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A dynamic figure ground

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A DYNAMIC FIGURE GROUND

by

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A DYNAMIC FIGURE GROUND

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ABSTRACT

The question this thesis explores is what could the relationship be between subject, the participant, and object, architectural form, other than fixed. This question arises from a consideration of the relative value of the perceptual field within aesthetic events. Alternative methods of interpreting the figure-ground relationship can cause a break in the definition of observer and object as static entities. Twentieth century painting and sculpture have challenged the conception of a stable figure-ground relationship in favor of a dynamic view. Increasingly within this view the subject has been called upon to become a part of the composition, through the involvement of perception as an integral part of the aesthetic event and/or by the subject becoming part of the event. Underlying this question is the notion that when the cognitive is actively engaged with the physical, the possibility exists of creating an autonomy for subject and object. Autonomy is coincident with a freedom, an enablement, based not solely on an emotional connection through metaphor but one based on the virtual.
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Jorie Graham
*The End of Beauty*
Releasing the Subject: Perception and Autonomy in Architecture

The work is a kind of optical instrument offered to the reader (viewer) in order that he makes self discoveries perhaps not otherwise possible.

Proust
*Le Temps Retrouve*

tell me then what will render the body alive?

Jorie Graham
*The End of Beauty*

Introduction and Definitions

Any inquiry has a genesis, an experience, or a known, which makes an impression on the observer and raises questions as well as posits answers. For this inquiry that experience was a naive visit to a room full of Ad Reinhardt’s paintings. The observer is initially drawn into Reinhardt’s work by the fields of overlapping subtle but brilliant colors. Then, as one progresses through the artists work the colors begin to drop out until there is only red, then blue,
and finally black. Five foot by five foot fields of all black, non-reflective, matte, non-color that absorbs your vision. But to the careful observer something happens. Within the black fields rectilinear patches begin to differentiate themselves and from these areas colors appear. Soon, there is a realization that the black canvases are alive with color. Due to the disjunction of color and non-color, of a conscious struggle of simultaneous presence and absence, the observer begins to feel the very act of perception taking place. When the observer becomes keenly aware of their own perception they become autonomous with the object they are observing; they have a one to one relationship with the object. An ambiguity is then created as to what or who is the subject and object. And as Bachelard says in *The Poetics of Space*, when there is ambiguity, there is an apprenticeship to freedom.

An experience such as this is significant because the artist, maker, the architect, determines from an enormous range of possibilities what combination of elements will lead to a given subject-object relationship. Inherently, any object devised will have an experiential relationship with its observer, the subject. So, as makers, it is important to ask what is the nature of the experiential relationship that is being defined. And, further, what are the elements that provide its form.

If we look for a moment to Reinhardt's painting, in this case “Abstract Painting 1960-66” (fig. 1), it can be seen how he answered these questions.
The painting has a highly defined form, the square, a primary as well as classical shape. Its dimensions were determined carefully by the artist to be the minimum area which would fully absorb the focus of the observer, sixty by sixty inches. Despite the seeming randomly charged field of black, there is no asymmetry within the visible composition. This can be seen by Reinhardt’s preparatory sketches where he primarily used classical compositions of equal tripartite division (fig. 2), creating rhythm and contrast but no hierarchy. Time is suspended in the painting and within the body of the artist’s work by the repetition of form, the use of the same painting size and the continuity of the field types within each canvas. No history of development or chronological order can be established. Reinhardt, in selecting these variables, attempted “to make subliminality visible” through the “narrativization of one’s gaze.”¹ The painting is “formless yet complete.”²

So within Reinhardt’s paintings there exits a tension, an ambiguity of form, that can directly engage the observer through the shifting perceptions of its composition. Two primary elements allow the paintings to be ambiguous yet whole: the very rigid form of the objects composition which establishes a unified ground and the perception of the contrasting elements, the alternating fields and colors, which render the object visually unresolved to the observer. The active observer must resolve the composition. This is the key point -- the observer plays an active role in the composition of the object. In this sense one could say that the subject object relationship is unstable as the painting both supplies to and requires of the observer active involvement. The two principle elements which create this aesthetic experience are form and perception. Therefore, for the purpose of this inquiry form and observer

perception, intimately working together, serve as the two elemental building blocks for the definition of an architecture. The intent of this search is to define an architecture which destabilizes the subject-object relationship so the result is an autonomy for both. Subject and object become relative to one another. A strategy will be sought that combines architectural form and occupant perception, plays them off one another, so that architecture and observer, each acting as subject and object, change roles and continuously alter significance of what each is, thereby creating an autonomy for each, a freedom, in which architecture and occupant can form new or renewed identities.

Within this role defined for architecture it is important to understand the nature of form and perception; what is their disposition and how are they utilized. The entire history of architectural theory could be said to be devoted to answering these questions so it becomes absurd to think that the scope of this inquiry could begin to fully explore these elements. Rather, a general overview of the primary, salient characteristics of form and perception will be undertaken and within this discussion how each relates to the subject-object relationship in architecture.

Turning first to form, its primary function is the physical manifestation of place. Form is the “solid” part of architecture; it has mass, and usually provides for habitation on some level. As Aldo Rossi says “form becomes a way of confronting reality.”3 The most important role form plays in the subject-object relationship is its ability to differentiate spaces -- the creation of order through form separates places of habitation from the chaos of the city or of nature. Further, the recurrence of form(s) implies meanings for the individual and collective as well as conditions use, which effects perception

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and inhabitation. Architectural objects are most often defined through logical systems of forms. Examples of these systems include, for instance, typology or the Classical cannon.

If we consider type as a framework for establishing architectural form then we are starting with a set of guidelines which creates a physical model, a recurring spatial condition within architecture. This model will address the occupant and the surrounding environment in a logically consistent manner. An example of how type effects form and use is the courtyard building, which could serve as a model for a housing block or a market (fig. 3). In this manner the guidelines for a courtyard type could be the desire for an interior relationship to a private exterior space, the addition of light within the interior of the structure, or a hierarchy of the public/private spaces which a court can create. Most important in the dialogue that develops between type and form is the relationship of spaces which evolves. Rossi speaks of this dialogue: “The type developed according to both needs and aspirations to beauty; a particular type was associated with a form and a way of life, although its specific shape varied widely from society to society.”

Therefore, typology in design is a method of conditioning the subject as to modes of inhabitation.

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4 Rossi, p. 40.
5 Rossi, p. 32. Rossi states that type both conditions and is conditioned by the subject.
As type exists as a loose set of guidelines for the establishment of a relationship between space and occupant, the Classical cannon systematizes form to achieve consistently recognizable architectures. Classical form making is a method of establishing a “world within a world” through the deployment of a discernible logic relating to segregation and combination of parts to the whole (fig. 4). Taxis, genera and symmetry are constraints that create a cannon of what not to do in developing an architecture rather than dictating what to do. By proposing a highly constant set of guidelines governing scale, proportion, spatial division, hierarchy, and rhythm the classical system for developing form produces a set of forms related to social and functional needs and conditioned by historical use.

Methods of generating form, such as typology or the Classical cannon, establish the basic conceptual framework for the most salient level of subject-object dialogue, and it is within this primary dialogue that subject-object communication begins. This is very much like Reinhardt’s use of the square and tripartite divisions to establish initial communication, or a constant, with the observer. But, form generating systems are primarily object oriented methods of design. It is generally recognized that these systems of forms effect the occupant, but the level and significance of this recognition is most often less than desired.

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7Lefaivre and Tzonis, p. 6.
In more recent discussions of architecture the occupant has begun to have increasing significance on design. Most notable in this area is the influence of the field of psychology on architecture. Hierarchies of emotional and physical needs have formed a basis for criticism of architectural form. Significant within this type of analysis is Nordberg-Schulz’s *Space, Time and Architecture* where the author discusses spatial consciousness and its potential subconscious implications within the observer. Specifically, Schulz defines what psychologists and sociologists have surmounted about the nature of human perception. It was discovered that within perception factors of proximity, separation, succession, closure (inside/outside) and continuity make up the basic architecture/occupant dialogue\(^8\) (fig. 5). Further, these factors can be synthesized into the emotional need for center, direction and defined area which should be manifested at some level in spacemaking for occupant well being. Still other inquiries into the topic, such as those by Lym or Yudell, Bloomer and Moore, and many others, begin to discuss the conscious body in architecture. A general discussion develops in these sources that revolves around emotional responses to existing forms and how these situations could be altered for the better.

In most cases, though, what has resulted in the overlap of psychology and architecture is the relegation of form to some sort of psychic inhabitation

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machine. The inherent problem in the union is that psychology can only guess at the observers response to form while architects can only guess at what form observers will respond to. What has resulted, though, due to the overlap of the two fields is a renewed concern for the relationship between subject and object and within this concern the realization that occupant identity is based on relationships between perception and form. Inherent in this issue is developing a communication between subject and object. Unfortunately, in this area architects and psychologists have been less than successful and it becomes necessary to look to other models for a more profound response to this inquiry.

Compositions

. . . . The moment
a figure appears on the canvas, she said,
the story begins, the story begins the error sets in,
the error the boredom, she said, the story talking louder
than the paint she said, the boredom the hurry, she said
(without embarrassment, without shame)
(and you must learn to feel shape as simply shape whispered the
wind, not as description not as reminiscence not as what
it will become)

Jorie Graham
The End of Beauty

And perhaps more than anything else, modernist art as a movement has arisen as a critique of that hierarchical structure. When art begins the process of taking all the pictorial out of the pictorial, taking all the symbolic meaning out of the mark and the line, what its really doing, essentially, is flattening that value structure. That process of flattening has been under way for about five hundred years now, although it’s really only become critical in the last one hundred, when the figure-ground dichotomy itself came into question. At first the flattening took place at the level of subject matter, that is, what was allowed to be portrayed as the figure in “high” works. At first there were only
religious subjects, Christ, the King; and then it became acceptable to 
portray this particular king; and then, this wealthy merchant; and then, 
this handmaiden; and then her red shawl; and, eventually, just the color 
red. But with the cubists the flattening of the value structure moved 
beyond mere subject matter into the question of how that subject was 
itself presented. For really, in a sense, if you go form a classical 
painting, in which you have a strong figure ground distinction, all the 
way to cubism, what you’ve really done is to flatten this value structure. 
What you’re saying in cubism is that the figure, this thing of value, is 
no longer isolated or dissociated from ground by meaning, but that it’s 
interlocked and interwrapped with this ground, that they’re 
interdependent.

If you take the cubist idea and really press it, though, what you have is 
what I was now being forced to deal with, at least in my reading of it. 
In other words, the marriage of figure and ground - which is how they 
always term the cubist achievement- of necessity leads to the marriage 
between painting and environment; essentially they are the same thing, 
just taking it one step further. When I married the painting to the 
environment, suddenly it had to deal with the environment around it as 
being equal to the figure and having as much meaning.

Robert Irwin
from Seeing is Forgetting the Name
of the Thing One Sees

Irwin’s comments about the art world, his work and the concern for 
form and perception of form express and entirely different way of seeing the 
subject-object relationship. When Irwin talks about marrying the painting to 
the environment what he’s doing is activating the subject-object relationship 
through the observers required perception, a form of participation, for the art 
works existence. Irwin’s paintings and sculptures are about a compound 
aesthetic experience that is the observer and the artwork, since the observer is 
part of the environment. Irwin states in a manifesto of his work: “The 
experience is the ‘thing,’ experiencing is the ‘object.’”9 In shifting the value 
structure the attempt is being made to create subject-object autonomy.

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conjunction with the MOCA, Los Angeles.
Using Robert Irwin as a visual prototype for this inquiry is difficult as his work is generally not reproducible by photograph. From a personal visit, though, to a recent retrospective of Irwin’s career I can relate a sense of his work. *Four Blues*, a painting never before photographed (fig. 6), comes from a period in Irwin’s career dubbed The Late Lines by his biographer Weschler. The goal of these pieces was to explore how a painting could be made to forsake its status as a latent object and become active within the viewers field of vision. Towards this end physically seeing the painting is crucial to understanding its effect. Paramount in the creation of a dynamic field is the scale of the piece and the placement of the lines. The size of the painting is 5' 5” x 5' 5”, a scale which envelopes your field of vision at a normal museum viewing distance. At the same time the coloring, causing a resonance in the ability to focus due to the stark shifts in hue, and placement of the lines, because of their calculated disposition on a canvas of that scale, never really allow the eyes to focus on a complete composition. In this dual resonance the observer is made to feel him/herself attempting to see, thereby becoming an active participant in the aesthetic event, altering the usually static subject-object relationship. The observer finds him/herself moving towards and away from the painting, attempting to form a stable composition.
What influenced Irwin to take this position with his painting was, as he brings out, the consideration of painting as a type of figure-ground dialogue involving the observer. This was for him a conjunction of art and Gestalt psychology, and the integration of phenomenology into his thinking and work. Of these two it is perhaps phenomenology that brought Irwin to the more innovative aspects of his position. It is within the tenants of phenomenology that perception is merged with the subject-object relationship. Bachelard, a phenomenologist, relates the “observer is asked to consider an image not as an object and even less as the substitute for an object, but to seize its specific reality. For this, the act of the creative consciousness must be systematically associated with the most fleeting product of that consciousness, the poetic image. At the level of the poetic image, the duality of subject and object is iridescent, shimmering, unceasingly active in its inversions.”10 Essentially, consciousness, that is perception, and image, that is form, are ideally merged to release the subject and the object form an absolute relationship between one another and create a relative relationship capable of inversions, extensions and further meanings.

Phenomenology attempts to envision this type of subject-object relationship by considering space and occupation as a hybrid of philosophy, psychology and architecture. It is a view not so much scientific as it is exploratory. Hence, the poetic image is not a fixed entity, but an object or focus made relative, perceptually subjective. In this way phenomenology doesn’t proscribe solutions but tries to suggest possible relationships based on a body-mind centered view instead of a mind centered view. It is a philosophy not of interpretations but of possibilities or pathways. Merleau-Ponty discusses the phenomenological world as one where paths of various

experiences, networks of relationships, intersect and engage like gears.\textsuperscript{11} It is the “onset of the image”\textsuperscript{12}, a subjects unanalytical response that sparks resonances of previous experiences and repercussions which add a greater depth to our existence, that is important to the phenomenologist. Importantly, phenomenology is not reductionist thinking but attempts to get the observer to experience events in a new way from what is expected or conditioned. “Knowing must be accompanied by an equal capacity to forget knowing.”\textsuperscript{13}

Creating a controlled ambiguity, then, becomes a way to promote the sensation of perception within the observer. Looking at a given situation not as a field of objects or results, but as a collection of events or possibilities establishes a new opportunity for cognition. Merleau-Ponty speaks again about the structure of the phenomenological view: “The relationship between events is not linear but resides in a fog of motivations. The fog is of interest to the phenomenologist because it requires reflection and a new cognito.”\textsuperscript{14} And the creation of a new cognito is the possibility of creating autonomy whereby the observer is no longer an impartial spectator but an active participant.

Irwin’s approach to the creation of observer autonomy through the aesthetic experience hinges on the figure-ground dialectic. It is within this paradigm that the philosophical aspects of perception and form found in phenomenology can actually be tied to a physical model. In painting, as Irwin discusses, the figure ground discussion has been critically deconstructed and reassembled in the last hundred years. In this process the nature of the relationship between subject and object has begun to be altered through the

\textsuperscript{12}Bachelard, p. xv.
\textsuperscript{13}Bachelard, p.xxviii.
\textsuperscript{14}Merleau-Ponty, p. 50.
addition of various ambiguities. If we step back for a moment to consider the precedents for Irwin's viewpoint, cubist and pre-cubist views, the result of the exploration opens up the form-perception dialogue.

The pre-cubist paintings of Surat and Cezanne took an important step in activating the figure-ground relationship to ultimately involve the observer in the event. In the paintings of Surat (example, fig. 7), based on his knowledge of the studies of the physicists Rood and Stilling, an image evolved where the pigment used by the artist to create the image was not mixed on the canvas but in the eye, the consciousness, of the observer, thereby adding a tangible manifestation of variable perception. This process was based on German psychologist's theories of perception and involved experiments in placing dots on a canvas in varying distances form one another to see how perception of a form was altered (fig. 8)(this is also very similar to the description of Irwin's dot paintings). Further, Cezanne's paintings, and later the cubists, presented the viewer with multiple viewpoints which the viewer was then required to assemble to make a composition within his or her consciousness. The cubists works were intimately related to a moving object, based on Muybridge's time sequence photographs (fig. 9) of the period, and on ambiguous figure-ground relationships developed by the German scientist Ruben (fig. 10). In each case with these paintings there was a resistance to a clear figure-ground
relationship and the desire for the observer to see and/or resolve an incongruity. This is the physical activation of form through observer perception. The traditional non-interactive subject object relationship begins to break down.\textsuperscript{15}

A primary consideration is these viewpoints is the dynamic subject. Essentially the recognition that the ground within the aesthetic experience is dynamic with the figure. Mondrian’s Neo-Plastic theories, following the cubist developments, recognize the new aesthetic experience and the artist elaborates of their essential connection with architecture. Mondrian’s equivalent or determined spaces are “plastic” in that they are formed by a relationship between the subjective and objective which is in flux. Mondrian states that

the new vision does not proceed from one fixed viewpoint: it takes its viewpoint everywhere and is not limited to any one position. It is not bound by space and time (in accord with the theory of relativity). Practically, it takes its position in front of the plane (the most extreme possibility of the plastic intensification). Thus it regards architecture as a multiplicity of planes: once more the plane. Thus this multiplicity composes itself (abstractly) into a plane image. At the same time, practice demands a visual aesthetic solution (through composition, etc.) that remains relative, due to the relativity of our physical movement.\textsuperscript{16}

\textsuperscript{15}This historical analysis was gleaned from Paul Vitz’s essay found in Perception and Pictorial Representation. 
What is key in Mondrain’s grasp of a changing aesthetic world and its architectural implications is the multiplicity of possible compositions within a given figure-ground event. But for these notions to exist in architecture they must be removed from the discourse of theory or the gallery wall and have a three dimensional existence.

Parallel to this type of analysis is Colin Rowe’s application of the figure-ground dialectic to urban architecture. Within his analysis in *Collage City* a consideration of the architectural figure, the building mass, and its relationship to ground, interior and exterior space, is undertaken. Rowe considers the inversions and potential inversions of the figure-ground dialectic as a source of “interest and provocation.” His strongest example points out the potential ambiguity involved in relationships between interior courtyards and poche to exterior spaces. Rowe explains:

\[\ldots\text{at the Hotel de Beauvais and the Palazzo Borghese (figs. 11 & 12) the Gestalt condition of ambivalence - double value and double meaning - results in interest and provocation. However, though speculation may thus be incited by the fluctuations of the figure-ground phenomenon (which may be volatile or may be sluggish), the possibilities of any such activity - especially at an urban scale - would seem very largely to depend upon the presence of what used to be called poche.17}\]

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His conclusion is very positive to the inquiry and subject of this paper: “the situation to be hoped for should be recognized as one in which both building and spaces exist in an equality of sustained debate.”

Rowe’s work begins the process of recognizing and putting into architectural form the discussion that is being developed here. However, it does not deal with the inclusion of the observer and the observer’s conscious participation within architecture. Never the less, it could be implied by the careful reader the implications of Rowe’s examples on this inquiry. With this in mind in might be beneficial to undertake a brief analysis of a built work in light of what has been discussed.

Under the influence of the foregoing discussion, a reading of Kahn’s Kimbell Museum offers a hybrid set of relationships between form and perception. The museum both subscribes to the historical methods of form making and at the same time resists a conventional reading through an implied use of phenomenological and perceptual tactics. One could begin by considering the vault itself, a typological form providing for public space through its ability to create an intimate forum for gathering. At the same time, though, the vault is challenged by intermediate “gaps” (fig. 13) which occur systematically throughout the structure and deny an altogether continuous reading of any space. Further, the classical solid geometry of the vaults is revealed by the absence of solid -- light and shadow (fig. 14). Within

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18 Rowe and Koetter, p. 78.
this framework of contradictions the Kimbell exists as a symmetrical plan which could be read as a variation of the phenomenologist’s original shell (also recalling Reinhardt’s square canvases) of inhabitation, the place where consciousness finds or creates an emotional link that allows inhabitation, through the establishment of a filter or oasis form the city. In this manner the Kimbell separates itself from the city by its clear geometry and its grid of trees that continue to the very edge of the main entrance, an open vaulted space that forms the transition to the alternate spherical realm.

However, with this reading of the Kimbell, the contradictions, the shifting relationships and viewpoints by which it might be viewed, it could be argued still that the architecture does not ask that the observer take an active role in the creation of the object. The Kimbell goes a very long way towards creating subject-object inversion through ambiguities that elicit observer interaction and keen perception, but it does not require perception of the occupant to complete its form. Form is still dominant. If we go back to Irwin’s statement one more time, when he spoke of the marriage of the figure to the environment, where the environment with its implied observer, is equal to the figure, we still have not found a prototype for architecture. Irwin accomplishes this notion in his work by requiring the observer to actually be a part of the composition of the object. So a model needs to be sought that utilizes observer perception in the constitution of a three dimensional form.

Returning again to the art world for a prototype, there is a group of artists, related to Irwin, for whom one of the goals of their work is the destabilization of the subject-object relationship. In the late sixties and continuing through today, a group of American sculptors began to be known as Minimalists. The nature of their work is to “refute the uniqueness, privacy,
and inaccessibility of experience.”  They sought to accomplish this through the alteration of the traditional scale, material, shape and space of aesthetic events. Robert Morris, a critic and sculptor, explains the tenants of Minimalism:

The better new work takes relationships out of the work and makes them a function of space, light, and the viewer’s field of vision. The object is but one of the terms in the newer aesthetic. It is in some way more reflexive because one’s awareness of oneself existing in the same space as the work is stronger than in previous work, with its many internal relationships. One is more aware than before that he himself is establishing relationships as he apprehends the object from various positions and under varying conditions of light and spatial context. . . Some of the best of the new work, being more open and neutral in terms of surface incident, is more sensitive to the varying contexts of space and light in which it exists. It reflects more acutely these two properties and is more noticeably changed by them. In some sense it takes these two things into itself as its variation is a function of their variation. Even its most patently unalterable property - shape - does not remain constant. For it is the viewer who changes the shape constantly by his change in position relative to the work. Oddly, it is the strength of the constant, known shape, the gestalt, that allows this awareness to become so much more emphatic in these works than in previous sculpture. A Baroque figurative bronze is different form every side. So is a six-foot cube. The constant shape of the cube held in the mind but which the viewer never literally experiences, is an actuality against which the literal changing, perspective views are related. There are two distinct terms; the known constant and the experienced variable. Such a division does not occur in the experience of the bronze.

Essentially Morris is describing a three dimensional figure-ground relationship which is shimmering at the point of recognition. The object has a very strong planar reading but subverts this reading by the observer’s dynamic experience of the object. The observer must question and redefine the nature of the event because of the disjunction of plan and view. Once again, Reinhardt’s abstractions come to mind where controlled form, ambiguity and observer perception create an experience.

Within this body of work Richard Serra has emerged as a sculptor whose pieces can begin to serve as a three dimensional paradigm for a spatial event in which the subject-object relationship is destabilized as the observer plays an active role in the composition of the object. Serra states how he approaches his work: "The sculpture involves the viewer rationally and emotionally. A multitude of readings is possible. The viewer becomes aware of himself and of his movement... As he moves the sculpture changes. Contraction and expansion of the sculpture result form the viewer’s movement. Step by step the perception not only of the sculpture but of the environment changes. The space can be experienced as compressed, foreshortened or extended."²¹ The artist achieves this condition through four primary elements within his work: a very strict control of form and scale in relation to site, a consideration of the body in motion and how this effects visual parallax, creating multiple approaches to his works to allow observer freedom and perception of form, and through the calculated disjunction of plan and elevation, which creates a destabilized, three dimensional figure-ground relationship.

Serra’s work offers a large body of constructed three dimensional experiments of the type of space making that has been discussed here. If we look to “Clara-Clara,” installed at the Tuileries in Paris, we can see a strong example of this type of observer perceptual activation. The plan for “Clara-Clara” is enormously simple and was intended by Serra to be easily readable, forming a clear Gestalt, by the observer (fig. 15). However, as the observer progresses through and around the sculpture, the moving body has very little

to do with the plan (fig. 16). In this manner the spatial event is constituted by the observer as perception, experience, memory and anticipation define the sculpture and the observers relation to it. As this occurs all of the conditions of phenomenological seeing are brought into play - the subject-object, figure-ground relationships are rendered relative as the observer fabricates the experience. As the individual composes the experience, based on his or her view and path, autonomy is achieved through the naming of events.

Interestingly these tactics utilized by Serra have been found to be similar to spatial representation within Piranesi’s etchings.22 Through the construction of drawings based on the Carceri etchings it has been found that Piranesi’s plans are actually very rational (fig. 17). But, Piranesi subverts the

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plan by creating elevation and perspective views containing multiple axis, non-centered and non-goal oriented spaces. The resulting drawings are nothing but throughfares, "indifferent spaces with no other identity than the one conferred on it by the passerby."{23} Here again the key point, the observer is autonomous with the space represented by Piranesi and is free to imply his or her own identity upon it.

Turning to Irwin's later work an even more profound alteration of the figure-ground dialog emerges. The artist moved from painting to sculpture to what has been called site generated installations. In these works Irwin attempts to create spaces literally bound to an existing condition such that there is no seam or distinction between figure and ground. *Tilted Planes*, an unbuilt project proposed for the campus of Ohio State University, is an example of this type of work. In the proposal Irwin began to see the main courtyard of the university as sculpture in and of itself. It existed as a space defined formally by the surrounding campus buildings, contained a dynamic composition of the wear marks on the ground created by the preferred pathways of the students, and it had an audience in the population of the university.

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As proposed, *Tilted Planes* involved taking a group of the given triangular shapes created by the pedestrian pathways and lifting two edges up, forming sloping ground planes which reframe the paths (fig. 18). The site remains fully functional as before the alteration as well as taking on new uses and meanings as a result of the grade change. What has occurred is the figure has been for the most part completely absorbed into the ground. As Arthur Danto remarks on the project: “a photograph of the Oval Mall would ipso facto have been a photograph of *Tilted Planes*, but there would have been no way in which one could have made a photograph of just *Tilted Planes*. . . . There would have been no difference between figure and ground in Irwin’s work.”  

Further, the sculpture would have been occupied, not simply representing a sign to or for something else -- an object of representation. Within the space the observer would be fully engaged (or disengaged) in the aesthetic event, given not what to see but left autonomous within the space to engender his/her own experience.

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Implications

Sculpture and architecture, until the present, destroy space as space by dividing it. The new sculpture and architecture must destroy the work of art as an object or thing.

Mondrian

_Tilted Planes_ and _Clara Clara_ allow speculation on the nature of a hybrid relationship between architecture and observer. They are instances where space and form have been formally composed and the result is not a strictly defined space but one which is relative. Relative meaning it is potentially conceived of as it is used by the observer. Relative also in the sense that their space is not about containment or limits but about a specific reality of a larger whole; a zone of heightened sensitivity relative to a continuous, larger area. For example, is the next quad over from _Tilted Planes_ part of the space of _Tilted Planes_? Relativity, through the dissolution of the historical figure ground, acting in three dimensions, involves the observer as a perceptively active part of the event. This notion of space making or conceptualizing is postulated by Merleau-Ponty:

Space is not the setting (real or logical) in which things are arranged, but the means whereby the positing of things becomes possible. This means that instead of imagining it as a sort of ether in which all things float, or conceiving it abstractly as a characteristic that they have in common, we must think of it as the universal power enabling them to be connected. Therefore, either I do not reflect, but live among things and vaguely regard space at one moment as the setting for things, at another as their common attribute - or else I do reflect: I catch space at its source, and now think the relationships which underlie this world, realizing then that they live only through the medium of a subject who describes and sustains them; and pass from spatialized to spatializing space.²⁵

²⁵Merleau-Ponty, pp. 243-244.
Spatializing space is perceptually dynamic at the level of the observer and not just at the level of form. The object can be used to relieve its burden of providing containment or form, and its emphasis shifted to soliciting space through occupation or event.

The result of this method of thinking is what could be thought of as the neutralization of the object in relation to the observer. This happens two ways: through the consideration of the object under the perceptual scrutiny of a moving observer, thereby altering a static reading, and by a calculated activation of the ground within the figure. Object neutrality and perceptual activation provide subject autonomy; the subject is released to another path of being in a space. Rendering the object with conditioned neutrality provides a forum for heterogeneous subject participation by breaking down conditioned occupation. “The heterogeneous succeeds the homogeneous, the aesthetics of the search supplants the search for an aesthetics, the aesthetics of disappearance renews the enterprise of appearance.”26 And the appearance of this aesthetic enterprise is, of course, unknown, but left, hopefully in the end, to the observer.

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POSTSCRIPT

The pursuit of the ideas contained within this thesis is undertaken with a specific architectural program. The design of monument deals inherently with the perception of an event more that the creation of an object. Monuments always take some form but one could argue that they are more about a location or event which delineates a space within a landscape. Thus, in the relationship involved in the creation of a monument figure and ground are intimately bound together. This situation becomes even more paramount when the monument marks an event that has little or no physical manifestation. The program for this thesis is the design of a monument to mark the Trinity Site, the location of the first detonation of an atomic device, in the desert of central New Mexico. The event left no physical form and was seen by only a few people, but had a profound temporal effect as it changed the perceptual qualities of an age.

It was at Trinity that perhaps relative space did in fact emerge. At the literal level that is was an event, proving undeniably, Niels Bohr’s conception of the atom as not a fixed entity but one of relative composition; a physics of static laws was no longer absolute. But Trinity also was the beginning of the creation of a global perception of space as the atomic bomb made the globe horrificly continuous. It was the physicist’s hope, though., as some histories would tell us, that the development of the event at Trinity would provide a new global view. And this view would provide not a horizon based on the desicmating power of atomic weapons, but a new horizon of opportunities for change.
BIBLIOGRAPHY


APPENDIX I

THESIS SITE

New Mexico map
APPENDIX II

THESIS PROJECT OVERVIEW

The program for this thesis is a monument to mark the site of the first atomic explosion. This event was a test which occurred on the White Sands Missile Range located in central New Mexico and has become known as the Trinity Site. The monument takes the form of a series of markers constructed along a forty mile section of New Mexico Highway 7 which passes near the Trinity Site. The proposal involves the installation of two types of markers located at historically significant radii from ground zero. The first of these types of markers are accessed by the automobile and occur at twenty, ten and five and seven tenths miles respectively. The second type of marker takes the form of in ground spaces constructed at the ends of foot paths which emanate from the ground zero location. Essentially, the current ground zero site is left unaltered while paths to and from the site are delineated and recognized through a series of perceptual and spatial manipulations.

Two primary site specific themes are at work within the design of this thesis project. The first is the revealing of a secondary ground plane, four feet below the surface of the earth, which resulted when the original ground zero site was covered with soil to that depth. The reason for this burial is the explosion of the Trinity device fused the sand into a surface layer of radioactive glass. Several years later this layer was buried for safety reasons. For the purposes of this project that layer of glass is conceived as permeating the entire area surrounding ground zero and the exposure of it is the revealing of the traces of the history of the event.
The second theme is that the event is best conceived of through the scale and characteristics of its location. The markers themselves, then, become at one level devices which attempt to alter or remove the observers sense of the horizon itself. This is done through a progressive submerging of the automobile and the observer into the landscape, thereby removing the horizon from view. At selected locations the observer is placed back upon the landscape, and given views of a field barren of any man made objects while standing on an altered ground plane.

The sequence of events begins when the observer passes through the point on the highway twenty miles from the Trinity Site. The car enters a field approximately one hundred yards square within which the surface of the earth has been eroded away in a pattern based on the propagation of the shock wave of the blast. Grooves in the pavement alert the driver to a changing condition as the road turns in its progressive alignment with the Trinity Site. The road also makes a brief dip, four feet in depth, into the earth, exposing the occupants to a second ground plane of a reflective, concrete slag. Following the first marker, and each successive maker, a very brief series of grooves on the roadway cause a car traveling at sixty miles an hour to sound at the time interval which it took the shock wave of the blast to reach the respective marker.

The second marker, located ten miles from ground zero, is a similar experience. The primary differences are that the field size decreases and the depth of the road’s submergence increases to eight feet. When the observer reaches the final auto marker, at five and seven tenths miles, the car is brought completely under the surface of the earth. Within the marker there are locations for parking and the observer leaves the car and enters into the marker itself. Progressing through a series of reading rooms (containing a
document history of the Trinity test), a water room, an observation room (where the observations of those present for the test are etched onto glass plates and placed onto earth slabs), the observer finally finds him/herself on the surface of the desert itself.

The final five and seven tenths miles of road remains submerged four feet and the observer rises again to the ground site itself. At that time the foot paths to the in ground sites are revealed.
APPENDIX III

THESES DOCUMENTS

Partially eviscerated dead wild jack rabbits were found more than 800 yards from zero, presumably killed by the blast. A farm house three miles away had doors blown loose and suffered other extensive damage.

The light intensity was sufficient at nine miles to have caused temporary blindness and this would be longer lasting at shorter distances. The light together with the heat and ultraviolet radiation would probably cause severe damage to the unprotected eye at 3-4 miles—damage sufficient to put personnel out of action several days and permanent.
At the instant of the explosion I was looking directly at the explosion point of my lens. I saw a yellow glow which grew lighter and then whitened with a flash, so intense I was completely blinded. In a few seconds after the explosion I was regaining normal vision. The brilliant and magnitude of the phenomenon were completely breathtaking.

site photo/observation landscape
We waited until the blast had passed, walked out of the shelter and there it was, extremely solemn. We knew the world would not be the same. A few people laughed, a few people cried. Most people were silent. I remembered the line from the Hindu scripture, the Bhagavad-Gita: Vishnu is trying to persuade the Prince that he should do his duty and to impress him he takes on his multiarmed form and says,
We were lying there, very tense, in the early dawn, and there were just a few streaks of gold in the east, you could see your neighbor very dimly. Those ten seconds were the longest ten seconds that I ever experienced. Suddenly, there was an enormous flash of light, the brightest light I have ever seen or that I think anyone has ever seen. It blasted, it pounced, it bored its way right through you. It was a vision which was seen with more than the eye; it was seen in the heart. You would wish it would stop, altogether it lasted about two seconds. Finally, it was over, diminishing, and we looked toward the place where the bomb had been, there was an enormous blast of
The blast had knocked Kasparov's quarry down at 5/1000. He scrambled up to watch the first few and dozens of other men, piling up, their heads to claim position. Observers who had flown in for the event were running and clambering over one another.
From far away, we saw the unbelievably brilliant flash. That was not the most impressive thing. We knew it was going to be blinding. We wore welder’s glasses. The dark clouds out over the land had passed by.
To Teller at Compania Hill: the worst thing was like opening the heavy curtains of a darkened room to a flood of sunlight. Had astronomers been watching they couldn’t have suspected there was moonlight on the moon.
twenty mile marker
five and seven tenths mile marker
five and seven tenths mile marker
section model-five and seven tenths mile marker
section model-five and seven tenths mile marker
desert pathway model
horizon line sections - desert pathway
horizon line sections - mile markers
study model - five and seven tenths mile marker
APPENDIX IV
JURY COMMENTS

The final jury was held on April 22, 1994 at 8:30 a.m. The members of the jury were committee members Albert Pope, William Sherman and Elizabeth McKee, as well as Lars Lerup, Mary Ann Ray, Gerry Maffei, Antonio Lao, Christopher MacDonald, Gorden Wittenberg and Michael Bell. The jury began with an introduction to the thesis and project by myself followed by a round of inquiries and speculations by everyone present. A summary of comments follows.

Maffei began the comments with a request for a general statement of intent for the project; essentially was I trying to create a monument or some hybrid of a monument. I responded by stating that I was not interested in marking a spot that said "this is here" but rather suggesting a zone of effect. Maffei praised the "elegance" and consideration of the project but was not sure he could believe in its abstract quality.

MacDonald and Lerup also took issue with the abstract nature of the marker I had designed and brought up the Viet Nam Memorial's figurative sculpture. Both seemed to want to see a pile of melted glass or photos of Hiroshima. I responded that the nature of my thesis was experiential and not metaphorical; there already existed museums dedicated to the presenting of the horrors of Hiroshima. This site was not Hiroshima and I was trying to look at it under a different historical and topological context. Lerup conceded that there were two strategies, the abstract and the figurative, to work with in this project and the abstract device I created did work to accomplish the task.
Ray seemed to agree with the project and offered the suggestion that once the periphery of the area had been affected that perhaps a new opportunity for creating an altered center existed. She commented that the center could be relocated to multiple sites along the desert pathways or even within a map showing hometowns across the U.S. and how the test affected each. There existed within the strategy, taken to the next level, the ability to profoundly effect the individual that has progressed through the edges of my design. Pope agreed with this assessment. Ray also commented about the potential similarities to other types of monuments, such as the Egyptian pyramids, and the appropriateness of this similarity. Her closing comments commended the potential ambiguity, as a representation of the horror of the event, of the paths themselves, where a visitor need never go to the center or even be unsure of what he or she has been a part of.

Wittenberg commented about the appropriateness of the engineering scale of the intervention relative to the desert and the American west. He too appreciated the abstract nature of the intervention and its attempt to achieve a different reading of a monument.

Sherman made the concluding comments that what was going on in this project was an attempt to see the monument in a new light. That is, no longer a static entity bound to a given location and representation, but an experience opened up for new interpretations.