DISRUPTIVE DISSOLUTION: THE ABILITY TO NATURALIZE IN THE LANDSCAPE

BY
PHILIP J. BURKE

THESIS
Submitted in partial fulfillment of the requirements for the degree of Master of Landscape Architecture in Landscape Architecture in the Graduate College of the University of Illinois at Urbana-Champaign, 2014

Urbana, Illinois

Adviser:
Associate Professor Stephen M. Sears
Abstract

“The present paper has as its goal: to expose several general principles on vision of forms and colors from which will be drawn not absolute rules but directives which will be able to serve as guidelines in each concrete case of camouflage.”

- An official French military document titled Intruction sur le Camouflage (1918)

The word camouflage is derived from the 16th century French word camouflet, which translates as a practical joke in the form of a puff of smoke under one’s nose (Hartcup, 1980). As this early ‘definition’ suggests, it is an enigmatic and elusive subject. Although generally perceived as synthetic in form, it takes inspiration from natural processes, using a language not unfamiliar to landscape architecture. My inquiry into this subject began with an observation: the foundations of camouflage pattern are based in landscape yet; in its ubiquity all connections are lost. Can camouflage be re-situated within the discourse of landscape architecture? An intensive study of camouflage became the framework for examining visual principles in design, ultimately acting as a correlative to landscape.

This thesis asserts that camouflage is an underutilized and dormant design form with clear and relevant links to the profession of landscape architecture. Through this lens, I’ve examined the history of military application and development, the contributions of visual and scientific theory, in addition to civilian camouflage in the method of fashion and design. Using design research, analytical/grounded speculation, and a study of visual theory out of which, general principles toward the nature of camouflage and its applications to landscape architecture are proposed. Using inverse reasoning and site analysis, I examined designed projects in both architecture and landscape that employ camouflage in form or function, out of which a typology developed. The typology identifies six original categories of camouflage as they pertain to the built environment. These categories are useful when considering camouflage in an expansive manner, additionally they can be guidelines when the objective is to conceal.
# TABLE OF CONTENTS

Chapter 1: Introduction........................................................................................................... 1  
1.1 The Condition.................................................................................................................. 1  
1.2 Observations in Nature.................................................................................................. 4  
1.3 Phenomena in the Landscape......................................................................................... 8  

Chapter 2: Literature Review................................................................................................. 16  
2.1 Ground View.................................................................................................................. 16  
2.2 An Expanded Reading.................................................................................................. 18  

Chapter 3: Theory................................................................................................................ 27  
3.1 Critique of the Sign......................................................................................................... 27  
3.2 Alternative Analysis...................................................................................................... 28  

Chapter 4: Process................................................................................................................ 32  
4.1 Pattern in Military......................................................................................................... 32  
4.2 Pattern in Landscape.................................................................................................... 33  
4.3 Towards a New Definition............................................................................................ 35  
4.4 Local Survey................................................................................................................. 37  
4.5 Continuum..................................................................................................................... 41  
4.6 Design Typology........................................................................................................... 43  

Chapter 5: Conclusion.......................................................................................................... 54  

Works Cited.......................................................................................................................... 56
Chapter 1: Introduction

1.1 The Condition

“So the reasons for wearing camouflage do not come from nature they are found elsewhere in appearance motivations. The reasons come from the human condition.”

-Thomas Hirschhorn, Utopia, Utopia=One World, One War, One Army, One Dress (2005)

Camouflage patterning, by way of fashion, has become a part of the cultural landscape. A mention of the word and these fashion accouterments are, undoubtedly, what spring to mind. These patterns clearly reference military garb however, when worn in the 1970s and 1980s they were considered counterculture; with the wearer most likely making a political statement (Hirschhorn, 2005). This is no longer the case; camouflage patterning has become so commonplace it lacks significance as any type of referent. That said, I feel it necessary to address this at the onset for two reasons: first understanding this became an important step in my research and second, these symbols are so pervasive they became stumbling blocks when discussing my topic with others. On a superficial level these fashion tropes vaguely reference military application however, once all irony is removed, they unintentionally represent many layers of embedded meaning. The symbol has become synonymous with the function. This thesis attempts to examine and extract more useful camouflage design ideas that can be applied to the built environment.

With fashion as an indicator, it is clear that the military’s use of camouflage design has superseded all others. The military was effective in deploying camouflage on a mass scale, ultimately becoming a testing ground for many of the ideas that persist today. The military’s successful appropriation of these concepts has overshadowed any ancillary thinking on this
topic. Therefore, it is impossible to deny its influence yet necessary to disregard when burdensome.

The word camouflage has a somewhat unclear lineage (Chesney, 1941). According to Hanna Schell, “camouflage escapes representation by design, so it is unsurprising that traces of its unfolding over time are often elusive.” (Shell, 2012, 21) Officially codified in Le Section Camouflage 1917, the French military is credited with the first systematized application of camouflage in the theater of war. This publication outlines general principles of the new military tactic which was initially used as a defensive mechanism (Kahn, 1984). Despite this, it remains somewhat ambiguous where the French military took inspiration for these ideas. In the Neglected Majority, Elizabeth Kahn states, “Nowhere in the official military and government dossiers classified under ‘camouflage’ is there any mention or discussion of the discovery and earliest application of this practice…” (Kahn, 1984, 13). Any attribution is usually credited to painter Guirand de Scevola, who is most cited for his work establishing the first camouflage unit within the French army, thereby institutionalizing it within a military context (Behrens, 2002). However, this is a somewhat of a dubious attribution considering the source is de Scevola’s own personal account from 1950 (Kahn, 1984).

Pablo Picasso, no stranger to self-aggrandizement, claims to have birthed camouflage by way of Cubism. According to Gertrude Stein, upon first seeing French military cannons displaying faceted patterns Picasso remarked, “C’est nous qui avons fait ça” or “it is we who made that” (Kahn, 1984, 1). The artist was correct in recognizing similar attributes of this new visual vocabulary to that of contemporary art trends. Fractured space and disruptive
patterns are now shorthand for what was quite revolutionary at the time. Was this representative of particular zeitgeist coinciding with increased military engagement—a shift way from fixity?

According to Oxford English Dictionary the word, *camouflage*, was first used in 1917 by the *Daily Mail*. However, a Google Ngram search of digital publications shows that although an initial spike of the word occurred around 1920, this word had been in existence for many years prior, particularly during the late 1800s. One example is from a detective story, titled *The Old Age of Lequoq, the Detective and an Omnibus Mystery*, (1886) used the term thus, “As he was master in the art of camouflage or disguise…” This indistinct origin point for the word is critical, as it suggests camouflage and attendant phenomenon are ideas that predate any military application. Camouflage describes a *semi-specific* set of visual phenomena in existence prior to the First World War. Through analysis and reasoned speculation, it is my assertion that landscape designers have intuitively applied these principles since the establishment of the profession.

Although it was a deliberative choice to remain open ended with regard to a reliable definition, this indulgence allowed for an unbounded approach to the concept. However, for the purposes of this discussion, it may be necessary to put some provisional framework around the word. Guy Hartcup’s four categories outlined in his book *Camouflage* are suitable: concealment, deception, misdirection, and screening.
1.2 Observations in Nature

“Camouflage is as old as nature.”
- Ralph Rodney Root, *Camouflage with Planting* (1942)

The following paragraphs outline what is commonly understood; nevertheless it is the first step towards understanding a complex psycho-spatial visual phenomenon. A grasp of the history is necessary in order to extract general principles that can be reapplied to the built environment.

Artist A.H. Thayer is often called the father of modern camouflage; in *Concealing Coloration in the Animal Kingdom* he uses fauna as a model for understanding visual phenomena. He is the only artist to have a scientific law named in his honor (Thayer’s Law) (Behrens, 2002). While not entirely scientific, his writing and dedication to the subject were influential on present day camouflage (Forbes, 2009). Thayer was the first to describe the concept of obliterative shading or countershading. Essentially, countershading is the inversion of light to dark value, which effectually reduces contrast, flattening objects in three-dimensional space. His research concluded that small animals most likely to be preyed upon tend to have light underbellies, thereby reducing contrast in brush environments (*fig. 1.1*) (Chesney, 1941). In other words,

![Figure 1.1: A.H. Thayer’s demonstration model representing obliterative shading as it may look in nature (Source: *False Colors*)](image-url)
survival depends on similarity to surroundings. In many ways Thayer was a camouflage fanatic who forcefully advocated the concept on countershading to the point of alienation. As Peter Forbes suggests, “Reading Thayer’s book is a strange experience. He sets out with the idea that every single creature is perfectly camouflaged, and then tries to show how it works in practice.” (Forbes, 2009, 36) These ideas were surprisingly controversial; as a result, Thayer was often publicly derided when he presented his findings (Behrens, 2002). In fact, former president Theodore Roosevelt dedicated twenty pages in his book, *African Game Trails*, to refute the concealing coloration claims (Roosevelt, 1988). Through persistence, the scientific community and the military began to realize the value in these ideas.

Although not termed as such in the late 19th century, camouflage was a highly developed natural instinct that allowed animals to conceal themselves within their native environments. The use of techniques such as false coloration to provide protection in a hostile world had proven effective throughout the evolutionary process. For example, insects can appear immobile amidst their surroundings through mimesis or crypsis, in both color and texture (Forbes, 2009). Documentation of these concepts have lineage in the work of Henry Walter Bates (1825–92) and more famously Charles Darwin’s theories on species development. It was Bates who coined the term mimicry to describe the capacity of butterflies and moths ability to adapt to their surroundings (Forbes, 2009).

In 1940, Hugh Cott published *Adaptive Coloration*, a book that synthesizes ideas put forth by Thayer and others. Cott introduces the idea of warning coloration, or an exaggeration of color and pattern employed by animals to ward off predators. He states, “It is also evident that simplicity of colour-scheme—achieved by the use of few colours and bold
patterns—must also constitute an important factor in the successful advertising of inedible qualities to enemies.” (Cott, 1940, 194) Cott plays an important role in broadening the debate to suggest exaggeration of either form or color as an expression of camouflage. In doing so, one begins to understand the inherent duality in camouflage representation.

Camouflage can be disruptive or mimetic. It can manifest as either similarity or dissimilarity depending on the need.

The publication of Adaptive Coloration, once again introduced the topic to the western public whom eagerly embraced the ideas while preparing to embark on the Second World War. The publication re-ignites a vigorous debate on these issues. Camouflage once again became polemic. However, despite its critics, camouflage was a big part of the war effort. Cott’s illustrations (fig. 1.2 & 1.3) are the foundations for the patterning still seen today.

Figure 1.2: Illustration from Hugh Cott’s seminal book on camouflage (Source: Adaptive Coloration)
Cott became closely involved with the British war effort and was often the harshest critic of their uninspired use of camouflage technique. In 1940, he published an article in *Nature*, chastising the thoughtless application of neutral patterns. He states, “So consistently has this method been adopted by the authorities that the term ‘camouflage’ has come to mean parti-colouring with drab colouring.” (Forbes, 2009, 148) As this quote suggests, camouflage is more complex than these generalized all over patterns would indicate and that the needs of the military could not addressed with generic earth-toned markings. Additionally, what worked for a uniform could not be applied to all surfaces—depending on the surroundings, camouflage required site-specific solutions. These exhortations could be read as applicable today, camouflage can not be reduced to simplified pattern, it must be understood as a complex visual strategy that acknowledges context as an overarching framing mechanism.
Edward Poulton, also a zoologist, created a “system for differentiating the various ways of using deceptive visual appearance.” (Forbes, 2009, 51) He developed seven categories for an animal's natural ability to modify appearance to gain advantage. The most salient are: protective resemblance, which describes creatures that take the appearance of discreet objects; protective mimicry, when one animal copies a more dangerous one; and warning coloration, which allows animals the ability to exaggerate color or form in order to ward off a predator. This systematized approach is helpful in thinking about how these concepts can be re-applied when designing for the built environment.

1.3 Phenomena in the Landscape

Less systematized approaches to camouflage have existed for centuries; vernacular tradition has employed camouflage technique long before these ideas were codified by either science or the military. For example in hunting and stalking prey, the gillie suit, still in use today (fig.1.5), is the precursor to the sniper outfit.
Originally made of shreds of dyed, old garments and utilizing native vegetation, these outfits concealed the wearer from easy detection (Forbes, 2009). The purposes of these costumes were to cloak individuals tasked with monitoring game and prevent poaching. In the example of the gillie, wealthy Scotch landowners relied on servants (the Gillie), to protect their private property. The word, in fact, translates into boy (“Merriam-Webster,” 2014)—an idea that further highlights the hierarchal power relationship inherent to camouflage. This suit was a place-based ‘uniform,’ which relied on the resourcefulness of the wearer (i.e. designer) and their ability to read the landscape. To achieve optimal success, one would have to be cognizant of plant material and how to best utilize terrain and other landforms.

To restate the obvious, the military has played a critical role in bringing the concept of camouflage to the fore. The theater of war\(^1\) was the perfect setting for implementing techniques gleaned from the study of nature as well as information gathered from vernacular practice. The military did not invent these concepts, but is responsible for popularized them and ultimately embedding them into the collective consciousness. Most importantly for the purposes of this thesis, the military applied these ideas toward the built environment.

---

\(^1\) It is hardly incidental that an alternative derivation of the word is ‘to make up for stage’ (Hartcup, 1980).
Camouflage within the military apparatus was applied at various scales deploying different technique as the need arose; thus, charting a clear trajectory is an unwinnable endeavor and beyond the scope of this paper. Toward the end of World War I, the majority of armed forces had established Camouflage units. These units were comprised primarily of artists, architects, engineers, and set designers (Behrens, 2002). Improvisation during the early stages was to be expected, according the de Scevola, “Camouflage then is no vaudeville magic. It required trouble, horse sense, and the ability to take advantages of local conditions.” (Kahn, 1984, 21) This quote suggests that opportunism is pertinent to the successful deployment of camouflage.

Scientific and empirical knowledge became commonplace in military camouflage application around the middle of the twentieth century. Many of the official units went about testing and applying the aforementioned theories associated with the animal world within the landscape. Camouflage units created models and dioramas to test pattern as well as shape and color combinations, these simulations led to real-world applications. These units employed proven scientific color theory, artistic invention, and good old-fashioned trial and error. Color charts began to dictate the best color combinations for specific locations. These early experiments are manifest in the present day landscape in the form of the ubiquitous water tower, painted to ‘disappear’ against the open sky (Fig 1.7).
Figure 1.6: Excerpts from training manual for camouflage officers, bottom from ‘Principles of Night Vision’ (Source: Camouflage and Art)

Figure 1.7: (L-R) Illustration of Purkinje effect (author), Admiralty charts to test color during different light conditions, dazzle ship design (Source: Camouflage and Art), infrastructure (Source: Landscape Pattern, Process and Perception)
Some of the earliest examples of military camouflage are dazzle ships—battleships adorned with bold geometric patterns often in black, white, and shades of grey—used in the latter part of World War I and into World War II. These vessels were moderately effective at thwarting enemy range finding (Hartcup, 1980). Another early example of recorded use are Observation Posts (OPs), hollowed out structures replicating natural forms. The first recorded use was in Libors, France 1915 during the Battle of Artois in the form of a tree (Hartcup, 1980). These objects of fakery were used to gain advantage over opponents by creating opportunity for detailed recording of troop formations while remaining undetected amongst the landscape. It could be argued that these forms take inspiration from early landscape follies, objects made to look like something they are not, effectually blending in with the native environment. Where these two systems diverge is unlike the traditional folly these military constructions, have the very specific purpose of concealment. However, when viewed from the perspective of the beholder, these distinctions are scant.

Screens and nets proved highly effective at eliminating contours and edges on buildings by softening shadows. Many of which were improvised, often consisting of readily
available objects such as muslin or steel wool. In *Camouflage*, Hartcup outlines two types of screening: *natural*, in the form of hedgerows and false crests (landform) (*Fig. 1.9*) and *visible* such as mesh or smoke. Disguising critical infrastructure was crucial and achieved by screening or application of pattern. In other instances, false facades and dummy operations were used to great effect.

*Figure 1.9: Demonstration of natural screening tactic used during World War II (Source: Masquerade)*

Correlative to the animal world, scale was effective in exemplifying strength, or conversely, simulating a diminutive appearance. Large-scale operations took many forms, fake towns or bombed out airstrips were meant to have a ‘natural’ appearance (Hartcup, 1980). One of the largest of these structures was the Pluto Pumping Station situated on the bluffs of the Isle of Wight. This massive infrastructure operation pumped as much as 1million gallons of petrol beneath the English Channel to be used in the Allied war effort. On land the flexible pipe was run between pumping stations, resembling the vernacular architecture found along the British Coast (http://www.combinedops.com/pluto.htm). This
large-scale dummy operation is similar in scale and tactic to the 1942 Douglas aircraft factory operation in Santa Monica, California.

“[The factories were] disguised to blend into the surrounding sub/urban terrain. Factory rooftops became sites for the construction of entire ersatz suburbs, complete with fake cars, roads, homes and foliage.” (“Los Angeles,” n.d.).

The success of these projects predicated on a particular suspension of disbelief—a willingness between perceiver and enactor to accept this simulacrum. Additionally, the scale and strategy, to render something banal on a site scale, has become commonplace in present day camouflage. Similar to these two examples yet beyond military application, the utility of camouflage is clearly effective when the goal is to obscure infrastructural systems.

Figure 1.10: Pluto Pumping Station (Isle of Wight) (Source: Masquerade and http://www.combinedops.com/pluto.htm)
Figure 1.11: Douglas Aircraft Factory in California (Source: Masquerade)
Chapter 2: Literature Review

2.1 Ground View

A search for “landscape architecture” and “camouflage” in the Avery Index of Architecture periodicals yielded 34 results. Eight of these findings are from 1942-1944 with five additional discussing military applications.

The summation of literature outlined in this sub-chapter is intended to highlight the notion there are few articles in landscape journals that address the subject of camouflage beyond the functional. Apart from articles that give landscape designers ideas and examples on how to disguise a cell tower, (Flint, 2003) there is little theoretical literature on this subject. Much of the writing available in landscape journals and books are centered on World War II. Admittedly, this was the perfect opportunity to apply these visual tricks to elude the enemy as armies lacked the technological sophistication of today. That being said, deception and disguise are still applicable within the military and beyond.

An examination of Landscape Architecture 1943, contains two articles on the subject and interestingly, there are references to members of the journal actively serving in the war. In this particular volume, there is an article by Armistead Fitzhugh, “Camouflage: Adaptation of Basic Principles of Landscape Architecture.” He writes about the value and insight a landscape architect can bring to bear on the subject of military camouflage. A

Figure 2.1: Disguised cell tower
(Source: http://www.fastcoexist.com)
professional landscape architect has knowledge of topography in general and siting, specifically, which make them well suited to provide assistance to the military planners when establishing sensitive buildings. Also in Volume 33 (1942), Henry Hornbeck discusses the current state of camouflage in his article “Camouflage, Here and Now.”

Ralph Rodney Root’s *Camouflage with Planting* (1942) remains an obscure but important work of the same time period. Root argues that landscape architects are best suited for camouflage work “because of their training and experience in aerial and land surveying, engineering and ground surface contouring, grading and drainage, functional site planning design, layout and construction of roads, selection of plant material and the selection of surfacing materials for the best tonal results.” (Root, 1942, 10) He emphasizes the use of native plants as opposed to ‘alien’ plant material. Objects must be made harmonious to surroundings but equally important plan elements should be located on contoural features. Root uses much of the same vocabulary circulating at the time, “counter-shading, color, harmony, mimicry, disruptive design, changes in color to match changing surroundings, dust screens, obliterateive marking.” (Root, 1942, 11) These ideas indicate universal design principles when analyzed using camouflage as an overarching framework. Root’s work is critical in establishing a direct link between the discipline of landscape architecture and the principles of camouflage.

---

2 Root was an important landscape architect and faculty member at the University of Illinois from 1913-1918. Discovering this book was very exciting as it literally fell off the shelf to my feet while looking for other military-based books on camouflage. This was an affirmation that I was on the right track.

3 See AH Thayer.
strenuous assertion that the landscape designer is best positioned to understand and apply these principles suggests a relationship between camouflage and the discipline may predate any military usage.

2.2 An Expanded Reading

Some contemporary literature has applied the term camouflage to broadly describe phenomena of objects in an environment. In “Urban Camouflage,” the author recognizes the potential of Lawrence Halprin’s and that of ‘acolyte’ Angela Danadjieva’s work to be understood as a form of urban camouflage. The placement of this article in Architecture Magazine is quite striking—in its dissimilarity to all the other featured articles and advertisements are remarkable. Dean’s writing and the selection of images, such as Danadjieva’s “spectacular lobby wall” for the Washington State Convention Center appear as apparitions from the future (Fig. 2.3). Dean states, “like Halprin, [Danadjieva] tries to infuse her projects with a sense of place and tradition by echoing the natural forms of a particular region.” (Dean, 1990, 60) This form of mimesis is seen as a thread throughout both of their work. Although the article is short, it re-imagines Halprin’s infrastructural work as exemplar application of camouflage in the built environment. Camouflage can be viewed as a strategy for ameliorating urban problems, such as capping and planting large tracts of Seattle’s freeway system. Halprin states, “The trick is to perceive the old freeway as a part of the cityscape and tame it rather than complain about it.” (Dean, 1990, 60)
Architectural theorist Neil Leach’s *Camouflage* (2006) discusses architecture’s relationship to camouflage. He uses Walter Benjamin’s and Theodor Adorno’s theories on identity formation of the self as precedent for his arguments vis-à-vis architecture. Leach uses Benjamin’s concept of seeking likeness and empathy between the self and *the other* as ways in which we interact with the world. Leach uses Benjamin to argue, recognition is a dialectics of seeing, where subject and object are conjoined. (Leach, 2006) Leach goes on to suggests, “Mimesis constitutes a form of adaption” or of survival. He makes the distinction that this is not a literal mimetic operation, instead he states,
“The role of camouflage is not to disguise, but to offer a medium through which to relate to the other. Camouflage constitutes a mode of symbolization. It operates as a form of connectivity.” (Leach, 2006, 240)

Finally, Leach’s ideas support what I had intuitively come to understand, “Military camouflage (sic) offers us a very limited understanding of the possibilities of camouflage.” (Leach, 2006, 240)

Possibly influenced by Leach’s *Camouflage*, “*Intersections: Camouflage,*” examines the work of two Japanese architects, and includes an interview with Ellsworth Kelly whom served in the 603rd Engineers Camouflage Battalion. The author makes a compelling argument that the technique of “dissolution and disappearance are seen as forms of camouflage.” In the article, the featured buildings are less about a vanishing act but more accurately blur the boundaries between figure and ground. These highly modern buildings blend into the rugged and desolate landscape in subtle ways, loosing “figural outline, becoming an environment in itself.” (Picchi et al., 2009, 31) The authors claim, “Reflection and transparency, twin techniques of disappearance, are the predominate means used here, enabling the interventions to dissolve optically into their surroundings.” (Picchi et al., 2009, 31) The authors describe, through reflection and refraction4, a presence and absence represented in the architectural form. The building contours are lost while the landscape becomes accentuated (*Fig. 2.4*). The loss of figural delineation through blending is, in many ways, a conventional understanding of the function of camouflage. However, what is suggested in this writing is intentionality, “[These buildings] appear to seek unification with

4 Interestingly this echoes what Root asserted in 1942, “reflection and refraction are more important than color,” towards the efficacy of camouflage.
the surroundings. Yet, the essence of camouflage lies not in the oneness with the world, but in the doubling of it, introducing a division between reality and appearance.” (Picchi et al., 2009, 31) Camouflage performs at multiple levels with its disappearance contingent on dissimilarity. Additionally, the article suggests that the goal of camouflage is not, in all cases, seamlessness; often it can be disjunctive and jarring—however, it must always be contextually suitable. This understanding of camouflage as it relates to the built environment was of particular importance to the development of my thesis. Furthermore, it required broadening the scope of inquiry to include architecture as it relates to landscape.

Any discussion of camouflage and landscape architecture inevitably invokes the work of Ken Smith and more specifically, his MoMA rooftop garden. However, two years prior to this project he had been exploring the possibilities of camouflage as design form in a one off project for the magazine Nest. His Hotel Eden (fig. 2.5), an artificial garden is prelude to the

*Figure 2.4:* Proposal for redesign of El Confital Coastline, Spain (L). Built work of Ryue Nishizawa and Kazuyo Sejima (R) (Source: Domus)
MoMa project. The MoMA project (fig. 2.6) is viewed as hugely successful with Smith describing it as such,

“The design is about simulation. In fact, creating a landscape garden on a rooftop is inherently an act of simulation. I am very interested in how camouflage simulates landscape, and in this garden the landscape simulates camouflage simulating landscape.” (Beardsley, 2009, 31)

Smith admits to an interest in camouflage since the late 1980s as a student. But as his quote implies, camouflage, in this instance, is merely a design trope. Clearly, he is quite thoughtful in his understanding of camouflage and its possibility to describe the built environment.

When Jane Amidon asks whether all constructed landscapes are in fact “acts of simulation” and in essence camouflage, Smith describes the most basic functions of landscape design as examples of such simulation. He describes Central Park as disguising the grid and simulating a “pre-industrial arcadia”. (Beardsley, 2009, 32) He also references the notion of “shrubbing it up” (Fig. 2.7) as another example. Smith states, landscape as disguise “is a common but critically unrecognized aspect of simulation in the landscape architecture profession.” (Beardsley, 2009, 32) Later, the interviewer asks Smith to describe his rooftop garden according to the four principles of camouflage as outlined in Architect and Engineer magazine (1942): imitation, deception, decoy, and confusion. This exercise along with Smith’s reading of camouflage suggests it as a versatile and potentially encompassing visual theory to be explored.
Figure 2.5: Hotel Eden image by Ken Smith (Source: Ken Smith)

Figure 2.6: MoMA Rooftop Garden by Ken Smith. (L) Construction Documents for design (Source: Ken Smith)
Figure 2.7: U.S. Patent for, as Ken Smith suggests, 'shrubbing it up' (Source: U.S. Patent Office)
Chris Brisbin’s essay *Optical Surfaces: The Emergence of Surface Disturbance and Embodied Affect in Architecture*, addresses the role of the viewer in experiencing camouflage phenomena. Brisbin uses an unlikely project called the *Dazzle Shed* by Elenberg Fraser (fig. 3) to explain optical phenomena and the embodied viewer. *Dazzle Shed* was literally a backyard shed painted in bold geometric patterns. These patterns pay homage to the disruptive “dazzle” patterns first used in World War I often black and white designs intended to thwart enemy range finding (fig. 1.7). The idea being that these patterns fractured surface to the extent that it was difficult to determine bearing and size of a seafaring vessel. “In *Dazzle Shed* (sic) the beholder seemed to be required to engage in some choreographed movement in order to perceive and cognitively recognize the camouflaged object that was presented to them” (Brisbin, 2013, 2). This embodied viewer concept introduces an alternate interaction with camouflage which is often best understood from an aerial perspective. In his essay, Brisbane advances a less blunt or prescriptive approach by describing how a body moves through space. He asserts that an individuated interaction is created through manipulation of surface treatments. Using Cubism and de Stijl design as other examples of this, Brisbane suggests,

“The multiple possible spatial realities concerning for example, where to stand to view the work and what geometries addressed particular locations in space, creates a perceptual flux that disrupts (sic) visual identification. It is this very indecision and perceptual ambiguity that dazzle camouflage sought most vehemently.”

---

5 Ken Smith’s *P.S.19*, 2002 could be read as a dazzle shed, innocuous regulated architecture ornamented with bold geometric patterns. In fact the aluminum clad school buildings appear as ships or even as cargo on ships. Neither the writing or the interview in *Ken Smith Landscape Architect* support this interpretation, however. Considering his keen interest and knowledge of camouflage technique, it is not a stretch to suggest dazzle ships as having influenced the design—consciously or otherwise.
Delayed perception as an aspect of camouflage creates an unscripted experience for each viewer as they move through the landscape.

*Figure 2.8:* The viewer and *Dazzle Shed* by Elenberg Fraser, Brisbane Australia (Source: *Optical Surfaces*)
Chapter 3: Theory

3.1 Critique of the Sign

“Culture produces a ‘habitus’ which through discontinuities with the natural world, merges into it as an order whose join with Nature is nowhere visible”
-Norman Bryson, *Vision and Painting*

The omnipresence of camouflage patterning is readily apparent; its use/overuse in fashion is on display everywhere. Camouflage patterning in semiotic terms has become a symbol lacking a definitive sign—it has become such a pervasive part of popular culture to the point of meaningless. However, recognizing patterns is a fundamental part of landscape design. “Patterns are everywhere, and it is by recognizing them that we can orientate ourselves, try to make sense of the world.” (Bell, 2012, 11) Camouflage patterns are not difficult to spot as they have saturated our collective conscious, thereby limiting any analytical understanding—all usefulness has been lost.

In application (i.e. not fashion), recognition of camouflage in proper context requires attunement. It is an ability to recognize incongruence in the landscape. Interestingly, this has correlations to the military's use of colorblind individuals in reconnaissance efforts. *Dichromats* have proven uniquely equipped for discerning camouflage in situ, effective at recognizing differences, and not by distracted tricks of color. (Morgan, Adam, & Mollon, 1992) This may possibly explain why most military literature places emphasis on texture over color (Root, 1942; Forbes, 2009), which correspondingly devalues the importance placed on early representations of camouflage pattern. In a particular setting these patterns can be an effective as a form of mimesis, however context is fundamental. This fact was often lost on
early practitioners of the craft, or camoufleurs. According to L.D. Symington, former stage designer and World War I British camoufleur, “75% of camouflage was utterly wasted because of lack of knowledge and standardization.” (Hartcup, 1980, 27) Like landscape design, effective camouflage is site-specific requiring effective problem solving and an understanding of one’s surroundings.

3.2 Alternative Analysis

There has been some critical theory with regard to the concept of camouflage patterning, most of which uses Gestalt as its underpinnings (Behrens, 2002). Gestalt is a visual theory that sets forth principles of visual organization, relying on proximity groupings and continuity to describe objects as they relate to their surroundings (see Fig. 3.2). In much of the writing on camouflage, gestalt is used as way to describe pattern. Of equal importance is its ability to address figure-ground relationships in three-dimensional space (Haber & Hershenson, 1980) (see Fig. 3.1). Therefore, gestalt is ideally suited to the discipline of both architecture and landscape, which, at its core, is continually negotiating these issues. For further clarification, gestalt does not necessarily

---

6 According to Elizabeth Kahn in *The Neglected Majority* (p. 27) ‘un bon filon’ or a “cushy job” was how camoufleurs and their position in the French army were described.

7 Gestalt Theory in the context of this discussion is based on visual theory principles developed out of Gestalt psychology in the 1920's, based on the “unified whole” concept.
describe a mechanism for concealment, it is a framework that explains the cognitive function of the brain to fill in the gaps—i.e. complete the picture. This function has been proven to be a precognitive drive originating in early childhood development (Spelke, 1990). Could this address a primal need of the individual thereby amplifying the resonance of these images or are they a self-identification mechanism, as Benjamin would suggest?

**Figure 3.2:** Principles of Gestalt often used to describe two-dimensional pattern recognition. (Source: http://connect.humanfactors.com)

Gestalt is a good introduction into the subject but fails to fully address the contradictory nature of camouflage. These complex and often conflicting visual mechanisms are in essence a “systemization of confusion.” Or to use Merleau-Ponty’s description of perception in general, which he describes as a “psycho-physical event” wherein the brain
becomes the locus or “seat of a process or ‘patterning’.” (Moran, 2002, 427) Camouflage is an organizing principle as well as a disruptive mechanism. According to Wolfgang Kohler, author of *Gestalt Psychology*, camouflage is “difficult art” as it can simultaneously represent contradictory positions. It is both unit-forming through figure ground relationships in coincidental disruption or similarity, while also unit-breaking through in disruptive coloration or dissimilarity (*fig. 3.3*) (Behrens, 2002).

**COINCIDENT DISRUPTION**

*Figure 3.3:* Diagram illustrating Coincident Disruption adapted by Author from source. (*Source: Encyclopedia of Perception*)

Furthermore, gestalt begins to explain the cognitive processes by recognizing it as patternmaking, but struggles to embrace the cognitive dissonance of recognition and denial. Without a framework for understanding these complex mechanisms we are left only with noise. Cognitive research with regard to scene analysis begins to address a clear disconnect between what we see and that which we choose to acknowledge. When confronted with a tableau, our eyes move between fixed locations every three seconds.
“In this process of saccadic movement we do not consciously register ‘blank periods or ‘holes’ in our visual experience, nor do we experience the world as a series discreet snapshots. Instead we have the perceptual experience of a complete, full color, highly detailed, and stable world.” (Underwood, 2005, 213)

It is this human desire for a cohesive and ‘stable’ world that our willingness to accept camouflage exists. As a singular object or collection of objects, camouflage in situ presents an opportunity to confront bias in our visual perception. It creates a framework or context for analyzing the ordering of objects in a particular environment—we can ask questions such as, ‘is this congruent or incongruent?’

Regardless of the application, camouflage methods are negotiations of power, an aspect implicit a military context. Beyond the military, were we to think about camouflage in more expansive way, it is clear that structuring vision in such a way as to disadvantage the viewer is a key concept. Skillful deployment of camouflage or having the ability to alter one’s perception is an undeniably a powerful tool. In his discourse on vision and power, Deleuze addresses the concept as such, “Visibilities are not defined by sight but are complexes of actions and passions, actions and reactions, multisensorial complexes, which emerge into the light of day.” (Bignall & Patton, 2010, 65) Vision is constantly mediated and an expression of control therefore, visibility or lack thereof becomes a metaphor or a site for exerting power over a subject (Bignall & Patton, 2010).
Chapter 4: Process

4.1 Pattern in Military

An exploration of military pattern yielded inconclusive results and provided only somewhat anecdotal information (fig. 4.1). It was helpful in understanding the historical trajectory, which, at present has become an overused cultural artifact. A cursory exploration did reveal some lineages and milestones of note. During the Second World War, military uniform camouflage became commonplace. In the U.S., the first wide scale uniform pattern was designed by Norville Gillespie, horticulturalist and editor of Better Homes and Gardens. Enlisted men referred to these as “Frogskins” (Camopedia Web Encyclopedia). This pattern has become the most widely recognizable in the U.S. and is still commonplace in today’s fashion.

The lull in military engagement post WWII, Korean War notwithstanding, was a moment when pattern became decorative and somewhat idyllic—simplified clouds and multilobed, leaved designs became motifs. This seems to suggest that there is collusion between the wearer and observer. As is the case in fashion, camouflage patterning is part symbolism, part functional.

The moment when the pattern became dimensional is a notable point of departure from the more representational motifs. This shift is seen in the emergence of desert or ‘chocolate chip’ camo, developed in the arid regions of California in 1962 (Camopedia Web Encyclopedia) was intended to address looming conflict in the Middle East. Desert camo, used from 1981-1991, is a blocky, dimensional pattern overlaid with more traditional colored blotchy, all-over motifs. This shift is significant, as it was the point in which
camouflage pattern became less referential and more optical. Any referential pattern was ultimately obliterated with the advent of digital camo first introduced by the Canadian Armed Forces in 1997. Digital camo or CADPAT, quickly gained popularity and has been refashioned in the U.S. and abroad. The American version is called MARPAT and it has proven extremely versatile in both the woodland and desert form. When analyzing the history of military pattern, a scheme from 1942 emerges as an outlier. Similar to the off-white blocky patterns in Desert camo, in this design, the green blobs appear to hover over the blurred darker areas. This composition uses dimensionality with greater sophistication as compared to those deployed of the time. It must be noted that this pattern was never mass-produced.

![Figure 4.1: Author diagram (L-R) ‘Frogskin’ pattern by N. Gillespie, innovative design—this was not mass produced, pastoral ‘Wine Leaf’ pattern, ‘Woodland’ pattern widely used in Vietnam, ‘Chocolate Chip’ pattern used during Desert Storm invasion (Source: http://camopedia.org)](image)

4.2 Pattern in Landscape

A scholarly journal search for projects referencing camouflage in their description yielded few results: MoMA Rooftop Garden (Ken Smith Landscape Architect), Camo Park by Claude Cormier Associates (fig. 4.2) are the most notable. The scarcity of built work that used camouflage as a descriptor was unexpected. Upon first impression, both the Claude
Cormier and Ken Smith projects seem rather didactic in their approaches, with both projects presenting a very literal reading. They graphically represent the concept but fail to embody the complex visual mechanism inherent to the process. These projects suffer from the same general problem; they are empty signs, which fail to explore the possibilities of camouflage design vocabulary. Ultimately, both Camouflage Park and the MoMA Rooftop Garden lack context.

As discussed in an earlier chapter, Ken Smith has a nuanced understanding of the operations of camouflage and its potential in landscape architecture. That said, MoMA rooftop is camouflage that relies too heavily on the sign. Clearly MoMA rooftop has elements from a designer well versed in camouflage ‘theory.’ Smith used traditional camouflage pattern to some effect when concealing the ‘contoural’ features of the elevated sections of the roof. Ironically, it is the synthetic materials used in this project that may be the real masking occurring which may be a decision based in practicality.

The Claude Cormier project, Camouflage Park proposal uses pattern in the most superficial way. It is an oversimplified parody of camouflage pattern that refuses to
acknowledge context in any way. The scheme is a crude representation or cartoon of camouflage pattern, which is merely used as a generative tool for a planting design.

4.3 Towards a New Definition

Coming to understand the complexities associated with the word and function of camouflage was an arduous journey. The word and attendant meaning had proven elusive. Early in my research, I struggled with the meaning of the word, which as stated earlier has the potential to represent contradictory points of view. Traditionally, camouflage is thought of as a form of concealment but it can also be in the form “warning coloration”. It can manifest as a system of confusion in the form of a screen, or conversely, it can be effective by rendering objects banal, thereby allowing them to ‘fit in’ with local architecture or scenery.

There was the idea to come up with a new definition as it seemed like what interested me was broadening the current definition, this proved a Sisyphean task. Camouflage has always been a broad field, describing a multitude of situations, however, as the Oxford English dictionary definition indicates the word has been fused with military application.

1. The disguising of any objects used in war, such as camps, guns, ships, by means of paint, smoke-screens, shrubbery, etc., in such a way as to conceal it from the enemy; also, the disguise used in this way; freq. attrib.

Apart from some examples of how the word could be used colloquially, it seemed that the military had sole ownership of the word and subsequently the ideas of camouflage. My
approach to the word and subject evolved into what could be termed an “Originalists” point of view, with the goal of extracting new meaning applicable to landscape architecture. The struggle for a new definition was not a meaningful end goal, although in no way a wasted effort as it led to the understanding that effective camouflage must be context based and relational to peripheral objects. This exercise allowed me to begin to understand camouflage as analogous to ‘mise en scène’, a theater term which literally translates to “placing on stage.” A contentious word in film theory, it can best be summarized as the collection of all the elements that make a scene in either theatre or film—this includes how the actors are placed in a scene, lighting, color, camera angles and sound design. Miriam-Webster Dictionary defines mise en scène’ as: the physical setting of an action (as in a narrative or a motion picture): context. This seemed an appropriate connection as some have attributed early derivations of the word, camoufleur, as to make up for stage.\(^8\)

Camouflage cannot be viewed as an isolated incident or merely as pattern; it is best understood as a collection of objects in the environment that creates new meaning. Determining outcomes and making actionable the result of an observable/unobservable phenomena seemed critical to making a study of camouflage applicable to landscape architecture.

---

\(^8\) In my research, this attribution is only attributed to Guy Hartcup, in Camouflage, attempts to cross reference this derivation have proven difficult.
4.4 Local Survey

When conducting my local survey of ‘objects of camouflage’, the operating premise was, camouflage exists in a latent state all around us, and it is just a matter of looking for it. Inherent in its meaning, you do not notice it—with this as a guiding principle, my goal was to gather examples from my immediate surroundings that would best illustrate my interpretation of camouflage (i.e. ‘mise en scène’). What resulted were the photographs seen in figure 4.4. My task was to locate examples of camouflage that indicate how this design form exists in the world. One of the first images captured is figure 4.5, 3, in this photograph vegetation begins to disguise the contoural features of the building. Additionally, the passage of time is conveyed as different layers are combined, thus creating a palimpsest. The majority of the images collected show buildings in some sort of decay or more accurately a natural state. In many of these examples, camouflage is expressed as an in between condition, one condition merging into another—an erosional process or form of naturalization.

The collection of images represents an interpretation of camouflage, each image describing the process or residual of camouflage in the broadest sense. For example in Figure 4.3, similarity in color is expressed through the telecommunications equipment situated on the rooftop, painted to match the color of the
brick. As a result, a masking of function occurs, whereby the equipment is blending or merging with the structure it is placed upon.

In *Figure 4.4*, multiple layers of screening occur which leads to confusion in the perception of the viewer. A moiré pattern is created by the juxtaposition of two layers of screening surface. One screen is visibly legible (the original fence structure) however, once two screens are placed on top one another a system of confusion has been created, further exacerbated by movement of the body. Visibility has been slowed. This is similar to Chris Brisbane’s understanding of the Dazzle Shed as discussed in Chapter 2.2, wherein movement of the body is integral to the perception of surface.

![Figure 4.4: Illustration by Author demonstrating visual confusion through layering of pattern.](image)

A few of the images represented here are based on my interpretation of the military literature. For example in *Fig. 4.5, 11*, a building adjacent to the expressway is normally used as a highly visible (even at 60+ mph), multi-sided billboard that wraps its exterior. Normally, this building is defined by the image that circumscribes its rectilinear features. Once the ads are removed, we ‘see’ an over-lit black building that optically disappears in the night sky despite the amount of foot-candles being projected onto the façade. This corresponds with
military recommendations for night treatment of large buildings as a way to protect from aerial bombardment, which was to paint them black.

This local survey provided examples that transcend military application and were helpful in creating dialogue on this topic. Furthermore, it was a crucial step that hastened my ability to articulate ways in which it could be applied more specifically to landscape and architecture. It is clear from that what is represented in this survey, the majority these examples are of unintended camouflage. This conditional camouflage can occur naturally. This important distinction required a deconstruction of the characteristics found in these images, ultimately leading to the development of a criterion that makes operational my analysis.
Figure 4.5: Local survey analysis images culled from Detroit, Michigan and Chicago, Illinois. Images by Author.
4.5 Continuum

A timeline was conceived as a mechanism for organizing historical information culled from the literature review. Beyond laying out information chronologically, I felt it necessary for the timeline to function as a design document useful in displaying connections across disciplines as they began to emerge. Upon its initial iteration, information was laid out across three axes: military, art/visual theory and scientific development. These three strains represented the different subcategories which, at that moment, best described the historical trajectory of camouflage. The resulting document was a confusing web of information and proposed cross connections.

The second version was a stripped back, more stratified version that focused on aligning relevant connections on an x-axis. The new continuum was divided into four distinct trend lines: Infrastructure, the Folly, Visual Theory and Science. This new organizational structure allowed for speculative connections to be presented with more clarity. As seen on the Folly axis, there is an illustration of the first artificial tree used in active battle (Fig. 1.8). As previously discussed, these observation posts were for siting enemy formations and battle positions. It is my contention that, although having real practical purpose, these OPs are in fact, an extension of the traditional folly. They are elements existing in a changed context taking the form of something that they are not.

The new chronology helped shape an essential argument of this thesis: camouflage is a design form linked to practices in the profession that existed prior to the military's co-opting of the term. An example of this is the ‘ha-ha’ wall, represented on the infrastructure axis. The ‘ha-ha’ can be read as camouflage as it obscures the view when “on the right end,”
across an infinite horizon. Ha-ha walls are infrastructural interventions that perform a specific function in organizing the property in an effort to accentuate the view, thus disguising their purpose.

The 'ha-ha' wall exists on the same axis as many of the examples cited in the military. As stated, the military was most successful at deploying camouflage on a large scale the results of which vary. On the infrastructure horizon is a military innovation known as the Watson Pots. Watson Pots were bored holes in a concrete runway, then filled with soil and tufts of grass to resemble a typical rural grassland (fig. 4.6). They were the creation of Leslie Watson, a horticulturalist and research member of the British camouflage unit (Hartcup, 1980). Also used during the Second World War were vegetated roofs (green roofs) that were intended to reduce reflection and confuse way finding capacity of enemy bombers (Blechman & Newman, 2004). Unfortunately, it is difficult to determine the actual use or effectiveness of these wartime innovations. But more importantly, it is my suggestion these innovations foreshadow much of the green technology in current application within the profession.

Figure 4.6: (L) Watson Pots testing (Source: Camouflage) (R) Example of green roof for disguise (Source: DPM: Disruptive Pattern Material)
4.6 Design Typology

One of the main design objectives of this thesis was to develop a typology that could be used to identify and describe the phenomena of camouflage in terms useful to a designer. This typology creates an original classification system which allows one to analyze aspects of the profession in a new manner. The working method for compiling this chart came as a result of working from both ends of the diagram. Ultimately, camouflage types were conceived simultaneously to the outcomes being finalized.

As the outcomes were finalized, original categories were developed based on observations in the built environment. This phase of research required examples in landscape and architecture that could, effectually, describe an expanded reading of camouflage. This exploration was similar to my local survey analysis, but was an attempt to extract these ideas from built projects. This was necessary to ascribe intentionality to the typology, thereby making it useful as a tool for thinking about these ideas at the formative stage of a design.
The six main types are as follows: *Unified Whole, Temporal Shift, Obscure Operations, Mask Utility, Expression of Power and Hyper Form* (fig. 4.7).

*Figure 4.7:* Flow chart diagram by Author illustrating Camouflage Design Types and outcomes along with inputs

These categories are meant to broaden current thinking on camouflage. They are speculative and test the limits of how one can potentially understand camouflage in a new way applicable to landscape architecture. These categories are situational and cannot, in all cases, explain the intended concealment or how a designer can apply them. They are intended to provoke discussion and challenge conventional thinking and conceived as a response to both the local analysis and survey of built works. Examining built projects and trends in landscape architecture helped give clarity to this process (fig. 4.8). For example, the *Hyper Form* category is in response to the exceptional work of Gunther Voght. Voght’s work exemplifies this type, he is known for using exaggerated interpretations of ‘natural’ form to disguise the artifice inherent in designed landscapes⁹. The Novartis Campus Project is a perfect example of this; the undulating outcroppings mimic natural forms and create an exaggerated version of nature (fig. 4.8). This idea may be similar to MVVA’s Mathew

⁹ See Ken Smith
Urbanski’s notion of *hyper nature*. Hyper Form is often referencing an original and in essence a mimesis of that original.

*Figure 4.8: Novartis Campus Project detail (Source: Gunther Voght)*
Figure 4.9: Examples of built work that are exemplars of new Camouflage Type. Table by Author.
Determining logical outcomes by way of the typology was critical. As this process progressed, understanding the various outcomes one experience when viewing camouflage became essential. It is often the case, that these outcomes are dependent on the acculturation of the viewer. Just as dichromats were effective at spotting camouflage during both World Wars—some individuals are better equipped for identifying camouflage in situ. After adding and subtracting various outcomes, I came to the realization that there are only three possible physiological outcomes when experiencing camouflage. In no particular order, the first outcome is that the camouflage tactic remains hidden to the observer. This outcome is referred to as Assimilation. Assimilation is, generally, a result of an uninformed viewer; essentially the viewer is fooled by the deception therefore the object or elements have successfully assimilated into their surroundings. The second outcome is where the viewer experiences disorientation or a general sense of unfamiliarity but lacks a rationale for understanding this disturbance. This outcome is called Disruptive Dissolution. The final and third outcome is Spatial Dislocation; which is when the viewer is able to recognize the deception being performed. These are presumed to be highly acculturated viewers who have a developed sense of objects in the built environment. These individuals are best equipped for discerning varying degrees of congruence.

The category Relationships is used to establish how the six types could be deployed. As discussed in Chapter 2.2, it became clear that, at present, architecture plays a significant and possibly more effective role in enacting camouflage. Architecture has a greater capacity to affect perception, quite possibly because it’s better situated to manipulate cultural cues.
Landscape is currently being used in limited ways to perform camouflage. Landscape is effective in projects such as Millennium Park (Chicago). Millennium Park can be compared to the work of Lawrence Halprin and Angela Danadjieva in that it performs by masking its function, in this example as an overlay to a parking structure. Where landscape and camouflage are most commonly applied is at the infrastructural scale. An historic example may be the Chateau of Vaux-le-Vicomte, built in 1658–61 and designed by Andre LeNotre and Louis Le Vau, where anamorphosis abscondita or hidden distortion is employed (Weiss, 1995). The intended effect of these gardens is to create a sense of unease and give the impression of grandiose gardens thereby, enhancing the power and prestige of, in this case, Nicolas Fouquet. Therefore, Vaux-le-Vicomte could be considered and Expression of Power type as outlined in the typology diagram (fig. 4.6).

![Expression of Power](http://gadarchitecture.com/durusu-house-project)

*Figure 4.10:* Illustration by Author demonstrating scale as a form of Expression of Power Type (Source: http://gadarchitecture.com/durusu-house-project)

The High Line (NYC-Field Operations, Diller & Scofidio + Renfro) and Millennium Park both use a similar strategy in masking infrastructure. The High Line, successfully masked a dormant infrastructure whereas Millennium Park creates a new one.
This strategy or type is termed *Mask Utility*. *Mask Utility* is the function of one form concealed in favor of a more viable one. This type of work predominates in landscape architecture as it relates to camouflage. This particular type is a new way to think about these projects either in gestation or in circumspect. *Obscure Operation* is, in many ways, closely linked to *Mask Utility*, however it’s masking is very opaque. It is often difficult to discern the goals or the act of concealment being perpetrated. This category is useful in describing large-scale projects that may lay outside the periphery of the observer.

*Fig 4.11* Illustration by Author of original use being disguised in favor of more viable one. (Source: http://www.oscarmail.net/houstonfreeways)
Temporal Shift is the most conceptual of the six Camouflage Types (fig: 4.12). That said, it is the most underutilized camouflage type, one that has great potential when considered a viable tool for the designer. This type is most represented in un-designed landscapes such as many of the examples in my local survey. Temporal Shift is an anachronism or representation of compression of time—both are exemplified by the folly.

Camouflage as *Temporal Shift* can be a condition of time in the form of dissolve, blend and ultimately, erasure when understood as a continuum. It is these elements that can be harnessed and ‘programmed’ into a design plan yielding unexpected results. However, accretion of surface can also represent this category effectively (fig: 4.13). A designer may think about this category in the form of surface treatments—such as weathered elements or casual placements of objects. In other words, time can be fabricated to achieve the desired outcome. Were a designer to give the impression of an inconspicuous space, ‘faux neglect’ could be engineered into the design strategy.

*Figure 4.12:* Image by Author demonstrating time as a potential element of camouflage design.

*Figure 4.13:* Demonstrating natural accretion process wherein likeness occurs by proximity. Illustration by Author.
Another category that relies heavily on accretion is *Unified Whole*, which is the use of disparate materials and/or objects to create the experience of a singular event. The best project to describe this is Wang Shu’s Ningbo History Museum (*Fig. 4.9, 9*); this project uses tiles from older Chinese buildings that have since been demolished. In this design Shu applies these tiles to his modernist structure to create new meaning or a unified whole. This building blends seamlessly with its environment, containing both the old and the modern within one design. *Unified Whole* can also be used to describe a compression of physical space into one view. Olin’s LDS Conference Center (*Fig. 4.9, 10*) is a wonderful example of this. In this design, space is compressed into a single viewshed. The distant Utah Mountains are in essence, part of the Olin design. The natural features or topography are fully integrated into the design of the rooftop garden and part of the entire composition. Therefore, spatial distance is truncated to accommodate the *Unified Whole*.

*Operations* and *Strategy* are used to describe how to achieve a preferred outcome. *Operations* are the methods or processes that will make a particular outcome possible. It must be clear that these operations can be used singly or in concert with one another. Both the *Operations* and *Strategy* categories are highly permeable and situational. As asserted repeatedly in this thesis, context is everything; with that in mind, these categories must be determined once a context is established. For example, is what you are trying to camouflage intended to either blend with its surroundings or be disruptive? Many of the *Operations* have subcategories such as *Surface Projection* with this as example; different surface treatments can be used to achieve different effect. For example, mirroring and warning coloration will produce very different results. *Patina* through *Accretion* will most typically
create *Assimilation* as an ultimate outcome. In other words, were a designer to simulate the accretion of surface conditions such as encouraging the growth of moss or multiple applications of materials, this would give the appearance of elapsed time, a temporal shift.

Block diagrams have been created as a way to visualize how one might go about using this typology (*fig. 4.14*). These diagrams can be considered a recipe, which contain elements to be added and subtracted from the equation to achieve the desired results. When conceptualizing a landscape or building these criteria can be considered in the early planning stages.

**Figure 4.14:** Block diagram showing how a designer may utilize Camouflage Design Types. In this example a *Building to Landscape* design with the goal of Unified Whole providing two separate outcomes. Illustration by Author.

This typology can be considered both theoretical and practical. It is a mechanism for approaching a design in a new way. Ideally, it can give some framework to the elusive design
process. Embedded in the typology is the notion that elements that are otherwise overlooked can create a new schema thereby, harnessing a long history of camouflage research.
Chapter 5: Conclusion

This thesis creates a strategy for analyzing context in landscape architecture. Through the use of a semi-dormant design principle, it is my hope that a new design strategy for landscape architecture has been presented. Additionally, these ideas can challenge designers to employ neglect and temporal elements in the landscape in new and interesting ways. Undoubtedly disguise, screening, projection to name a few are tools in any landscape designers toolbox, however what is presented here gives an entirely new framework from which to re-think these ideas.

Midway through this process I became aware of Albert Bregman’s writing on auditory scene analysis. His work helped my thinking on this subject in that it provided a correlative for understanding visual perception. His book, *Auditory Scene Analysis* addressed the function of the brain as being the locus for processing various competing pieces of information. Just as my linkage of camouflage to mise en scène’ in Chapter 4.2, Bregman’s work as it relates to this thesis is a continuation of that notion. Like auditory dissonance, elements that are just beyond normal perception within the landscape can contain emergent properties (Bregman, 1995). As there is little discussion given to scene analysis as opposed to site analysis in landscape architecture journals, it is my hope that this thesis will initiate a discussion on this lack. Although not the subject of this thesis, a cursory understanding of scene analysis was necessary to further my inquiry. In my estimation, site analysis is inventory whereas scene analysis is a much more complex relying on many more inputs. Scene analysis is an attempt to interpret objects within a context, applying meaning by way of relationships and their significance—to include that of the viewer. Scene analysis
incorporates one or more sensory modality producing a representation and awareness of the environment (Covey, 2014).

As Bell suggests, “We tend not to notice things that do not concern us.” (Bell, 2012, 49) That said, it is incumbent on the designer to engage with all aspects of the built environment. In many ways a study of modern camouflage is a study of the everyday which can be “the most individuated, the most obvious and the best hidden.” (Harris & Berke, 1997, 34) The efforts of this thesis are useful in that it provides a template for thinking about perception in a new way. It is my hope that these ideas will encourage designers to consider overlooked aspects of the built environment as a legitimate resource for information.
Works Cited


