A WAY OF LOOKING
An exploration into the representation of architecture.

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NOTES ON THE TEXT

Comics

This thesis examines the use of comic books as a representation system. Whilst our most common perception of comics are books for kids, ‘Sequential Art’ as the convention is sometimes called, has been around for millennia in various forms. I am however aware of the stigma that the term might attract and I would encourage the reader to put aside any preconceptions to understand the underlying structure of the art form. In this respect I have been concerned about what name I might use, as there are many: comics, sequential art, graphic novel, cartoons, manga, etc. Those who write about the art form (McCloud, Eisner and others) use the term ‘comic’ and whilst other terms, like ‘graphic novel’ and ‘sequential art’ perhaps suggest a more intellectual subject for study, they often refer to specific types of comics. I have therefore chosen to use ‘comic’ as the generic term which describes the structure and rules of the art form. By doing so I hope to have encouraged a wider application of my findings.

Representation Systems

I try throughout this study to consider and locate comics within the very broad range of representation systems available to the architect. Where I use the term ‘representation systems’ I have attempted to use it as a generic term for a method of communicating architectural ideas. I am aware that whilst we commonly use a certain set of conventions, and that these have been at the forefront of my mind, there is no limit to ways we might exchange ideas that influence architectural design. I don’t pretend to have examined all representation systems available to us, nor do I deny their variety or application.
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1.0 INTRODUCTION

As a student I was introduced to Rudolph Schindler¹ and his architecture in a design methodology paper. The introduction was made partly, I imagine, because his writings made him convenient to study. Over his career Schindler recorded, through a series of texts, his design methodology and the things he considered important in the field of architecture. This record provided students of architecture direct access into the mind of an architect and therefore served as an excellent case study. Over time his thoughts about architecture and space in the modern era stuck with me. His resolution of spatial and technological concerns were appealing to a prospective architect looking for a way to grapple with both.

It became apparent to me some time later that whilst there was a core of Schindler supporters, his influence was limited. Besides his Kings Road House his architecture is not well known and his methodology is even less understood. Why, I asked myself, when his design philosophy responded so well to the challenges facing post-industrial revolution architects, and he offered such a clear record of how he set out to achieve those goals, did he fail to influence the direction of architecture on a wider scale?

Not long afterwards I read Beatriz Colomina’s book, Privacy and Publicity where she explored the ways in which Modernism, unlike all periods of architecture before it, was linked to and influenced by mass media. It became clear to me that to be an influential architect in the age of mass media, your skills must include the ability to utilise the media and appeal to an audience through it. With the arrival of mass media the game had changed and Schindler had failed or chosen not to adapt.

This sparked an interest in the relationship between architecture and the media. I came to realise that the representation of architecture was a transformative process and that the way you imagined a building was usually different to the way it was experienced. This begged the question then, if I was interested in designing buildings that provided specific experiential results (as Schindler had), and representations played such a large part in how those buildings were to be judged, how should I best

¹ 1887-1953, Los Angeles based architect.
use those representations to develop and communicate architectural ideas?

I believe that Schindler’s architecture has value and that it represents a useful study in the manipulation of space in the Modernist era. It is my position that if it were possible to encourage a wider understanding of his architectural ideas, through the media, contemporary architecture may find new ground for development. At the same time I recognise that the things that make his architecture worth investigating are difficult to represent. In fact, Schindler himself said ‘my architectural problem cannot be reproduced on paper.’ It is my premise that the relationship between the representation system and the architecture it represents is the key to providing a clear understanding of the architectural problem. The challenge I therefore set myself in approaching this thesis was to discover and explore a representation system that related to Schindler’s architecture in such a way that it emphasised the things he felt were important. By doing so I would like to think that I have at least provided a greater insight into the relationship between representation systems and architecture and, at best, put forward an effective mechanism to study, replicate, develop and promote the type of architecture that Schindler sought to design. If this is the case then I would like to think I have outlined a way of extracting value from his specific strand of architecture.

This thesis looks to explore the ability of a representation system to emphasise certain aspects of architecture. Specifically I examine the use of the comic book convention. In order to carry out this exploration I place the comic convention alongside Rudolph Schindler’s architecture and, through an understanding of them both, seek to understand whether the structures they possess and sometimes share, mean that the comic is a useful tool to represent Schindler’s architecture. I haven’t set out to revolutionise the way we draw buildings by proposing that comics might replace traditional representation systems. I have however sought to understand whether a representation system which mimics aspects of the architecture it represents is well suited to highlighting those aspects to the reader.

The research question I have sought to answer is:

*How might the comic book convention assist in representing architecture like Rudolph Schindler’s?*

To this end the thesis is in three parts. Firstly I look to explain what made Schindler’s architecture special and how he approached the problem of design. I isolate his concern for the spatial composition of places and seek to define it as he might have understood it. Secondly I explore the nature of representation systems by undertaking a review of traditional architectural representation systems and tools available to the architect in their presentation of architecture. In particular I seek to question the value of representation methods when communicating to the lay person – those without specialist training. More specifically I examine the comic convention and demonstrate what I believe are its strengths in representing architecture like Schindler’s. Finally I undertake an exercise using comics to represent architecture, provide some reflection on my design process and the reaction I have had to this process.

This thesis is illustrated throughout by representations of my design for an Auckland Architecture Centre. The role of the design in this thesis has been to act as a subject for the comic book convention. In designing the building I have sought to incorporate Schindler’s concerns for spatial composition and in that respect, whilst it is not a Schindler building, I would like to think he might have approved of it. Whilst the building is unveiled through traditional representation methods throughout this thesis, the comic on pages 37-48 provides a different way of looking at the same building. By providing an alternate lens I hope to allow the reader to experience whether the comic encourages them to understand the building differently. If it does I would suggest comics might have a place in representing architecture.
Rudolph Schindler was born in Vienna in 1887 and was mentored by both Adolf Loos and Otto Wagner. In 1914 he immigrated to the United States to seek work with Frank Lloyd Wright. Following a brief period working for architectural firm Ottenheimer, Stern, and Reichert, he succeeded in encouraging Wright to offer him a position in his firm and in 1920 he moved to Los Angeles to oversee the construction of the Barnsdall House. Following a downturn in work at Wright’s office he established himself in L.A., as an independent architect. His first act, as a sole practitioner, was to design and construct his own home in 1921.

This house, known as the Kings Road House, or Schindler Chase House, was a testing ground for a number of ideas that Schindler held dear throughout his career. It is the best known and documented Schindler building and is now open to the public as an exhibition space. Following its construction and the establishment of his firm the 1929 sharemarket crash and consequential Great Depression had a major effect on his career. The majority of his work, before his death in 1953, consisted of moderate and low cost residences (both single and multi-unit dwellings). He secured very few commercial or civic projects.

2.1 Schindler and the media.

In the manner of his mentor Adolf Loos, Schindler established a stance against the emerging reliance of the mass media as a way of evaluating architecture. In 1932, for instance, he submitted a selection of his work for The Museum of Modern Art’s exhibition The International Exhibition of Modern Architecture. This exhibition, which became better known as the International Style exhibition, and its associated book has become well recognised for defining and directing architecture towards an area of development over the following years. Schindler’s correspondence with the curators, Henry-Russell Hitchcock and Phillip Johnson, and his subsequent rejection, is an insight into the struggle he faced in spreading his architectural ideas.

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3 Sheine, R.M. Schindler, 11-33. Also see pp 256-259
4 Sheine, R.M. Schindler, 68-70
In correspondence with Hitchcock and Johnson, both in regards to the MoMA exhibition and publications prior to it, Schindler urged them to consider his buildings by examining plans and sections rather than relying on photographs. Hitchcock in particular ‘rejected the idea that a critic could not develop opinions solely from photographs of buildings’\(^5\). These exchanges exemplify the contrasting positions of Schindler and two of the men who became successful and influential commentators on Modern architecture during its early development.

Schindler believed that architecture is an experiential pursuit – something that should be judged by visiting it. Whilst this presented difficulties for Hitchcock and Johnson who were, in this context, in the business of producing representations of architecture, I would suggest this doesn’t mean Schindler’s architecture isn’t worth investigating. In fact, I am searching to find a better way to reproduce it, beyond the traditional plans, sections and elevations he asked Hitchcock and Johnson to consider.

Putting aside the aesthetic or political preferences Hitchcock and Johnson might have had, we can understand why they had no reason to publicise architecture that didn’t perform solely on the basis of its representations. They were, after all, trying to sell tickets to exhibitions and the books that accompanied them. If the representations they used failed to help them achieve that goal, those representations had no place in either. Whilst I imagine Hitchcock and Johnson wouldn’t have denied the importance of the architectural experience, the fact that Schindler’s buildings were, in lieu of an actual visit, best understood through plans and sections, presented a potential breakdown in the communication of an architectural idea to the public. This is not to say that the architecture wasn’t worthy, but rather it simply may not be apparent to the lay person and therefore not appropriate for inclusion from the curator’s point of view. This gap between the traditional concerns of an architect designing spaces to be experienced, and the newly established role of the architectural editor lies at the heart of this thesis. It is this gap that I am attempting to bridge.

It might be said that Schindler’s stance against designing architecture for consumption by the media led to him slipping into some obscurity. In contrast however, Schindler’s friend and fellow student, Richard Neutra, followed Schindler to L.A., embraced the machine aesthetic, sought publication, thrived as an

\(^5\) Sheine, R.M. Schindler, 68
architect and received far greater recognition than Schindler⁶.

This is not to say that Schindler was unsuccessful as an architect. He designed a staggering number of projects over his short career (somewhere in the order of 500⁷) and developed his own approach to architecture which was supported by a small number of loyal supporters. Whilst he may not have been celebrated in his own time, the publication of *Five Californian Architects* by Ester MCoy and the 1988 University of California exhibition dubbed ‘The Schindlerfest’ has kept his work in the architectural consciousness. As part of the exhibition Lionel March and Judith Sheine published the book *RM Schindler: Composition and Construction*⁸. This book included a series of Schindler’s texts including two previously unpublished texts: ‘*Space Architecture*’ and ‘*Visual Techniques*’. These texts, newly made public, outlined his ideas for what he called ‘Space Architecture’ and establish his priorities within the practice of architecture.

### 2.2 Schindler’s ‘Space Architecture’

It is important to point out, at this juncture, that whilst I will elaborate on the power of representation systems deeper into this paper, for the purposes of this thesis I view representation systems as a tool to represent buildings. If we accept that Schindler’s buildings had a set of characteristics, my goal here is to find a way to emphasise them within the representation system used. Schindler’s architecture has therefore become a benchmark against which I have evaluated the strengths and weaknesses of representation systems. I acknowledge the point of view that representation systems affect the interpretation of an object to such a degree that, as Colomina proposes, they become an integral part of modern architecture but, as a practising architect I am interested in designing buildings that are built to be experienced. The design is paramount and the representation of that design must be tailored to best describe it, not the other way around.

In this sense, Schindler’s role in this thesis is critical but limited. Whilst a survey of his work might be of interest, and indeed has been important in understanding his approach to architecture, my aim has

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⁶ Sheine makes a direct comparison between Schindler and Neutra’s Lovell houses and explores the difference in Neutra’s success. Sheine, *R.M. Schindler*, 72-74
⁷ Sheine, *R.M. Schindler*, 8
not been to replicate his buildings or follow any stylistic approach to architecture. For that reason I don’t present such a survey here. Rather, I will seek to share the insights I have gained from Schindler as to how an architect might prioritise their architectural concerns if they did so independently from a concern about representation systems and the media. This is to say, if we were to consider architecture solely as something that should be experienced to be understood, how might we design differently and how would our concerns and priorities change?

Schindler’s approach to architecture offers us an insight into this approach and below I seek to explain Schindler’s architectural intent. By doing so I seek to distil his architecture to its fundamental elements and provide the basis on which The Auckland Architecture Centre has been designed. Schindler did not promote his work as a style and nor have I sought to find one within his work. Rather Schindler looked to establish a way of thinking about buildings, something he called ‘Space Architecture’:

11 Schindler, Space Architecture, quoted in March, Sheine, RM Schindler 53.
Schindler believed that the potential of modern architecture was the development of internal spaces. Architects were free from the structural constraints previous generations could only dream of casting aside. He dismisses architecture as sculpture (i.e. the carving of a solid) and the idea that an architect’s creativity should be limited to the manipulation of the surface of a building. This, I would suggest, in light of his criticism of other architects, whom he referred to as the ‘rationalists’, referred specifically to the practice of evaluating architecture on external appearance alone. He goes on to propose a course for architectural development:

This gives us a new understanding of the task of modern architecture. Its experiments serve to develop a new language, a vocabulary and syntax of space.

Schindler also believed that architecture was specific to time and place. ‘Material and construction’ he said, ‘are an integral part of the conception of a building.’ He built within a certain technical and cultural context. For us to reach specific aesthetic conclusions from a superficial scan of Schindler’s work and to assume that they can be transposed to alternative locations and times would be a mistake. Instead, in order to facilitate this study, I have sought to identify a series of spatial tools found in Schindler’s work.

2.3 Sequence

Of key importance to Schindler was the idea of spatial sequencing. He is careful to establish and control the route that an occupant takes as they move to, through and beyond a building. In the case of the Schindler House for instance, the path to each entry (of which there are two) is carefully orchestrated. There are spaces along each route that mark turns in the pathway or specific moments when there might be a view or clue as to what’s ahead. Once we enter the house we find that spaces meet in such a way that the route through them is clear. The use of openings, glazing and solidity directs view, and occupant, towards the ultimate goal which, in the case of the Schindler House, are the external courtyards. Departing from the prescribed path is both spatially and physically difficult with a number of

12 Schindler often wrote about the ‘rationalists’ (which included those who had adopted the International Style and Frank Lloyd Wright in his later career) and their concern for mass and form in contrast to his concern for interior space. Refer to his texts Space Architecture and Modern Architecture.
13 Schindler, Space Architecture, quoted in March, Sheine, RM Schindler 53.
senses contributing to informing the occupant on where they should go to next. It is disappointing then to discover, upon visiting the Schindler House, that both front doors are locked and access is gained through the garage, therefore denying the visitor the intended experience.

It may have been Schindler’s desire for efficiency but we rarely find a space that can be accessed from multiple sides. Either a space is at the end of a route or it acts as a connection between two others. Built area, and therefore cost, is used efficiently by providing spaces that act both as somewhere to be, and somewhere to pass though. The exceptions to this rule, and perhaps where we find Schindler’s best spaces, are what we might call his primary spaces. In the case of the How, Tischler and Kings Road houses the primary spaces are the living rooms. These primary spaces are the spatial heart of the building and are often central to the plan. It is here where Schindler uses the spatial (and perhaps monetary) efficiencies from elsewhere to invest in shaping a space that effectively defines the house. As I will explore further below, these spaces are the result of a spatial journey, heavily influenced by the adjacent spaces.

2.4 Scale

Alongside the sequencing of spaces is the establishment and manipulation of scale. In his article, ‘Reference Frames in Space’, Schindler describes the importance of establishing a scale within a building. The unit of scale, he suggests, is dependant on the perceived stature of the inhabitant. The manifestation of this in his residential work is found in his ‘Schindler Frame’ construction technique by the use of a structural datum (top plate) at 6 feet 9 inches. This datum acts as a reference point against which all spaces can be manipulated and measured. In a palace, he suggests, the datum might be set at a higher, grander scale, more fitting to that of a king. Although this structural solution gives the architect freedom to shape internal space it also acts as a horizontal reminder of scale throughout the building. Vertical manipulation of spaces then becomes easily apparent and spaces quite separate from another within the building can be compared through reference to the datum, albeit subconsciously.

16 Sheine, R.M. Schindler, 99
17 Schindler, ‘Reference Frames’, quoted in March, Sheine, RM Schindler, 58
Schindler uses this measure of scale to identify important spaces within his buildings. Not only does he lift the ceiling in these spaces but he also uses the gap between roof and datum to insert glazing and allow light into the space. His important spaces are therefore marked by being higher, brighter spaces. In the Schindler House the living spaces are raised about 16 inches (or 400mm) above datum and clerestories are incorporated to allow light in and establish a connection with the external spaces beyond. The datum is reinforced by timber beams, at datum height, connecting longitudinal walls. These beams are low enough that a tall occupant is reminded of them each time they are required to stoop beneath them. The How House’s main living space furthers this approach with a mezzanine floor added at high level, along with high level glazing, to direct the view up and emphasise the height of the room.

Most important, at this point, is to note that spaces do not sit alone in Schindler’s architecture. They are informed by others. As we move along his prescribed sequence of spaces at the Kings Road House we find a series of compressions and releases on both the horizontal and vertical planes. A rhythm is established and manipulated for effect. The ceiling heights within the house indicate where you might want to spend more time and where you might want to dwell less. It’s when these spaces are read together that they become clearer. The living spaces wouldn’t feel so high and bright if it wasn’t for the lower, darker confines of the hallways leading to them. Further, Schindler prepares the visitor for the transition between spaces by providing areas of lowered ceiling within the larger space (i.e the area beneath the mezzanine in the How House) or a ceiling that is constructed differently to differentiate it from the space as a whole (i.e. the area beneath the upper floor sleeping spaces at the Kings Road House).

It is well documented that Schindler encourages entry to a space at its corner utilising the diagonal axis. This provides the longest possible view across the space upon entry and gives a clear view of the space as a whole. This diagonal approach also de-formalises the space and allows the occupant to prepare for entry without the confrontation that comes with entering through a door on its orthogonal axis. By easing the transition between spaces he encourages them to be considered as parts of the whole.

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18 See in particular Sheine, R.M. Schindler, 116-121
19 I would suggest that this is quite contrary to classical architecture which, whilst using similar spatial tools, tends to emphasise formality and spaces might be considered independently from each other. See also ‘Dr How’s Magical Musical Box’, March, Sheine, RM Schindler, 125-145
Spatial schematic for Schindler Chase House demonstrating multiple rhythms and sequences through geometrical devices.

1 - Living Space
2 - Courtyard
3 - Secondary living spaces
4 - Mirrored living spaces
5 - Entry and facilities
6 - Pinwheeled residences
It is clear, through an understanding of Schindler’s architecture that the location and nature of each space contributes to the next and to the whole. Schindler described his architecture as organic\textsuperscript{20} and you get the sense that the modification of any space would lead to a change in how other spaces within the building were perceived. His spaces are knitted together and rely on each other for their effect. To remove and consider one on its own would be a mistake.

2.5 Rhythm

This organic nature of Schindler’s buildings extends beyond the spatial organisation of his buildings. His construction techniques also contribute to the cohesiveness of his houses. During the construction of his own home at Kings Road he developed an approach to construction that he called ‘The Schindler Frame’ which, along with his ‘Reference Frames in Space’, provides a framework with which he manipulated his spaces and ensured a consistency throughout his buildings. It is easy to assume by glancing at Schindler’s houses that his use of exposed timbers and regular grid achieves rhythm through repetition – i.e. studs at standardised spacings are used to reinforce the fact that each part of the building is linked visually, through its construction, to the others. This is true only in the sense that the same would be true if you were to propose using of one type of wallpaper throughout a house. Schindler however writes specifically about rhythm and that rhythms can be ‘the subtle interlocking of several rhythms’\textsuperscript{21}. He goes on to say:

‘\textit{We human beings are unable to understand both time and space without a rhythmic key, which the architect should provide in his plans}’\textsuperscript{22}

Schindler, in a similar manner to Loos, sees his buildings as a backdrop against which other things happen. Rhythm, to him, is essential to provide clarity within architecture and he does so on a number of levels, through a number of tools.

This rhythm extends beyond the 4 foot structural module to affect the way he lays his buildings out. In the same way that classical architecture often took advantage of geometric tools to establish order,
Schindler does the same to build a familiarity within his buildings. Schindler enables the occupant to become comfortable with his buildings through repetition, symmetry, rotation, the size and shape of spaces and their placement. The Kings Road House is a prime example of this where two residences and a guest quarters are pin-wheeled within the site. Each residence is also mirrored across its diagonal and the individual living spaces are symmetrical in plan. The flying beams and sliding doors further break down the larger spaces into equal sub-parts. If we then look at the finer grain of the 4 foot module we find that exposed structural members are similarly arranged in each space to direct the occupant’s view and help contribute to the spatial program.

The Kings Road House, like many of his others, uses a series of overlapping geometric tools that help form the building and enable us to make sense of it as we move through it. Once we’ve experienced part of the building the remainder feels familiar. We can continue this familiarity by extending this beyond the house itself and comparing it to Schindler’s other work. The Kings Road House, for instance, shares characteristics and indeed spatial solutions with the How House and Tischler House which span across the period of his career. A Schindler building and the spaces within it relate not only to each other but they also relate to, and form part of, a wider collection of work. This, I believe is testament to the strength and commitment Schindler had to his philosophy toward architecture.

2.6 Visual Techniques

The role of materials in Schindler’s architecture is incredibly important in understanding further how he conceives his buildings. In his text ‘Visual Techniques’ he discusses the potential of materials to manipulate spaces beyond their dimensional reality. The grain of timber for instance not only gives the perception of depth in its surface (therefore expanding the edge of a ‘space form’ through its softness), but also leads the eye along its length and elongates that surface\(^3\). A painted surface, he states, restricts the space by making it feel harder and more enclosed whilst a mirrored surface makes the object dissolve entirely. Although he uses these visual tools to reinforce the spatial program, the point most relevant to this study is that Schindler was primarily interested in how his spaces were perceived by the occupant. It is easy to forget that in the midst of his reference frame system and construction

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\(^3\) Schindler, ‘Visual Techniques’, quoted in March, Sheine, RM Schindler, 1995) 65
techniques, that these techniques were means to an end. His primary concern was the effect his buildings had on people as they experienced them.

2.7 Compromises

All of this is not to say that Schindler’s architecture can be held up as an exemplar of the potential of modern architecture. Reflection upon his body of work reveals a number of limitations. Because he was primarily a residential architect with very few commercial and civic commissions, he only offers a limited range of precedents to study. We might consider his oeuvre even further limited, or perhaps skewed, by the fact that residential work is likely to be more responsive to the specific prejudices and requirements of his clients.

It is also perhaps fair to say that Schindler’s obsession with internal space led to some buildings with awkward external appearance. The Lovell Beach House, despite Schindler’s justified claims\(^\text{24}\) that it preceded his contemporaries with regards to construction and structural techniques, remains, in my eyes, inelegant.

Further, given that the majority of Schindler’s work was in Los Angeles or its surrounding areas, his experiments must be considered as responses to a non-urban, low density city with a benign climate. The nature of this work, and the sprawling nature of the city he worked in, may not only have prevented him from designing buildings that engaged in an urban context but perhaps enabled his investigations in the first place. He was an experimental architect, working in a new city, free from the constraints he might have experienced in his European background. This doesn’t necessarily mean that his approach to the external nature of this architecture is well suited to, or even possible in any other environment, time or city. Having said that, his true focus, the effect of space on the human condition, retains relevance despite the social context.

Rudolph Schindler is not a complete architect. He focused his efforts in a certain area of architecture, perhaps at the expense of others. In this respect however he serves as an ideal subject for this thesis.

\(^\text{24}\) Sheine, R.M. Schindler, 70-74
South

West

North
as he offers a detailed study into the problem of internal space. It's these explorations that Schindler offers as his greatest contribution to the development of architecture.

2.8 Spatial composition

If we were to summarise how Schindler prioritised his architectural concerns, in order to carry them forward in this study, we would find at the top of the list a concern for the nature of internal space. It was his belief that this was the area that presented the greatest potential for development in architecture. Schindler's architecture is concerned with how people experience the building. At the centre of his approach to architecture is a consideration for how the occupant moves through his buildings and how they perceive the space around them. This, he understands, is affected by the spaces previously encountered and that the consideration of a single space is not sufficient. Each space must be considered within the context of others. I have therefore identified this idea of spatial composition as being central to Schindler's architecture and I define it as:

*The combined experiential effect of movement through adjacent spaces.*

This then gives us a good understanding of what Schindler believed was important in architecture and summarises the aspects of architecture I will look to emphasise using comics. Therefore, whilst Schindler provides a foundation for the remainder of this thesis I put him aside, for now, and look more closely at representation systems.
3.0 Part 2 - REPRESENTATION SYSTEMS

The scope of this study is a singular investigation into representing architecture. I have chosen comics, a non-traditional representation system, partly because of its structural relationship to Schindler’s architecture and partly because its lack of familiarity offered a way of looking at a familiar problem in a new way.

I acknowledge that the field of representation systems and the role of drawings is vast and a full knowledge of this field is too great for a study of this type. In researching comics I have come to understand how they work and where their strengths and weaknesses lie. In the text below, I hope to share that understanding by reflecting upon them in a context of other architectural representation systems, drawing comparisons and putting forward observations I have made.

3.1 Conventions

When we try to share an understanding of a three dimensional object, a plan proves only so useful. We find ourselves so limited by the two dimensional representation that we resort to systems and codes that provide the trained eye with information that suggests what’s happening in the third dimension. Dashed lines indicate edges of form that are hidden, or perhaps above, or indeed imaginary lines that will never exist in a tangible sense. Linetypes help us further decipher what it is the author is communicating. A centreline is different to a hidden line for instance. In addition, hatches, lineweights and notation all assist in communicating information to those with a trained eye. Whilst there are recognised standards and drawings might include a legend to assist, the extrapolation of a three dimensional form, through plans alone, is unlikely to be accurate.

This changes however when we consider the plan within the orthographic projection convention. When the viewer is presented with a plan, section and elevation, they are much more likely to be able to understand the object in their own mind, in three dimensions. A knowledge of the convention that binds the representations together enables us to extract more information, about the object, from the drawings. With time and close study, the differentiation between dashed lines on the plan becomes apparent, dimensions between parts of the object can be compared between views and therefore the
proportion of spaces and form can be established. The author and their particular drafting nuances are diminished and the form of the object becomes clearer. Clarity is found through a common understanding of how the convention operates.

The same might be said of a film or a novel. There are conventions that we have come to expect of these representation systems. For instance, we might expect both to proceed chronologically. Things that happen first appear at the start whilst things that occur later, appear nearer the end. This is, after all, how we experience things in our own lives. To move away from this convention for instance, as we often see in film, is a conscious decision, usually done for effect.

It could be argued that the nature of the convention becomes more important in communicating a message than the individual representations within it. In the practice of architecture, where we are required to explain the nature of a three dimensional object to a wide audience, all of whom have a different interest in that object, an adherence to convention proves vital. The traditional representations of orthographic representation, perspective and axonometric all have a currency within our audience of builders, consultants and clients. To depart from convention to any large degree puts us in danger of being misunderstood. Given that every representation system achieves its purpose by managing the information it shows, having a shared understanding of the structure that binds them together provides a sense of clarity and therefore dependability. It’s a brave (or perhaps negligent) architect who denies this understanding.

3.2 Sequence/Order

It occurs to me that the idea of sequence or order is central to many of the ways we as architects communicate. Our construction drawings, for instance, tend to be structured in such a way as to establish location and context before pointing the viewer toward more detailed drawings further into the set. As we move from front to back, through the set of drawings, we decrease the scale to a point where we find ourselves seeing small parts of the building. Reading a set of drawings is a process of moving backward and forward between scales, often using notation for guidance, to understand how details relate to their immediate context and, in the end, how building elements of various sizes come together as a three dimensional object. To disrupt this sequence, or to avoid providing one, would only
lead to confusion within our audience.

Control over the order in which representations appear gives the architect the power of guiding their interpretation. A Powerpoint presentation, and its predecessor the slideshow, enables the presenter to put forward information in a predetermined order. Ideas can be presented one after another, often accompanied with commentary, building knowledge and understanding as the presentation progresses. The speed of progression is at the hands of the presenter and the difficulty in returning to previous slides is so distracting that it’s best avoided. The controlled sequence that a slideshow presentation offers allows the author to present ideas in a manner that demonstrates their message best. In fact, the power of being able to present things in sequence enables the architect to either express a logic that might otherwise have been overlooked, or indeed impose a logic that might not have otherwise existed.

At another extreme we might consider a design discussion amongst architects. Here the participants possess the skills to not only understand the things expressed in a set of drawings but also the technical, economic and artistic context in which they are prepared. Here we often find that a set of drawings become scattered across the table, free to be picked up and viewed by any of the participants. In the search for collaborative discussion sequence becomes less important. A presentation by the person most familiar with the drawings is likely to be interrupted and expanded upon by others. In discussion with highly trained colleagues, sequence often gives way to pursuing tangents in much the same way we might design a building – a much more iterative process where many aspects are open for discussion at any one time. Sequence and structure, it might be said, becomes more useful where the intent is to persuade.

The critique, which plays such an important part of architectural education, encompasses both extremes of this idea of sequence. The student is encouraged to present their work, in a logical sequence, before discussion is opened up to a wider audience. Drawings are presented, side by side, for general consumption and comment. My experience suggests that a project presented logically, with a hierarchy of information and emphasis, often prompts discussion about the architectural concerns of the student whilst even a good project presented poorly can deteriorate into an effort to properly understand the design. In this manner architects learn the importance of presenting their thoughts clearly and by utilising the power of sequence.
An interesting aside to this discussion is that we often draw in sequence. When we use drawings to develop the design of a building our pen strokes follow a sequence of importance. We might, for instance start with site boundaries, grid lines, existing structures, an important view or the movement of people through the site. As we progress the drawing, less important elements are introduced often to show greater detail or to elaborate on the larger issues. Drawings like these often end up in a state that is less than clear to someone who hadn’t watched it develop. What it does show, I would suggest, is that the act of drawing, and the order in which we draw things is connected to the way we think about buildings – the sequence in which things appear on the page often has a relationship to their importance to us as architects.

3.3 Art for art’s sake

There is a risk that the viewer of a representation is influenced by the execution of that representation and that this has an effect on the interpretation of the subject. It has been said that when Sir Miles Warren produced a watercolour painting of a proposed building, the client was often so impressed with the painting, and so hesitant to suggest changes, given the difficulty of editing watercolours, that the design was immediately accepted\(^\text{25}\). The same might be said of architectural models or photo-real renderings. The viewer of a good model will have some respect and consideration for the time spent constructing that model and appreciate it as an endeavour unto itself. The quality of the representation affects how we perceive its subject.

It has been important in this thesis to put the architecture of Rudolph Schindler first. Whilst I recognise the persuasiveness of a watercolour, model or rendering to sell a project, representation systems, in the context of this study are tools to highlight and describe specific aspects of Schindler’s architecture. It is tempting to adopt representation systems that impress the audience in its own right. I see this however as being something different to clearly conveying information about a piece of architecture. The transparency of this approach is important to me and, I believe, critical in educating a wider audience about the things architects believe are important. This thesis is an effort to encourage a use of representations best suited to the architecture portrayed, based on the qualities of that architecture,

\(^{25}\) I will credit Dr Peter Woods with this comment in a 1999 lecture. I have however since heard numerous anecdotal stories of the power of Warren’s watercolours.
rather than the use of representations that persuade based on other qualities.

3.4 Film

I have been asked on a number of occasions why I haven’t adopted film or animation to represent ideas around spatial composition. It is, after all, capable of portraying movement through space and incorporating other sensory stimuli along the way (sound for instance). Below I put forward some observations about the use of film in representing architecture. Whilst I recognise these are a series of highly subjective statements I trust they outline why I was sceptical of its use for the purposes this thesis.

I have never enjoyed animations of architecture, nor have I found inspiration or an understanding of spatial composition from an animation I’ve seen. I tend to think that animations suffer somewhat from the pitfalls I’ve described above – producing a film of an un-built building is impressive unto itself, despite the content. Perhaps an observation supporting this stance comes from a more pragmatic point of view of the mechanics behind the preparation of an animation. For an animation to represent a building, to the public for instance, the design has typically reached some stage of completeness. The time required to prepare an animation has largely precluded it from being an effective method of design development. Testing ideas through animation then, as part of an iterative process, becomes inefficient. Animation has therefore been a presentation tool, not a design tool. If instead we were to use a tool that can be used to both develop and present a design we are more likely to retain and reinforce those aspects of architecture that it represents well. To evaluate a design using an animation (for instance), develop it through the use of orthographic drawings and then present it using animation again might be said to be akin to taking English text, translating it to German for the editing process and then publishing it in English. There is a good chance that the intent of both the author and editor is lost through a series of transformative processes.

Further, the experience of viewing a film has an effect on how the message is relayed. Whilst the pause and rewind button gives some level of control to the operator, a film is only able to present a building at a pre-determined rate. The audience is unable to dwell on parts of a building that they find particularly interesting, nor are they able to navigate the information before them freely. My overwhelming
sensation is one of being pulled through a building, through someone else's eyes. There's no chance to stop, wander and consider.

Animation also relies on a perspective view to maintain fluidity. Even though a section might be the very best tool for understanding the spatial composition of a building, rarely do we discover a section within an animation. A static drawing within the context of a film fails to maintain the viewer's attention in what is traditionally a representation system reliant on movement and change.

Scott McCloud, who I introduce below, makes an interesting comment regarding the difference between comics and film. He explains that whilst time is the underlying framework for film, space is the framework upon which comics are composed.

3.5 Comics

It is easy to think of comics as children's entertainment and perhaps not worthy of being taken seriously as an architectural representation method. Comics have however been used for millennia and the convention is robust enough to take on many different forms. Comics are familiar to a wide range of people and no specialist training is required to make sense of a well conceived example.

In order to better understand the fundamentals of the convention, which comic book artist and theorist Will Eisner calls 'Sequential Art', we should consider Scott McCloud's definition:

\[
\text{The juxtaposed pictorial and other images in deliberate sequence, intended to convey information and/or produce an aesthetic response.}\]

The comic is an art form in which a series of conventions give meaning to otherwise disparate images and text in the same way that plans, sections and elevations are bound together through the orthographic convention. In their most recognisable form comics are framed images which appear

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27 Will Eisner is an early and well respected American comic book artist.
28 McCloud credits this term to Eisner.
29 McCloud, *Understanding Comics*, 9
side by side on a page. They rely on the reader’s propensity to read a page in a certain direction which, in the case of most western cultures is from the top left of a page to the bottom right. Frames, when correctly composed, assist with this reading whilst the detail within each frame can further encourage the eye’s movement to the next correct frame. As I will discuss below, the space between each frame (or ‘the gutter’) is critical to the success of the convention in that it requires the reader to engage with the representation and fill in the gaps in information. In this respect, McCloud excludes comics that only have single frames from his definition.

The comic has evolved to engage with the media in which it is presented. In the magazine or book format for instance, as you turn the page, the right hand side of a spread is seen first. The right hand page is therefore often used for large images or eye catching frames designed to grab the attention of the reader and encourage further reading. Further, given that the modern history of comics is closely linked to printing and its associated cost, we find different extents to which the gutter stretches the imagination and how much we, as readers, are asked to contribute to the telling of the story. McCloud notes that Japanese comics can run over thousands of pages and space is given to frames that transition from moment to moment. On the other hand, where western comics found a home in newspapers, where printed space might have otherwise been dedicated to advertising, the limited space encouraged artists to use transitions that ask the mind to fill in much more information. The space that each frame occupies therefore becomes important. Its relationship to other frames, the page and the rhythm of the book itself influences its meaning and importance.

Perhaps most importantly however is the way in which comics engage with the viewer. Will Eisner suggests that comics rely on shared experiences between the reader and the artist. The need for an economical use of space, he says, is achieved by using symbols, icons and visual conventions familiar to the reader, in order to enable the artist to convey a message quickly. These symbols, icons and conventions therefore require the reader to interpret the content and they become involved in the process of telling the story. As Eisner says ‘the reading of a graphic novel is an act of both aesthetic perception and intellectual pursuit’.30

Image 03 - Examples of comic layout showing regular arrangement (top) and layout manipulated to emphasise certain aspects of the story (bottom).
Scott McCloud talks directly about this level of engagement in comics and identifies comics as a medium of communication that engages the reader at a much closer level than film for instance. Comics, he says, rely on the human brain to commit an act of ‘closure’ to join frames together. In the same way that our brains learn to fill in the blanks of incomplete images, the gutter asks us to do the same.31

Comics fracture both time and space, offering a jagged, staccato rhythm of unconnected moments. But closure allows us to connect these moments and mentally construct a continuous, unified reality.32

Whilst film asks us to do the same thing by linking together a series of frames at 24 frames per second, this act is continuous, imperceptible and involuntary. As I have alluded to above, McCloud identifies the key difference between film and comics being that frames in a film occupy the same space but comics however display frames alongside each other. It is this juxtaposition of images that enables them to be compared and therefore influence the interpretation of the other.

The act of closure requires participation by the viewer and asks them to use their imagination. Whilst we find the same tool used in film this is typically for special effect. Someone watching the shower scene in Hitchcock’s movie, Psycho, need not see the actress being stabbed to know what the blood running down the drain means. For comics, the act of closure becomes a fundamental part of the experience. If the reader stops reading a comic, the story stops. Unlike a movie which continues in spite of its viewers, a comic reader is free to stop, pause, return and re-read as they go. Not only do they control the speed at which the images are consumed, they contribute to their meaning.

‘Comprehension of an image requires a commonality of experience. An interaction has to develop because the artist is evoking images stored in the minds of both parties.’33

It is this reliance on the reader’s imagination and the use of icons and symbols that allows comics to relate to the reader’s own experiences and prompt intimate thoughts that might otherwise have been invisible or left dormant. McCloud suggests that comics take advantage of a form of synesthesia to

31 McCloud, Understanding Comics, 63-69
32 Ibid, 68
33 Eisner, Comics and Sequential Art, 7
convey sensory experiences through the solely visual medium. This is to say that images within comics are capable of evoking emotional or sensual responses in the viewer. He extends this beyond the style of drawing, to the effect of line type and into the specific collection of tools used within comics, developed to prompt response within the reader. McCloud argues that comics are capable of portraying all five senses.

Whilst synesthesia is typically considered as extreme cases of patients experiencing a ‘union of the senses’, Scott argues that comics have developed to take advantage of this effect. In the context of this thesis it is important to note McCloud’s belief that comics are particularly well suited to representing wide aspects of experience to the reader.

It should be said, as it might be taken for granted, that comics are a popular type of media. They relate and are accessible to a wide range of people across multiple cultures. It is no accident, for instance, that the comic convention is chosen on aircraft safety cards and assembly instructions where complex instructions need to be given to an audience where language may not be shared. If we are looking to convey information to a wide range of people, in a format that people enjoy, then comics fit that description.

### 3.6 Flexibility

The underlying compositional structure of the comic is so strong that it possesses the ability to shift between convention, viewpoint and medium easily. A perspective, plan and section for instance can happily coexist on a page because of the way the frames within a comic are understood to relate. Comics are flexible enough that despite a change in convention the reader is able to make sense of the connection between frames and the flow of the comic is unbroken. In fact, in the same way that the size of a frame can affect the importance of that frame, a shift in convention can add to the dramatic effect. If, for instance, a sequence of single point perspective images are interrupted by a three point perspective, that frame stands out as being different from others. In this instance the three point

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34 McCloud, *Understanding Comics*, pp. 118-136
35 Ibid, Cpt 5
perspective might be used as a more dynamic image suggesting greater movement and complexity. These characteristics are emphasised by their juxtaposition with the more static, single point context.

## 3.7 Comics and Spatial Composition

It's now that we return to Schindler. I have distilled his architectural concerns to the issue of spatial composition and, I would suggest, comics posses a number of structural aspects that make them well suited to representing this architectural concern.

In the same way that Schindler controlled the path of a visitor to and through a house, comics too can provide a prescribed path of movement through moments within a building. Spaces can be unveiled in an order that shapes their formal assessment within the context of a building. Whilst understanding a building through plans, sections and elevations might enable the viewer to understand the building as a three dimensional object, to imagine yourself moving through that building is an extension of those skills and comics may help lay people in that process. Further, the reader of a set of plans is able to imagine any path or perspective within the building. Schindler was very deliberate in maximising the effect of a space by using preceding spaces to contribute to the perception of it. Instead of demanding that the reader assembles their own movement through a series of spaces, comics control how spatial information is presented to a reader. By doing so comics can emphasise the nature of a space or series of spaces and therefore they may be capable of assisting the architect in providing greater clarity of architectural intent to the reader.

Comic frames are typically set out in a grid on the page. In order to enable the viewer to understand the relative importance of each frame, the grid establishes a standard size. Large frames occupy more area on the page, are able to contain greater detail and therefore catch the eye and encourage it to dwell for longer. Small frames, with less detail, are more likely to be the linking elements of the sequence. They might provide context or information that enables the larger, more important frames to act as climaxes or moments within the story where pausing and considering the detail held within the frame is important. As Schindler sets up a rhythm in his architecture, which he then manipulates to effect,
Image 04 - Excerpt from Yes is More (pp 28-29).

Image 05 - Leon Krier “Tuning of Urban Architecture”
so does the comic. The relationship of each frame to the grid, and to the composition as a whole, encourages the reader to understand its role in the wider composition.

Not only does the frame size (i.e. dimensional space) become important, but so too does the proportion of the frame. A long, low frame might be used to show a landscape whilst a tall skinny frame might be used to emphasise height. Representing the vertical and horizontal compressions and releases of space that we find in Schindler’s architecture can be done literally through the proportion of the frame. Traditionally of course, all of these compositional tools are constrained by the page size and format. The balancing of these considerations contributes to the complexity of the art form.

(Time) in comics is an essential structural element. It is this dimension that enables us to recognise and be empathetic to surprise, humour, terror and the whole range of human experience.\(^38\)

Unlike static conventions like orthographic projection and the perspective, the connection of frames within a comic infer that time passes between them. Given that the issue of spatial composition is one that relies on a movement between spaces this implies that time plays a part in their effect. Comics provide a mechanism that enables time to be portrayed and manipulated.

If Schindler conceived of his architecture as a canvas in and on which life’s activities would occur\(^39\), the level of engagement required by comics resonates with the same humanism. The reader is required to contribute to the full meaning of the comic in the same way that Schindler believed his buildings required occupation in order to be complete.

3.8 Precedents in Architectural Media

In 2010, Bjarke Ingels published Yes is More which looks to record a number of projects his firm, Bjarke Ingels Group, had worked on. He relates a story of a client visiting his office. When the client later asked for drawings of a project they had discussed in the office they failed to recognise the project from the

\(^{38}\) Ibid, 24

\(^{39}\) Schindler, ‘Space Architecture’, quoted in March, Sheine, RM Schindler, 55.
information Ingels sent them. Outlining the challenge he faced in representing his architecture Ingels quotes his client:

“It’s interesting – in most cases when you see architects’ work, it is dead drawings and superficial images. But when you visit the office or visit a building with the architect you feel the energy and get all these little punchlines and invisible stories that make the whole work come to life!"  

Ingels then explains why they chose the comic convention for the book:

“This is our ambition here: to capture the experience of a personal visit to the studio, the construction site or one of our buildings – which is to transmit the energy of a face-to-face encounter with an architect. Rather than lining up essays, explanatory texts, drawings and images in separate layouts, we have copied the form of a comic book to combine words, drawings and images to tell the story behind each project...This is an attempt to unveil the chaotic conditions under which we work.”

In Yes is More Ingels looks to re-tell the story of his projects from conception to development and in some instances completion. Whilst the way in which those stories are told give little attention to the issue of spatial composition, the clarity and transparency in which the idea is communicated, through visual and written information, is an attractive precedent to follow.

Architect, theorist and historian and urban planner, Leon Krier uses the comic convention extensively in his illustrations. In an effort to highlight the visual differences between various approaches to urban design and architecture, he presents images side by side to aid the reader in a visual comparison. More importantly in the context of this thesis however, he also utilises a series of vignettes to explain the visual effect of urban design decisions in townscapes. Frames, drawn at intervals along a route, enable the reader to connect them in their mind and offer the opportunity to imagine themselves moving along that path and watching the view change. He is also known to produce adjacent frames which present different representations of the same space side by side. The combination of plan and perspective

40  Bjarke Ingels Group, Yes is More: An Archicomic on Architectural Evolution, Köln: Evergreen. 2009, 21
41  Ibid, 22
for instance enables the viewer to understand the subject from different perspectives and gain the advantages of both methodologies. In this manner, often helped by his accompanying text, he is able to clearly communicate complex spatial ideas and comparisons.

Finally, if we return to McCloud’s definition of Sequential Art being ‘the juxtaposed pictorial and other images in deliberate sequence, intended to convey information and/or produce an aesthetic response’43, we could argue that a traditional set of construction drawings falls within the definition. Our drawings are connected together and convey information to a wide range of people. The problem, I would suggest, is that the connections are too difficult for a lay person to decipher and the traditional orthographic convention is too abstract. Whilst the images are there to describe the information, the convention is stretched beyond what we might expect them to understand. Further, the images contained within the sequence shift emphasis from spatial concerns to issues of construction. Having said that, the linking of images together to describe a whole is far from unusual to architects.

43 McCloud, Understanding Comics, 9
4.0  Part 3 – THE APPLICATION OF COMICS TO ARCHITECTURE

4.1  The Auckland Architecture Centre

The role of the design process, and the buildings I have designed throughout this thesis, has been to evaluate comics as a representation system. Each design, along with the representations of them have been experiments in seeking response from readers and to assist me in gauging the effect of using comics upon the design process.

The following pages contain the culmination of this work with a comic of the final design.
Auckland Architecture Centre
Imagine a place where architecture and the public crossed paths.

A place which connects the old city with the new.

A place that offers a window into the world of architecture.
It could be a place for:

young firms... events and... a visitor centre.

And the fact that it’s a thoroughfare means that the public are taken on a journey to see what good architecture can be.
Because while some people might walk straight through the building from top...

...to bottom,
Others might stay to look, listen, feel and understand more about architecture and architects.
And as they move through the building, they would feel how buildings shape space, and what that does to the senses.
They might even stop, look up and think:

That’s clever! Someone’s thought about that!
It might be a place where the public stay for a while, meet friends,
order a coffee, buy a book, or download the latest news.
They might even hang around for the PARTY!
Of course some of them might choose to stay longer and delve deeper into architecture and its history.
And wouldn’t it be great to have a place where everyone could access information about New Zealand’s architecture!

An archive and library where we could go and see, and touch, and smell the very drawings that were used to build our greatest buildings.
And then, as they walk away, back into the city,

They might look at it differently, in a way that makes them think, "this stuff is important!"

Just imagine.
The comic above incorporates a number of tools the convention offers. The convention is so familiar that their use may not be clear or apparent. The following pages look to demonstrate the intent of the comic and, by doing so, better explain how comics might be used to represent the issue of Spatial Composition.

The first series is a notated version of the same frames to provide commentary around the composition of each frame on the page and their combined effect. The final spread of pages rearranges the frames in a linear fashion to better explain their size and proportion in the context of others.
Introduction to key colours within comic. Dark brown (building), blue and green.

- Full page spread, bled to the edge suggesting space.
- Overall view of the building from a perspective that may be familiar to readers.
Site plan reinforces location and relates to text regarding position in city’s development.

Narrator introduced

Building depicted again, from a similar perspective.

Narrator’s gesture directs view.

Imagine a place where architecture and the public crossed paths.

A place which connects the old city with the new.

A place that offers a window into the world of architecture.
Multiple smaller frames to maintain continuity and suggest quick rhythm.
Landscape frames to accentuate long, low nature of the building.
Because while some people might walk straight through the building from top....

...to bottom.

- Important moment reinforced by full page bleed.
- Shift from two point perspective to single point suggests restriction in movement.
Pinwheel arrangement encouraging the reader to dwell on the page (parallels to gallery space).

Images reinforce “look, listen, feel” text.
Orthographic arrangement of sections to enable comparison between heights.

Suggestion as to how light might enter the space.

- Tall frames to emphasise verticality of the spaces shown space.
- Longitudinal section aligned with transverse sections to aid in locating section locations. (parallels to gallery space).
- Colour of spaces become progressively darker as they move further into the ground.
New colour immediately reinforced on new page.

Yellow gable used again to suggest architectural subject.

Images used to appeal to the senses by suggesting taste and heat.

- Hierarchy of frames established through size.
Sunset suggests shift in time from original blue sky.

- Colours kept diagrammatic.
- Move from details to wider, three point perspective prepares reader for major shift on the next page.

Reintroduction of narrator.

Red vertical circulation introduced.

They might even hang around for the PARTY!
Softer lighting and materials.

Detail view relates to more general view below.

Red lift shaft repeated. Stairs indicated to assist in describing what’s going on.

- General shift to vertical arrangement and textures to help emphasise movement down through the building.
And wouldn’t it be great to have a place where everyone could access information about New Zealand’s architecture.

An archive and library where we could go and see, and touch, and smell the very drawings that were used to build our greatest buildings.

Square frame to suggest static, still library.

Material repeated to re-orient reader to previous views.

Narrator reappears to provide connection to next page.
Exit door repeated between frames to maintain continuity.

Red lift shaft now shown clearly.

Text asks reader to continue to use their imagination beyond the end of the comic.

- Steady increase in frame size and content toward final climax.
- Overall view of building repeating elements previously introduced.
Imagine a place where architecture and the public crossed paths.
A place which connects the old city with the new.

Simple palette of colours when emphasising other differences.

Bold colour at loudest moment of sequence.

And as they move through the building, they would feel how buildings shape space, and what that does to the senses.
They might even stop, look up and think: That's clever! Someone's thought about that!

Because while some people might walk straight through the building from top to bottom, they might even hang around for the party!

Of course, some of these might choose to stay longer and delve deeper into architecture and its history.

It could be a place for:
And the fact that it's a... can be.
Of course, some of them might choose to stay longer and delve deeper into architecture and its history.

A place that offers a window into the world of architecture.

An archive and library where we could go and see, and touch, and smell the very drawings that were used to build our greatest buildings.

And wouldn't it be great to have a place where everyone could access information about New Zealand's architecture!

Architects.

Architecture and the public.

A thoroughfare means more about New Zealand's architecture!
Compression at entry between trees and narrow ramp.

Tall frames when describing verticality of spaces.

Compression of frames and richer colours in lower, softer library.

Simple palette of colours when emphasising other differences.

Full page images spread evenly throughout sequence

Narrator is used to link frames that might not otherwise link.
4.3 OTHER EXAMPLES

The following pages include previous designs for the Auckland Architecture Centre. They are included to further demonstrate the potential use of comics in representing architecture and are referred to within the concluding sections below.

The first example given here is a traditional book type comic presenting a building on Ponsonby Road. This example is direct about looking to explain the spatial experiences by the use of both images and text.
AUCKLAND ARCHITECTURE CENTRE
Ponsonby's canopies create a space over the footpath.

They provide shelter and create a more intimate space for the public to consider what's inside.

The A.A.C. takes this space and compresses it. The entry space is another level of intimacy. It's low enough to almost feel uncomfortable and...
IT ACCENTUATES THE FEELING YOU GET WHEN YOU WALK INTO THE NEXT SPACE WHICH IS MUCH HIGHER AND BRIGHTLY LIT FROM ABOVE

THIS SPACE ACTS AS THE MAIN SOCIAL SPACE.
FROM HERE YOU CAN SEE...

THE ROAD OUTSIDE,

THE SKY,

THE STAIR AND LIFT

AND THE GALLERIES.
THE GALLERIES ARE MORE RESTRAINED IN FORM AND MATERIAL

THE ROOF WINDOW AND...

...DEPTH OF THE ADJACENT POOL ACCENTUATE THE HEIGHT OF THE SPACE.
THE GALLERIES ARE NATURALLY LIT
WHICH MEANS THE EXPERIENCE
CHANGES DEPENDING ON WHETHER
IT'S...

WINTER...
SUMMER...
OR NIGHT TIME.
The final gallery leads you to the archive library which steps down to follow the contours of the site.

Here the materials change to achieve a much quieter, softer environment.
FINALLY THE VISITOR FINDS THEMSELVES OUTSIDE...

SURROUNDED BY THE POND, AT THE CENTRE OF THE BUILDING.

AFFOREST BUT PROTECTED, FROM THE ACTION ON PONSONBY ROAD.
In 2003 Daniel Merlin Goodberry composed an installation comic for the Institute of Contemporary Arts (UK). It was a series of comic frames displayed on a wall and was 17m long. It presented multiple sequences and stories all presented at a scale that required readers to walk along the wall to read the comic. This comic was later used to develop a ‘zooming Infinite Canvas delivery system’ called the Tarquin Engine which has facilitated early investigations into computer based comics. Scott McCloud identifies this example, along with others, within his TED speech which explains the Infinite Canvas.

The following example was an attempt by myself to explore the potential of representing architecture using this approach. The individual frames were hung on the wall and connected by a red line. A scale figure is provided in the following image to indicate approximate size of the installation.

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45 Ibid, 6
4.4 A suitable convention?

My aim here has been to explore how the comic book convention might be useful in representing architecture in a way that emphasises those aspects of architecture that Schindler believed were important. To measure success within the scope of this thesis proves complex as the skills required to examine the cognitive processes involved and extract data that might provide certainty are well beyond those of an architect. This complicates any conclusion I might make here. Below I make observations and provide some reflection on those in order to address my research question and, perhaps, offer some broader insights into how representations work.

As part of my research I have been able to present a series of comics to a range of individuals and seek their reaction. In particular I have sought to gauge the success of the comic emphasising the spatial composition of a building. Whilst these individuals have included architects I have also taken some care to present it to people who don’t have specific architectural training. Through these discussions I have sought to find some perspective on the exercise and enable me to provide the reflections below. In addition I provide some personal comment on how the comic convention has affected the design process and, indeed, the design.

It is fair to say that the general reaction to the comics have been enthusiastic. That said, it’s unclear whether that enthusiasm is due to the novelty of the idea, the familiarity of the format or the effectiveness I have been seeking. Further, it remains unclear whether the sharing of underlying structures (rhythm, sequence and scale), between Schindler’s architecture and comics, is leading to any greater understanding or appreciation of the spatial composition of the building. It is however fair to say that the understanding of the building, gained by readers, is predominantly clear and direct. Unlike using a traditional set of drawings, for instance, readers seek little clarification and I haven’t been asked to provide additional descriptions of the building. The comment has been made, interestingly by someone without specific architectural training, that they believed they understood what it was like to experience the building much better than they would have with a traditional set of drawings.47

47 Paraphrasing a comment from Sarah Ell. Editor and writer.
An interesting observation has been that the discussions about the buildings represented haven’t fallen into a traditional format. Critique of the buildings has been limited in quantity and content. This may be partly due to the nature of the study, and that others have been more interested in discussing issues closer to the centre of the thesis. It may also be because the representation system fails to provide information in a format that is familiar enough to facilitate discussion. What can be concluded however is that the very fact that these discussions don’t fall into a traditional pattern, shows that the type of representation system used can affect the nature of the discussion that follows. This underpins the idea that the choice of representation system is capable of channelling discourse and therefore development.

So, whilst I would have liked to have been able to establish a link between the structural elements of a comic and the interpretation of architecture that shares those same structural elements, I am unable to establish any direct link. I would have liked to have thought that someone reading the comic might note that when the journey through the building demands a rapid movement through space, the frames of the comic become smaller and shorter in duration. Such comments haven’t been forthcoming. In many ways however this hypothesis depends on an almost subliminal effect that might not be apparent to the reader, nor measurable through the methods available to me.

Of the feedback that I have received I am confident in saying that the comics I have prepared have been effective in:

- Emphasising interior space over exterior form.
- Illustrating spatial sequence.
- Providing tools that enable the juxtaposition of representations in a way that they inform each other.
- Establishing a hierarchy between frames and therefore a hierarchy between moments within the building.

These, I would suggest, are useful tools for an architect looking to emphasise the issue of spatial composition. I would also suggest that these findings also justify my choice to explore the comic convention.
In fact, the power and flexibility of the comic convention has perhaps made it difficult to establish its effectiveness in the particular area I have explored. Whilst the comics I have prepared have been aimed at emphasising particular aspects of architecture, I imagine they could be used to explore a much wider range of architectural concerns. So, whilst it might be a useful tool for the architect exploring or representing spatial composition, this is not to say that by using comics, successful spatial composition is assured. This reinforces to me that representation systems are tools for the architect to use and understand.

4.5 The design process

Having arrived at these conclusions on the effectiveness of the comic as a representation system it is worth providing some reflection on the role they played during the design process. I was, of course, very aware that my designs would be represented in comic format and this has had an effect on my designs. Whilst the building was being formed as a holistic design in my mind, it became apparent that I was seeking to include within that design, aspects of spatial complexity that could form part of the comic layout. These, for instance, included careful orchestration of locations within the building where views would be framed or suddenly become apparent as you moved through the building. It would seem that the engineering of moments within the building, in order to facilitate the comic, are similar to the moments Schindler designed to facilitate his spatial compositions.

Whilst these key moments are incorporated within the final comic, it should be noted that the comic doesn’t provide information in a format that enables the reader to construct, in their own mind, other spatial experiences (as the trained individual might do with a set of orthographic drawings). I would argue that this demonstrates the power of the comic and isn’t necessarily a weakness of the format. The sequential nature of the comic enables the author to control what aspects of the building are understood and which ones are not. Those moments or spaces that fall outside the chosen route are not only unexplained but also excluded from the information provided and therefore excluded from any discourse. An example of this is the more back-of-house programming issues of a building. Whilst in a plan of a building we typically find that the major spaces are represented with the same hierarchy as, say, the toilets, the comic encourages us to ignore them.
The comic format also fails to help in designing other aspects of the building. Those parts of the building that don’t contribute to the spatial sequence don’t benefit from development through the representation of that sequence. For instance, whilst a plan must show a stair and lift that connects two levels, they need not be shown within a comic. In fact, the traditional stairs and lifts we use to move between levels act as a spatial interruption and have largely been excluded from the spatial sequence. Where, in the final comic, I have used the lift within the sequence, it is used as a deliberate punctuation between parts of the building that are spatially quite different.

We also find that the ramp, which enables the majority of the circulation through the site, plays an important part in understanding and experiencing the building, despite its traditional planning inefficiencies. Throughout the design process of this building, which makes a vertical transition of 5 meters, I struggled against including a traditional stair and lift to assist people moving through the site. Instead the ramp was adopted as a major organising element within the building. Spatial composition has therefore been emphasised within the design, at the expense of efficiency in planning, flexibility in the final use of the building and the convenience of people moving through the building in a hurry. However, it has helped deliver other important aspects of the building, including the interaction of pedestrians with the exhibition spaces.

Interestingly, in regards to vertical circulation routes, Schindler’s stairs are often concealed and don’t play a part in his spatial sequences. This may have been because he found them difficult to integrate whilst still maintaining spatial continuity or that he chose to use them as a spatial separation between public and private spaces as he did in the Kings Rd and How houses.

Of all three buildings I have designed through this process, the final one, depicted on pages 37-48, incorporates the least level of spatial complexity. The site and the building’s use as a thoroughfare, has presented less opportunity to build in the kind of complexity Schindler often included within his homes. Despite this lack of complexity I have found that the need to represent the building in the comic format has encouraged me to find and elaborate on spatial opportunities. Where, for instance, the void in the upper floor presented a double height space, that vertical connection was exaggerated by the location of the roof light and the resulting visual connection, from the ground floor, through the roof light, to the sky beyond (see page 43). This then established the location of the main public space on the
upper level. The ability for the comic convention to demonstrate this spatial resolution has influenced the planning of the building; proof perhaps that the representation system has made the spatial composition of the building better.

Although I have been setting out to design in the manner of Rudolph Schindler, and I often found myself asking ‘what would he do’, the comic format, as I have chosen to adopt it, has helped me design the spatial compositions and avoid disconnection within them. The comic format, I would suggest, has indeed helped me design spaces that are well composed.

Something that has come as a surprise to me has been the reliance on graphic design tools. Whilst I might have previously recognised that comics utilise these tools, the composition of frames upon the page, and the power that correct composition provides is a benefit that I believe is directly transferrable to other representation systems. Of particular interest has been the use of colour (something I might normally exclude from traditional drawings) to connect images together and provide a coding that enables the reader to identify the same architectural element between different frames. One reader noted that ‘the red bits are very rigorous and might be important’. This use of colour has become more obvious as each iteration of comic has been produced. The use of colour has become more diagrammatic and less descriptive. Whilst this aids the reading of the comic, it does abstract the views of the building and reduce the information available to the reader.

Further to the point that comics engage with graphic design, I note that by adopting a traditional comic format we also adopt a traditional book format which brings its own compositional challenges and opportunities. Whilst the ability to take advantage of the sequential nature of books and the anticipation that comes with the opening of a new page, representing a spatial experience in this format imposes its own rhythm and constraints which presents difficulties and affects the composition of the representation itself. Whilst this is the case with all representation systems, the book format is not something that architects are necessarily experienced in using. This problem is amplified by the fact that the comic and book are such familiar formats. As architects we can compose our drawings poorly and fail to use proper convention without the lay person necessarily noticing any difference in message.

48 Email from Veronica Cassin, 6th April, 2014
A book or comic that fails to meet the expectations of the reader is more likely to be noticed.

My early explorations into the comic format had varied success. The first (page 76-77) looked to adopt Daniel Merlin Goodbrey's example by exploding the comic into a series of frames mounted on a wall. The sequence was established by a red line connecting the frames and multiple sequences were enabled by diverging red lines. The second exploration (page 67) was a more traditional but dry description of a spatial sequence. What did become clear, through the reaction to these experiments, is that when a representation system is adopted, straying from that convention comes at some risk. In the first instance, I don't believe the representation was understood clearly. The sequence was difficult to establish and the reader was distracted from the interpretation of the building by the unfamiliarity of the representation. In the second example there was a strong desire to make the comic more comic-like. In particular there was a desire for a character or narrator and more graphically strong imagery (which I have attempted to incorporate in the final comic). Despite comics not requiring these elements, the second experiment didn't feel enough like a comic to be taking full advantage of the format.

On a number of occasions comments were made that the comic was providing a 'narrative' without a character to provide adjacent commentary. It never occurred to me, in describing the spatial sequence, that I was establishing a narrative or story. Upon reflection it is clear that the gutters within comics suggest a progression in time. The sequence represented therefore becomes a chronological as well as spatial sequence. I would argue that a chronological sequence need not require or impose a narrative. For instance it's possible for the trained reader to extract a spatial sequence from a set of orthographic drawings but we don't expect those drawings to establish a chronological narration. What I do believe has been made clear here however is that representations need to meet the expectations of the reader in order to avoid confusion or distraction. A comic without narration felt incomplete to the readers.

An observation of this previous matter was that there was also a desire for the building to become more comic like. The building, it was suggested, could be more like the representation system that was used. I got the impression that preconceived ideas about comics being a fun and expressive format should

influence the building to be more fun and expressive. Given my fundamental position has been that the
design is fundamental and that representation systems are simply tools to demonstrate that design, this
has been the exact sort of move that I have resisted.
5.0 SUMMARY

The research question I have sought to answer has been: How might the comic book convention assist in representing architecture like Rudolph Schindler’s?

The three essential parts to answering this question have been understanding Schindler’s architecture, understanding comics in the context of traditional architectural representation systems and examining the potential of comics through the design of a building. Each part has been complex and presented multiple paths for exploration. I have, along the way, chosen paths that enabled me to respond to the question above and gain a wider understanding of the role of representation systems in architecture. Below I look to present both specific conclusions and wider statements to fully reflect my discoveries and experiences.

Yes, comics could contribute to a wider understanding, development, dialogue and demand for spatial composition, but not in their own right. Comics have proven to be a useful tool for an architect who is particularly interested in ‘the combined experiential effect of movement through adjacent spaces’ but I have been unable to prove that their use in the design and representation process is likely to ensure that spatial composition is instilled within that design. Whilst I have identified, within this process, responses to my comics that suggest their format has modified the discourse that follows, the complexity of the subject and a methodology that might prove a connection has proven beyond my scope and skills.

Contributing to the complexity of this particular problem is that the comic convention is so robust and flexible. Comics are used widely, for a number of reasons and applications. The structure and understanding behind them is strong enough that they might be used for a number of goals. As I’ve shown, Bjarke Ingels and Leon Krier have grasped this power and, I would suggest, comics might be used by architects for purposes much wider than those explored within this thesis.

The nature of the comic, I would suggest, lends itself to describing the qualitative aspects for a building rather than the quantitative. Whilst a set of plans and sections might enable a quantity surveyor or engineer to establish anticipated cost or the size of a beam, the comic is more likely to describe what
the building looks or feels like. On its own then, a comic might frustrate the design development process. I would like to think however that in sitting alongside traditional representation systems a comic might amplify those qualitative aspects of a building to enable other consultants to understand the architectural intent and therefore assist the traditional design development process.

One of the most reassuring aspects of this investigation has been the response from lay people, to the format. As I've outlined previously, it has been difficult to gauge why the response is so positive, or how wide the sentiment might extend. I believe the familiarity of the format has a large part to play. It is a format that is recognisable and can be digested without specialist training. In addition, if it is well suited to representing qualitative aspects of a building, it is difficult to imagine another convention that achieves the same level of engagement at an early stage of design.

I would also suggest that comics relate to how we experience buildings every day. Schindler’s architecture, in particular, was one of control and manipulation of the senses. His buildings were carefully composed to affect how spaces were perceived by prescribing a route through them and providing contrast between spaces to maximise the effect that they offered. He believed his buildings not only needed to be experienced but indeed occupied for their fullest effect to be realised. The comic convention, I suggest here, offers a method of control that has the potential to represent architecture in the same way that Schindler’s buildings were experienced. Through the use of a comic a building can be described in a sequence and each part of the composition is understood in the context of the whole. This is how we come to understand buildings in reality and therefore, I would suggest, there is a more direct connection between reading the type of representation I have presented here and real sensory experiences.

The role of comics within the design process has been profound. The development of the design in the context of this study, and the knowledge that the design would be represented using comics has had an effect on the way I have designed the buildings. The flexibility of comics might have encouraged this connection as I was continually composing the comic in my own mind while I was designing the building. The requirement to provide continuity within the comic meant that spaces and their connections had to be considered closely. The comic format was able to adapt and respond to the design whilst still providing an underlying structure. Other representation conventions might be
considered more objective and without the same flexibility. A plan, for instance, is drawn horizontally, at a height above the floor, to show certain things. The convention is less able to be manipulated and therefore is perhaps taken for granted. The requirement to balance a representation system with the subject so closely encourages a consideration of both, and therefore creates an emphasis on the representation of a subject in the design process. The designer is constantly being asked to consider how the building will be represented and therefore being reminded to make the message clear.

The type of representation system used influences the design development. Architectural elements that don’t appear within a representation system are unlikely to receive development. In my example the comic has emphasised spatial composition over circulation. A section through the stair for instance would change the emphasis. Representations systems are tools and their strengths and weaknesses should be understood in order to ensure the correct one is being used. Our choice of representation system influences what aspects of architecture we will emphasise, develop and illustrate to others.

It has been reinforced to me, throughout this process, that when a convention is adopted it must be used well. There has been a demand by readers for the comics to be more like a comic book. Putting aside my limited skill as a comic book artist each comic has come to more closely resemble a book in portrait format. A convention used badly only confuses the message and, in this case, distracts the reader. In the case of this thesis perhaps, the chosen convention is so familiar and so central to the study that I was always going to attract comment specifically about the comic itself. I wonder if the same might have occurred should I have chosen film or literature?

I offer the above conclusion with a word of warning. It has been my position throughout this thesis that representations act as a tool to describe a three dimensional object. There is an argument to say that the design should respond to the representation system that portrays it. After all the building is understood through representations well before it is built, during its construction and possibly well after demolition. The representation of a building, Colomina’s might argue, is more important than the building itself and the built object is a by product of a process that our drawings facilitate. On a number of occasions it has been suggested that the building I design should be more comic like. Comics are well

50 Beatriz Cololina, author of Privacy and Publicity, refer to the introduction.
known for depicting the future and providing drama through the imagery they use. The expectation of some of my readers has been that the comic would benefit from a building that was more dramatic and futuristic. This might be true and is perhaps a valid course of investigation but I would argue it fails to promote architecture like Schindler’s.

Architects have a range of representation systems available to them. Each has its own strengths and weaknesses. To take them for granted and use them without question, whether that be within the design process or as a means of explaining ideas to others, is to potentially leave ourselves unexplained. Buildings also have different strengths and weaknesses and it is important to use representation systems that emphasise those qualities. In my case I am interested in developing the architectural ideas that Schindler began to explore. I have found comics to be useful in understanding, developing and representing spatial composition and the type of architecture that Schindler sought to achieve. I would like to think that this might be true for others and that the experiences I have recorded here are transferable to other situations.

Of most importance, at the conclusion of this thesis is that representations play an important role within the design process and their importance and power should not be under estimated. They are tools to be used and, like a good carpenter, having a full array of tools available to you makes your job easier.
Beyond the Thesis

This thesis has unravelled a number of threads for me that were unable to be followed to their conclusions. The length and breadth of some of these threads has made it difficult to draw firm conclusions around the effectiveness of comics to portray the qualities of scale, rhythm and hierarchy. As I have outlined, I would have thought that the structure of the comic might lend itself to people understanding that large frames, for instance, are places for the eye to dwell and might be used for spaces where people might stay longer. On the other hand frames in quick succession, with little detail, encourages the eyes to move across the page faster toward the next climax in the sequence. McCloud argues that comics benefit from a form of synesthesia where the visual shorthand provided by icons, symbols and even the style of drawing, amplified by common experiences, prompt a sensory reaction. A steaming cup of coffee for instance might prompt an understanding of smell and touch. He does however limit his description of this phenomena to the things that are drawn within the frames. Whilst the effects of compositional tools are described separately in his books I feel that an investigation into the synesthesia effect of the convention itself might provide the proof needed to confirm my belief in the comic format to portray these important experiential aspects of architecture.

The feedback I’ve received throughout this study has encouraged me to limit my investigations into comics to a traditional book type format. Comics have existed for a long time and whilst it is perhaps fair to say that they have struggled to adapt to digital formats there are a number of avenues that present exciting possibilities for uses in architecture. In particular is the development of what McCloud describes as the ‘infinite canvas’ where the screen acts as a window that passes over the sequence of frames. In the best examples of its use the hierarchy and scale of adjacent frames are maintained. Microsoft did, for a period of time, establish a team that looked at the infinite canvas as a presentation tool and there is a newly launched iPad application that appears to have developed beyond its awkward initial format. In particular I can imagine that such an application might be used to organise conceptual ideas that later become linked into a spatial sequencing device. A digital format also has the potential to overlay layers of information including sound, colour and technical issues. It would seem

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52 http://infinitecanvas.igate.de/
53 itunes.apple.com/nz/app/infinite-sketchpad/id433129832?mt=8
possible to explore a building by moving from space to space, whether they have three dimensional properties or not, and in each space discover things about it. In the same way a film is story-boarded before it is shot, a digital navigation tool utilising the comic book structure might help develop an understanding of the experiential aspects of a place before it takes shape.

Finally, this thesis has made clear to me the importance of graphic design tools within the representation systems we use. I believe many of these are directly and easily transferable to existing representation tools. Graphic designers and comic book artists are trained to clearly convey messages through their drawings and images. There is perhaps a course of study that establishes a series of architectural representation standards utilising the forefront of graphic design thinking.
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