where they disappeared.
Composition: Somewhat, it is equal both sides with the entrance is darker, so you look at it.
Interest: Yes, I think it’s interesting.
Originality: No, because it is more like a historical document.
Additional Information: Yes
Otto Wagner, Hutteldorf Façade Details, 1901
Subject: Yes, It’s what was there.
Purpose: Yes, to show how the same use has changed over time.
Logic: Yes, it is showing the façade clearly.
Composition: Yes, It is nice to look at.
Interest: Yes
Originality: No
Additional Information: No
Lebbeus Woods, San Francisco Project: Inhabiting the quake: Quake city, 1995
Subject: Yes, that shape.
Purpose: Yes, to show the materials of the building.
Logic: Yes, break up the materials of the building, but I don't really understand it.
Composition: Yes, it draws your eye.
Interest: Yes, It’s mad, quite artistic.
Originality: No, I think its clear in its own right.
Additional Information: No, I think its clear in its own right.
Archigram, Monte Carlo conceptual axo drawing, 1964
Subject: No, it could be about eating.
Purpose: Yes, it shows different sections.
Logic: Yes, It’s showing different sections, but to me it’s not that clear, it’s more graphic – not easy
to tell
Composition: Yes, I like it, it doesn’t make it clearer to me, particularly.
Interest: Yes, I haven't seen anything like that before.
Originality: Yes
Additional Information: Yes
Wolf Prix, Coop Himmelblau, Open House, 1983
Subject: No, a quick sketch of how it might work
Purpose: No
Logic: No, to me it’s not clear – maybe they are working it out themselves.
Composition: No, its confused.
Interest: Yes, I like it, there’s a lot of energy.
Originality: Yes
Additional Information: Yes
Carlo Scarpa, Castelveccio Setting out drawing, 1920
Subject: No, a calendar
Purpose: No
Logic: No, not to me.
Composition: No, I’m looking at it and it’s like somebody is writing music,
Interest: Somewhat, I am interested to know what it is because I don’t know at all.
Originality: No, I don’t know what it is.
Additional Information: Yes
Steven Holl, Maggies Centre verified rendered view, 2015
Subject: Yes, the old and new.
Purpose: Yes, to show how the new building sits on a site next to the older buildings,
Logic: Yes, to show if it works, if it doesn’t, it’s clearer.
Composition: No
Interest: No
Originality: No, it’s much more ordinary, I have seen lots of things like that before.
Additional Information: No

Order of Legibility:
1. Steven Holl, Maggies Centre verified rendered view, 2015
TEST 04
Architectural training - Architect
Authors own, Rendered long section, Year 3 - 2014
Subject: Yes, a really huge building in context including ground and geology and structure to accommodate that.
Purpose: Yes, massing, heights and levels of platforms and it's relationship in context.
Logic: Yes, colours representing different spaces and the light as a graphic representation, a key for the spaces. The section cut in white is very clearly marked, elevation falls to the back.
Composition: Yes, you can tell that it's a big building but balanced on the page with no singular focal point.
Interest: Yes, it's very emotive and tactile as one complete idea.
Originality: Yes, in the way that it's drawn.
Additional Information: Yes, I would need more information to understand the details and workings of the building.

Authors own, Plan, Section, Elevation composite sheet, Year 2 - 2013
Subject: Yes, showing clear cut throughs in plan and section.
Purpose: Yes, to communicate the qualities of space and how the sections are elevated from the plan, how it sits in site.
Logic: Yes, coloured textural layering conveys another level of information from the drawing; light, use of rooms. Common scale and language used to communicate plans and sections coherently, although they are not orientated the same way.
Composition: Yes, organised with smaller diagrams of a different scale which are less important helping to explain the drawing.
Interest: Yes, because they are similar colours and the same scales it is clear but because of the orientation shifts there is more explanation needed.
Originality: Yes, as a composition, not as drawings.
Additional Information: Yes, there needs to be more space between them to be readable.

Authors own, Perspective section with diagrams, Year 4 - 2017
Subject: Somewhat, showing how something is constructed.
Purpose: No, abstracted diagram to represent spaces and functions in plan.
Logic: Somewhat, pulled out diagrams with architectural conventions in the way they are drawn show door swings, furniture layouts are used to describe things in detail but the scale is so different that there is no clear indication to why they are there.
Composition: Yes, the colour but I'm not sure what this is used for though
Interest: Yes, definitely an energy to how its read and as an overall quality. There is a consistency in the language and the level of detail in the drawing that is categorised by colour but to actually understand the image it is not clear.
Originality: Yes
Additional Information: Yes
¼ of the page is blank and I guess that it adjacent landscaping. It is easy to read by the amount of
white space.
Interest: Yes, there is a lot of information and detail that could be saying so many things, but I
would need more time to work out, but I think it’s about a city in motion.
Originality: No, a conventional plan
Additional Information: Yes, fine as a masterplan drawing but not to understand the information
within it.
Authors own, Sketched moment sheet, Year 5 - 2018
Subject: Yes, hand drawn perspective views that are quite abstract, which are related to dots on
the plan, this is quite small (the plan) so makes this a bit harder to read.
Purpose: Yes, a series of expressive ideas, objects and colours to relate to the context, movement
and it kind of conveys the idea of chaos that the plan conveys.
Logic: Yes, the text and headings make it easier to understand. The small camera diagrams are
good because they make it clear where each view is coming from, there is zero error for me to
make. I am automatically drawn to read the left-hand side first because there is more white space,
and they are more recognisable – I can see this is a space you enter, like an atrium space. Here is
an external space, again, here, and here. These (on the right) you are not immediately pulled in – I
can’t relate to these spaces as much. So, these (the left) are immediately more legible than those.
I think it would be good that you could read the plans bigger first, so I can reference back to that
when looking at the drawing. I can see that all views relate the plan and to each space.
Composition: Yes, they are not centred, and that is really bugging me. Basically, they are all very
focused drawings, the 4 on the left work very well together – they are all landscape and that is why
they have been organised together – orientated views are on top of each other. The portrait views
are orientated on top of each other. It’s the plans at the bottom that don’t give enough white
space around them, the plan is grey and very heavy, so I don’t have enough space to look at the
sketches, especially at the bottom. There’s not enough white space around the right-hand side of
the page.
Interest: Yes, the colours are interesting and also the sequence of spaces.
Originality: Yes, actually what I think is original is the use of colours to create a narrative that you
can read through the drawings. The only thing I haven’t established in the time I have looked,
because there is a lot going on, is what the colours actually mean. I can pretty quickly read now I’m
looking though if that’s what they are.
Additional Information: Somewhat, I need the plan bigger but it is already there, just needs to be
bigger.
Authors own, Rendered Postcard moments, Year 4 - 2017
Subject: Yes, looking through buildings as a thoroughfare to see a destination or focal object.
Purpose: Yes, the quality of space and materials.
Logic: Yes, Images of the same intent behind each other are like a draft with the final one on top –
makes it easily read. The different colours give a clear language between each image.
Composition: Yes, they are laid out very clearly in harmony and in a nice arrangement which gives
hierarchy from the front, the composition is really good. It’s very easily legible – but although I
understand what I am seeing I don’t necessarily know if that is what it is.
Interest: Yes, using tones of one colour to represent different surfaces, so I understand the quality
of space and the materials. The materials are all similar in each picture, kind of glass and marble.
Originality: Yes, I see it as a composition of objects that relate to each other – it’s a neat
composition that’s attractive – the background frames it.
Additional Information: No
Peruzzi, St Peter’s Ideal perspective: plan, section, elevation, 1502
Subject: Somewhat, ruins or futuristic objects.
Purpose: Yes, focus on certain elements with the exaggerated perspective. It looks unfinished so I
think the style of the drawing invites the reader to fill in the gaps and decipher what’s going on.
Logic: Somewhat, there are a series of extruded shapes that are elevated from the plan that also
looks ruinous and futuristic.
Composition: Yes, the layout is classical also the building elements, arches, columns.
Interest: Yes, It looks like it is something in progress, it’s sketched so could be ongoing – the plan.
But also it’s pieces of a puzzle which don’t show if the surrounding pieces are designed – so I want
to know more about those bits.
Originality: Yes, it’s really original. It’s an old drawing in that the lines are faded which makes it
ambiguous. It is not a conventional way of representing the building as such, it uses the plan and
section but in a way I haven’t seen used before.
Additional Information: No, it is legible but I can’t read all the information or identify the building. I can see common features, but I don’t understand how they relate to each other and I think that’s okay for this drawing.

Otto Wagner, Hutteldorf Façade Details, 1901
Subject: Yes, a detailed elevation study, with detailed plan and sections projected off it.
Purpose: Yes, it’s a measured drawing so I can understand the projections from the façade. I can understand that in size, depth and how they relate to the internal floors and ceilings.
Logic: Yes, you can see where they are taken though the building. It is highly logical and rationalised, well presented. Yea, it’s easy and clear to read but what is missing is the detail - it’s so faint. Because it has so many dimensions and stuff on it I think it was used for something more detailed that what I can see.
Composition: Yes, What I read first is the elevation in the middle because of the dark shadow that gives depth, I can understand the building more by looking at this first. The drawings round the edge are very light so are more technical and less obvious, they are quite faint – I can’t read them clearly.
Interest: Yes, it’s a very systematic way of drawing.
Originality: No

Lebbeus Woods, San Francisco Project: Inhabiting the quake: Quake city, 1995
Subject: Yes, it’s the futuristic man-made object on the existing harbour. But you can’t really tell what it is and that is the point.
Purpose: Yes, I have a preconception to what this may mean. I know it is very abstract and animated and that the layering may show snippets of reality of the ideas to ground the conceptual in the real physical – which I think is great!
Logic: Yes, there is definitely a hierarchy in how the image goes from a complete fully formed idea on the right to the bottom left of the page, which is ideas in motion and scribbles that are not realised at all.
Composition: Yes, it’s like a series of postcards that fold out revealing different levels of information and detail within an overall concept.
Interest: Yes, the difference in how finished the things are on each side of the page create a tension that is really obvious and really interesting. It gives the reader understanding that maybe it’s not real.
Additional Information: No, I think its clear in its own right.
Archigram, Monte Carlo conceptual axo drawing, 1964
Subject: Somewhat, it’s the different platforms that step up like stepped raised levels. The spatial differences between levels.
Purpose: Yes, describing the themes of each spaces and the levels of each space, the themes of the spaces too.
Logic: Yes, very bold colours defining each space. The thin line technical drawing shows what it is like within the context then the abstract overlay add the colours, and crazy things – and there is a chameleon on the page, I don’t know why.
Composition: Yes, it’s a clear perspective that breaks down the spaces of the building.
Interest: Yes, the perspective shift in the spaces and the colours give a feeling of what it would be like to be there, which I focus on straight away.
Originality: Yes, really original.
Additional Information: No

Wolf Prix, Coop Himme(l)blau, Open House, 1983
Subject: Someone, it’s an idea, the energy and ambiguity to it, it could be a section, it could be a plan, makes this less obvious.
Purpose: Yes, it’s a development drawing
Logic: Somewhat, there are ink or charcoal scrabbly sketches that are overlaid in a quick fashion to work things out more technically in the workings in someone’s head.
Composition: Yes, strong, bold – it feels like a snippet in time of the development. I feel like it’s going to change again. It’s a concept drawing that is not completely clear or resolved, it is not a concept plan but the overlaying of it has an energy of developing an idea.
Interest: Yes, the background vs foreground is very interesting it shows how the idea has moved on.
Originality: Yes, it’s someone’s style of drawing – that makes it unique.
Additional Information: No

Carlo Scarpa, Castelvecchio Setting out drawing, 1920
Subject: No, I have no idea.
Purpose: No, I don't know, thinking through something.
Logic: Somewhat, I can see there is a logical grid system with colours and sequential numbers, so that means something. But, it is not clear that there is a key; the drawing is constructed of coloured squares but what appears to be the key is done with circles on the right. The colours seem to relate, but it is done by hand so the difference in colours is very varied. But, then there is hand scribbles over the top which implies that they are crossed out or that it means something else – I don't know. Maybe it's been a ticking off exercise.
Composition: No, it's an overall composition that shows someone's working out or an analysis. There is a lot of information on the page which makes me think that all the information on the page relates to one concept. There is obviously a logic to how the information is laid out on the page, although I don't understand what it means.
Interest: Yes, it has an energy I think that is because of the red, it's very strong.
Originality: Yes, it's the thought process of someone's mind.
Additional Information: Yes

Steven Holl, Maggies Centre verified rendered view, 2015
Subject: Yes, the new, it's distinct even though the colours are similar, it's very clear, the proposed is alien in the existing but standing out so much in colour and effects on the render.
Purpose: Yes, the outward proposal of a building in context. It's a tick box exercises for planning rather than representing the strength of the building. By showing it in street context it tries to show what it will look like at the end – a completely forced view.
Logic: Yes, it looks like a computerised building that is rendered, it's boring. The colour composition, even on the existing is really disorientating.
Composition: No, the full building can’t be seen – that makes me uncomfortable. It looks like a dead end where you can't see the whole building.
Interest: No, it looks so flat and boring, it's really uninteresting.
Originality: No, very conventional, so standard as a view in street context.
Additional Information: No

Order of Legibility:
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6. Peruzzi, St Peter’s Ideal perspective: plan, section, elevation, 1502
7. Authors own, Masterplan, Year 5 - 2018
8. Authors own, Sketched moment sheet, Year 5 - 2018
9. Authors own, Rendered long section, Year 3 - 2014
10. Authors own, Plan, Section, Elevation composite sheet, Year 2 - 2013
11. Wolf Prix, Coop Himme(l)blau, Open House, 1983
12. Authors own, Perspective section with diagrams, Year 4 - 2017
13. Carlo Scarpa, Castelvecchio Setting out drawing, 1920
The architectural drawing serves as a linguistic device to communicate information from architect to patron and more importantly, records a series of morphological changes which the profession has undergone through time. Drawing offers a unique vantage point from which to view the profession, acting as both an impartial territory and tactical apparatus to mediate between the author and the audience. This thesis provides a concise historical account of the development of the architectural drawing, apportioned by several short essays that explore different subjects that have defined the architectural drawing to provide a comprehensive explanation of the purpose and processes that have shaped the architectural drawing.