PROJECTS ON THE GEOMETRY OF PERCEPTION AND COGNITION

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ABSTRACT

The projects presented in this thesis, which include performance, photography, and sculpture, investigate perception and cognition through the study and reconfiguration of content drawn from philosophy, cognitive science, and linguistics. I suspect that the language that we use to communicate about perception may be faulty. Within this critical perspective, the projects are propositions in response to the question: What is the form of perception/cognition? Underlying the projects is a fundamental philosophical question: Why do we have conscious experience? In philosophy these are referred to, respectively, as the hard and easy problems of consciousness. I investigate the linguistic structures of ‘langue’ and ‘parole’ in a related attempt to understand the function of language, first independently, and then within a cognitive framework.

The experiments begin with words such as ‘definition’, ‘vision’, ‘perception’ and represent systems defined by these signifiers using objects, actions, and images. Reconfiguring the words into tangible experiments allows the nature of the phenomenon to be examined outside of the limitations of linguistic description. Ideally, the incongruity that might exist between the words and the experiences of perception and cognition can be uncovered through this process.
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There is no obvious narrative, yet there is a story that might emerge from this network of interrelated topics and ideas. My hope is that as the thesis progresses and I show how the concepts regarding perception have been used in projects, some of the abstract notions at the beginning will make more sense and the following projects will become conceptually grounded. These concepts, although they are not clearly part of the work, nevertheless provide the framework on which the projects are based. My aim is to strike a balance between explanation of these concepts and project descriptions.

I am influenced by the argument, first made to me by my prof-essor Walid Raad, that the language used to frame the “work” can never be distinguished from the work itself. In a moment when all artwork is a part of system of artist talks, statements, and press materials are a requirement of the system, this con-

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1 These elements of the text are meant to function as both anecdotal introductions to the subject matter that I have researched, for the purpose of the projects, and to the process of making the work, based on these studies.
text is irreconcilably entangled in the experience of the work. In other words, the mode of presentation is not only dependent on the content and methodology of an artistic practice, but also inseparable from its reception. In my case the reception of the work is also the moment of its creation, because as an experiment, others who experience the work serve as a catalyst of the project in its entirety. Without the audience, the work that I have either built or articulated is only a representation of its instantiated form. However I do not hold as radical a view as Raad, that written context (and all other contexts, in addition) is homogenous with all other elements in my artistic practice. I choose to make a distinction between the work 'proper' i.e. the performances, objects, etc. and the contextualizing material, i.e. the thesis, artist statement, artist talk. The process of making these two types of product is totally different, and I treat them differently after the fact. As a viewer of others' work, I also make such a distinction. Because of these differences the distinction is a valid one, but it doesn't lead to the conclusion that either is less significant than the other in the process of the reception of the work. Although it is sometimes easy to think that the painting on the wall is much more important the label next to it, this is a purist's idealization of the process of viewing the painting.

When I go to a museum I find it almost impossible not to read the label first. Why is this? The act of reading this sign affixed next to the work drastically alters the way that I perceive that painting, according to who the artist was and when the work was produced. A cascade of connotations and associations follows these labels and we use this information to interpret the visual elements of the work. Often it is easier to "understand" the work once we have read the label. This “understanding” is the feeling of having assimilated the artwork into a body of knowledge that we already possess. For myself, this placement allows me to judge the work within a set of references that I have built throughout my education (both formal and informal) interacting with and reading about artwork, and historical and theoretical texts on artwork. Once we possess this information it is impossible to see the work in the same way as we would without it.

As I was talking about this issue recently with my advisor, Joan Jonas, she said that when she first encountered an Agnes Martin painting in the 50's, she knew that there was something there, just by looking at the image. The label wasn’t important. Everything that needed to be understood was in the painting alone.

The label only matters in so far as it calls on a set of knowledge that the viewer already carries with her. In Joan’s example, she

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1 If the artist hasn’t determined the content of the label, which is often the case, the understanding can be said to be inaccurate. Clearly the title and description are determined by the artist. While these elements might not deeply affect the reading of the work, the more “factual” elements of the label are certainly crucial to the work’s interpreted meaning. The artist is responsible for even the most basic artifacts; name and date. The artist collective the Bruce High Quality Foundation is an example of a group that has decided to alter their names and visual identities so that the content of the work might be perceived differently. They have established their own story about the foundation, including a time line, that is not based on reality.
had the advantage of minimal knowledge⁴. I have become part of a community where it is extremely rare for people to encounter work with no knowledge of its context, and the ability to look purely at the images. I am speaking mostly to the concerns of that community. Most of us begin looking at art with minimal context, despite the label on the wall, but this is a once in a lifetime event. After we establish this context, we can only exercise unmediated viewing by intentionally blocking out contextualizing material. Ultimately this type of understanding is no more “real” than the mediated understanding that comes from an artwork surrounded by text. To make work that ignores the system in which it is implicated risks irrelevance and naiveté.

My proposition is that the label besides a painting and a thesis are just different versions of the same kind of document. The upshot is that this document, whatever my other intentions, will mediate the work, and it's contents are shaped by that concern.

Some artists, such as Joseph Kosuth, were explicitly interested in articulating philosophies of art production⁴. The process of conceptualizing, not only his own, but also art in general, was a crucial element of Kosuth’s practice. His normative form of conceptualization was so broad as to have inclined him to attempt to persuade his peers, such as Robert Morris and Lawrence Weiner to follow the logic of his own conclusions⁵. Mark Ruwedel, a photographer whose work resonates with my interests of photographing paths through the landscape, has only published writing that adheres to a very conservative form, which excludes the act of theorizing his own work⁶. Rather, when he writes, which is much less frequently than artists like Kosuth, he provides a sense of his influences, and comments on the concrete elements of the photographic process, such as where he traveled. The most theorizing he engages with is the act of positing the landscape as a historical archive, a concept which is presented primarily in its bare form:

“As a landscape photographer, I have come to think of the land as an enormous historical archive. I am interested in revealing the narratives contained within the landscape, especially those places where the land reveals itself as being both an agent of change and the field of human endeavor.”

This quote is the extent of the theoretical position that Ruwedel establishes. Am I more like Ruwedel or more like Kosuth? I have strong sense of a theory that informs my methodology, though it is not an academic theory or one that is directly a part of any movement shared by peers. It is something that I invent, and I can’t defend it on any objective basis. The articulation of this theory is not necessary to the work, and it can even be harmful. Overexplaining a work can give the impression that

⁴ Of Minimalism!
⁵ Martin Prinzhorn, Conversation with Joseph Kosuth (KünstlerInnenporträts 37, Museum in Progress 1996)
it is an illustration of the theory, thus that the work is in service of the theory, rather than the other way around.

I have found that an artist's statement which adheres mainly to a factual description of the work and a brief foray into the roots of the ideas that instigated the projects is a helpful tool in conveying a part of the content of the work, without closing down the routes of interpretation. This is what I will try to do in this thesis as well. Conversation between me and an audience can be another effective tool towards reaching a shared understanding of some of the content that I am interested in, and has been a significant element of the context of all of the projects presented here. By answering questions, a process that I find much more interesting and worthwhile than making a statement, generally, there can be a process through which I understand the processes that begins to happen when I show the work, and where my understanding of the genesis of the work can become useful to the viewer. Of course this is not always the case. A statement on the other hand can easily be too prescriptive, whether verbal or text, and this can render the experience of the project dull or conflicted over it's methodology (conflicted over its content is not a bad thing). This conflict over methodology generally comes in the form, “the work is too distant from the language” or “what you’re saying isn’t reflected in the work”7. The overreaching language has caused the viewer or critic to get caught up in a fruitless comparison between the language and the work. I will try to be careful here not to overstep and to leave the interpretation of the projects to those who bring more to the arena that I can do myself.

I believe that the theory and criticism put forward by independent practitioners has the advantage of independent judgement. I have extensive knowledge about the intent of the work that is superfluous to its purpose. I cannot judge my own work and I have no argument to make about the work. This does pose a real problem to the traditional structure and purpose of a thesis, a thesis by definition being a statement with a plausible antithesis. There is no antithesis here. Instead, this “thesis” is a compilation of statements and pseudo-conversations—summarizes of the discussions that have occurred in the fields that the artist might create for the purpose of making the work. It cannot be a definition of the work, which requires the real experience of another subjectivity. The reception of the work can never be meaningfully explained, except as a representation of the experience by someone who has experienced it. The artist can no more generalize the first hand experience of the work, than can one viewer say what some other viewer experienced. The artist makes the work and decides how the work is mediated by the language used. What the artist says is a decision about how to mediate the work and is as free as the choice of content and materials that the artist uses in the piece itself. What reason could there be that the distance of one statement from a work is correct, and the distance in another set be incorrect? The perception that there is a correct distance is exclusively dependent on the false analogy between A) a signified thing and B) its signifier, and A) an artwork and B) artist’s statement, because the only objective measure of good or bad would be a comparison to other relationships between definitions and phenomena. If the statement of the work isn’t a definition, then it makes no sense to say that the language is inaccurate. It is the artist’s discretion to decide the consequences of that perceived distance to the reception of the work.

7 These statement are always true. The presupposition of the criticism—that the language and the work should ‘match’ is a mistaken projection by the critic that the artist either can or should define the work with their language. Even if the artist says “this is what the work does” or “this is what the work is” he or she is only talking about the process of making the work. How is this? The projection of a viewer is an armature that
have informed the projects. These are the main content of the discussions that I have had around the work, and they naturally fit into a dialectical format. Although I would prefer to present them in such a form, the written nature of the thesis makes it problematic to include something like interviews or the like. The project statements, in conjunction with the discussions, form a picture that shows a trajectory to the projects. This itself is the closest thing to an argument that I can present here. By showing how visual art projects can be used to approach a topic of this sort, there is an implicit case for the efficacy of these types of projects to do the things that I claim: explore the topics of perception and cognition, uncover the incongruity between the words and the experience.

A NOTE ON OBJECTIVITY:

I try to maintain very conservative claims about the objectivity of the projects and the information that is put forth in this paper. Because of my methodology, which has systematic elements, and also makes reference to systems of analysis, science, and reason, perhaps in contrast to other artists, who happen to work in areas where there is no need to skip between subjective and objective materials, I have been asked several times whether I think my work is "objective" or if I believe that there is a true or absolute perceptual experience. To some it seems obvious that this is not the case, while others have questioned my intentions. It seems worthwhile to address these concerns, although the statement might be unnecessarily explicit. First, as someone who is not primarily in the field of generating factual knowledge, like a scientist, the form of the question misses something crucial. This section addresses the concern of how I regard the distinction between subjectivity and objectivity, not only the possibility that my work is somehow objective. It simply cannot be, because it does not propose new factual knowledge.

Although my work is very much concerned with objectivity, though involvement with empirical and analytic methods, this objectivity in science, and perhaps philosophy, occurs in small and hard fought territories. Tiny islands in a sea of subjectivity. My concentration on these attempts at objective study must be prefaced on the knowledge that subjectivity is a default. Subjective experience is overwhelmingly the majority of the way that perception and cognition have ever been understood. Luckily, subjective understandings of experience and objective ones are not in competition with one another. They are merely different modes of understanding, and the assertions from the perspective of one do not exclude the perspectives of the other, although they may lead to different ways of thinking. Though there is an inherent problem in objective study of perception and cognition, namely that they cannot be directly observed, there are still ways in which science engages with the problem. Computational simulations attempt to reconstruct neural systems within a environment of code and hardware. Behavior and physical occurrences in the brain are correlated using FMRI, PET, and CAT scans. Philosophers, often working with the products of scientific study attempt to make carefully reasoned arguments that do not pull spurious information or make leaps that lead to false conclusions. This attempt at objective truth is never a guarantee, but the possibility exists that the informa-
tion that is found will corroborate other pieces of information to eventually form a theory on which new, accurate hypotheses can be made. This is not true of subjective observations alone, and this is why objectivity continues to fascinate and beckon.

I am agnostic towards an existence of an explanatory gap\(^8\), although I do believe that the conclusion must cohere with our current understanding of physical science, which seems to take on certain challenges from dualist perspectives\(^9\), even though naturalistic dualism tries to resolve these problems without disturbing our current physics. Other artists have had objectives in their investigations of perception and some have been interested in putting forward a proposal on their specific beliefs towards the mind/body problem. Later on I will mention the position of Robert Morris, one of the most recognized. I believe in the possibility of a more developed conclusion on the mind/body problem, but I find several contradictory arguments persuasive in different ways\(^10\). I do not believe that the premises of the current research of psychology and cognitive science are necessarily adequate to reach a conclusion about the relationship between experience and the physical world. All premises are developed out of subjectivity and thus might be incorrect. Thought they risk this error, there is no alternative. From this
INTRODUCTION

We have a field that pertains to vision and this field is an element of the form of our perception. Where is (or how do we define) the field of touch, for example? Or smell, proprioception, knowledge of relative location, or the very language that is used to name these concepts? Each of these senses has characteristics of form, a field of awareness. Discovering the form of this field is a version of the "easy problem" which asks about the function of consciousness, rather than its cause.

The disciplines that inform my study are neuroscience, linguistics, and philosophy of mind. My aim is to integrate speech, text, and linguistic mental activity into representations of the perceptual/cognitive pathway. The question that interests me which is common to the science and philosophy of mind is: How does the physical world give rise to consciousness? Sometimes the physical world is as specific as the brain, and sometimes broader. This question has a relationship to many disparate fields. Neuroscientists ask how neurons function. Some neuroscientists and philosophers believe that if you understand how neurons function, then you will understand why and how these networks give rise to experience. Others believe that since all the information we have thus far about the neurology of the brain has not touched the question of why, that we must look for answers elsewhere. Cognitive semanticists believe that the answers to this question might be in the information systems that make up the mind rather than the physical structures that make up the brain. They look to language to understand what some of the underlying structures might be. Psychologists use complex, reified mental structures, as well as behavioral study to posit theories about how the mind works on a human level. What is the form of this consciousness? What is the ontological explanation? These fields are in flux—authors arguing over the many methods of approach, because there is no unified science of the mind and brain. There are many theories of how to categorize the contents of perception and thought. They tend to conflict with one another in unresolved debates. Many occur on disparate levels of discourse and without sufficient shared terminology, such that they cannot yet even engage in meaningful debate. For example, when a psychologist and a neurobiologist use the term “memory” there is only a small sliver of commonality in their meaning.

Philosophers approach the question of consciousness through an analysis of language as well as known facts about minds in order to create reasoned arguments about the fundamental truths of consciousness and perception. Linguists try to understand the function of language systems. Understanding of these functions is deeply intertwined with the attempt to deconstruct neural processing. Mapping cognitive processes onto human experience, since so much of human experience is mediated by language, may depend on the development of our understanding of language. All of the fields mentioned here; philosophy, neuroscience, cognitive semanticists, linguistics, have distinct methodologies, but a common subject, shared by my course of inquiry.

How are our words a map of the world? And where do the contours of experience and language diverge? There are many ways that the “kaleidoscopic flux”\textsuperscript{12} as Benjamin Whorf has called it, can be broken down into concepts and senses. For example, one culture may have 5 or 12 basic color names, whereas English has 11\textsuperscript{13}. The flux of color experience has been broken down into different systems of color categories. Likewise, other terminology categorizes different phenomena and objects in particular ways. What forms these systems of categorization? Particularly the ones that refer to perceptual and cognitive systems? The current form of the language for these systems seems to be contingent on a colloquial system of understanding thought, perceptions, speech, memory, etc. However it is not clear what specific forces within experience gave rise to these divisions. In the color name example, the number seems to depend on the evolutionary sequence of the language.\textsuperscript{14} In the case of the lexicon of perception and cognition, it is still an unknown. Because of this gap in our knowledge I am interested in challenging the formalized systems that have been used in the past, such as the systematic dissection of the senses into 5 discrete modes. It may be that this system is useful on the physical level of perception, but perception is a deeply collaborative faculty depending on memory, language, and transmuted information, that loses meaning when studied on a purely physical level.

Two different questions are investigated within this thesis, one of which is directly probed by the projects described here, and the other which serves a background discussion for the projects and is something that I hope to investigate more directly in the future, if I can find an appropriate way to do it. The first is the question of the functional aspects of perception and cognition. The second is the question of why we have conscious experience. I have realized through the process of writing this thesis that the two questions can be asked simultaneously in an artistic context. This was a very counter intuitive realization because David Chalmers, one of the prominent philosophers on the topic whose work has served as a guide for me, has made a great effort over the past twenty years to eliminate the confusion of these two separate problems within his field, and his is a primary source of my knowledge of the distinction. This separation is necessary for philosophical clarity on the matter because if one poses the hard question and then answers with a response suited to the easy question, which Chalmers contends many have done\textsuperscript{15}, then the result is useless. But because of the non-exegetic aim in the artistic context in that I work in, I believe that the questions of why and how these processes occur should be joined. The reason for this is that it is not the factual reality of the matter that is at issue, but the relationship of the phenomenology of experience to the representa-


\textsuperscript{13} Berlin and Kay define basic color terms as all color names that are monolexemic, high-frequency, and consensual within the language. The English terms that meet these criteria are: “black,” “white,” “red,” “green,” “yellow,” “blue,” “brown,” “orange,” “pink,” “purple” and “gray.”

\textsuperscript{14} Brent Berlin, Paul Kay, Basic Color Terms: Their Universality and Evolution (University of California Press, Berkeley) 1969.

My project begins with an attempt to understand the mind/body problem by focusing on the current theories and roads of investigation, though the majority of that work is implicit and not within the scope of this thesis. My hope is that it will become a continuation of my work on perceptual and cognitive geometry.

Perception is an action that is constrained by the physical structures of our bodies, like all elements of experience. Chalmers would say that experience supervenes on neural functions. We assume that experience is dependent on the kind of body that we have. This goes for fine grained distinctions as well as broad ones – human experiences are very different than animal experiences, but even two human bodies are different enough that there are very prominent differences between the experiences of two humans (interestingly, these experiences differ more prominently between individuals than between cultures. There is an implicit assumption that animals with smaller brains have a lesser forms of experience based on their physiologies. For example the vast majority of humans do not have moral qualms about killing things like bugs, and if they do even have those, they might not have qualms about killing a life form like a virus. These actions are consistent with the belief that those forms of life have a lesser experience than our own. If the experiences of the insect or virus were as "strong" or "significant" as our own, we would need to consider ourselves to be living in a universe of overwhelming horror and suffering. We can't prove that this isn't the case, but nevertheless we live in accordance with a presumption that human experience is different from these other forms of experience, and that overwhelming

The first project is largely about the geometry of perception, that is, the inherent forms in which we perceive the world, both concrete aspects of vision, such as the shape, clarity, and color of visual information, as well as the mental processes that precede thought. The aspects of mental processes that precede thought include things like the merging of concepts with sense data, the use of memory in recognition, the elimination of irrelevant sense data. The creation of abstract notions is an example of a cognitive process that is difficult to disentangle from perception, and is of particular interest in The Zavkhan Abstract. These projects range from the straightforward, like the range of the visual field, to the very complex, the way that color names match up with color sensations in a population, and the way that we create sense of place from many small instances of perception. The second question, which I see as a future direction of my work, more than the current topic, is the relationship between the physical world and experience. This question is alternately referred to as the hard problem, the mind/body problem, and the question of why we have conscious experience. My project begins with an attempt to understand the mind/body problem by focusing on the current theories and roads of investigation, though the majority of that work is implicit and not within the scope of this thesis. My hope is that it will become a continuation of my work on perceptual and cognitive geometry.
memories, and feelings, but each of these things seems apt to differ between individuals in much the same way. It is important to clarify here that I still am speaking on the level of form rather than individual instance. I mean that the memories between people will have different forms, not merely that people will have different memories (which is obviously the case). Unlike the external physical characteristics of our bodies, it is not obvious that there are differences in the perceptual or cognitive apparatus between two average people (excluding cases of impairment and illness), like it is obvious that one person’s arm’s are longer than another’s. This spectrum of differences between individuals is another question of interest, in addition to the question of the general form of human experience.

RELIATIONAL FORMS BETWEEN ART AND PERCEPTION

The latter projects in this thesis—the four projects found in the fourth section—each have a direct relationship to the problems of consciousness and perception that I bring up here. By reconstructing a narrowed and simplified event of perception/cognition some of the elements of the perceptual process are put forward within a model for examination. This is the relationship between the theory and the project. Elements of the perceptual process, such as a specific mental image, are put forward as objects for scrutiny. In Projection Performance: Physical Descriptions of the Brain a mental image of the brain is the content. In The Zavkhan Abstract, the object is the photograph as an analog for an instant of visual perception. In A Small Replica of the Act of Conveying Meaning it is the sound of the text being read.
There are many reasons that artists have become interested in consciousness, which correspond to specific relationships that art and consciousness can fit into. Both the source of my interest and the relationship between the context that I investigate and the work are in the minority, so I want to disambiguate my interests from those of others who have used very similar terminology, but held entirely distinct aims. One major route of investigation is how theories of consciousness and perception can be used to interpret artwork. i.e.: 'in light of new information about perspective we can now reexamine the work of Piero della Francesca in such and such a way' or the famous interpretation of Seurat’s technique, that the dots of colors utilize simultaneous contrast for a more vibrant image. Following from this, Faber Birren’s book *Color Perception in Art* is an example, is the position that artists can benefit from advances in the theories of perception. In this case the author states that non-objective art can make advances in its use of color, in light of new information about the way that color is perceived. These types of studies use scientific information about consciousness and perception to inform them about art whose content has nothing to do with those topics, or to suggest ways that artists can make use of the information of fields such as neuroscience or gestalt psychology in order to make art in various established traditions, generally pre-1960’s. The direction of this relationship is to use consciousness and perception to understand or to make art. The opposite direction is also prominently theorized and investigated. This field from art to conscious/perception, rather than consciousness/perception to art, is characterized by another host of differing relationships. I fall into a narrow sub-

category of this spectrum. Op-art, characterized by artists like Bridget Riley, played with visual perception using a traditional canvas and paint medium. Other artists, Carsten Höller for example, also aims to create fun/wacky/exciting experiences by playing with perception, like the Op-artists, however he does this in the framework of non-disciplinary media that could be alternatively construed as sculpture, installation, performance, or other media. Robert Morris is an artist who similarly works in non-disciplinary media, but whose work, in stark contrast to Höller, is engaged in reflecting on perceptual and conscious experience without providing a framed version of a particular experience. My interest has the most in common with Morris's as an attempt to reflect on consciousness and perception, including the philosophical puzzles brought up by these subjects. Unlike the other examples I have mentioned, these projects have no aspiration to use our knowledge of perception to understand art or to make better art on unrelated topics. They do not simulate, play with, or deliver experiences as the artwork. Instead, they reflect on the unknown element of the processes of perception and cognition, and examine the language that is used to communicate on these topics.

Unlike in these inquiries into other types of relationships between art and consciousness/perception, Morris’s form of reflective inquiry brings the problematics of the hard and easy problems into focus. The fascinating dialectic between a materialist and a dualist perspective is an element of the work because perception/cognition does not need to be represented as a well understood process. Birren, for example, has to put forward a solid theory of perception in order to make the claim
that artists can begin to use color in a new way. It leaves no room for doubt, examination of presuppositions, holes in the theory etc. because those projects would undermine his argument. Nevertheless, there is no verified theory of perception, and so this type of project requires the glossing over of huge questions and contentions. By examining theories of perception rather than using them for other purposes I am able to avoid this artifice.

**DEFINITION OF TERMINOLOGY AND LOCATING THE EXPLANATORY GAP**

Consciousness, perception, thought, etc. are confusing terms because they can alternatively refer to either or both the functions and the sensations of these phenomena. In addition they are often used to refer to different things. Let me take consciousness as the exemplar, because the definition of consciousness has already been well delineated. Consciousness is comprised of physical brain functions that allow humans to do a variety of things; discriminate, categorize, and react to environmental stimuli; integrate information by a cognitive system; report mental states; access internal states; focus attention; control behavior; and be generally awake\(^\text{16}\).

Being able to perform these functions is attributed to having consciousness. We use the term consciousness in reference to these functions in a few different ways. For example one could say, ‘she is conscious of that traffic light because she stopped her car – she was able to react on the basis of that situation.’ Or one could say ‘he was conscious of the history of racial prejudice in the town and thus made an effort to act sensitively – he made deliberate and complex actions based on integration of information. Consciousness can also be used in the basic sense of awareness. One could say then that a squirrel is functioning consciously and mean that the squirrel is capable of say, running away from a dog, but stay short of meaning that the squirrel took deliberate action or had verbal report based because it was consciousness, as one could say for humans.

All of these functions can be explained scientifically. For some of them, advanced work on the explanation has already been done. While we don’t yet have full and adequate explanations for all of them, they are clearly susceptible to scientific method in the same way that other questions of biology can be satisfied. What is being searched for here is a physical mechanism by which to explain the function. However this isn’t the case for all problems of consciousness. That is, neuroscientists can study computational and neural mechanisms and give a mechanistic explanation as to how one is able to report one’s internal state or how activity in two different area of the brain are coordinated, but these explanations do not address a crucial aspect of consciousness: the experience.

Antonio Damasio defines it as “the feeling of what happens,”\(^\text{17}\) Thomas Nagel the “something it is like”\(^\text{18}\) to be a conscious or-


\(^{18}\) Thomas Nagel, *The View from Nowhere* (New York: Oxford Univer-
ganism. This essential quality of being alive is what is at question regarding consciousness. The sensation of being conscious, seeing colors, hearing music, feeling pain and pleasure are the fundamental qualities of experience. It is the quality of the first person perspective, the experience of being one’s self, being inside of one’s brain. David Chalmers posited the explanation of this phenomenon as the hard problem of consciousness, by making the following claim:

“When it comes to conscious experience, this sort of explanation fails. What makes the hard problem hard and almost unique is that it goes beyond problems about the performance of functions. To see this, note that even when we have explained the performance of all the cognitive and behavioral functions in the vicinity of experience—perceptual discrimination, categorization, internal access, verbal report—there may still remain a further unanswered question: Why is the performance of these functions accompanied by experience? A simple explanation of the functions leaves this question open.”\(^\text{19}\)

Why aren’t our minds just machines? It’s plausible that we could live and function without the quality of consciousness or experience, much like we generally imagine computers or other objects to exist\(^\text{20}\) (there is a debate to be had here with those who believe in something called panpsychism, but leaving it just at the level of common intuition, it would seem uncontroversial) Why is it that the process of perception ends in these vivid, personal experiences? We can explain to some extent the function of brains, and can expect to be able to fully explain their function eventually, but once this work is done, there is still a significant question left unanswered. How do the functions give rise to experience? This is the “explanatory gap”\(^\text{21}\). There is now a debate amongst philosophers over what type of knowledge might be able to fill this gap. There are also, of course, postulations of psychophysical laws that might bridge the explanatory gap, although these are mostly still speculation, like this conclusion by Chalmers:

“I suggest that a theory of consciousness should take experience as fundamental. We know that a theory of consciousness requires the addition of something fundamental to our ontology, as everything in physical theory is compatible with the absence of consciousness. We might add some entirely new nonphysical feature, from which experience can be derived, but it is hard to see what such a feature would be like. More likely, we will take experience itself as a fundamental feature of the world, alongside mass, charge, and space-time. If we take experience as fundamental, then we can go about the business of constructing a theory of experience.”\(^\text{22}\)

**ARTISTIC METHODOLOGY:**

The poem and the experiment, two models of investigation with highly historical identities, are the models that have become touchstones for my projects. The element of the schema

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\(^{19}\) Chalmers, *Facing Up to the Problem of Consciousness*, Section 3.

\(^{20}\) See Chalmers’ Zombie argument for further explanation.

\(^{21}\) A term coined by Joseph Levine, 1983.

\(^{22}\) Chalmers, *Facing Up to the Problem of Consciousness*, Section 6.
of a poem that is most important to my appropriation is the pres-
sumption that each aspect of a composition bears an aesthetic,
intuitive, and multi-layered relationship to the other elements
surrounding it. What in a poem would be sound, order, direct
meaning, associated meaning, and sometimes visual appear-
ance; the elements of composition, are of course different in
conceptually based visual art. The elements of the composition
of these projects consist of denotation and connotation of the
words (usually names) associated with the object, the formal as-
pects of the objects such as material, shape, and color, the rela-
tionship of the objects to location, often the social significance
of that location as well as the relationships in space and time
between the compositional elements, the actions implicated by
the object, such as looking, reading, or touching. Fragments
of knowledge and definitional words are recombined to create
multiple pathways through a network of meaning. This non-
rational approach should be distinguished from "irrationality",
meaning a misuse of the principles of logic. The non-rational
is instead the abandonment of those principles in favor of a new
set of criteria with the intent of a new purpose, such as creat-
ing a composition that can be interpreted in multiple ways by
others.

This non-rationality, exercised on empirical materials, materi-
als which would not exist except for the framework created by
the enlightenment notion that humanity can espouse reason,
is artistically necessary as a tool which frees the content of the
material from any claim or allusion to progress. If there is any
assertion inherent in the work, it may be that this thing has
determined its own methodology, and that this is its inflexible
nature. My methodology is something that has evolved, rather
than something that I explicitly determined. There is a certain
perversity and transgression inherent in the reconstruction of
non-rational experience out of the residue of reasoned knowl-
edge that give the projects traction.

The experiment is another schema, although in this instance
I appeal to a more selective and personal interpretation of the
form, as opposed to the poem, which as a term of method in
visual arts practice seems to have a more widely accepted un-
derstanding. The crux of the experiment is to put a proposi-
tion before an audience. The work is the proposition, but is
not necessarily a hypothesis in the formal sense. There is not a
representation of a fact or a theory that is meant to be verified.
Rather, the test is how a set of objects and actions with unde-
termined meanings are catalyzed by the interpretation of oth-
ers. Certain projects such as “Machine that Renders Meaning”
and “Vision and Cognition, Inscape and Field” use the notion
of experiment in a more formal sense as well. Their mode of
address to an audience contains some of the codified elements
of experimentation such as instructions and rule boundaries.
This is not as significant to the overall practice, as it is a oc-
casional stylistic element rather that a fundamental structure,
in the way that experimental form in the first, broader sense is.

The ultimate expression of this artistic investigation is the con-
struction of an experience for a number of people. Objects and
actions that I generate meet the free will of an audience, who
pick up the thread that I lay down and do with it or think
with it what they will. This experience is constructed out
of concepts that I draw from texts that have been developed empirically and analytically in order to explain the nature of perception and the physical world, as well as related problems of language, representation, and the epistemological problems that come from the multi-directional approach of the numerous disciplines who hold a stake in the matter. Any one of these pathways of meaning can contribute to the questioning of the traditional language systems that are used to denotate elements and functions of cognitive and perceptual systems.

Throughout the time that I have developed this methodology I have had different feelings about its effectiveness. There are the complex comparisons that can be made between this methodology and that of other artists. No doubt it is similar to that of many artists, but also, and more often from my own perspective, a transgression against the opacity on the one hand, and the culturally normative on the other, tendencies of many of my artist peers. That is, work that is conceptually transparent, whose elements are clearly justified often have a implied notion of the way a social situation should be, or might be if not for a villain in the story. Work that lacks that agenda or ethical intent often is entirely opaque. I hope to avoid both of these structures in favor of a transparency that does not serve a normative purpose.
ISOLATION OF AN ASPECT OF PERCEPTION: GEOMETRY

If our knowledge of the world around us is the content of our perception, what is its form? This form can be termed the ‘geometry or structure of perception’ My conception of the geometry of perception is at the center of the conceptual framework of a series of projects that I have worked on during my two years at M.I.T. The form is something of which we are normally unaware in everyday experience. Since the form is completely stable and constant under normal circumstances, it is the first thing that our minds tune out of awareness. As important information is weeded out from the background information that comes through our senses, the form of these communiques is relegated to the perceptual junk pile, since it is information that isn’t important to the task at hand. By necessity, one of the central purposes of our perceptual process is to eliminate all of the superfluous information that is in our environment. Yet the form of our perceptions is inherent in everything we perceive about the world, and, in a certain sense, within our thoughts, memories, and internal sensations. My projects aim to make this information salient again, by directing attention back towards the form.

Think of your own visual field as you read this page. You are aware of yourself being able to see and interpret the shapes and colors of the page or computer screen in front of you. However you are not aware of the shape of this field. Imagine that there is a picture frame surrounding your field of vision. What is the shape of this frame? You cannot see what’s going on behind you head, but you can see what’s going on in front. Where is the boundary between this field of information, and the absence of that information? Even if you look for it, you cannot see where all of this information becomes obscure at the end of your peripheral vision. This border is one small aspect of a complex geometry of human perception.

When we look at a photograph, painting, or screen we are able to perceive the borders along with the information contained in them. We take this border to be a significant element of the experience of the image, shaping its character and mode of communication. If it were to be different, the meaning of the image would change. The premise of my interest in perceptual geometry is that we might learn something important if we temporarily grant equal significance to this all-pervasive framing of all of our a posteriori knowledge. That is, all of the knowledge that we gain empirically, through observation of the world.

In the sense of which we can be consciously aware of the shape of a picture frame, we are not aware of the shape of our own visual field. In another sense however, this shape is constantly present in our phenomenal consciousness. In other words, the shape is perceived, because our consciousness is of that shape. Just as the shape is a necessary element of sight, the way in which concepts are formed and exist must also have a geometry.
that is present in our phenomenal consciousness. The way that memory informs experience must have a geometry as well. In all of these instances this higher level geometry can be understood from the first person perspective of phenomenal experience. Imagining this geometry from one’s own perspective is the first step towards forming a comparison between the unmediated experience and the experience mediated by language.
“Our present color names are incongruous, irrational, and often ludicrous. This year the fashionable shades are “burnt onion” and “fresh spinach.” The florists talk of a “pink violet” and a “green pink.” A maker of inks describes the red as a “true crimson scarlet,” which is a contradiction in terms. These and a host of other misnomers, borrowed from most heterogeneous sources, become outlawed as soon as the simple color names and measure of this system are adopted. Color anarchy is replaced by systematic color description.”

- Albert Henry Munsell

This was Munsell’s vision for his color system, which takes a set of data to create a functional map of human color vision. He was an artist and teacher from Massachusetts, and the first to formalize a system that proposed three distinct dimensions in order to create a color space – hue, value, and chroma, in 1905. At first, the hope was that this color space could be mapped onto a geometric solid, as seen in the original illustration from Munsell’s publication of his research.

Visually Color Graph contributes nothing to the Munsell color system that it is based on. It distorts the system, because it fails to depict all of the neutral tones that would be represented if one were to hypothetically slice the form. Every interior point should also have its own color, which is why Munsell represented the solid in graphs of cross sections, rather than as a solid form.

Munsell expected that the formalized color system that he created would be used in the same way that the system of musical scales is used. When one hears the phrase B-minor applied to something like a symphony, one knows something specific about that piece of music. I believe that he envisioned that in the future, one might use the term R 8/5 when speaking about the shade of the apple one ate yesterday. He thought that our color terms like “baby blue” and “blood red” would be replaced by numbers for greater accuracy. 100 years later, we can see that his prediction was pretty far off. There was an element of the project that Munsell never mentioned that I wanted to resurrect.

What Munsell stumbled upon accidentally, when he discovered that, according to his measurements, the shape was irregular, was a depiction of the human color space. The points protruding farthest from the central axis are the colors that appear the most saturated at a particular value. [Notice the colors

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painted on the surface of Color Graph correspond to the degree of protrusion. It could not accurately be mapped onto a sphere, as seen bellow, because nothing about our eyes, our perceptual process of color recognition, or our cognitive process of color naming fits into perfect geometric forms. It has a form of its own. My intention was to bring to light this unrecognized aspect of the Munsell color system, to set aside Munsell's intentions, in order to show how this form can be used, not as a system for greater accuracy, not as a reference for the color of soil samples², but as a picture of an invisible element of our perception. By casting the form in metal, unifying the colors in a continuous flow over the surface of the image (often the colors are separated into swatches, as seen in the following image) the functionality of the form is erased, and the conceptual content of the form is fore grounded.

² Its first functional use.
FOVEA CAMERA

Project Description:

[This unrealized project is a drawing apparatus that would show the geography of the visual field through the drawing of the participant. The system would consist of a chair for a participant to sit in with a drawing surface and materials on a table in front of the chair. The object of the participant would be to draw a tableau of objects positioned on the table. The participant could see the tableau through a window in an opaque wall separating him from the objects. This circular window would be like the aperture of a camera, consisting of a shutter that would be able to open and shut in fractions of a second, except considerably larger than any existing shutter. If the window was open it would be possible to see the entire tableau on the other side of the barrier wall through a transparent sheet of Plexiglas. On the glass would be a dot in the very center of the visualized scene. This shutter would be connected to a camera that would track the eye movement of the participant. When the participant looked at the dot, the shutter would open. When the pupils of the eyes pointed in a different direction the shutter would close. Paper and drawing materials would be placed nearby. A display of drawings would accumulate over time.]
Because we rely on a very small area of our visual field for the majority of our visual information, called the fovea, we always point our eyes towards the objects of inspection, so as to align the fovea with the area of interest. When we normally draw an object, as each small piece of the scene is rendered, the fovea is used to address that individual piece. In this scenario, the fovea would only be allowed to view the very center of the image, just as it is the center of the visual field. For every point radiating out from the center, the part of the visual field corresponding to that point would be forced to do the work of rendering that aspect of the image. Thus, as the participant drew the scene seen through the window, he could only draw the very center of the image clearly, the aspect of the scene seen through the fovea. This area of the drawing would appear normal. The areas of the table seen through the peripheral elements of the visual field could only be drawn to the degree that could be seen by the radiating weaker pieces of the visual field. The result would be the geometry of the visual field mapped onto a piece of paper.

MACHINE THAT RENDERS MEANING

The idea for this project came about after the significance of language to the structural mapping of the phenomenology of color became apparent through my research for the Color Graph project. The distribution of color names and color qualia of the visual spectrum has been a prototype for the linguistic relativity debate, over a universal phenomenology versus a relative phenomenology that is mediated differently by various languages. Besides color terms there are very few of words\(^1\) that allow the a direct mapping of a perceptual experience onto a physical dimension of the world. Words such as big, small, and loud, are impossible to instantiate in any objective physical way in the same way as it is possible for color terms\(^2\).

The relativist position references a belief that color naming across languages is a matter of arbitrary linguistic convention and that these differences cause corresponding differences in color cognition. The universalist position generally held that neither of these propositions was the case. Rather than state my own position on the matter, since I believe that both positions may be true in different circumstances, I decided to make a survey system that would allow participants to test the way that their own individual color spectra mapped onto English, and how this mapping differed from their friends and from the averages of the community of participants.

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1. Those that exist refer to elements of texture and taste.
Project description:

The machine is a spherically shaped glass ball attached wireless to a computer display. Although it is electronic, filled with touch sensitive sensors, the sphere moves freely, sitting unattached on a felt nest, so that every surface on the sphere can be touched. A layer of paint inside of the glass shows a two dimensional color space. Around the circumference of the sphere is the visible color spectrum, a continuous progression from red to orange to yellow to green to violet to red. None of the divisions reflected by the color names are apparent in this continuum. The second dimension is value, the scale from dark to light which maps to the axis of the sphere. The poles of the sphere are white and black, the extremes of the value spectrum. Beneath the paint is a grid of capacitive sensors made of copper pads. This grid can determine where a single finger has been placed on the exterior surface of the sphere, discriminating between differences of half an inch or greater. This information is relayed to a computer interface via a bluetooth transmitter.

I am currently working to learn to build the software that will be able to render the information conveyed from the microprocessors in the device, which process the electrical signals from a finger touch. A rendering of the final interface is seen in the following images.

People who encounter the sculpture in public space will be asked to outline the borders of each of the 6 color names by tracing a path on the surface of the sphere with a finger.

The first question is: Where is your spectrum?
The screen will then read: Please draw a line around every shade of red. Try not to include an shade of orange, violet, white, or black.

As one draws with a finger this path, a line corresponding to the shape of the outline will appear on the screen. Once the outline is closed, the path remains on the screen in black. Superimposed over this outline, the outlines of previous participants appear in grey. The first to appear is the imprint of the last participant (perhaps someone who is standing next to you or came with you to the exhibit) Then the outlines of everyone else who has previously participated show up in cumulatively faster succession, within the next few seconds. The disparity between the current participant and the range of the whole community are graphically compared according to the outline corresponding to a single color name. Then the image disappears and question about the next color comes on to the screen. The process is repeated until all of the primary monolexemic color names in English are recorded. Through the aggregation of information in this graphic interface, participants would be able to see how great a variation occurs between two people, and where an individual stands in relationship to the community of participants.

The sphere is intended to be placed in a space that is indoors, but that is filled with natural light during the day, near a glass wall or window. The reflective colors are seen in different light temperatures according to the time of day, both via the changing hue of the sunlight throughout the day and the artificial light.
source at night. The time of the survey would be recorded along with the graphical data of each survey. This would allow for the observation as to whether the recorded shapes moved according to the temperature of light in the room. This would provide an anecdotal answer as to whether perception of color was dependent or independent of reflective light source, within this scenario.

**WHERE IS YOUR SPECTRUM?**

**PLEASE DRAW A LINE AROUND EVERY SHADE OF RED.**

**TRY NOT TO INCLUDE ANY SHADE OF ORANGE, PURPLE, WHITE OR BLACK**

**OUTLINE APPEARS AS FINGER DRAWS ON GLOBE**

**PAST IMPRINTS FADE IN SEQUENTIALLY, AND THEN ALL FADE**

**A LINE FOLLOWS THE PATH OF THE FINGER, STOPPING WHEN THE LINE IS CLOSED**
A GEOMETRY OF LANGUAGE

The structure of language is intimately tied to the question of the unique geometry of human cognitive processes. An important influence over the past two years has been the structuralist linguistics of Ferdinand de Saussure. The structures which he developed to speak about the representational nature of language have served as a tool for me to picture graphic relationships between concepts in *The Machine that Generates Meaning*, *Langue/Parole Grid Project*, and *The Table Project*. Saussure’s project was to create a formal system of language by generating differential elements that could be analyzed in order to try to leave behind the messy and complex problems of language in use. His project was in certain ways similar to Henry Munsell’s, an attempt to formalize and classify a natural set of contents into a functional system. Rather than color phenomena, the contents were the elements of language. The aim was to analyze the structure of language in a rigorous and uniform way. Contemporary linguists still hold this aim, although it seems to have become more and more clear, as so many attempts have failed, that language, an infinitely more complex natural system, is not susceptible to classification in the way that sound and color can be mapped onto functional scales. Since Saussure's time contemporary linguists have come to understand that the only productive way to study language is in use, so his ideas are largely considered outdated. My interest in Saussure's systems, like Munsell's also, is to reinterpret the system for a different purpose. In the following project I use his structures to propose alternate conceptions of common objects for the viewer. The primary structures I am interested in are Saussure’s ‘langue’ and ‘parole.’ The langue, meaning tongue, is the abstract system of language internalized by a given speech community. The domain of the langue contains every intended meaning of each meaningful speech act, en masse. The parole is the individual act of speech. When a person speaks a word at a particular moment, the meaning of this individual speech act, rather than the meaning of the word in general, is denoted as the speech act. The langue consists of all of the individual paroles, and the system, the langue, determines the meaning of each act of speech.

Think of the langue as a large circle on a flat plane. Each circle is a word. Within the circle are an infinite number of points. Each of these points is a parole, an individual meaning conveyed through that word as spoken by an individual person. In this conception the word itself is a boundary, not a “thing” or a “meaning.” The boundary separates meanings that wouldn’t be commonly associated with the word, with meanings that would. A point outside of the circle would have a different meaning than would be commonly understood by that word. Over time the location of the circle might change, or it might grow or shrink, including different points than it had previously according to the semantic shifts that happen over time in language.

With this graphical understanding of the word and meaning, new sorts of spacial questions can be posed. For example what speech act, or meaning would lie at the center of this circle? Where exactly is this boundary? As in, at what point does the
meaning depart from the specified word? Is it fuzzy? (Would equivalent portions of people say that the meaning coincides and doesn’t coincide with the word?)

The Machine that Renders Meaning project was designed to collect and record the parole and reflect the langue of the color names red, orange, yellow, green, blue, and violet. The form of the survey is a type of experiential proposition on the subjectivity of color perception and conditional relativity. Why color? Color appears on a spectrum – red becomes orange becomes yellow becomes green becomes blue becomes violet becomes red. Within the prior sentence you see the divisions that we have imposed on this continuum in order to have discrete signifiers for regions within the spectrum, so color is a prime subject for this type of experiment. The questions asked through the projects, seen through the lens of Saussure’s structure are: Where is the langue? What is it’s shape? How homogeneous are the parole? Does the langue move over time? Because the langue that we have for color names is turned into a graphic form (the outline) all of these questions develop literal spacial answers. The langue for red has a real location that can be drawn onto the sphere. It has a specific, meaningful shape, relative to the colors that appear on the surface of the sphere. These shapes are the same as paroles, since they are individual instances of meaning assigned to a particular sign. The only difference is that the meaning is visual and can be recorded. The langue can be seen if all of the outlines for a given color name are stacked on top of one another and then all of the lines that fall inside the shape are erased. This largest outline is the langue for this particular community of participants. The paroles can be compared by looking at how much the borders of the shape vary and how much they differ in size. Any given parole can be compared to the langue, by looking at an individual outline in comparison to this added up form.
at their most paradigmatic. The idea would be that a red brick, because it is the most iconic, generalized color for a brick would be closer to the apex of the meaning of the word “brick” than a yellow brick, which would be closer still than a blue brick. Because blue bricks are extremely rare, the red brick is what comes to mind when one thinks of a brick in general. Not just color, but all attributes, including the choice of the object, were ‘tuned’ to this point.

I had the idea of wanting to represent this graphic structure without indicating it verbally, such that the objects themselves would serve as the “utterance” that is required for something to be a parole. The challenge of course was to create a structure that would allow the object to speak for itself, because simply placing a shoe or a rock on a pedestal, with no other context would be so abstracted from the initial idea that the piece would have no meaning. I made a series of decisions that are intended to protect the objects from this opacity. The objects are aligned in a grid, itself a paradigmatic form in the artistic context, and a tool that demonstrates something about the logical and non-functional relationship of these objects to one another. They are placed on the floor, in a lobby space—a space that is not otherwise occupied by an objects. They are extracted from the contexts of their use; the shoe is not on a foot, the cigarettes are not being smoked, the brick is not a piece of architecture. Each object is instead contextualized by the other objects surrounding it. First by the two other objects that are fairly identical to it and secondly by the 13 other sets of objects adjacent to its set. The repetition is a gesture at the non-arbitrary nature of the object. The choice of which object is a paradigm of it’s signifier (although it is a

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Project description:

[Three New York Times on the day of exhibition.
Three sharpened #2 pencils
Three leather gloves
Three felt hats
Three boxed of Marlboro cigarettes
Three piles of sand
Three wooden chairs
Three grey, ovoid stones
Three red bricks
Three live goldfish (in bowls of water)
Three pair of black glasses
Three clocks
Three pairs of black leather shoes
Three books (Dialectics of the Will)

A grid comprising these objects was laid on the grid of the Maki lobby of MIT’s Media Lab. Each line of the grid had three near identical objects. The work was visible for approximately 4 hours on a morning in October 2010.]
deeply subjective choice that reflects my opinion primarily), the common denominator of all of the objects, is amplified because it is shared between all 14 object sets. My intention was that the physical objects would be re-objectified for each person who saw them, removed from their sensible contexts.

I am also interested in how this piece functions beyond the level at which it can be understood as a graphical depiction of an aspect of the langue/parole structure. Some of the objects serve as an homage to other artists and artworks, in a reference to how they made it possible to use conceptual structures in complex ways. The most obvious are Kosuth’s *One and Three Chairs*, Magritte’s *Son of Man*, Felix Gonzales-Torres *Untitled (Perfect Lovers)*, and Carl Andres repetitive floor structures in general. However these references are lost in a cascade of connotations that follow each of these objects. Any one of the 14 could be visually connected to the work of another artist. The reason for this is not a complex formula that I came up with during the selection of the objects, but the nature of approaching the paradigm of any sign. The paradigm, because it is iconic and also because it has elements of neutrality because it is so common, and which often makes it desirable, will inevitably have been used many, many times before, not just in the arena of art, but in all symbolic disciplines. For any person who encounters it, the dense array of connotations is apt to be unique, according to her own set of knowledge. A juxtaposition occurs between this complex network of connotations and the conceptual structure that underlies the work. This is one good example of how the viewer is a necessary catalyst for the thing to function. My connotations for these objects are irrelevant, the viewer forms the work by bringing their own set of knowledge that grips and becomes embedded into the initial platform I establish. The conversations that happen between the viewers of the work in which these connotations come to light are a significant part of the purpose of the work, the instantiation of its conceptual structure, even though I can only hope to be minimally aware of what they are.
THE TABLE PROJECT

This project investigated the meaning of a single signifier, the word 'table,' within a speech community. Like the two prior projects, the foundation of the project is a spacial reification of Saussure's notions of langue and parole. Here the attempt is to depict a cross-section of the langue of the word “table” through a series of “paroles” – the tables used in the sculpture. The tables were placed in an outdoor walkway in order to remove them from a sensible environment, again to help indicate the meaning behind their placement. The were arranged into a linear spectrum, the center objects being those that were clearly tables, paradigms of the form. Moving towards the outer limits, the criteria that normally signal that an object is a table began to loosen, spreading outward into things which might be tables, and then to things which seem even less likely to be, but still might be considered tables. First tables that had unusual decorative elements that distracted from their obvious defining purposes, then tables that were made of materials clearly intended for other uses, such as a table made of books, then tables with no legs, tables with no structural integrity, such as one made out of flour, with barely recognizable table-like quality, such as a log and a piece of marble. All of the instances of tables were physical representation of points within the langue of the word table.

Project Statement that was included inside a case within the installation:

Some Objects that Might Be Tables, 2011

Sofia Rebecca Bernstein
Master of Science candidate, 2012
MIT Program in Art, Culture and Technology

Yes, this is a sculpture, not a yard sale, I know you were wondering. Here is a statement about the motive of the work:

The question of how we apply names to objects such that they have collective meaning, is fundamental and unresolved. All of our communication is based upon a speech community. This community maintains the langue, the abstract system of speech that allows us to communicate freely with strangers. My experiment serves as a sign directing our gaze towards the speech community. It also aims to reconcile this linguistic notion of a speech community with the public space of an actual community. I have chosen a word, TABLE, that cuts across one of the largest imaginable speech communities, to most every English speaker.

This is an experiment in testing, sculpturally, what the boundaries of the meaning of “table” really are to a public. In this linear spectrum, the center objects are clearly tables, perhaps paradigms of the form. Moving towards the outer limits things become less and less clear, spreading outward into things which might be tables, and then to things which seem even less likely to be, but still might be considered tables. The arrangement of these objects is meant to raise questions of how we name and categorize these objects. Although we constantly encounter tables in our everyday life, this particular placement and location counteracts our habituation.

To define or provide the essence of a kind, particularly the table, is also a classic exercise in armchair philosophy. The reason this is interesting to philosophers is that it's impossible to come up with a list of attributes which is both necessary and sufficient for a table. For example, perhaps you say that a table has legs – I can show you one that doesn't, or you say that it supports other objects, and I show you a table that is flipped on its side; or you say that it's a table because it was intended to be a table by its maker or is used as a table by its owner, I can still show you examples that contradict your criteria. What happens when this classic thought experiment is made physical? I think the observations of public reaction might be unexpected, and possibly even relevant to philosophers.
Tables

Maybe ← → Probably ← → Definitely ← → Probably ← → Maybe
A basic summation of the purpose of this project is a test of the boundaries of the definition of the word “table”. While observing my installation and the reactions it received in public, I found that it served this purpose quite effectively. Children were my best audience, grasping this function immediately. One conversation went like this - “this is a table, this is a table, this is a table” “no it’s not!” “why not?” “because it doesn’t have space on it to eat a snack” “yes I could eat a snack on there!” (table had a surface area about 2 inches wide) The kids were testing the definition of a table against its functional use within their own lives. In this way they were reconciling their positions to form a tighter speech community, or, another way of looking at it, they were finding the position of the parole to see if it was inside or outside of the langue.
there are many levels to conscious experience. Just a few would be attention to a focal object, background noise, background smell, peripheral vision, awareness of the position of the body and position of the person in space. As I have mentioned before, the complexity of the process is not at all apparent in everyday experience because we have learned to tune out this “framing” information. So the simplification is in service of revealing the hidden complexity of any of these elements of consciousness individually. By reenacting these everyday actions and the perceptual/cognitive sequence that occurs, I can also reconfigure the visual, auditory, and mental components of these processes into poetic structures.

How does the complexity of language fit into of the perceptual pathway? The impression of the images, sounds, and sensations of the world that we have in everyday conscious experience depends on the language that we have for the objects and ideas within our visual, auditory, and other sensory fields. We also depend on language for our postulations about how the mind works. Although we don’t yet know exactly how it is that we learn language, how the connections between things and meanings become instantaneously available, we attempt to articulate mental structures which crucially depend on language. We know that we communicate and that the words (and phonemes) in our lexicon serve as fluid building blocks. We also know that language effects the aspects of cognition and perception outside of acts which directly involve language, such as recognition of color and choices of attention within the

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1 Whorf’s great shorthand for all of the information available to see, hear, touch, etc.
visual field. In other words, language seems to effect the way that we think and the things that we notice.

Is the nature of language a cause or an effect of the cognitive structures that allow us to navigate the world? The causal story between language and conceptual structure is a complex and long standing debate. Universalists are apt to believe that the deep conceptual structure of language is common to all humans, regardless of differences within their linguistic cultures. Relativists oppose this view by putting forward evidence of how the same stimulus is interpreted in different ways according to the language through which it is filtered. While we know that we use language to process external stimuli, how this functions at different levels is still contentious. It is clear from experimental data that there is a relation between the speed of mental processing and the availability of words for a stimulus, but this provides direct evidence only of a superficial relationship. For example, a recent experiment showed that English speakers, who have one word for many shades of blue are slower to recognize a blue stimulus than Greek speakers, who have distinct terms for light blue (ghalazio) and dark blue (ble). However the implications of these experiments as to the deep conceptual structures is still unknown. In a commonly sighted example on the relativist side, the language of Native American language of the Hopi, lacks verb tenses that indicate time. As a result their culture involves rituals, that, although they are enacted at one time, are seen as accumulating in prior and subsequent days, since each day is a recapitulation of the unit of the current moment. Thus there is evidence to support both the relativist and the universalist sides of the debate.

It seems possible to imagine that our concrete concepts like ‘table’ or ‘television’ would exist without the particular signifiers that we are accustomed to assigning them. These are units of physical matter that have corresponding divisions between mental and physical space. However when you think of more abstract concepts, the possibility that the borders fail to align through physical and mental projections becomes much more plausible. Take the abstract concept ‘factor’. Factor is defined as: “A circumstance, fact, or influence that contributes to a result or outcome.” It’s plausible to conceive of that the abstracted concept “factor” (though not the actual phenomena that in English we happen to call “factors”) would never enter the awareness of a person who never learned a word equivalent to the meaning of ‘factor’ Anything in the world can be termed factor. Even more so than ‘television’ or ‘table,’ our conception of ‘factor’ is deeply tied to its location within our particular linguistic landscape. Although it seems that all of the words in our lexicon come about because they name something about the world, and they function adequately as signifiers in our languages, many may have developed not because of any natural kind in the world, but out of arbitrary circumstances. The huge

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6 Those that don’t disappear from the lexicon.
host of words that lack decent translations into other languages is evidence of this. Similarly, other fundamental abstractions like time and dimensionality, might be conceived in entirely different ways if they were termed differently. When we form thoughts that call on the notions of 3-D or time, or when we recognize notions like time and 3-dimensionality, they may dictate the way in which we understand the world perceptually. In this way understanding something about the relationship of meaning to language through conceptual structures is an essential part of the higher end of the perceptual pathway.

Theories of linguistic relativity take this to much more sophisticated levels of analysis. For example the two related hypotheses of linguistic relativity, 1) Different linguistic communities perceive and conceive reality in different ways, and 2) The language spoken in a community helps to shape the cognitive structure of the individuals speaking that language, may not both be true, although the classic Sapir/Whorf hypothesis assumes that language evolves based on specific social and physical environments and that this causes differences in the our conceptual systems according to our language conventions. Language can be conceived as having several purposes, as a repository of the traditions of reason within a culture, a tool of communication, and the medium of thought. Each of these purposes might be in virtue of the other, which may be central to the debates over causality that define this field of inquiry.

7 Brent Berlin and Paul Kay Basic Color Terms: Their Universality And Evolution (Stanford, CA :Center for the Study of Language and Information. 1999)
8 Whorf, Language, Thought and Reality: Selected Writings of Benjamin Lee Whorf.

WHAT IS THE PERCEPTUAL PATHWAY?

“Perception (from the Latin perceptio, percipio) is the process of attaining awareness or understanding of the environment by organizing and interpreting sensory information. All perception involves signals in the nervous system, which in turn result from physical stimulation of the sense organs. For example, vision involves light striking the retinas of the eyes, smell is mediated by odor molecules and hearing involves pressure waves. Perception is not the passive receipt of these signals, but can be shaped by learning, memory and expectation. Perception involves these “top-down” effects as well as the “bottom-up” process of processing sensory input. Perception depends on complex functions of the nervous system, but subjectively seems mostly effortless because this processing happens outside conscious awareness.”

Perception can be thought of as the pathway between the physical world and the mental environment. Information passing along this path is some kind of synthesis between an objective reality and the prior knowledge and conceptual capacities of individuals. What we term objective reality is that which doesn’t appear to vary between normal mature humans. However this objectivity, as with all of our knowledge of the world, can’t be judged from an objective viewpoint. It is through the lens of our own subjectivity that we judge objectivity itself, so

it is infinitely questionable how much we really know of the world, or how great the upper part of the perceptual pathway calls into question the information in the lower. The question of how we synthesize knowledge, i.e. how the upper end of the perceptual pathway functions, is the question of how our experiences differ from one another’s.

My work is primarily concerned with a somewhat abstract notion of perception - the roles of the areas of the perceptual pathway and the way that reviving awareness of the geometry of perception might be able to change our perspectives. However there is also a concrete aspect of the perceptual pathway, the physical facts of light and retinas, afferent analysis and firing neurons. This physical pathway is equally important, both for justifying our more abstract beliefs and for maintaining the connection to the underlying problem of the relationship between the physical and mental world.

Sight is one of the denominations that we have evolved to specify a mode that humans use to detect the external physical world. As we detect, we also modify this information based on learned patterns and prior knowledge, a process of interpretation. The retina is the foundation of one of the systems of detection, by being sensitive to a narrow range of electromagnetic radiation. Beginning with the cornea, which refracts the light reflecting from what a person is looking at, the human eye selectively samples information from the outside world that comes from the light energy that bounces off of surfaces, weather from the sun or from artificial sources that we have created. The lens, pupil, and extra-ocular muscles organize and regulate the intensity, focus, direction, and placement of the light before it reaches the retina. The retina, actually a part of the brain, transduces the photons of light into neuronal impulses. This fully conceived physical process can be specified as sight. Sight is entirely included within visual perception, but visual perception doesn’t end with the process of physical sight. Capturing the photons cast on the retina in something like a camera sensor or light sensitive chemicals, there would be a recognizable image. After this point there is nothing that we can point to that is an image per se. From here on the perception lacks the indexical relationship to the physical world that we use to determine the origin of the percept. Here it becomes clear that what we perceive is not simply a translation of the information that is cast on the retina. Like the devices of the eye that I mentioned, which pare down the sea of data emanating from the things we gaze at, selection and reconfiguration also occurs as the impulses move through the brain. The process of afferent analysis that begins on the surface of the retina continues up the optic nerve, so that what was an image on the retina is lost and becomes some other pattern that we are able to interpret as information about the environment.

10 Ibid.

11 Churchland, 20.
THE ZAVKHAN ABSTRACT

This photographic project, done in a rural area of the northwest of outer Mongolia, is a continuation of a different mode of working than the other projects that I present in this thesis. My background in photography in many ways led to my interest in perception, because I began to study the photograph as an indexical document, which sparked questions about the relationship of the photograph to working vision. The primary difference in this mode of working is that the notions of perception and cognition are not explicitly addressed in the work, rather the structural nature of the photographic series, both geographically and conceptually, is informed by a proposition about the way that abstraction in built from instances of perception.

Prior projects in this progression have addressed the Appalachian Trail and the highway system between New York and Boston. All of these landscapes, the nomadic trail, the footpath, and the highway, share the quality that they exceed the scope of vision and require us to somehow build the notions that represent the entity as a whole.

The Mongolian project as well as the two prior projects comprised of taking a sequence of photographs as I walked or drove along a path through the land. This structure was based on an attempt to imagine the photograph as an analogue of an instance of perception. The attempt was then to try to understand how these instances of perception might be compiled into an abstract notion of place; the sense of geography that allows us to feel oriented, aware of our place in the landscape. This abstract notion, the sense of space, is fundamental to identity, commerce, navigation, and communication the reason why it was an example of an abstract concept that I felt compelled to examine.
Project Description:

[Traveling in the Zavkhan province of Mongolia, I recorded interviews with eight nomadic families. Following instructions from the interviews, I travelled along the cyclical paths that the Mongolians follow over the course of a year. This path includes 2 - 4 semi-permanent camps where they erect their homes before moving to the next location, and is between 5 and 20 kilometers in length. Over the course of this journey I would take photographs of the landscape along the route. A selection of these photographs for each family's route was compiled into a book containing both the photographs and interviews. Each interview begins a chapter beside a portrait of the interviewee and their family. Following the interview are sequential photographs of the nomadic pathway for that family.]
Mongolian culture, through centuries of evolution, developed a unique nomadic form of subsistence based upon the steppe, the grassland plain amongst the mountains, lakes, and dunes. Their homeland is essentially a continuous path. Because this path is successively traveled rather than designed to convey travelers to a destination, it has a different function than the roads and paths that we tend to encounter in transportation based societies. I wondered how Mongolians’ different relationship to the land might indicate a different type of conception of the landscape, one which is deeply integrated with other aspects of their identity and their subjective experiences.

The northwestern Mongolian landscape is severely continental, with hot sunny summers and frigid winters, a country landlocked between Russia and China. On the steppe there is nearly always a sweeping wind and the land is fertile for all kinds of grasses, moss and wildflowers. Except for distinct patches of dense evergreens, it remains largely clear of trees. All of these natural circumstances dictate the native Mongolian way of life, because they make it possible to herd animals as an exclusive means of subsistence. Mongolians live off of herd animals which they use for milk, meat, and fur, (for trade and insulation) so they move with their herds according to the season. In the winter they move to sheltered areas in the hills to protect their animals, and to be near wooded areas for fuel. In the summer they find flatter, more fertile areas to fatten the animals in preparation for the winter.

This pattern of subsistence and all of the accommodations that make it sustainable—the domestication of horses, the warm and flexible clothing, the mobile homes—have been developed over an unknown length of time. Knowledge of weather patterns, which are highly dependent on the land formations, is significant to their profession. It seemed to be a novelty to look at a map of the landscape for most of the families that I met, since it is common for Mongolians to navigate their local vicinities using natural landmarks. Because there are few built roads and horseback is a common form of travel, off-road travel is most common, and this type of navigation relies on the recognition of the shapes of hills, kinds of vegetation, and other visual elements of the landscape. Mongolians know these details by rote.

In Mongolia it is not uncommon for strangers to stop by each other’s homes for a cup of tea. This is understandable in light of the fact that there is little other infrastructure when traveling between the towns, which can be several days of driving between one another. Although small roadside food rooms are not uncommon since the 1990’s. Myself, my guide, and two other team members would stop by the house of a family and ask if they wouldn’t mind speaking to us, that I was photographing the country and that I would like to interview them. No one ever turned us down. We would sit to drink salty milk tea flavored with mutton, a constant beverage in Za-vkhan called suutei tsai, and chat for 10 and 20 minutes to get acquainted. We would begin the interview based on a series of questions which I had had translated:

“Could you describe the nature of your homeland – the geography, appearance, and importance of the land?”
Do you think of one place as your home?

Where is that place?

How large an area is your home?

How does the land affect your life?

Please think about these questions for a while and let me know if you have new ideas. I can record your answers when you are ready.”

The interview generally lasted for another 10-20 minutes. I carried detailed maps of the area with me, and we would lay them out and have the interviewees trace the routes that they take over the course of the year. I asked if they would let me take a portrait either of the families as a group, a couple, or an individual. These are intended to be used as author’s portraits alongside the interviews. After this we would try to follow the route that they had drawn out, and I would decide on places to stop along the route, shooting one or two images at each location with either my 4x5 large format or 6x9 medium format. The selection of images was based on formal interest in the particular area or an aspect of the landscape, a preference for diversity between images, and an interest in creating a tangible sense of the space and topography of the landscape, attempting to represent it as I perceived it.

The Mongolian landscape is specially visible because of the minimal obstruction from trees and architecture, particularly from a typical unaltered human perspective in terms of camera position (human height) and angle of view (the amount of picture included in the photograph based on lens length). It lacks the multiplicity of objects of a city or a forest, but it has the variation of landform that makes it possible to tangibly depict the topography of the land. In places dominated by flat desert or fields of grain it can be impossible to connote anything even akin to the richness of depth that comes from seeing a vast distance with the benefit of parallax (depth information through motion). So this depth is equally due to the lack of flatness.

The attempt of this project was to understand something about visual perception through a photographic process, despite the vast differences between vision and photography. In perception images are never still, they are impressions that are in virtue of the location of our bodies, and the constant movement of our eyes. The photograph is by definition still. The movement of our bodies creates parallax, which creates depth, as does the shift in focus that occurs as one’s eyes roam over distances. Color is relative in vision, but absolute in a photograph when under stable light conditions. Photographs are always seen through a frame, they have fixed aspect ratios, lens length, sharpness, and noise, none of which exist in visual perception. A photograph is a span of time and vision is temporally independent. Although I was conscientious of the vast differences between a still photographic image and the malleable and subjective instances of perception, I thought that something significant about the process of abstraction could be revealed through the treatment of this conceptual structure as a thought experiment about this process in visual sight.
Abstraction here is meant to mean the process by which a form of basic information, whether visual, textual, or otherwise, is reencoded into a new form, and often compressed, in order for the information to be processed by a system according to specific requirements. It is important to note that the term abstraction is not meant in the sense in which it is frequently applied in artistic contexts, such as the term ‘abstract painting.’ The connotation of some uses of the word abstraction entail a departure from structure and formal meaning. My use of abstraction is not intended to convey this connotation. On the contrary, most of the processes of abstraction to which I refer take disordered and unpredictable configurations of information and create order, form, and highly directed meaning. Abstraction is primarily a way of specifying how a system creates distance between a stimulus and a percept. The nature of the transformation is not implicitly positive or negative, confusing or clarifying. The only absolute under this broadest definition is that the information has been transformed.

We can abstract the information from a series of photographs just as we can abstract the information from a visual experience. Crucial similarities between vision and photography, perspective and indexicality, make the comparison unique and salient. Because of the inherent differences between vision and photography, I expected the project to require a large degree of projection or imagination, because I knew that it was impossible for the photography to mimic vision. This came about from a perspective developed while reading Wittgenstein and other proponents of the impossible. In retrospect, I think I failed to provide an adequate context to allow this to happen.

The conceptual motivation for the project was very distant from the object, the book, that was produced. The book too closely resembles other kinds of photography books, whose sequence and content has no specific meaning. The project in Mongolia led me to the belief that in future projects I would be better able to provide generative materials to an audience if more explicit relationships between the conceptual motivations of the project and the ostensible content of the project were presented. These conclusions led me to shift the methodology of my projects from being visual analogies of perception, with an implied cognitive project, to direct reflections on those processes through actions of perception/cognition in a medium of performance. Although I still place some demands on the imagination of the audience in the following projects, they are smaller and less distant from the physical things that the audience experiences.
DEFINING CONSCIOUSNESS, PERCEPTION, AND COGNITION

The simplest definition of consciousness is awareness of one’s self and surroundings. Consciousness applies to the body and mental states, in addition to the outside world. This sphere of awareness is mostly involuntary; it can be ‘intensional’ but in can also lack this intentionality, and be about nothing in particular. Four characteristics have been said to delineate consciousness: subjectivity, change, continuity, and selectivity. Being subjective, it cannot be experienced by any other than the conscious being, thus the characteristics of consciousness cannot be independently verified. The only knowledge we have of conscious qualia are our own direct experiences and the indirect report of others with conscious experience.

Change -
Conscious experience is constantly changing. From one moment to another the qualia of any sense, be it the smell of a fruit, or the shadow of a chair, the way that we are conscious of that sensation changes with our position in space, attention, and the changes that occur to the object itself. The piece of fruit is eaten, we walk across the room, the surface on which the fruit rests draws our attention instead—all imply changes in the state of consciousness.

1 The term is used in analytic philosophy to mean that awareness is about something.
2 Chalmers, The Character of Consciousness.

Continuity -
From one moment to another consciousness is a continuous stream of changing sensations. One subject, despite these changes has a continuous subjectivity that proceeds from day to day and year to year for the extension of the life of the conscious being. Except on very rare occasions of trauma, this continuity means that when we wake up in the morning, we have the knowledge that we are the same person as we were yesterday.

Selectivity -
Although there are innumerable sensations and details that could be conscious in the mind of any aware being at any given moment, only a finite selection of this information enters into consciousness. As I get dressed in the morning, I choose a blue dress of which I am consciously aware at the moment of dressing. As the day proceeds and my consciousness changes the selectivity of consciousness necessarily leaves behind the awareness of the blue dress for the majority of the day. The objects of consciousness shift to other things such as the story unfolding in a book I might read or a street I might walk down; any number of other stimuli that deselect the blue dress, although it is still present. This selective character of consciousness makes it possible for us to function in a world with infinite variability, by narrowing the information that we absorb.

What is perception and what does it have to do with consciousness? By perception, I mean apprehension with the senses and mind, a process that begins with the physical world and gives
rise to conscious thought. This conscious sense includes surroundings, noise, feeling, and intermittently, taste and smell. Though there are many boundaries here that might be controversial, there are some that seem fairly definite.

Physical elements of the world, namely matter and light, have properties that we are evolved to detect. As we detect, we also modify this information based on learned patterns and prior knowledge, and thus begin interpreting. For example, in vision, humans evolved the pathway between light and cognition described in the earlier section. In this notion, sight is entirely included within visual perception, but visual perception doesn't end with the process of physical sight. One of the greatest complications of understanding vision is that what we perceive is not simply a translation of the information that is cast on the retina. Like the devices of the eye that I mentioned, which refine salient information, selection and reconfiguration occurs as the impulses move through the brain. The process of afferent analysis begins on the surface of the retina and continues up the optic nerve, so that the image on the retina is ‘lost’ and replaced with information about characteristics of this pattern and eventually becomes about characteristics of the environment. At every stage of vision, though in different ways, the information is interpreted, and thus perceived. Perception is a term that refers to a continuous process from the sense organs to the qualities that are consciously experienced.

PROJECTION PERFORMANCE; PHYSICAL DESCRIPTIONS OF THE BRAIN

Performance note:

[Five analog overhead projectors are arranged in a line spanning approximately. A freestanding canvas of 40’ x 10’ on a bracketed wooden frame is positioned in front of the projectors. Each projector displays a typed text at different degrees of focal clarity, on a scale from total clarity to near-illegibility. Each text is a one paragraph description of the physical brain. The authors of these texts range from Vesalius to a modern day neurosurgeon, each with a different intent and historical viewpoint. The authors are not indicated. One performer is positioned behind each projector. There are two younger women, an older man, an older woman, and a middle aged man. They are dressed in everyday clothing.

The performance begins with all of the performers reading texts from the projected images, each from his own station. They read plainly and in normal voices. One must walk up to each performer in order to hear their words, as the projector fan noise and their voices blend together at a distance. They continue to read the text from beginning to end repeating the same paragraph until 5 minutes have passed. At five minutes each performer concludes speaking, and turns off his or her projector.]
In fact the cerebellum is more yellow of a sallow grey in color, interwoven with a very few whitish fibers; it is shiny only on the surface of its stratum. The whole beginning of the spinal marrow while still attached under the cerebellum gives origin to ligaments and is also devoid of the twisted and convolutions of which the cerebellum has so many. As to the substance of all these, you may examine this at the dissection table in the brains of calves, horses or certain birds. It is a very unusual and characteristic substance, unparalleled anywhere else in the brain, just as the substance of the heart and the flesh of the lungs, liver, spleen, kidneys and testes is appropriate for the functions that they perform.

To survive outside the body of an animal neurons need a bed for structural protein to lie on. Scientists use a common protein called collagen. Collagen can be extracted from rat's tails, with a solution of acetic acid. In a process analogous to what a cook does in boiling beef bones to make soup. The end product is a gelatinous substance, which is removed on the bottom of a small, unevenly-shaped container known as a Petri dish. On top of the collagen the researcher places a patch of tissue from the rat's spinal cord and a patch of tissue from another organ, such as the adrenal glands or a portion of the nervous system. These tissues are cut into small pieces. What brain scientists really want to know is how nerve cells communicate with each other across tiny gaps called synapses, that separate one neuron from the next, and there was no reason to believe that nerve cells that were spread out in a thin layer in a Petri dish could form working synapses with their neighbors. Now it is known that they do.

For the purposes of a demonstration, let us make, in the brains of a human, dog, or rabbit, a longitudinal cut that divides the corpus callosum into two symmetrical parts and continues on to the base of the brain so as to separate the brain into two equal portions. In each of these we will lay up the corresponding part of the corpus callosum and with three columns so as to uncover the external contours of the corpus striatum, the optic thalamus, and of the medullary substance outside the marginal zone. We will view the corpus callosum and surrounding substance with the aid of a microscope, with a magnification of about 200 times. We will see the partial fibers from the brain, the thalamus, the optic thalamus to the cerebral hemispheres, then to their circulations, and those of the posterior contours of the optic thalamus to the posterior superior cerebellum.

In the brain of the chameleon at the crossing the nerve divides into small fasciae, which truly resemble with the small fasciae of the other nerve without mixing, like what happens when you cross the fingers of the hand.

We know that some opinions are that the optic nerve do nothing but connect one to the other, others admit total crossing, that is, the one on the right side crosses to the left side after the chiasma. Many others, and they are the most, maintain that there is only a partial decussation, a crossing of the major parts of the fibers, and especially of the internal ones, that pass to the opposite side, while the external fibers of each nerve continue their path without penetrating into the spine forming only the curve of the external side of the nerve.

The brain is soft. Some of my colleagues compare it to toothpaste, but that’s not quite right. It doesn’t spread like toothpaste does. Tofu the soft variety, if you know tofu may be a more accurate comparison. If you cut out a slice of brain it retains its shape, more or less, although not quite as well as tofu. Damaged or swollen brain, on the other hand, is softer. Under pressure, it will readily express itself out of a hole in the skull made by a high speed surgical drill. Perhaps the toothpaste analogy is more appropriate under these circumstances.
In the brain of the dog, small foci, which have no nerve without exciting a tremor of the hand.

We knew that some part of the brain that connect to the one on the right side of the dog, and they are also connected to elements, a muscle, especially the one that connects to the second floor, and we perceive something through the brain's nerves.
This project tests the comprehension of meaning through the filters of translation through time, speech, text, and image. As the participants read the projected words at various degrees of focal clarity, the images that the texts give rise to are modulated by the focus of the text symbols that make up the words as well as many other hurdles. In each of the five cases the phenomenal experience of the authors encounter with a brain is the kernel of meaning that is passed through the system that I have constructed. First the kernel is interpreted by the author into a text that conveys his or her perception of the brain. Then the meaning of this text is perhaps altered through the temporal context in which it is represented. The temporal context of this performance at the M.I.T. Media Lab in the spring of 2011 is very far removed from that of the some of the texts, and much closer to others, hundreds of years in one case, up to just a few. Within the actual performance this pathway of meaning continues, first through the projection of the text into light, and then from this image into the perceptions and then speech of the performers. The final instantiation is in the minds of the viewers, and the proposition is that they will have a mental image that conveys some version of the physical brain that was initially experienced by the author of the text. I hope to show something about how meaning is affected when the symbols that contain the meaning are altered and the endemic nature of these filters.
A SMALL REPLICA OF THE ACT OF CONVEYING MEANING

Performance Note, (written before the performance as a projection of what would happen)
[I will read from Wittgenstein’s Tractatus Logico-philosophicus, a philosophical text about silence and language, in a small replica of the act of conveying meaning. Wittgenstein asked what relation subsisted between thoughts, words, and meanings, and this performance is a reenactment of that question.

I am fascinated by Wittgenstein both because of the nature of his work and the narrative of his career. He wrote two crucial works, the first of which was the Tractatus. Then, he changed his mind about nearly all of his convictions and wrote The Philosophical Investigations. Within the Tractatus, he attempts to explain why philosophy cannot be spoken about in a meaningful way and how our language lacks the very capacity. All the while he has written a stunning philosophical work through a precise logical filter, in the form of a numbered list of sentences. From what I know of this work, small pieces will be clear while others will dissolve into the abstraction of sound.

The performance will take two parallel courses, one will be at the ocean itself and the other will be within an anechoic chamber (a room padded with foam so that no sound permeates the walls or bounces within the space) I see these as representative of the two spacial paradigms of the water - the surface and the interior. One has an organic and constant sound and the other is silent, apart from our own noise. The two settings will create a comparison between the comprehended meaning of the text, and all three; the text, the ocean, and the anechoic chamber will serve to direct attention towards evaluating the meaning of language as well as it’s tactility.

The sea is a place where normal modes of perceptual orientation are maladapted. Up is not up, space is not empty, and barriers fail to tell us where our bodies belong. In this way the power of the ocean is as a tool of attention, or a catalyst for one’s reevaluation of one’s environment. This is why I feel that this project, which is really about creating a hermeneutics of speech, can be simultaneously about and around the ocean in a logical continuum.

When we read, speak, and listen to language, there is a current of meaning that is passed in greater or lesser accuracy from one participant to another. There is an act of interpretation that can take an unknown number of forms. This affects the “inscape” of the interpreter, his private representation of the meaning of the speech he has heard. I would like to better understand how meaning passes through the filter of each individual’s speech. Could the act of reading a text be like a musician reading a piece of music, wherein the interpretation is taken as in and of itself a work of art?

This performance was documented in audio, but not photography.
A SMALL REPLICA OF THE ACT OF CONVEYING MEANING

DEC. 6 2010 2:00 PM - 4:00 PM PERFORMANCE AT LINCOLN LABORATORIES AND NAHANT BEACH MEET AT THE ENTRANCE OF 75 AMHERST ST. CAMBRIDGE, MA
V

LINEAGES OF CONCEPTUALISM

My work is hereditary to a history of multiple lineages of conceptual art practice which came about in the sixties, an onward. The encounters with conceptual work that actually were formative to the projects that I describe here are not easily referenced or summarized. Theorists like Michael Corris, Alexander Alberro, and others have retrospectively articulated these lineages, and although I reference them, it is not because they were influential for me directly, but because they formalize a narrative that is similar to one I have constructed from a set of encounters with the work and some of the writings of the artists they reference. Artists like Joseph Kosuth, Robert Smithson, Sol LeWitt, Ad Reinhard, and Robert Morris, a larger group of post-conceptual artists as disparate as Jenny Holzer and Gerhard Richter, Mark Ruwedel and Melvin Moti, as well as the work of my peers, all of whom bear a relationship to the paradigms established in the 1960’s and 70’s, have informed the projects here.

I’ll try to briefly explain some elements of conceptualism that have been significant to the projects on the geometry of perception and cognition.

Self-reflexivity “[of modernist painting and sculpture] that systematically problematizes and dismantles the integral elements of the traditional structure of the artwork.”¹

The notion of self-reflexivity or referentiality is either deformed by my mode of working or abandoned, as it has been by most of the artwork that might be called “post-conceptual”. Joseph Kosuth defined self-referentiality as the tautological condition of the work, that artwork is and can only be about itself and its own condition, for its own sake. Self reflexivity, I see as a more liberal term, referring to work that is concerned with itself, its viewers, and elements of their condition that might affect both the experience of the work itself and the experience of related content.

> NOTES ON KOSUTH

The interpretation of theories of analytic philosophy, primarily of Wittgenstein and A.J. Ayer were used to justify the claims of Kosuth’s conceptual ideology:

“What is the function of art, or the nature of art? If we continue our analogy of the forms art takes as being art’s language, one can realize then that a work of art is a kind of proposition presented within the context of art as a comment on art. We can then go further and analyze the types of ‘propositions’.

A.J. Ayer’s evaluation of Kant’s distinction between ana-

lytic and synthetic is useful to us here: “A proposition is analytic when its validity depends solely on the definitions of the symbols it contains, and synthetic when its validity is determined by the facts of experience.” The analogy I will attempt to make is one between the art condition and the condition of the analytic proposition. In that they don’t appear to be believable as anything else, nor about anything (other than art) the forms of art most clearly finally referable only to art have been forms closest to analytical propositions.”

Kosuth’s belief in the potential of an artwork as an analytic proposition, defined his definition of art and also became the form of his work. Looking at his most famous, One and Three Chairs, one can understand how it came about as an instance of an analytic proposition. As a referendum on the relationship between object and representation within an artistic context, he shows that there are several ways in which the meaning of chair can be instantiated, physically, pictorially, and linguistically. He asserts the existence of modes of representation of objects and the primacy of the concept, which give rise to words, object, and images, all of which he considers subservient to meaning.

The difference between artists who are concerned about the nature of art and those who are concerned with other matters in the world can be distinguished, according to Kosuth’s model, as analytic and synthetic. Analytic, by specifying a mode of analysis that can be done with exclusively a priori knowledge, correlates to artwork that is concerned with with art, and is important exclusively in virtue of its idealized form, the idea or concept. Synthetic, on the other hand, refers to knowledge which can only be made in virtue of empirical knowledge, which correlates to artwork which concerns matters in the subjects outside of art itself and is dependent on its actual form.

While Kosuth strictly limited his work to an analytic domain, most artists, while maintaining a form of reflexivity began to make “synthetic” endeavors, exploring other issues of specific

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2 Kosuth, Art After Philosophy and After, 24.

3 Kosuth, Art After Philosophy and After
about universal experience, rather than about a limited notion of artistic processes based on a morphological history of modernism and its predecessors, it is not tautological. Because it has a subject matter with infinite content, it is in very little danger of becoming a finite exercise, like orthodox artistic reflexivity. Since there is so much about perception and cognition that is not understood, this would be impossible.

All components of the work being of equal importance.

This statement is a no a part off Kosuth’s ideology, but the ground that Sol LeWitt claims in opposition to him⁵. LeWitt’s position is centered around the significance of the viewer and his interpretation of the work. The materialization of the work and the concept of the work are equally important in this model: the idea is a “machine”⁶ that produces the work free of the arbitrary, subjective, and capricious character of the artist. The viewer is the significant subjectivity, instead of the artist. The work comes about according to the decisions of the public to make or view it, whereas in Kosuth’s work the public is essentially irrelevant.⁷

My projects depend on the opposable strength of the idea and the materiality of the piece, particularly in the real experience of seeing them.⁸ Based on the equality of the components, I can

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4 Kosuth and others quickly discovered the infinite regress problem of art that was about art (with no content other than the experience of it itself). The components of the artworks physical instantiation, such as the amount of ink on the printed page, the number of words, mode of representation enacted in the image, such as text, image, object, or picture, and their placement in the physical, economic, and institutional environment, quickly became exhausted in their pure forms. Extended in their logical direction, all of these forms of content that were about the artwork itself quickly evolved into content that exceeded these boundaries. Institutional critique, modes of social intervention and activism, the relationship of the viewer to the work, became synthetic propositions, engaging content from a world external to the art and art production.

5 Alberro, xx.
7 Alberro, xviii
8 This is a difficult point to make in a forum where only the ideas and documentation are present, but I hope my readers will extend me the benefit of the doubt in this case.
compose something like Projection Performance; Physical Descriptions of the Brain which requires conceptual elements like mental images, and a projected idea of a pathway of meaning stands alongside physical elements like projected light, the sound of voices, wooden posts and cotton screens. The interchangeable compositional aspects of the physical and non-physical are a necessary starting point for this piece. The Table Project also relies on the contrast between the idea of the table and physical table. Neither component would make sense without the other being of equal importance.

Dematerialization of the art object and the alternative of the concept as central focus.

I first want to say that I am equally interested in the objecthood of the objects I use, as I am in the idea that an artwork can be composed out of ideas. Both of these interests are presupposed by the theorization of dematerialization.

“When works of art, like words, are signs that convey ideas, they are not things in themselves but symbols of representatives of things”9 -Lucy Lippard and John Chandler

The connection of these ideas to the work I show here is almost to basic to explain; it underlies them; it allows them to exist. It is perhaps worth saying here anyway, since the significance has been a conscious one for me.

The significance of context; physical, social, historic, linguistic.

“I turned to language (typescript, maps, audio tapes, etc.) in the 1960’s because I wanted to explore objects that can refer both to concepts and ideas beyond themselves and their standard functions, as well as to themselves; objects that both refer to abstract ideas that situate those very objects in new conceptual and spatiotemporal matrixes, and also draw attention to the spatiotemporal matrices in which they’re embedded” 10 - Adrian Piper

This form of site specificity, awareness of location in space, time, culture, and institution is seen in Piper’s quote to be a function of language. Again the fundamental nature of this idea to the work that I show here is almost too simple to state; it underlies everything. The spacial time span of the texts selected in Project Performance are one example of a referencing of the histories that we relevant to the visual culture of the brain. Another would be the content specificity of “table” as not a random noun, but the example that had been used by Bertrand Russell when he posed the problem in a literary form, which speaks to his person as a real man, sitting at a real table, using that object to talk about his ideas. Although my work is not site specific, in that it can be shown in different locales, the lineages of conceptualism that forged this awareness are a presence in the process of making the work due to the language


presenting this prose in their journal and other artistic contexts. (footnote: this is distinct from Kosuth’s project, which sought to conflate analysis with meaning rather than language. Language is yet another synthetic material according to his model.

I do not frequently use isolated text as a medium, although it shows up in performances like Project Performance and A Small Replica of the Act of Conveying Meaning. More significant to my practice is the notion of the compositional qualities of prose as having a complex and detailed analogy to the compositional structure of performance or any other medium. The cascades of connotations in works like Langue/Parole Grid Project are characteristic of how I consider object and idea based phenomena to have linguistic properties. Putting a table outside, or putting visual data into bronze, are similes of rhetorical juxtaposition, not the visual kind. The mirror structure between the thought/speech and vision/drawing in Vision and Cognition, Inscape and Field are similarly modeled on the poetic model of internal reason that is derived from work that used language as a medium. John Baldessari was an artist I was aware of as I began to have an interest in this paradigm during my teens.

The artwork as a proposition.

“Works of art are analytic propositions. That is, if viewed within their context—as art—they provide no information whatever about any matter of fact. A work of art is a tautology in that it is a presentation of the artist’s intention, that is, he is saying that a particular work of art is art, which means, is a
definition of art. Thus, that it is art is true a priori.”^{11}

-Kosuth

The elements of idea of the proposition do not tie it to a tautological model. If art is not only arts language, as every “synthetic” artists contends, then whatever it is that is arts language can be substituted into the proposition. Other worlds, beyond the art world can be substituted as the context.

This is possibly the most visible of Kosuth’s contributions to the projects that I present here. The idea of the artwork as a proposition is a kind of super set of the artwork as experiment, the proposition being a more basic form. The proposition can be anything, but it always has representational content. It cannot be explained on a purely aesthetic basis because of this content. When I began to think of my work as propositions (based on reading Wittgenstein – I only realized that I was the last artist across the finish line on this idea later on) it gave me a freedom to change the propositional attitude of the objects I was making in a way that I hadn’t quite achieved when I though of the art that I was making as objects. Sol LeWitt’s philosophy of the relationship of the work to the viewer or user, is ultimately much more appropriate than Kosuth’s, since the upshot of the proposition is that it can be taken into the hands of others. It is a proposal to people whose subjectivity is the catalyst of the proposition. All of the projects here are propositions because of the conceptual material they are composed of. They are then experiments in virtue of the instantiation of these propositions in physical form in public and private spaces.

EXPERIMENTS AND POEMS, FRAGMENTS AND NETWORKS

The paradigm of the poem, as well as the experiment, that I introduced concurrently at the beginning of the thesis, also has a structural basis in the work of artists who posited language as an art form. If the experiment is a material instantiation of a proposition, the poem is a network made of fragments of content drawn from other sources. Found and reconfigured into a tension-based system of relations, they are multi layered, non-rational, linguistic, material, and aesthetic.

Kosuth, by using Kant and Ayer’s definition of geometry, was able to pose a solution to the problem of the reconciliation of “morphological” art with the new forms being made by himself and his peers, Judd, Morris, LeWitt, A & L, etc. This intense drive to use the work, not as an aesthetic meditation but as an analytic proposition, drawing connections between words and objects, needed to have a relationship with the work of his predecessors, it required justification through a logical differentiation that had to be made on the terms of the movement – as a logical argument, made using the tools put forth by analytic philosophers (here exemplified by A.J. Ayer)^{1}:

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^{1} Referenced here by Kosuth in Art After Philosophy and After
"We see not that the axioms of a geometry are simply definitions, and that the theorems of a geometry are simply the logical consequences these definitions. A geometry is not in itself about physical space; in itself it cannot be said to be 'about' anything. But we can use a geometry to reason about physical space. That is to say, once we have given the axioms a physical interpretation, we can proceed to apply the theorems to the objects which satisfy the axioms. Whether a geometry can be applied to the actual physical world or not, is an empirical question which falls outside of the scope of geometry itself. There is no sense, therefore, in asking which of the various geometries know to us are false and which are true. In so far as they are all free from contradiction, they are all true. The proposition which states that a certain application of a geometry is possible is not itself a proposition of that geometry. All that the geometry itself tells us is that if anything can be brought under the definitions, it will also satisfy the theorems. It is therefore a purely logical system, and its propositions are purely analytic propositions.

-A.J. Ayer

Here then I propose rests the viability of art. In an age when traditional philosophy is unreal because of its assumptions, art’s ability to exist will depend not only on its not performing a service—as entertainment, visual (or other) experience, or decoration—which is something easily replaced by kitsch culture and technology, but rather it will remain viable by not assuming a philosophical stance; for in art’s unique character is the capacity to remain aloof from philosophical judgements. It is in this context that art shared similarities with logic, mathematics and, as well, science. But whereas the other endeavors are useful, art is not. Art indeed exists for its own sake.”

In the transition that Kosuth creates between the two paragraphs, one can see that he relies on an implicit fragmentation of Ayer’s meaning in order to make his own point. Ayer says, essentially, that geometries are abstract systems. Kosuth takes this articulation of the definition of abstract system, a fragment of Ayer’s thought, and breaks it away from the numerical systems that Ayer is referring to. In place of this numerical system he substitutes another fragment, an abstract of artistic practice, creating a hybrid meaning between Ayer and himself, in order to say that art doesn’t make philosophical judgements. He draws a highly abstracted analogy between the 1) geometries and the 2) physical world and 1a) artistic practice and 2a) functionality/ philosophical judgements. These philosophical judgements that he speaks about, represent, for me, the purposes that people use to go about everyday life, their philosophies, the dictates of function, which is why the two can be equated. Functional objects, I believe he asserts, must stand apart from artistic objects, like geometries stand apart from the physical world.

The non-rational is the discontinuity between questions and answers. Perhaps the question of the viability of art, or ‘What artists do?’ was one beginning of the assertion of the non-ra-


tional answer for Kosuth. The fragmenting of texts by the Art & Language Group in the project *Blurting in Art & Language*, and I would also contend the fragmenting of knowledge in the same way the Kosuth fragments and re purposes Ayer’s work, drawn from knowledge of a set of fields and authors including Wittgenstein and Ayer, philosophy and philosophy of science, systems theory, sociology, linguistics, politics, et al, is an example of a method used to create a meaningful discontinuity. Containing their own thoughts, recorded as “blurs” *Blurting in Art & Language* is an index project that displays this methodology of fragmentation and re-synthesis through a network of navigable pathways built on strong and weak contextual relations:

“It was based on a notion of annotating: a set of short statements or remarks were written and a series of commentaries or annotations derived from these. This procedure continued and the resulting bulk of collected ‘annotations’ exhibited a variety of branchings, contradictory sequences, learning chains and the whole project producing a shared topography...Much of this material will be incomprehensible at a glance. In order to get anything out of the material you would have to activate some of the potential pathways. Embeddedness becomes crucial.”

I bring this up to acknowledge their relationship to my practice as predecessors and the similar content of fragmentation – philosphy of language and philosophy of mind. The knowledge, by definition, has refined form and selected content. Through this fracturing, those qualities are retained. The methodology, however, of its original authors is abandoned. The rational state of its creation is replaced by the non-rational, the personal methodology of an individual or a group of artists. This methodology is consistently variable, between groups of artists, individuals, and sometimes periods within an individuals artistic practice, which is the crucial distinction between it and its disciplinary origin. Often, although dependent on the artistic methodology, the linear meaning of the original content, through the process of fragmentation is formulated into a network of meaning. This network is then instantiated into pathways through the encounter of a viewer. Many possible paths exist within the network, and depending on the individual circumstance of the participant or user or viewer, one of these courses in chosen, and meaning is produced through the course of this selection in accordance, not only with the interests and insights of the artist, who set up certain potentials, but the participant who navigated the network. This is the form of navigation that I hope is apparent in the projects presented here.

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4 Ian Burn, Michael Corris, Preston Heller, Andrew Menard, Mel Ramsden, Terry Smith under the title Art & Language.

5 Found in the Introduction to the online version of Blurting in Art & Language: http://container.zkm.de/blurting/introduction.html
VI

AUTHORING THE PERCEPT: THE PHENOMENOLOGICAL APPROACH

The majority of engagement in the visual arts with the concepts of perception and cognition takes a phenomenological stance. Olafur Eliasson’s work is a prominent example that uses this methodology. *The Weather Project*, one of Eliasson’s most famous, functions in this way: as a provocation of perceptual experience, possible conceived as ‘pure’ rather than an admixture of cognition and perception, although Eliasson has stated that the prior is not his intent. The installation in the Tate Modern (seen in the image) created the illusion of a giant glowing sun above the gallery using monochromatic lights and vapor. Visitors would often lay with their backs on the floor, staring, mesmerizing by the object saturating their vision. The phenomenology of this saturating meditation of sight, characterize the exhibition.⁰¹² In an interview between Robert Irwin and Eliasson, Irwin describes both his and Eliasson’s work: “The big move is when we eliminate abstract references to art history, and the person walking through the work doesn’t have to know anything about you or art. That puts it on the most immediate social level, because the observer’s referencing the same cues you are. It’s no longer an abstract referencing, it’s an experiential one. Which is what I mean by phenomenological: it’s made in real time.”⁰¹³ Work of this type has an identifi-

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able similarity: the artist is the direct author of the percept. Often this form seeks to isolate perceptual experience from language and cognition, the consequent phenomena of perception. I interpret this need to isolate perception from language and cognition as an act of definition, propelled by the need to distinguish perception as a pre-linguistic phenomenon in order to rescue it from a sort of invisibility. It is true that the moment to moment function of perception is pre-conscious, which renders it invisible to routine conscious experience. However, it is a simplification of the notion of perception to isolate it from the processes of language and cognition that are necessarily integral to cognitive processes. When Irwin talks about eliminating references, he is speaking about erasing cognition from the perceptual process. This is the same as ‘pure phenomenology.’

I have no objection to the work of artists who seek to author a perception, however, it is my intuition that within the body of work concerned or even non-explicitly related to perception, this first hand stance is represented much more strongly than work which serves to reflect upon the phenomenon of perception through a form of analysis. A form of direct experience may be viscerally powerful, but is not able to capture or comment upon the ways that linguistic and conceptual tropes impact understandings of perception. Because this has become an important aim in my projects, I have no interest in isolating phenomenology by eliminating cognition from the perceptual pathway.

Eliasson:

“What is special in the case of conditional experience is, I think, what I sometimes call the introspective quality of seeing: you see whatever you’re looking at, but you also see the way you’re seeing. You can find pleasure or fear in what you’re experiencing, but your experience of the thing is integrated as a part of the thing itself.”

The opposite of what Eliasson is saying here might also be true though: when you are absorbed in an experience like staring at a glowing orb, you stop thinking about what you’re thinking and think of nothing, or let your mind wander. It is possible that the indirect process of “seeing seeing” that Eliasson and Irwin invoke may occur, but this inverse possibility seems equally likely. Eliasson believes that the effect of authoring an experience can be the disintegration of accepted modes of though. I find this contention plausible within the moment of spectacular experience, but unlikely to ultimately make any impact after the moment of experience. I find it hard to imagine that the moment of spectacular experience will alter a person’s conceptions of phenomenology, or change the framework that they use to think about perception. It is more likely that to invoke and examine extant modes of thought in a direct way would alter ingrained stereotypes about sensation.

The historical tendency to isolate perception from language, though it may be rationally motivated, in order to distinguish perception as concept apart from cognition, is of very limited use. For creatures who have language, language is a component of perception. Representations of perception who begin from

14 Ibid
this premise have a much stronger basis upon which to understand the particulars when experimenting with perceptual content.

*Box With A Sound of Its Own Making*, by Robert Morris is an notable precedent of a metaphorical representation of the mind/body problem. A wooden box, containing equipment that plays back the noises of sawing, hammering, etc. that were generated within its own construction, is a both a literal metaphor of the mind and a opinionated comment on the transparency of mind from a pure empirical perspective. Morris, who is credited with theorizing minimalism in the 1960's, engaged with the mind/body problem via his interest in the relationship of the body to objects, particularly simplified objects, whose direct geometry, such as rectangles and polygons, he believed to be more visually complex than non-geometric objects. Morris believed that the geometric forms were distorted by visual perception in a way that could be recognized, thus there was an inherent complexity in the appearance of the basic geometry of these forms that was not apparent in organic, superficially more complex forms. Since that time there have been studies done specifically to uncover the geometry of the visual field.

Rosalind Krauss considers the sound in *Box With A Sound of Its Own Making* to be a analog of memory, as well as an espousal of behaviorist thought, the idea being that the box is a sum of its own objectively observable experiences (as “perceived” by the tape recorder). Thus the box mocks the idea of the private, subjective experience, as well as the idea of imputing conscious experience to inanimate objects, a reflection on the history of granting an “interiority modeled on the dualist’s idea of consciousness” to paintings and other vaunted media. I find Morris’s stance towards behaviorist ideology to be ambiguous. While it can certainly be seen as a mockery of the behaviorist ideology, it is not clear to me that he found the idea of a wooden box as a model of the brain to be absurd. It could simply be a minimalist configuration of the brain, made out of basic and available materials. In the 1960’s Behaviorism was seen as a breakthrough towards the objective study of the brain. The leader of Behaviorist though, B.F. Skinner, positioned the study of animal (including human) behavior as an alternative to the study of subjective thoughts. It was imagined that this would be able to do away with all of the reified mental structures posited by psychology, such as the subconscious, preconscious, ego, id, etc. Of course, the study of human behavior was not adequate to explain most of the intense complexity of human sociality, motivation, and behavior, without the subjective labels that we ascribe to human thought such as love and fear, which come from subjective observations. The proponents of the ideology quickly became disillusioned. It is interesting to consider whether or not Morris was a believer in this promise of objective knowledge of the human mind, since the coherence of his work could be judged in different ways on the basis of this distinction. Because Morris’s had no interest here in authoring a percept for the audience, a dialectic developed between Morris’s work and the issue of objectivity and behavior that was the contemporaneous scientific discussion. Because of this exchange, the work itself can be viewed as offering a reflection of the crucial issues at hand within Behaviorist thought during the 1960’s.
VISION AND COGNITION, INSCAPE AND FIELD

Performance Note:

[From behind, two projectors light a 4’ by 8’ screen, a sheet of white cotton mounted to a wooden frame in the center of the room. The two frames, side by side, show photographs of two offices, belonging to two of the performers, A and B. The rest of the room is dark. The audience enters the performance after it has begun. A and B are having a conversation about the purpose of the work. A and B ask each other questions. They have been informed to speak their thoughts in the most direct possible form, without changing the thought to conform to grammar, or even to English.

A few feet in front of the projector there are two podiums, 2’ x 2’ with sloping surfaces. Performers C and D stand each behind a stand. The surface of the stand is a white sheet of paper. C and D draw the image they are standing in front of onto the paper using compressed charcoal and an eraser. They have been instructed to look at 3 inch dots that have been drawn with the charcoal onto the screen in the center of both images. They can look and the dot as well as the paper, but they cannot look anywhere else in the image. They must depict the entire image onto the piece of paper.

This activities of drawing and speaking happen simultaneously for approximately 10 minutes. The performance ends and room lights are turned.]
By juxtaposing two similar attempts to defy the natural forms of perception and cognition, part of this piece is conveying the integral nature of both vision and speech to a single process. However by representing tropes of perception and expression, sight, drawing, and speech, I also intended to question the function of these terms within the artificial scenario. Because the piece necessarily conveys the failure of these modes in isolation, the critique underlies the use of the terminology. The terminology is of course not used directly, but rather, the words of speech, drawing, hearing, seeing are all implicated by the objects and actions that are placed into the arena of the performance. They are inevitably used by the audience, myself, and instantiate in the context of the work.

The idea of mapping the structure of the retina of the *Fovea Camera* is reused in this project. Instead of being a straightforward machine, or survey, the idea is recast into unassisted human effort by performers drawing their visual fields. It asks the performers to project a difficult task onto an everyday perceptual and cognitive act. The composition of the visual field and the inscape of the cognition are imaginary forms that both the performer and the audience can project onto the perceptual/cognitive pathway. The project uses this construction as part of a larger conceptual structure that proposes the translation from visual stimulus to percept as a mirror of the translation of thought into speech. This is an example of the use of factual information about perception and cognition being reconfigured in a poetic structure that reveals something about both components.

*Vision and Cognition, Inscape and Field* begins to get at the heart of the problem of the discrepancy between thoughts and expressions. The language tools that we have to relay the differences between the thought and the expression are extremely limited. For example the though that I am having right now, the idea behind the expression that I am currently typing, is not fully expressed by the words that I am putting onto the page. They are the best that I have, but they are only a flattened and distorted translation of the inscape, not its reality. There is nothing more that I can say to convey the differences, because that itself would have to be a linguistic expression. But the expression that was possible in the actions and objects of the performance are able to approach the inscape in a less mediated form.

Other holes in our schemas that fit into this claim are the separation between perception and cognition that is ever present in the text of this thesis (resorting to the form perception/cognition is my feeble attempt to avoid the miscommunication that they are separate entities; the notion that a definition is a thing and not a boundary, that it is absolute in this way; and simplified notions of vision that fail to account for attention, memory, temporality, color relativity, etc.) I hope these examples show the meaning behind the claim that the language that we use to communicate about perception might be faulty.

**CONCLUSION**

The mode of articulation of these projects is certainly not a factual or scientific one, however, trying to reconstruct and sim-
plify systems of language and perception/cognition, the projects share a basic motivation with brain sciences and linguistics, which try to articulate the same systems in a different way. I am deeply fascinated by and indebted to the knowledge that has been generated by these disciplines. Structures like the fovea, langue and parole, or mental images, are the result of scientific and analytic investigation; they allow me to make thought experiments about the experience that is involved in the systems they compose. The easy problem of consciousness, which is not at all easy for the people who work on it, is the type of problem that my projects actually address. It is only easy in comparison to the hard problem, the question of why there is conscious experience. This basic dilemma, that has been worked on for hundreds of years without a substantial dent, is a basic motivation for my interest. I, like the philosophers who actually work on this problem, such as Chalmers and Nagel, have no easy way of modeling an answer to the problem. What form an answer would take is even controversial—Would it be a new discipline of physics? Would it be a discovery that the problem that we believe to exist actually isn’t a problem at all?

Our conceptions of the world are limited, but our ability to question the error in these pictures allows us to endlessly reformulate those conceptions according to new knowledge, acquired through investigation. Tangible experiments, whether they are rigorous science or visual poems, contribute to our knowledge of perception and cognition. Comparing these radically different methodologies and occasionally testing the boundaries of where they can contribute to one another helps expand both experiential and factual knowledge.
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