**Decisive Moments:
Architectural Drawing**

by
Jared Sunderland

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Post-Doctoral Affairs in partial fulfillment of the
requirements for the degree of
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Decisive Moments:
The Architectural Drawing

Figure 1 Henri Cartier-Bresson, Hyères, France, 1932. Source: Bresson, Henri-Cartier. *The World of Henri Cartier-Bresson*. New York: The Viking Press, 1968. Plate 22.

AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

Understanding architectural design to be an act having a structure as its aim, this thesis seeks to understand the architectural drawing as operating 'in absentia' of the architectural construction through an analogous relationship with the photographic image. In order to understand the implication of this relationship, three influential texts of photographic theory are used to provide the framework for the comparison. This thesis explains the architectural drawing to act as a reminder of a distinct human condition of existence, that its strength lies in providing a material surface to question, and that it this strength is used to narrate the construing and construction of the building through the act of its making. The physical similarities between the two mediums provide a basis for comparison while the difference in their retrospective and projective dimensions of time allow for identifying distinctive characteristics of the architectural drawing, specifically that its referent can change, it is through the drawing itself the this change occurs, and the act of making the drawing allows the building to unfold in time.

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CHAPTER 1 - INTRODUCTION

During the process of conceiving architecture, a relationship exists between the material realities of the architectural drawing and the architectural object where the drawing operates 'in absentia' of the future material structure. Frederica Goffi describes this relationship as architectures 'twinning body', writing "During the transformation of the building, the drawing makes discernable the intangible presence of the buildings sempiternal body, acting as a 'substitute'. Drawings are produced in an 'in-between' condition, making visible and accountable for a transformation that is 'invisible' when looking in the present condition, at the building"¹. The drawing is an established architectural tool for conceiving a yet to exist architectural construction and represents the first of architecture's two bodies, taking on a position of a signifier pointing to architecture's second body, the signified reality of the building. The image as its own object accounts for this external reality and for the invisible processes that connect them. A comparison of the architectural drawing with another form of representation possessing this characteristic can make clear implications regarding to the role of the architectural drawing in the process of architectural design. The photographic image and the architectural drawing are both a presence and an absence; present as a physical thing held, absent as they are coupled with a referent, a representation and a connection to an external reality.

Film photography creates a photographic image operating similarly 'in absentia'; an object pointing to a reality outside of itself, and linking itself physically through the invisible

¹ Goffi, Frederica. "Architectures Twinning Body: Building and Drawing." In *From Models to Drawings: Imagination and Representation in Architecture*, ed. by Marco Frascari, J.Hale, and B.Starkley. (New York: Routledge, 2007). 88.

processes responsible for its creation. To create a photographic image requires a surface sensitive to light, a device to perform a timed exposure of light onto this surface, and a location to record the image. Film acts as the surface and the location to record and the camera is the device exposing it, allowing light reflecting from the surfaces of objects or people to imprint a 'true' image of the subject. Roland Barthes explains the significance of this imprint writing:

"The Photograph is literally an emanation of the referent. From a real body, which was there, proceed radiations which ultimately touch me, who am here; the duration of the transmission is insignificant; the photograph of the missing being, as Sontag says, will touch me like the delayed rays of a star. A sort of umbilical cord links the body of the photographed thing to my gaze: light, though impalpable, is here a carnal medium, a skin I share with anyone who has been photographed."²

The photographic image cannot exist without the existence of its subject, light thus creating a direct but intangible connection between the object and the event. The photograph is accountable for the process from which it is made and the external reality it represents. Barthes explains how this characteristic of the photographic image is defining, writing "Painting can feign without having seen it. Discourse combines signs which have referents, of course, but these referents can be and are most often "chimeras". Contrary to these imitations, in Photography I can never deny that *the thing has been there*."³ What distinguishes the photographic language from other systems of representation is that it is a recording, photographic referents being linked directly to the trace, the image. The direct link between the material realities of the photographs two 'bodies' is, similar to the architectural drawing and its structure, a result of a process of transformation, and provides a basis for comparison.

² Barthes, Roland. *Camera Lucida: Reflections on Photography*. Trans. Richard Howard (New York : Hill and Wang, 1981), 80-81.

³ Barthes, 76.

Recognizing Roland Barthes, Susan Sontag, and Henri Cartier-Bresson as influential voices in the development of photographic theory, an investigation of their writing provides a framework to consider the architectural drawing as a photographic image operating 'in absentia' of its referent. The following three chapters will address these authors individually to reveal, similar to the photograph, the drawing to be (1) a reminder of a condition specific to human existence, (2) a surface to question, and (3) able to convey context and impressions of the author.

The temporal relationship between the representational image and their external objects differentiates the two providing a basis for contrast and identification of values specific to the architectural drawing. The drawing is projective, its intangible referent existing in the future, while the photograph is retrospective, its intangible referent existing in the past. From this basis, the following three chapters will reveal distinguishing characteristics of the architectural by contrasting it with the photograph in how it performs in the conception of architecture to show how (1) its referent can change, (2) the drawing itself is a device to change it, and (3) the referent is unfolding in time through the making of the drawing.

CHAPTER 2 – BARTHES' *PUNCTUM OF TIME*

Roland Barthes (1915-1980) was an author, essayist, and French philosopher whose 1980 book *Camera Lucida*, a personal and subjective study of the emotional attachment one feels when experiencing certain photographs, has become a canonical text in photographic theory⁴. In *Camera Lucida*, Barthes concerns himself with finding the essential feature of the photographic image, the characteristic differentiating it from other forms of representation⁵. Through a two staged phenomenological enquiry, he arrives at the conclusion that the essence of the photographic image is its banal and obvious character of “that-has-been”, something he is aware of at the start of his analysis, but discovers that it can be seen as a “sibling” to *madness*, operating as a “new form of hallucination: false on the level of perception, true on the level of time”⁶. Barthes understands the photographic image through its ‘retrospective’ representation and physical link to its referent to confirm the passage of time, in turn acting as a reminder of our own mortality. His notion of the dimension of time as providing the essence of the photographic image provides a conceptual framework to view the architectural drawing as similarly a reminder of a condition specific to human existence. Where the photographic image evokes one’s ‘fear of death’ through its temporal relationship with its referent, the architectural drawings through its own temporal relationship is an implication of one’s projective imagination.

⁴ Kriebel, Sabine, T. “Theories of Photography: A Short History”. In *Photography Theory*. Ed. James Elkins. (New York: Routledge, 2007.), 20.

⁵ Barthes, Roland. *Camera Lucida: Reflections on Photography*. Trans. Richard Howard (New York : Hill and Wang, 1981), 3.

⁶ Barthes, 117.

A REMINDER OF DEATH

Barthes coins the terms *studium* and *punctum* to differentiate between two co-existent themes he recognizes to be present in the photograph. The *studium*, Latin for “application to a thing” or “taste for something”, of the photograph is the meaning read in the image through pre-established formal or informal frameworks of understanding. It is the meaning of the image that the viewer ‘learns’ to recognize from their experience and cultural influences. He explains “To recognize the *studium* is inevitably to encounter the photographer’s intentions, to enter into harmony with them, to approve or disapprove of them, but always to understand them, to argue them within myself, for culture (from which the *studium* derives) is a contract arrived at between creators and consumers.”⁷ The *punctum*, Latin for “spec, sting, cut, little hole, and also cast of the dice”⁸, is not a meaning that is sought or brought to the photograph by the viewer, but rather it disturbs the *studium* to affect the viewer on an experiential level. Barthes explains “This time it is not I who seek it out (as I invest the field of the *studium* with my sovereign consciousness), it is this element which rises from the scene, shoots out of it like an arrow, and pierces me...A photograph’s *punctum* is that accident which pricks me (but also bruises me, is poignant to me).”⁹ Barthes approaches the *punctum* as the element constituting for the essential feature of all photographic images, using it as an aid to recognize how it ‘pricks’ his personal emotions of desire and grief, love and hate. He recognizes the *punctum* as a ‘paradoxical addition, writing “it is what I add to the photograph and *what is nonetheless already there*”¹⁰.

⁷ Barthes, 28.

⁸ Barthes, 27.

⁹ Barthes, 26-27.

¹⁰ Barthes, 55.

The *punctum of time* is the component of the photograph where Barthes identifies its universal 'essence' to lie not in the 'form' of the image but through its 'intensity'. To illustrate he uses a portrait taken in 1865 of Lewis Payne (Fig 2), the individual who, in attempting to assassinate Secretary of State W.H Seward was captured, tried, and sentenced to death. Barthes writes:

"Alexander Gardener photographed him in his cell, where he was waiting to be hanged. The photograph is handsome, as is the boy. That is the studium. But the punctum is: he is going to die. I read at the same time: This will be and this has been, I observe with horror an anterior future of which death is the stake. By giving me the absolute past of the pose (aorist), the photograph tells me death in the future. What pricks me is the discovery of this equivalence. In front of the photograph of my mother as child, I tell myself she is going to die. I shudder, like Winnicott's psychotic patient, over a catastrophe which has already occurred. Whether or not the subject is already dead, every photograph is this catastrophe."¹¹

Figure 2 Lewis Payne. Source: Barthes, *Camera Lucida*, 95.

Within the photographs physical link to its referent Barthes reveals the dimension of Time that separates the two is responsible for the definitive 'essence' of photography: that it reminds one of death. The intensity of

recognizing the equivalence of the subjects past existence and future demise, and the recognition of histories of the subject and the viewer (and the photographer) intertwining through the object of the photograph is the *punctum* that can be recognized in all photographs. This observation is similarly made by Susan Sontag who writes "To take a photograph is to participate in another person's (or thing's) mortality, vulnerability, mutability. Precisely by

¹¹ Barthes, 96.

slicing out this moment and freezing it, all photographs testify to time's relentless melt."¹² Sontag suggests the photograph belongs to the artistic genre of *memento mori* (Fig. 3), Latin for 'remember that you have to die', which associates the depiction of certain objects, such as a human skull, as a symbol recognizing ones mortality¹³.

Figure 3 Giovanni Francesco Barbieri. Et in Arcadia ego. Source: http://www.shepherdsofarcadia.com/html/shepherdsofarcadia_p3.php

Recognizing in the photograph the collapse of time and evidence of death, Barthes describes the photograph as a hallucination or madness:

"Here is where the madness is, for until this day no representation could assure me of the past of a thing except by intermediaries; but with the photograph, my certainty is immediate; no one in the world can undecieve me. The photograph then becomes a bizarre medium, a new form of hallucination; false on the level of perception, true on the level of time: a temporal hallucination, so to speak, a modest, shared hallucination (on the one hand "it is not there," on the other "but it has indeed been"): a mad image, chafed by reality."¹⁴

The photograph allows the viewer to see the subject after they have existed, but before they are dead. On the level of time the photograph is *truthful* as the existence of the referent is *necessary* to bring the photograph into being. The photograph records something that did exist at some point in time, the film capturing the 'true' image of a subject at one instant in time. On the level

¹² Sontag, 15.

¹³ Sontag, 15.

¹⁴ Barthes, 115.

of perception the photograph is *false* in that the photographic image is separate and distinct from the event itself. The photograph connects the viewer through light to the event but itself is an object moving away through time from the moment it represents. Where Barthes associates the truth of time with the physical relationship between the photograph and referent, the falsity in perception coincides with the image's own distinct material reality. It is the nature of the physical link between the two that provides Barthes with the proof of time and death.

The architectural drawing in the design process operates 'in absentia' of a future construction and can be similarly read as a 'hallucination' by (1) providing a false perception of the building distinct from its material reality and (2) being true on the level of time as it can be considered a *projective* recording. Opposing conceptions of the architectural drawings relationship with its referent by architectural theorists Marco Frascari and Robin Evans illustrate these two conditions of the architectural image.

THE PROJECTIVE IMAGINATION

Robin Evans suggests the relationship between the drawing and the building as being similar to a translation between languages, where original meaning can be understood to shift between differing syntax imperfectly, across a discontinuous 'substratum' where 'things can get bent broken or lost on the way.'¹⁵ From experience teaching at an art college, Evans came to the realization that the distinct physical relationship between the architectural drawing and the architectural object characterizes the drawing as an 'intrusive' necessity. He writes:

¹⁵ Evans, Robin. *Translations from Drawing to Building*. (Cambridge Massachusetts: MIT Press, 1997) 154.

“Bringing with me the conviction that architecture and the visual arts were closely allied, I was soon struck by what seemed at the time the peculiar disadvantage under which architects labour, never working directly on the object of their thought, always working at it through some intervening medium, almost always the drawing, while painters and sculptors, who might spend some time on preliminary sketches and maquettes, all ended up working on the thing itself which, naturally, absorbed most of their attention and effort.”¹⁶

The separation between the architectural drawing and its referent is temporal in nature and is subject to what Evens refers to as the principle of *reversed directionality* in drawing: “The subject matter (the building or space) will exist after the drawing not before it”¹⁷. The temporal separation of the drawing from its referent establishes to Robins that the drawing is distinct from the architecture as it is an intermediary object. As a result of this separation, this detachment of the drawing from the building, Evans writes that “a suspension of critical disbelief is necessary in order to enable architects to perform their task at all.”¹⁸ The architectural drawing is experienced separately from its referent, false in terms of perception due to its own physical distinctness from the event.

The architectural ‘facture’ is a necessary concept in understanding how the architectural drawing can be considered ‘true’ in terms of time. In discussing the role of paper in the process of conceiving architecture, Marco Frascari writes that “It has allowed architects to move away from the site during the making of their architectural factures. To speak of an ‘architectural facture’ is to consider both a piece of architecture and its drawing in terms of their making – as both can be seen as interfacing records of their own having-been-made.”¹⁹ He describes the

¹⁶ Evans, 156.

¹⁷ Evans, 165.

¹⁸ Evans, 154.

¹⁹ Frascari, Marco. “A reflection on paper and its virtues within the material and invisible factures of architecture.” In *From Models to Drawings: Imagination and Representation in Architecture*, ed. by Marco Frascari, J Hale, and B.Starkley. (New York: Routledge, 2007). 23.

architectural facture as “the mounting and falling of the energies played out during the process of architectural conceiving”²⁰. The drawing is the mediator affecting the result of the building by translating the ideas, intentions, and physical energies of the architect into a future material reality. In constructing the drawing the architect is in essence constructing the building, for the two entities exist within the same process; the act of making the drawing being generative, both mentally and physically, of the architectural object. The marks architect create on the page with the pencil are the result of their thoughtful intent and physical action allowing them to create a projection of a future construction. Frascari writes “drawing on paper does not involve an automatic transcription onto a surface of ideas that are already clear in the architects mind, i.e. a merely figurative delineation. But rather, it provides a way to mediate and sublimate architectural factures of future edifications.”²¹ By allowing the architect to represent the future building’s construction it becomes a generative piece of its future reality, and is a record of the intellectual and physical processes inherent in the conceiving of the object. The drawing can be understood as ‘true’ in a temporal context for, like the photograph, its image represents a projection of a separate temporal moment, a moment it has a physical connection with through ‘invisible’ generative forces. It ‘records’ the future buildings possible construction.

The referent of the architectural drawing is not true in the sense of being a recording of a definitive reality but in terms of being a projective recording of a potential reality. This difference of projective and retrospective separation allows Barthes understanding of the photographic image to reveal implications of the Architectural drawing acting “In Absentia”. The referent of the architectural drawing can be changed through the physical and imaginative

²⁰ Frascari, 23.

²¹ Frascari, 24

actions of the architect, pointing not to the human condition of 'fear of death' by proving time is unfolding, but instead, acts to remind one of the defining human ability to imagine the future, of one's conscious presence and ability to interact with reality. Pre-philosophical Hebraic and Hellenistic accounts for the origin of the imagination illustrate how the projective imagination, the ability to contemplate temporally separate realities, is linked to a specifically human condition of existence.

In Genesis, the story of Adam eating from the tree of knowledge is emblematic with humankind acquiring the ability to imagine, his transgression of God's Law making Eve and he to be "like gods". This is identified with "man's ability to imagine a world of his own making"²², as an aspect being "coincident with the ability to project a future order of human creation and to recall the events of the past"²³. The Greek Myth of Prometheus, where he gives the gift of fire to humankind, coincides similarly with the ability to invent their own world, fire allowing for creating the arts that allow 'nature' to be transformed into 'culture'. As Kearney clarifies, "The name Prometheus, means fore-sight, designates the power to anticipate the future by projecting an horizon of imaginary possibilities."²⁴ Subsequently the first proper philosophical formulation of the notion of the imagination by Plato addresses the theme of imagination as a distinctly human mode of existence, allowing for the capacity to erect images of the gods and communicate in words to raise humankind above the animal order²⁵.

²² Kearney, Richard. *The Wake of Imagination: Ideas of Creativity in Western Culture*. (London : Hutchinson, 1988), 39.

²³ Kearney 39.

²⁴ Kearney, 89.

²⁵ Kearney, 89.

Any drawing can be considered as a location of imaginative action requiring a prior act of thought and a manual activity in order to conceive a formal image.²⁶ The architectural image not only produces an imagined image, but creates it for the purpose of projecting a future reality outside of itself. The architectural drawing through its representation of a potential reality rather than a static reality implies the projective capacity of the imagination.

Like the photograph, the architectural drawing always carries with it 'proof' of a human mode of existence embodied in its temporal nature, but due to its projective rather than retrospective direction gives emphasis to a different condition. The punctum of the architectural drawing lies in its dimension of time, and its accountability for its referent, providing the viewer has visual access to a separate reality, a 'hallucination' similar to how Barthes considers the photograph. The material object that is the drawing is separate but intrinsic to the material reality of the building, being 'false' on the level of perception and 'true' on the level of time. Where the photograph is not intrinsic to the event it depicts to exist, the architectural drawing operates beyond a visual representation as it is necessary for the architectural construction to manifest. It is the temporal nature of this relationship, being projective rather than retrospective, that accounts for the architectural drawings 'reminder' or 'essence'. A constructed projection rather than a recorded imprint, the architectural drawing proves the imaginative intent of the architect. The existence of the architectural drawing dependent on ones intention to build in the future, existing as an extension of a reality that is unfixed, rather than, in the context of the photograph, a static reality that cannot be affected. The architectural referent requires the architect to construct it through the drawing where the photographic referent is what constructs the photograph. This characteristic manifests itself physically in the development of the drawing, as it 'reminds' the architect of their influence on the future, and

²⁶ Evans, 164.

thus their projective imagination, by requiring their actions to change the referent. This requirement coincides with the drawings projective essence, its own *punctum* of time, evidencing the intention to create.

CHAPTER 3 – SONTAG’S POWER OF THE IMAGE

Susan Sontag (1933-2004) was an American author, essayist, and philosopher who’s 1977 book *On Photography*, a collection of essays published between 1973 and 1977, received the National Book Critics Circle Award, and established itself as an influential text in photographic discourse.²⁷ Sontag’s essay “In Plato’s Cave” addresses the political functioning of photographic images in capitalist society, examining the moral and ethical issues that are raised. Her notion that the photograph is mistaken for knowledge provides a conceptual framework to understand the strength of the architectural image in the process of the construing and construction of architecture. Sontag analyses the acceptance of photographic technology in the modern world to reveal how it has resulted in forming a ‘new visual code’, a new means through which we now perceive our surrounding environment²⁸. She arrives at the conclusion that the photographic image has come to presuppose our conception of experience through its aggressive and representative nature, constructing a secondary world of images that presuppose how we view our experiences. Sontag suggests photographic images are misperceived of as ‘pieces’ of reality, when they are in fact ‘interpretations’ of reality, and that the true power of the photographic image lies in acknowledging this interpretive nature. In doing so the photograph becomes a surface that invites speculation and questioning: actions Sontag identifies as the true means of acquiring understanding and knowledge. The photographic image, through its inability to explain circumstances beyond its superficial surface encourages the viewer to investigate these realities.

²⁷ Goldberg, 506.

²⁸ Sontag, Susan. *On Photography*. (New York: Picador, 1973), 3.

THE INTERPRETIVE IMAGE

The act of taking a photograph is described by Sontag as the 'appropriation' of the thing photographed, and results in a relationship with the world that feels like knowledge, and therefore power²⁹. In their appearance as truth the photographic image represents a mindset that sees the world as recordable; the photograph can furnish proof by either incriminating those involved in the event or justifying that the event actually happened³⁰. Sontag further asserts that photographic technologies since their creation have always been aggressive and influential, inciting the mentality that views the world as a set of potential photographs. It is due to the presumption that something has or does exist that is similar to the image that any photograph "seems to have a more innocent, and therefore more accurate, relation to visible reality than do other mimetic objects."³¹ She explains "What is written about a person or an event is frankly an interpretation, as are handmade visual statements, like paintings and drawings. Photographed images do not seem to be statements about the world so much as pieces of it, miniatures of reality that anyone can make or acquire³²". Though the drawing can be perceived as such, to Sontag the photograph is just as much of an interpretation of reality as photographers impose standards in their selection of which images to present. She writes "in deciding how a picture should look, in preferring one exposure to another, photographers are always imposing standards on their subjects. Although there is a sense in which the camera

²⁹ Sontag, 4.

³⁰ Sontag, 5.

³¹ Sontag, 6.

³² Sontag, 4.

does indeed capture reality, not just interpret it, photographs are as much an interpretation of the world as paintings and drawings are.”³³

The connection Sontag makes between the photograph and the drawing has resonance with the architectural drawing for it is an image that similarly excludes information in order to provide a visual conception of spatial and conceptual relationships the architect creates. An analogy by Iain Fraser and Rod Henmi outlines this characteristic:

“A drawing is like a theatrical scrim, a gauzelike screen whose properties change dependent on lighting conditions. Like a scrim, a drawing is both opaque and translucent, a filter between the drawing and the viewer, drawer and object, between ideas conceived and their two-dimensional manifestation. A scrim and a drawing both prevent as well as allow view, asserting their presence with varying authority in different ways. When the back light turns on, the scrim disappears. In a similar way, drawings dissolve and open a world of rich possibilities.”³⁴

³³ Sontag, 6-7.

³⁴ Fraser, Ian, and Rod Henmi. *Envisioning Architecture: An Analysis of Drawing*. (New York: Van Nostrand Reinhold, 1994), ix.

In their discussion of the role of the diagram as a tool in architectural representation, they explain how every architectural drawing is in fact an interpretation. Defining the diagram as a 'self-conscious reductive process, attempting to make clear a specific interpretation through the exclusion of that information which the authors deem irrelevant'³⁵, Fraser and Henmi suggest at a certain point this reduction of information can potentially provide misleading, incorrect, or incomplete depictions of realities integral the project³⁶. To illustrate they use the example of eighteen axonometric drawings by Peter Eisenman of his Project House IV. The series shows the development of the project through a process guided by predetermined and precise rules. The top row depicts the frame of the project, the second row the planar elements, and the third the progression of volumetric elements. The progression moves from left to right where the final configurations of all three considered elements of frame, plane, and volume can be seen to culminate in the depiction of

Figure 4 James Stirling. Electra Bookstore, Venice, Plan Oblique up and down view. Source: Fraser & Henmi, Envisioning Architecture, 48.

the final image of the architectural object in the bottom right image. In considering the images together questions concerning at what point in their development can a true 'diagram' of the project be found. Each drawing, including the final depiction in the bottom right corner, can be considered a diagram of future construction documents, as well as of future developments

³⁵ Fraser and Henmi, 99.

³⁶ Fraser and Henmi, 100.

where openings and material decisions will further influence its realization³⁷, the final construction being the 'true' reality. Fraser and Henmi conclude "This set of drawings demonstrate that every drawing is an abstraction, where authors make choices of what and how to draw: a line for an edge; tone as a shaded plane; a scrawled pattern as texture. Each of these choices involves a process of elimination and reduction, subduing certain aspects while highlighting others."³⁸ As refined as the last image is, they compare it to an axonometric constructed by James Stirling for the Electra Bookstore, an image incorporating a higher level of detail, to further highlight the subjective nature of what can be considered a 'complete' drawing within the process of a projects development.

Drawing conventions such as the axonometric drawing, orthographic drawing and perspective drawing all have characteristics that support this observation³⁹. For example, the orthographic drawing supports information of two axis while eliminating the direct provision of a third. In eliminating the representation of vertical dimensions, the building plan supports horizontal dimensions, similar to a map, allowing the

Figure 5 Peter Eisenman. Transfrmational diagrams, House IV, 1971, Plan Obliques. Source: Fraser & Henmi, *Envisioning Architecture*, 99.

³⁷ Fraser and Henmi, 100.

³⁸ Fraser and Henmi, 100.

³⁹ Fraser and Henmi, 42-43.

viewer to mentally place themselves within the building and envision their experience of it at particular places and moments. The section supports vertical and horizontal dimensions that depict 'support, span and enclosure', eliminating a portion of the building, graphically cutting through it in favor of abstracting a view of internal spatial relationships. The elevation provides horizontal and vertical information, for similar reasons as the section, though the graphic cut here occurs at a point in front of the building. Axonometric drawings and perspective drawings similarly eliminate information for the purpose of projecting a certain image of the building⁴⁰, but what is important for this discussion is the recognition of the interpretive nature of the architectural drawing as being comparable with the photograph. The drawing acts like the photographic image in that the image interprets an external reality by capturing it in a reductive manner.

THOUGHT IMAGES VS. MIMETIC IMAGES

Though the drawing is certainly on one level an interpretation of reality, it differs from the photograph in that the image is in itself a tool to contemplate a conceptual reality. Through the act of making the drawing itself, it is a device to generate its referent where the production of the photograph captures a reality independent of its technological process. The dimension of time between the referent and the image is increasing in the context of the photograph, while it is decreasing in the context of the architectural drawing, photographs providing recordings of a referent they have no influence on. They merely "fill in blanks in our mental pictures of the present and the past"⁴¹. The first to formulate a philosophical conception of the imagination,

⁴⁰ Fraser, 55-57, 78-79.

⁴¹ Sontag, 23.

Plato differentiates between the 'mimetic' image and the 'thought' image providing context for understanding this differentiation as he condemns the imagined image for being a third degree imitation, a mimetic representation of a copy, and thus a false, unreal artifact.⁴² Though he denounces the artistic image he concedes the use of the 'thought image', a representation that acts act to 'mediate' between intellect and experience.⁴³

According to Plato images created to represent a material reality are likenesses of ideas that are already separate from a truer ideal they aim to embody. Using an example of three conceptions of beds he illustrates his reasoning. The first is the idea of the bed, made by god, the second is the physical manifestation of the bed, built by the carpenter, and the third is the image of the bed, made by the painter. Plato considers the painter to represent what god has created and the carpenter has made, imitating the original in the third degree. Considering the idea of the bed as the essential 'truth' of the object, he considers the mimetic image to be a 'third remove from reality', and thus an 'apparition' rather than an expression of 'truth'. It is for this reason he denounces the image, and the imagination for being able to only produce artifacts that can only be considered as false.⁴⁴

⁴² Plato 337-340

⁴³ Kearney, Richard. *The Wake of Imagination: Ideas of Creativity in Western Culture*. (London : Hutchinson, 1988), 90.

⁴⁴ Plato, 337-340.

Though he condemns the image for this reason, he concedes a positive use of images when used for the pursuit of knowledge. Through the use of what he terms 'thought images', it is possible to enable "our human understanding to give figurative expression to its abstract ideas."⁴⁵ Plato explains that in order to convey the idea of a square, a mathematician will draw a square for their pupil to comprehend visually its conceptual idea⁴⁶. Kearny explains Plato's position, writing "What distinguishes this legitimate function of images from the normal practices of artists and sophists is that they are never treated as *ends in themselves*. They serve rather as instrumental means for mediating between our sensible experience and our rational intelligence. This *meditational* function of thought-images leads the mind from the lower to the higher - that is, from the material to the transcendental world."⁴⁷ The architectural

drawing is a 'thought image', mediating between the architects experience in viewing its material reality and their intellect contemplating the reality existing external to it. The photograph does not mediate in this way because what it represents has been tangible, its image

finite, its image mimetic of something that has existed. Where the photograph is an artifact making visible what has been, the architectural drawing, as Francisci describes, "is a tool to make

Figure 6 Joseph Kosuth. *One and Three Chairs*. Source: Davies, Penelope J. E., et al. *Janson's History of Art: The Western Tradition*. New Jersey: Prentice Hall, 2007. p. 1065.

⁴⁵ Kearney, 99.

⁴⁶ Kearney, 99.

⁴⁷ Kearney, 99.

tangible what is intangible”⁴⁸. Understanding this distinction as well as the interpretive natures of both the photograph and the architectural drawing allow for a reading of Sontag’s notion of the true power of the photograph; its physical presence as a guide point for inquiry.

A SURFACE TO QUESTION

Sontag associates the perception of the Photographic image as a ‘piece’ of reality with a rational world view defining knowledge as techniques and information, in turn lending to the photograph power due to its ability to document⁴⁹. She acknowledges that in the realm of the sciences this ability is invaluable, but explains that in the realm of everyday experience the operation of the photograph, normally taken for information, “is of the same order as fiction”⁵⁰. Sontag claims the acceptance that knowledge can be acquired from viewing the photographic image is misguided for knowledge is actually acquired through *not* accepting the world as it appears, explaining “In contrast to the amorous relation that is based on how something looks, understanding is based on how it functions. And functioning takes place in time, and must be explained in time. Only that which narrates can make us understand”⁵¹. The individual photograph does not do this in itself, requiring the application of the viewer’s critical faculties to uncover the event’s explanatory narratives, but does provide a representational object to begin this inquiry. Sontag understands that the photograph separates the world into a “series of unrelated, freestanding particles”, elements taken on their own to convey multiple meanings and interpretations, and suggests “The ultimate wisdom of the photographic image is to say:

⁴⁸ Frascari (check the quotation and the reference)

⁴⁹ Sontag, 22.

⁵⁰ Sontag, 22.

⁵¹ Sontag, 23.

“There is the surface. Now think-or rather feel, intuit-what is beyond it, what the reality must be like if it looks this way.” Photographs, which cannot themselves explain anything, are inexhaustible invitations to deduction, speculation and fantasy.”⁵² It is in this understanding of the ‘wisdom’ of the photograph that it becomes a surface to “goad consciousness”, a means to begin to question the circumstances that surround the reality behind the representation, a characteristic the architect recognizes in the Architectural drawing. Both are two dimensional objects separating another reality into fragments, superficial surfaces masking external circumstances to become “invitations to deduction, speculation and fantasy”. The architectural drawing is an interpretive fragment depicting only a ‘slice’ of the reality that will be the architectural construction, its material existence becoming an origin for the architect to question a future reality.

The architect experiences the material reality of the drawing once they can perceive it visually, and in turn it exerts an influence on their perception of the reality it is representing. As Fraser and Henmi describe, drawings “abstract vision and thought, imposing a material presence on the act of representation and thereby on imagination... drawing is not a transparent translation of thought into form but rather a medium which influences thought just as thought influences drawing.”⁵³ Piedmont suggests the architect should approach the material a drawing is made with not as a means of constructing a mimetic image, but a means for constructing an interpretive image, writing “The making of architectural drawings best translates to the construction of buildings not as simulation but as an analogous representation provoking possibilities in the interpreter’s imagination. As drawing material represents building material, the challenge for the pencil is to engage the material imagination of the architect despite being

⁵² Sontag, 23.

⁵³ Fraser, viii.

removed from the construction site.”⁵⁴. The material of the drawing tool and the drawing surface can be seen to operate as a device not in their ability to communicate information, but in their ability to invoke the thought process of their creator. Distinct from the production of the photograph which is an instantaneous reaction *recognizing* an event unfolding in time, the architectural drawing is a circular response *permitting* an event to unfold in time. It is a prolonged process that allows for meditation on the response.

The material surface of the drawing has a material presence and a dialectic relationship with the imagination of the author, becoming a point to begin inquiries. Recognizing this relationship, Edward Hill writes “A drawing may both delineate and suggest.”, but emphasizes that “before all else a drawing is a collection of marks, lines, shapes, etc., of unique configuration made by particular materials.”⁵⁵ The drawing is first a material presence from where this relationship can be seen to commence. Hill recognizes this relationship between the surface of the drawn image, its formal conception, and the imagination of the architect through their ability to *see* is present in Alexander Cozens essay *A New Method of Assisting the Invention in Drawing Original Compositions of Landscapes*⁵⁶.

In this essay, Cozens describes a method for creating novel compositions of landscape images through the method of ‘blotting’. The blot is a swift and wide collection of brush strokes, not a drawing in itself but “an assemblage of accidental shapes from which a drawing can be made. It is a limit or crude resemblance of the whole effect of the picture...” “To sketch is to

⁵⁴ Peidmont, 33.

⁵⁵ Hill, 36.

⁵⁶ Hill, 36.

delineate ideas; blotting suggests them”⁵⁷. Cozens’ method can be described in three stages. In the first, the blotter will approach the paper with a general concept of the image, such as a low lying landscape with a large tree in the foreground, and with broad brush and ink rapidly produce a free series of strokes or ‘blots’. In the second stage the blots are interpreted, on the same sheet or on a transfer, without precision, testing different readings of the initial strokes. In the final stage the blotter defines the final image by deciding on the final composition, clarifying ambiguities in the drawing. The drawing operates as a device, or ‘thought image’, for thinking by providing syntax of pictorial elements where conventions and materials determine the limitations of its means, in turn affecting and directing ones vision and experience.⁵⁸ The blotter begins with a general concept and through successive interpretations realizes the final form of the landscape. The changes in the form of the drawing through the process evidence “the metamorphosis of the idea”⁵⁹. As Hill observes in Cozens method “The results are not predetermined, only the method”⁶⁰, the artist not *seeing* the solution until the image has a concrete and ‘integral form’. Hill recognizes the relation between the drawings formal conception and seeing is that seeing is intrinsically tied to the process of making, the final form indeterminate until this process is complete. Transferred to the architectural drawing, the future reality is not truly seen, the architectural idea remaining incomplete until it is manifest materially, first in the drawing, and then in built form.

Unlike Cozens aim to provide an artistic composition, an image in itself through a linear process, the architectural drawing provides a material point to question a future reality through

⁵⁷ Hill, 35.

⁵⁸ Hill, 35.

⁵⁹ Hill, 37.

⁶⁰ Hill, 37.

a circular mode of questioning. A return to the analysis of the architectural drawing by Fraser and Henmi clarifies this distinction:

“If the first idea that led to the first drawing could be called an origin and the drawing a re-presentation, then the second idea that has been developed in response to that first drawing is a re-presentation of itself. In this sense, an idea is not always “original”, a cause, and a drawing “only” representation, an effect. That is, first, last, cause and effect intertwine in the process of representation. Drawings stir new conceptions through the material presence of the drawing act. In this sense, they are both representations and origins that which comes to be represented through other means.”⁶¹

During the design phase a drawing is conceptually ‘complete’ from the point that a single line is drawn, as it now exists as a material reality affecting the actions of the author. During the design process the drawing in its own development provides material representations constantly providing origins for further inquiry.

Like the photograph, the architectural drawing is a material presence providing a guide point from which an external reality can be questioned, providing ‘syntax of pictorial elements’ to direct the architect’s vision but differs by allowing the architect to affect a change in the referent. The drawing is not only a means to represent a projective construction of a building, but a device affecting the mental and physical conception of the building. Creating and viewing the architectural drawing allows the architect to question its construction, the drawing in essence having a dialectical relationship with the imagination of the architect by providing a means of inquiry that cannot be provided otherwise. As the drawing develops it provides ‘fragments’ of the external reality of the building, providing a material presence to ‘goad consciousness’, inviting the architect to ‘deduce’ and ‘speculate’. The drawing has a role in the process of creating architecture, influencing how its external reality will manifest, where the referent of the photograph is finite. This characteristic manifests its physically in the

⁶¹ Fraser, 164.

development of the drawing, where directions in the design diverge as a result of working the referent graphically, the 'surface' of the drawing providing the means to not only capture fragments and question them, but also for the architect to affect change.

CHAPTER 4 – CARTIER-BRESSON’S PICTURE STORY

Henri Cartier-Bresson (1908-2004) was an influential French photographer known for his command of candid photography and his contribution to the discipline of photojournalism⁶². He is attributed with coining of the term ‘The Decisive Moment’ to describe a condition where

Figure 7 Henri Cartier Bresson, Paris, 1932. Bresson, Henri-Cartier. *The World of Henri Cartier-Bresson*. New York: The Viking Press, 1968. Plate 17.

the actions of an unfolding event are resolved in the composition of the photograph to convey the most ‘telling’ and revealing image, an idea that carried a significant influence on following generations of photographers.⁶³ He describes this moment as “The simultaneous recognition, in a fraction of a second, of the significance of an event as well as the precise organization of forms which gives that event its proper expression... In photography, the smallest thing can be a great subject. The little human detail can become a leitmotif.”⁶⁴ His text “*The Decisive Moment*”, published in a book of the same title in 1952, explains his philosophy towards photography,

⁶² Goldberg, 384.

⁶³ Goldberg, 384.

⁶⁴ Cartier-Bresson 42, 29.

commenting on his approach to aspects such as 'the Subject' and 'Composition' in the practice of candid photography. His notion of 'The Picture Story' provides a conceptual framework to understand the role of the architectural drawing operating 'in absentia' as a means to 'narrate' the building by working in combinations to convey the context and the architects impressions of the external reality.

DECISIVE MOMENTS

Cartier-Bresson understands the photographic image as a means to capture moments that in combination can tell a 'Picture Story', which he defines as 'a photographic reportage', or, the 'telling a story in a sequence of pictures'⁶⁵. The role of the photographer is to capture the 'decisive moments' of an event unfolding in time to convey its context through their own impressions. The photographer achieves this by being both physically and mentally present as the event unfolds. He explains:

"The picture-story involves a joint operation of the brain, eye, and the heart. The objective of this joint operation is to depict the content of some event which is in the process of unfolding, and to communicate impressions. Sometimes a single event can be so rich in itself and its facets that it is necessary to move all around it in your search for the solution to the problems it poses - *for the world is movement, and you cannot be stationary in your attitude toward something that is moving.* Sometimes you light upon the picture in seconds; it might also require hours or days. But there is no standard plan, no pattern from which to work. You must be on the alert with the brain, the eye, the heart, and have a suppleness of body."⁶⁶

Cartier-Bressons' 'Picture Story' is a composition of images expressive of the event they are referencing, visually narrating it by capturing moments expressive of its circumstances, moments dispersed in space and time but brought together by the photographer. As he explains:

⁶⁵ Bresson, 22.

⁶⁶ Bresson, 24.

“What actually is a photographic reportage, a picture story? Sometimes there is one unique picture whose content so radiates outward from it, that this single picture is a whole storey in itself. But this rarely happens. The elements which, together, can strike sparks from a subject, are often scattered – either in terms of space or time – and bringing them together by force is “stage management,” and, I feel, contrived. But if it is possible to make pictures of the “core” as well as the struck-off sparks of the subject, this is a picture story. The page serves to reunite the complementary elements which are dispersed throughout several photographs.”⁶⁷

The role of the photographer is to interpret the moments appearing as the event unfolds, imprinting images on film to provide a selection from which they compose their impression of its context in a narrative form. This notion of picture story can help explain how the architect use of the drawing as a device for inquiry and projection by respectively providing a narration of the physical and intellectual construction of the buildings future reality.

NARRATING THE BUILDING

The ability of the architectural drawing to narrate the moments of a buildings construction, similar to Cartier-Bresson’s Picture Story is reflected in Vitruvius’ notion of ‘arrangement’. He writes “Arrangement includes the putting of things in their proper places and the elegance of effect which is due to adjustments appropriate to the character of the work.”⁶⁸ He associates three forms of graphic expressions to ‘arrangement’: The ground plan, the elevation, and the perspective.⁶⁹ Frascari observes that to create these three drawing types individually requires the consideration of the others, writing “The three kinds of *ideai* are born from the consideration (cogitation) of all the parts and are implemented (inventio reperta)

⁶⁷ Bresson, 23.

⁶⁸ Vitruvius. *The Ten Books on Architecture*. Trans. by Morris Hicky Morgan. (New York: Dover Publications Inc., 1960.), 13-14.

⁶⁹ Vitruvius. 13-14. Frascari addresses that Vitruvius’ notion of perspective most likely alludes to the section drawing of a building, a “cut feature demonstrating the construction of buildings.” (Frascari, 4.)

through *techne*-that is, through anatomical procedure.”⁷⁰ *Ideai* (ideas) are considered to be synonymous with the three forms of drawings listed as Vitruvius observes this to be the manner in which the Greeks refer to them: the ‘drawing’ as one and the same as ‘idea’.⁷¹ Understanding the differentiation of the drawing from the photograph as a device to question is implied in Frascari’s statement “A circular procedure is involved here: The understanding of a part is achieved by considering the whole and the whole through a consideration of its parts.”⁷² The architectural drawing provides fragments of the buildings material reality, abstractions of its construction, allowing the architect to question its reality by reflecting on how one representational fragment relates to and aids in the questioning of another. Considering the paper as photographic film, the surface and location to record, and the architects pencil as the device to imprint an image of the subject, Bresson’s conception of ‘the picture story’ finds resonance in Frascari’s connection between the writing of literature and the writing of buildings, who writes “The drawing pen is, then, a knife with which architects cut through building-that is, the tool with which they write the story of their buildings”⁷³

Like the photograph, the architectural drawing provides a narration of the physical and superficial reality of the architectural reality, but it differs by providing a narration of the intellectual conception of this reality. Returning to Frascari’s concept of the architectural ‘facture’, which observes the architectural drawing to be a ‘record of its own having been made’, the architectural drawing is not only a record of the projective construction of the building, but a

⁷⁰ Frascari, Marco. “The Drafting Knife and Pen.” In *Implementing Architecture: Exposing the Paradigm Surrounding the Implements and the Implementation of Architecture*. Ed. Rob Miller. (Atlanta: Nexus Press, 1988), 4.

⁷¹ Frascari, 4.

⁷² Frascari, 4.

⁷³ Frascari, 5.

record of the architect's conscious approach towards the project. In its own construction, the drawing in essence constructs the building, for the two entities exist within the same process; the act of making the drawing being generative, both mentally and physically, of the architectural object. As discussed, architectural drawings stand in conjunction with one another in order to associate and question its external physical reality, these associations, beyond the use of a single focused image, aid in narrating the buildings 'construction'. As the design unfolds, the 'construing' of the structure is also present, the accumulated images provide a picture 'story' depicting the 'core' and 'spark' elements the architect has consciously *chosen* to convey their impressions of the unfolding event. Through the act of making the drawing the future reality of the building is constructed intellectually, the drawing providing a 'record' of its 'own having been made', representing the architects questioning of an initial approach through reinterpretations that refine their intentions. The event photographed will continue to unfold regardless of whether it is photographed or not, while the architectural referent typically requires the drawing for its form to manifest. The act of making the drawing is a consistent requirement for the architectural idea to be *seen*, existing as a thoughtful response rather than, in the context of the photograph, an impulsive reaction capturing an external instant. This characteristic can be observed physically in the development of the drawing, it being a part of the story it aims to narrate by recording the architects 'decisive moments' giving the external event its 'proper expression', that is, its final form. These decisions coincide with the architect's individual impression of the future construction as they 'write the story' of their building.

PROJECT INTRODUCTION

The design portion of this thesis aims in three stages of drawing development to provide graphic material to illustrate how, in the process of conceiving architecture, the relationship between the photograph and the architectural drawing are comparable as they operate 'in

absentia' of their referent. The drawings to provide a narrative of both the physical and intellectual construction of the building, conveying the physical context of the building and the impressions of the author, illustrating how a changing referent becomes a reminder of the projective imagination, and how the drawings fragmentation of reality becomes a device to change the referent, through the narrative the drawings provide. The drawings will be discussed specifically in regard to how their referent changes through the process, and how the drawing operated as a device to question the realities represented. The design approach is investigative, the author developing their conceptual approach by investigating the content and context of the project. The design proposes a retrofit of a 150 year old train station for the use of a micro distillery. The 'retro'-fit distillery project can be seen to blend elements of the photograph and the drawing together where the existing buildings provide an imprint of a past action of construction, while the drawing is used to provide a hallucinatory perception of its potential architectural reality of the future.

Stage one addresses the initial development of understanding the projects context, proposed content and developing concept; the existing Train Station, the programmatic requirements of a micro-distillery, and the conceptual approach towards the architectural response. Stage Two and Stage Three will be concerned with developing the design through the drawing, where decisions will be recording in images, capturing the 'core' and 'spark' physical and intellectual moments of the building as it unfolds in their making. Each stage will be completed in tandem, three collage style drawings being completed at the end of each stage for a total of nine compositions at the end of the process. It is anticipated that each stage will inform and develop ideas for the next stage, the drawings providing a graphic record operating akin to photographs together forming a narrative of the architectural and conceptual idea as it unfolds in time. Plates are constructed using graphite, carbon, and charcoal on 26" x 40" sheets, the final

presentation consisting of nine plates and a collection of supplementary graphic inquiries, notes and sketches proving to have informed and aided the generation of the final proposal. The drawings on their own are not the focus of the thesis, nor the final design, but the understanding of their similarity to and distinctiveness from the photographic image in how they have and do act to represent a reality external to their own material presence.

CHAPTER 5 – A MICRO-DISTILLERY

THE KINGSTON OUTER STATION-CONTEXT

Figure 8 Site Location. Source: Google Earth. Dec 2011<<http://earth.google.com>>

The chosen site for the design component of this thesis has stood abandoned and its buildings in disrepair since 1992, a result of contamination and non-committal legislative action to maintain the historic structures. Located at 810 Montreal Street, Kingston, Ontario, the former Kingston Grand Trunk Railway station, also known as the 'Outer Station', is today surrounded by a mix of residential and industrial uses. It is situated across Montreal Street to the south east of Bell Park Golf Course which lies on the shore of the Cataraqui river. Built of solid grey limestone in 1856, Kingston's first train station served as a crucial mid-way stopping point along the shipping and

transportation corridor connecting Canada East and Canada West's two major commercial centers, Montreal and Toronto. The Station was constructed outside of the city center in order to compete with shipping ports, its distance from the city center directly influencing the establishment of the surrounding built community⁷⁴. The limestone station and brick passenger refreshment building, constructed in 1895 to replace a previously existing wooden one, are all that remain on the site, and are the proposed focus of the design portion of this thesis. These

Figure 10 Kingston Outer Station. Source: Brown, Ron. *The Last Stop: A Guide to Ontario's Heritage Railway Stations.* (Toronto: Polar Bear Press, 2002), 94.

Figure 9 View of station from west when pre 1974. Source: City of Kingston.

⁷⁴ Brown, Ron. *The Last Stop: A Guide to Ontario's Heritage Railway Stations.* (Toronto: Polar Bear Press, 2002), 95.

Figure 11 Existing South Elevation. Source: Photo by Author.

two buildings were connected by an open covered walkway in 1937 which was closed in during 1989 renovations⁷⁵. This walk way is in the process of being removed in order to install metal supports for the purpose of stabilizing the stone structure.

Built before tracks were laid, the station originally functioned as an administration center for a third phase of rail line construction linking two previously constructed lines between Brockville to Montreal and Oshawa to Toronto, and as such was of a greater size than similar stations along the route⁷⁶. The defining element of this function is the length of the building at seven bays and its two storey height. Between 1876 and 1885 the second floor was enlarged through the construction of a mansard roof⁷⁷. Originally the ground floor of the stone building served the public while its second storey was used for administrative purposes, but over time the administrative use occupied the entire stone building and all other functions moved to the brick passenger refreshment building. The station was closed to rail service in 1974 after a new station was opened in the city's west end, and following this The Clapperton Crystal Company occupied the building between 1975 and 1983. The Pig & Whistle restaurant

⁷⁵ City of Kingston. *Information Report to Kingston Municipal Heritage Committee*. Report No.: KMHC-11-005. March 7, 2011. (Source: http://www.cityofkingston.ca/pdf/cityhall/committees/lacac/agenda/2011/HA_A0411-11005.pdf), 2.

⁷⁶ Brown, 95.

⁷⁷ Brown, 95.

renovated the interior of both buildings and closed in the joining walkway, operating from 1987 to 1992. The Pig & Whistle were the last inhabitants of the buildings, the building remaining abandoned since their closure in 1992. In 1996 the limestone station was the victim of arson resulting in damage to the interior timber structure and openings in the roof, tarps being the immediate response and last major perceptible action in the buildings physical history. Over time the tarps have deteriorated exposing the interior of the building to the elements, leading to the partial collapse of the roof earlier this year.

In 1987, in order to provide some measure of protection, the City of Kingston designated the buildings under the Ontario Heritage Act, and in 1994 the site was designated under the federal Heritage Railway Stations Protection Act⁷⁸. Currently the roof of the building is being removed, and CN is presently

in the midst of reinforcing the building to avoid further decline. Their intentions are to remove the existing debris and wood framed roof to stabilize the stone walls with steel bracing, as well as capping them with flashing to deter further damage from weather.

Figure 12 The Stone administration building. Top; In used by Clapperton Crystal 1975-1983. Middle and bottom: The building burned by arson and the results, 1996. Source: Queens University Archives.

⁷⁸ City of Kingston, 2.

As well as the landmark limestone station, the site included a number of maintenance buildings, a Royal Mail building, and its own water tower and turntable. The importance of the station is reflected in the architectural scale and design of the main buildings and by the range of related operational buildings. Other than some remnants of the railway use, including some remaining rails just south of the building and debris on site such as rail ties etc., the site is predominantly covered with asphalt and shrub.

Figure 13 Views of North Elevation. Source: Photos by Author.

From an architectural position, it is the historical layer of the site which plays a strong role in the definition of its character, tangible in the material character of the limestone train station and the brick refreshment building, as well as the linear arrangement of the buildings,

the 6 degree skew in the Brick building to follow the now nonexistent rails, and the remaining trace in the landscape where tracks used to lay.

CRAFT DISTILLERS -CONTENT

Figure 14 Images from Still Waters distillery. Source: Photographs by author and Still Water Website, <<http://www.stillwatersdistillery.com>>.

The design proposal for this thesis is a retrofit of the currently vacant stone station and brick refreshment building for the use of a micro-distiller producing single malt vodka and single malt whiskey. The program of a micro-distiller focusing on creating a high end product with minimal and quality ingredients has been chosen as the program can operate as a source of conceptual and functional material to inform the development of the proposed architectural 'factory'. The main program is based on that of Ontario's only micro distillery, Still Waters, with whom the author has met with to discuss aspects of their operation that will influence the retrofit. The Proposed distillery will create their own products from beginning to end, starting with the initial ingredients of malted two-row barley, yeast and water, from the understanding that a complete control over the process beginning with the initial production of mash and ending with the bottling of the product allows for the ability to craft a quality product. At full capacity the stills could produce 5,000-10,000 cases per year, the differentiation depending on the ratio of whiskey to vodka produced as vodka can be bottled immediately, while whiskey requires a three year minimum maturation period. The major equipment used in the distillation process includes their custom 450 litre copper pot still with two rectification columns as well as

a mash tun and fermentations tanks. When looking for their present facility, the major pre-requisites sought were the availability of floor drainage as the process uses much water, 22-foot ceiling height for the clearance of their rectification columns, and truck access level with the floor for ease of moving stock materials.

Every still has different features, manufacturers prohibited from creating the same still twice as they are considered to be a signature element of a distillery as the shape of the 'head' allows the distillate to expand, condense, and fall back into the pot during the distillation process in a unique way, in turn producing a signature product. Still Waters' still is not automated, and uses a circular shaped 'head' that is good for the production of both vodka and whiskey. The still is constructed of copper as this metal acts to remove sulphur based compounds that negatively affect the alcohols taste, requiring cleaning every 8 months with sodium hydroxide to release accumulated sulphates, and citric acid to brighten the copper surface. Optimally they would have two stills, one for 'stripping', a fast initial separation of the alcohol from other components of the wash, and one for subsequent distillations.

As a processing run is complete, the ethanol is removed from the equipment, collected in a metal barrel, and emptied out in three separate stages of quality. The three types of product, the heads, the hearts, and the tails, smell, taste, and feel differently, and are identified through sensory monitoring using the senses of taste, smell, touch, and vision to determine when the transition between them has occurred. The first product coming off the still is called the heads which gives off a bad odor, contains acetone, does not taste pleasant, and feels cold to the touch and evaporating quickly off the skin. Once these have discharged, the hearts follow, and are considered the cleanest of the three being the sought after product and comprising the largest quantity of output. At the end of the collection come the tails, which contain a high concentration of fusil oils which can be felt through touch, and give off an unpleasant odor.

For the production of whisky the extracted ethyl alcohol mixture is matured in oak casks for three years to allow for reactions between the fusil oils in the alcohol and compounds in the oak to give the whiskey what constitutes for 80% of its flavor. The barrels used are a mixture of new and used oak barrels, the used oak barrels are bought from bourbon producers in the US as by law they can only be used once. Though required to be aged a minimum of 3 years by law, the whiskey may require longer depending on the level of quality at the end of the maturation period. For the maturing of the casks a humid environment is sought mainly for reducing the amount of product that evaporates during this period. A changing environmental temperature is actually sought, usually achieved by seasonal temperature changes, to facilitate reactions occurring between the casks and the whiskey.

The author investigated the spatial requirements of Still Waters' operation by experiencing their Facility and observing their production process. Though the micro distillery market is in its infancy in Canada, Still Waters would aspire to being able to have a Public outlet to their production in the same way that breweries and wineries have established themselves. The major requirement of the architectural proposal is to provide a functional space for production in a way to allow for the provision of a public face where the product can be tasted, and the facility toured.

Figure 15 Distillery equipment. Source: Photo by Author.

AN ARCHITECTURE OF TIME - CONCEPT

The Still Waters distillery uses simple materials to produce their base product in order to develop a character of spirits through its interaction materials over time. To relate the proposed architecture to the distillery process within, the approach Still Waters take toward their production of spirits will influence the conceptual approach to the retrofit. The concept to be explored in the design of the distillery is a material architecture related to time, where the new architectural elements will reference the existing layers of the projects context as well as utilize the influence of time in generating these elements.

Understanding inhabitants of the building experience temporal moments by moving through the building, as well as perceiving changes in its functions as it reacts with shifting environmental conditions, the proposed architecture, through its transitions/details/elements will acknowledge and emphasize these perceptible manifestations of time through its material character. A distinct character for each of the three sections will be sought while still linking them with common visual elements, each space a distinct area but related through a visual 'mapping'. In addition, the inhabitant will be able to perceive the distinction between the new construction and the old through these elements.

The conceptual approach of an architecture related to time was developed during stage one of the design component and graphically represented in the three resultant panels. Initial ideas of materials and elements acknowledging the passage of time are presented in combination with images of the physical context of the site and requirements of the micro-distillery to begin the graphic investigation of the project. The development of these initial ideas are evidenced in the design process through the drawings that act to identify specific 'moments' in their graphic development that influence the changing of the referent, the future distillery.

CHAPTER 6 - PROJECT DISCUSSION

THE DISTILLERY

The concept of the site overall is to connect it perceptibly and functionally to the activities and interior of the distillery, referentially acknowledging its original use, while experientially linking the new one. The major element of this approach is the planting of a cherry tree orchard in anticipation of harvesting its timber for future casks, thus making the landscape a temporal investment of the distillery. Cherry is a wood type that has proved to produce a unique type of whiskey when used for the construction of casks, though are rarely used due to the cost of acquiring the raw material. Experimentation is a key component in the operations of a distillery; such an approach is seen to potentially distinguish their product and add a new temporal layer to the site. The shallow root structure of the Black Cherry tree is suited for the existing conditions of the site. Beyond this element, the landscape is anticipated to encroach towards the building in a controlled manner through the organization of exterior stonework.

The approach towards the building as a whole is to organize the spaces as distinct functional environments while linking them referentially through their material details. The three areas are distinguished by use: the brick building being location for production, the limestone station the location for a tasting room and second floor office space, and a new connecting 'corridor' housing supporting functions and providing space for casks to age. To differentiate the new construction of the 'corridor' from the traditional materials of the existing buildings its structure will be of steel, clad in weathering steel panels and screens, and covered

with zinc standing steel roofing. This structure will be separated by a glass enclosure at the junctions where this structure meets the brick and Limestone buildings to further distinguish itself as a new temporal layer. In order to meet height requirements of the distillery equipment, a central distilling space will be created in the brick refreshment building by removing existing roof trusses from the center of the building inserting a steel structure with the appropriate clearance. This element will share the same material palate of the corridor of weathering steel and zinc.

The flooring is to provide a visual mapping where the user of the building can project themselves visually through the different environments of the building. As one first experiences the building this mapping operates on the level of exploration. As one gains knowledge of the building it allows them to construct a memory of the environments layout. The flooring will consist of polished concrete bands inlaid with exposed aggregate concrete panels, and limestone tiles . Having a similar role to the flooring, copper doors at the two ends of the corridor as well as the west wall of the stone building will convey the single use of the three distinct building sections through their individual but materially linked presence, being located at separate locations though the building. Copper is to be used for the patina it develops over time as well as the association it has with distillery equipment.

THE DRAWING

The drawings constructed during the design of the micro distillery were created with the purpose of illustrating the implications they embody beyond mere representation. In the authors development of the distillery the drawing performs in a context similar to the photograph, the drawings in essence operating in absentia of the external reality of the distillery, material objects acting as extensions of an external reality. To elaborate on the implications of this relationship, three specific examples relevant to the discussion of photographic theory are presented and explained.

First, figures 16-19 illustrate the development of the corridor link between the stone station and the brick building. These drawings evidence the changing of the referent from a timber frame structure with a rotunda component towards the proposed organization of a weathering steel clad structure separated from the existing buildings by areas clad in glass. All of these projections at the time of their making were potentials for the author's proposed micro distillery made possible through the actions carried out by the author to construct them. These drawings are constructed projections, images requiring the author's action to manifest the last proposed corridor component of the micro-distillery. Performing as a type of 'hallucination', these axonometric drawings allowed the author to see the potential reality of the corridors construction, and evidence the decisions made to change the referent corridor. The drawing is true in that it is a part of the process continually unfolding and leading to the manifestation of the potential distillery corridor, and thus an extended and accountable part of its construction, and false in that the projected distillery exists separately from the drawn distillery, allowing the author to see the potential construction of the building before its physical manifestation. In the progression of axonometric drawings, the changing of the drawing to arrive at the proposed

weathering steel clad corridor can be observed, providing an example of the drawings differentiation from the photograph, implying a moving rather than a static reality. It is projective because the image of the corridor is evolving towards its referent, and a reminder of the projective imagination through the requirement of the author's physical actions to construct them. Their development evidences the projective imagination and intent of the author by accounting for the actions causing this evolution to occur.

Figure 16

Figure 17

Figure 18

Figure 19

Secondly, the development of a section through the distilling area located in the brick structure is illustrated in figures 20-22. These drawings evidence the use of the drawing as a device to question and change the referent through how they influenced the intentions of the author. Figure X illustrates an initial response to the requirements of height clearances required of the distillery space within the brick building for distilling equipment, and shows a central clearstory cut into the existing roof trusses. By creating this initial section, the author was able to question this response, realizing the potential to remove these central trusses completely to allow for the insertion of a steel structure complimentary to the corridor linking the two main buildings. By expanding the structure to the external walls, the weathering steel cladding is able to identify the new use and construction through their common material pallet, perceptible from both the exterior and interior. This initial drawing provided a fragmented view of the building that not only allowed the author to question its construction, but that influenced the eventual architectural proposal. This drawing became the origin from which a circular mode of questioning commenced, its material presence allowed the author to see, question, and change the potential distillery. This set of drawings illustrates that beyond merely representing the future construction of the distilly, the drawing as object acted as a device or 'thought image' influencing the authors conception of the external reality. The influence of the drawing on the authors imagination and approach to developing the distillery space evidences the architects understanding and use of the drawing as a device to produce fragments of reality for the purpose of both questioning and changing the manifestation of the distillery.

Figure 20

Figure 21

Figure 22

The drawing fragments of the panel illustrate the bringing together of components of the proposed micro distillery to narrate its physical construction, but more importantly, due to their chronological construction, act to narrate the conscious decisions of the author. The first stage of drawings depicts existing conditions of the site along with textures and images reflecting initial ideas of the potential architecture. Ideas represented in these images such the cherry tree and the use of copper and weathering steel were carried through the design process, while the idea of a timber frame corridor construction was not realized. Figure (X)X, depicts the graphic representation of this initial idea that failed to manifest itself materially in the proposal, eliminated completely from the proposal. The 'recording' and eventual elimination of this initial idea, in combination with the prior two examples, exemplifies a 'moment' captured in the construing of the 'story' of the building where the architect (the author) chose what they thought to be the most expressive of the context of the event, as well as their impression of it. That is, the modern construction of a metal based structure was thought to be able to more convincingly add a new temporal material layer to the site.

Figure 23 Initial graphic depiction of timber frame intention from stage 1 plates.

CHAPTER 7 – CONCLUSION

With this thesis I propose that the interrelated concepts of the photograph operating 'In Absentia' of its referent, as well as being accountable for it through the representative nature of how it is made, can aid in recognizing characteristics of the architectural drawing through an analogous reading, texts in photographic theory providing the framework. From this research architects can take away a conceptual awareness for the role the drawing plays in the conceiving of architecture, allowing them to, in their practice, to be aware of the drawings inherent potentials.

Given the theme of the drawing as having a relationship with the photographic image to identify similarities as well as defining characteristics, the design documents of the micro distillery at the Kingston 'outer station' demonstrate how the architectural drawing can be considered (1) as a reminder of the projective imagination through the ability of its referent to change, (2) as a device for questioning through its ability to affect this change, and (3) as providing a narrative of the intellectual development of its referent.

The photograph and the architectural drawing exhibit a physical connection with their respective referents to operate as reminders of separate conditions of human existence. Where the photograph speaks to one's 'fear of death', the architectural drawing is a sign of one's ability to 'imagine' and project the future. The difference in character of the two mediums temporal directions, retrospective for the photograph and projective for the architectural drawing, distinguishes these 'essences' and points to a defining characteristic of the architectural drawing; the ability of its referent to change. This ability of the architectural referent to change originates from the drawing as it provides, similar to the photograph, a physical presence, a material surface, through which the architect can access visually an alternate reality. But, again,

the difference in the temporal separation of the architectural drawing and the photograph distinguishes the architectural drawing as a device, a means to intellectually affect a reality that has not come to exist yet. It is in this use that the drawing narrates the architect's intellectual development of the future referent as it records, through the process of its making, moments in the unfolding of the design.

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