

ABSTRACT

MARTIN, KELLY NORRIS. *Visual Research: Introducing a Schema for Methodologies and Contexts*. (Under the direction of Victoria J. Gallagher.)

Studying the visual has become tremendously important to many disciplines because images express a range of human experience sometimes ambiguously articulated in verbal discourse, namely, “spatially oriented, nonlinear, multidimensional, and dynamic” human experiences (Foss, 2005, p. 143). In fact, the power of the image to plainly communicate occurs not “in spite of language’s absence but also frequently because of language’s absence” (Ott & Dickinson, 2009, p. 392). Presently, the challenge for visual research is that scholars investigate images from varied disciplines with separate and distinctive methods with little discussion or exchange across fields. Furthermore, more disciplines are requiring students to take courses in visual communication and more professors are being hired to teach those courses. However, these visual communication professors have nowhere to go (in the United States) in order to become prepared to teach and conduct research in visual communication. They enroll in programs in journalism and mass communication, linguistics, sociology, social psychology, anthropology, and so on. Then, they either adapt what they learn from these fields to the field of visual communication or they teach themselves about the methods, theories, and literature of visual communication.

This project focused on comparing and contrasting the strengths and limitations of various visual research methods in order to demonstrate the breadth of the methods and how they inform one another. The goals of this project were to introduce 1) four primary methodological approaches to visual research: visual rhetoric, visual studies visual communication and design-making, 2) a visual organizational schema that textually and

graphically maps the hierarchical relationships of numerous strategies/perspectives and techniques of visual research methods 3) a presentation of the possibilities afforded by the use of different and combined methods. Without intellectual exchange between these schools of research (or at least an awareness and good understanding of other approaches) it is more difficult for researchers to build off the findings from other fields or approach a research challenge in a novel way. As Burke articulates, researchers should approach methods so that they “encompass a broad range of terms and possess a scope substantial enough to incorporate the maximum number of possible explanations for human action.” This project also suggests that visual researchers should engage in visual making, creating their own visual artifacts and thus strengthening how they interpret and communicate their research findings and professional projects.

Visual Research: Introducing a Schema for Methodologies and Contexts

by
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DEDICATION

To Mike

Though unexpected, I'm so thankful I found my true love and best friend in the middle of the
North Carolina wilderness.

BIOGRAPHY

Kelly Norris Martin is a scholar of visual research whose primary interests include visual communication, visual research methods, design and digital media. Her dissertation compares and contrasts the strengths and limitations of various visual research methods in order to demonstrate the breadth of the methods and how they inform one another. Within this research project she is working to develop a visual organizational schema that textually and graphically maps the hierarchical relationships of numerous strategies/perspectives and techniques of visual research methods. Prior to attending North Carolina State University, where she received her Master of Science in Communication and then enrolled in the Communication, Rhetoric and Digital Media program, she attended John Carroll University where she received her Bachelor of Arts in English and Music through the honors and cross registration program. Before attending graduate school, Kelly worked for *The Coastland Times*, Dare County Public Relations and founded *ripCurrent* magazine on the Outer Banks of North Carolina. In addition to her work in visual research methods, she has worked with Drs. Gallagher and Ma on developing a theory of visual wellbeing and with Dr. Melissa Johnson on a theory of digital credibility with a focus on public relations blogs. Kelly has also conducted communication across the curriculum research with Dr. Deanna Dannels examining the communication practices of design critiques.

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CHAPTER ONE

Approach—“A way of considering or handling something, esp. a problem.

Method— “The principles or procedures of any mode or field of cognitive activity, themselves considered as an object or branch of study.”

(Oxford English Dictionary, 2009)

The State of Visual Research

“The soul cannot think without an image” (Aristotle, De Anima).

As humans we view, read, create and manipulate the visual world around us every day—often mundane acts almost as natural as breathing—but the state of visual research in academia is considered a place of turbulence and incoherence. Although fields such as art history, design history, and visual anthropology have well-established theoretical canons and methods, they are entering conversations about the relevance or relationship of their fields to the growing amount of visual research that is continually emerging from new disciplines and methods. For instance, the *Arts Education Policy Review* dedicated a special issue in 2004 to critically examining whether art education should dramatically alter its course as proponents of visual culture suggest. Moore, a contributor in the issue, acknowledges the importance of “paying attention to the everyday” but also raises concerns about the range of phenomena educators of visual culture are “willing to accept as objects of study” and their suggested methods for analysis. Although this dissertation focuses primarily on literature from visual communication and rhetoric, the questions raised, regarding awareness of various approaches

and the necessity for better guidelines and directives for techniques, apply to all visual fields. Most texts about visual research methods include an essay about visual anthropology research, however, these studies are rarely discussed in comparison with alternative approaches.

Making recommendations regarding how visual research should be conceived theoretically and methodologically is a popular activity for scholars of various backgrounds. Most often, these recommendations begin by explaining what visual research *is not*, *should not* or *does not* do (especially in relationship to text) and are followed by the contrasting affirmative. The following examples come from visual rhetoric and visual studies literature. Olson, Finnegan & Hope (2008) explain that visual research “should not be viewed as a supplement to more traditional ‘talk and text’ approaches ...but rather as integral” (p. 2). In other words, when researchers focus on the visual, their contributions to the field are not peripheral to the fundamental messages but offer vital information that allows researchers to arrive at deeper and more complex findings. To further define however, studying the visual should not be conceived of as “a unique genre ... but as a project of inquiry” with “sustained attention to visuality” (Finnegan, 2004, p. 235). Whether coming from disciplines of design, communication or cultural studies, scholars of visual research believe that paying special attention to the visual aspects of the subject matter concerned does not limit or restrain findings but allows for a deeper understanding of that particular phenomenon. Researchers first entering the field of visual inquiry often think that in order to focus fully and directly on the visual implies they should ignore other contextual and characteristic details of an artifact. However, as Olsen et al. (2008) clarify, visual research should not be done “in isolation from

larger textual or performative contexts in which an audience might encounter them, but rather in precise relation to those contexts that give them shape and meaning” (p. 2). One reason for this is that when people read, or react to visual artifacts they do so by referencing other personal experiences or media messages and “other areas of our lives informed by visual images” (Sturken & Cartwright, 2001, p. 2).

Although authors of most visual research literature acknowledge that researchers must consider the broader context of the subject as well as the situatedness of the viewer, visual images and artifacts are important enough in their own right for scholars and practitioners to direct their attention toward because, often, visuals can present messages (frequently controversial) in ways that “develop and extend beyond the verbal arguments” (Palczewski, 2005), or, allow people to glimpse a “range of human experience not always available through the study of discourse” (Foss, 2005, p. 143). They do this by appealing to “different cognitive structures, to different modes of understandings, and to different emotional possibilities” (Ott & Dickinson, 2009). And, they are able to do this, as Foss (2005) explains, because human experiences are not always direct or sequential but are “spatially oriented, nonlinear, multidimensional, and dynamic” (p. 143).

Due consideration should also be given to visuals because of their pervasiveness in past and current societies spanning many cultures. Currently, Western society is characterized variously as an image-saturated society, a society bombarded by images, and a society with an intense image flow (Becker, 2004; Sturken & Cartwright, 2001). As Fleckenstein (2007) argues, although linguistic practices determine the direction of phenomena such as science, gender, ethnicity and technology, our culture is at the same time

visually “migratory, fragmented, and diasporic.” She largely attributes the fragmented state of visual culture to the ease of mechanical, electronic and digital reproduction. Indeed, as Gombrich (1956) noted, “never has there been an age like ours when the visual image is so cheap in every sense of the word.” Fifty years after Gombrich’s statement, visual images are even easier to create and distribute with the spread of cell phone cameras and online photo sharing applications like Flickr. As Baudrillard (1987) muses, the electronic world has no “transcendence or depth, but only the immanent surface of operations unfolding, the smooth and functional surface of communication” (p. 12) and this cold communication requires a new form of response. Images do inundate our lives, through television, film, architecture, the Internet and personal style. Indeed, Brummett (2008) frames style as both a form of communication and a template for social life.ⁱ

Counter to popular notions of the offline vs. the online world, some scholars point out that our offline world is becoming increasingly “unimodal”—characterized by forms of expression appealing to only one sense (the visual). When envisioning a world dominated by visual images, many assume an environment mediated by the computer or television screen. However a “modern supermarket reveals another realm in which sight has been given priority over the other senses” and, “modern suburbs are essentially odorless, flavorless, and textureless compared to the residential environments of most human history” (Adams, 1998, p. 100). Because preference is often given to the sense of sight in the offline world, the visual researcher should remember this trend when making offline and online comparisons.

A dominance of the visual in the 21st century does not automatically imply that the academic world has historically ignored the visual. On the contrary, Aristotle points out that

men “desire to know” and prefer sight because, of all the senses, seeing “makes us know and brings to light many differences between things” (980a26-27). Fleckenstein (2007) uses Giambattista Vico's 1744 *New Science* to illustrate historical attention to the visual also making evident that although image making was essential to learning, the image did not function alone. Instead, both word and image were fused together in the “communal human activity of shaping a material reality” (p. 5). Similarly, Clark (2004) explains that the rhetorical symbols we encounter and exchange are not limited to language. The encounter, rather than the relational argument, is the simplest form of persuasion; and there is a full range of symbols that constructs a person’s communal and cultural experiences. He cites Burke (1973), “‘Participants in a common situation’ encounter the rhetorical not only in ‘the words one is using’ but also in ‘the nonverbal circumstances in which one is using them’ ... together these words and circumstances provide those who share them with common ‘resources of identification’” (p. 3).

Responding to images as they are increasingly pervasive and inextricably woven into our everyday life, studies using distinct visual research methods have emerged from numerous disciplines within the humanities and social sciences. Some of these disciplines include art history, film studies, comparative literature, anthropology and museology, as well as regional and cultural studies (Heywood & Sandywell, 1999; Barnard, 2001)—even those disciplines that have traditionally focused on text. Indeed rhetoric, a field almost wholly identified with the written and spoken word, at least as it was conceived during its concentrated development as a field of study in the 20th century, officially expanded its object of study in 1971 at the Speech Communication Association’s Wingspread Conference.

Bitzer & Black in Sloan et al.'s (1971) report stated, "Rhetorical criticism may be applied to any human act, process, product, or artifact which, in the critic's view, may formulate, sustain, or modify attention, perceptions, attitudes, or behavior" (p. 220). Studying the visual became imperative to many disciplines because images express a range of human experience sometimes articulated ambiguously in verbal discourse, namely, "spatially oriented, nonlinear, multidimensional, and dynamic" human experiences (Foss, 2005, p. 143). In fact, the power of the image to plainly communicate occurs not "in spite of language's absence but also frequently because of language's absence" (Ott & Dickinson, 2009, p. 392).

On the other hand, while reports on the status of image-based research acknowledge an explosion in the visual interest of many disciplines, scholars still hold that it remains marginal to the field of media and traditional communication studies (Prosser, 1998; Becker, 2004). According to Finnegan (2006), the field of communication still "ignores vision; at worst, it excoriates it" (p. 60) and communication theory suffers from iconophobia even though many of its theories actually depend upon it. Reasons for this marginalization include a perceived threat to traditional literacy and learning, and Western society's ambivalence regarding the intensified image environment. Interestingly, the root of this ambivalence is often attributed to the increase of images within the digital era. The upsurge in images has also made Western society less likely to trust the authority of those images (i.e. the digital photograph and its representational authority) while maintaining a fear of their influence (i.e. images as they relate to an increase in violence on television, in the news and in advertising). Then again, society's presumption that images have such power and influence provides a

rationale for more image-based research and a thorough analysis of the various types of visual research already taking place.

Approaches to Visual Research

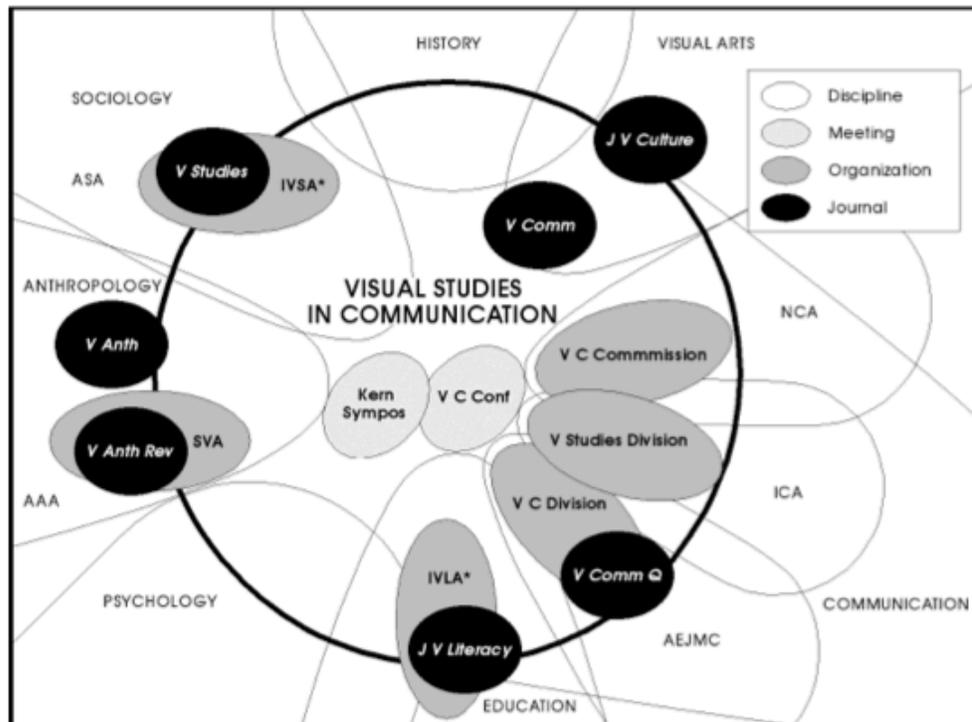
A recent review of visual research literature in communication studies found three approaches to the visual were most prevalent:

Studies that take a primarily rhetorical approach consider images and designs key occasions of persuasion[;] ... studies that take primarily a semantic approach consider the visual as text in much the way that linguists look at language[;] ...[and] studies that take primarily a pragmatic approach consider the visual a practice (Barnhurst, Vari & Rodriguez, 2004, pp. 629-630).

Research that takes a primarily “rhetorical approach” is classified as visual rhetoric studies, research that takes a primarily “semantic approach” (“toward an internal logic of the visual”) is classified as simply visual studies, and research that takes a pragmatic approach is classified as empirical visual communication. This study adopts these three classifications of visual research and adds an additional approach to visual research (a “*design-making*” approach) not usually shown or discussed in relationship with the three analytical approaches in communication. Therefore, this study proposes a simple four-branch taxonomy oriented around four approaches to visual research. In the second chapter of this dissertation, the reasoning behind adding a fourth approach to the proposed schema for visual research methods as well as the key concepts, methods, disciplinary homes and linkages of all four approaches are discussed in more detail.

Historically, in the communication discipline, assessing visual elements usually focused on two approaches: visual communication empirical research and visual rhetoric. However, the term “visual studies” is becoming more popular in the communication discipline (in the International Communication Association the visual division is referred to as the Visual Communication Studies division) and design, though the least common approach for communication scholars due to its traditional connection to art and engineering and pedagogical skills training, is beginning to be recognized as an important approach for communication scholars (just as communication is important to design). This is partly because of its main objective to solve practical challenges/problems through visual and material means. Still, even with this growing popularity, there is usually an effort to relate the studies to traditional communication fields such as public policy and law, mass communication processes, philosophy of communication and education. In addition to research about meaning and critical consequences, most visual studies concentrations within communication departments also focus on the creation, processing, and function of the visual.

Barnhurst et al.’s (2004) overview of the early beginnings of visual communication (overseen by the International Communication Association) suggested that six disciplines besides communication formed a background for the field of visual research—anthropology, sociology, history, visual arts, psychology, and education (see Figure 1). Their description of “visual arts” included “art and design, photography and film studies” (p. 628). These researchers mapped the relationships among the disciplines as well as the primary meetings, organizations and journals devoted solely to the visual.



*Also organizes a second, smaller meeting yearly.

Figure 1. *Barnhurst et al.'s map of disciplinary structure of visual studies in communication.*

Importance of Research Methods and Their Relationship to Theory

As they are conceived in the most general sense, theories are constructed with the intention of describing a phenomenon, explaining something, or making predictions. By contrast, research methodologies are often seen as “prescribed ways to test those descriptions, explanations and predictions”ⁱⁱⁱ (Wang, 2002, p. 74). According to Wang (2002) they also offer a way that a theory’s claim to applicability or transferability beyond a single case can be tested so that it can be determined if the theory should be “affirmed, modified, or rejected” (p. 74). However, as I will continue to argue through this dissertation, research methods are not only a “prescribed way” to test theories but ask researchers to invest themselves personally and critically in recording, analyzing and evaluating the larger

environment around them. In brief, methodology provides researchers a scaffolding to support and focus their research without which their findings would likely fall short.

Just within the past 20 years, design scholars have taken the position that the “design of the design method and the design of the research method are tasks of a higher order than the design of the communications” (Frascara, 1996, p. 33). This is because designers feel that rigorous methodology can help the designer “focus a project and define the exact problem, or series of problems to address.” In addition, they argue that “creativity needn’t be compromised and that the design process can actually be enhanced within a structured methodology” (Noble & Bestley, 2005, p. 31). I argue in this dissertation that these advantages, provided to the researcher through the methodological process, exist for all visual researchers (not just designers). Immersing oneself within the research environment and then applying that knowledge to the research problem can lead to greater insight or theoretical understanding. Furthermore, depending on the problem or theory in question, there are often best or better decisions when choosing an appropriate research strategy. Sarah Pink (2003), while outlining her method of visual ethnography, argues that visual research cannot fit within already existing methodologies of the social sciences and urges researchers to develop new methodologies for visual analysis. For some research problems, this may be the case, but a combination of approaches, both traditional and unconventional, may also be necessary for researchers to really *see* the larger environments and incorporate their findings into their understandings of various social worlds.

Theory and Methods in Rhetorical Criticism

Scholars of rhetorical criticism have participated in an ongoing discussion about the

relationship between theory and method, a discussion that illuminates how the relationship between theory and method is conceived. These concepts of method are conceived of differently from those stated earlier in the chapter. In fact, Brummett (1984) points out that in rhetorical criticism a rhetorical theory “is never tested in the sense that social science theories are” (p. 98) and that rhetorical criticism “is nothing more than the everyday real life actions of looking and hearing with sensibilities sharpened by the theory” (p. 105). Within his explanation of how theory and method are merged in rhetorical criticism, Bineham (1990) writes:

The informed critic approaches discourse armed not with a predetermined methodological battle plan, but with theoretical knowledge which prepares him or her to articulate a critical explanation that emerges from interaction with the object of study. The critic engages in the exposition of theory rather than the imposition of method...Method, like theory, emerges from and informs the analysis, but it is not imposed upon the object of study (pp. 31-32).

After this explanation, Bineham (1990) also points out that a few rhetorical critics have argued that a distinction between theory and method can also be helpful. For instance, Black, who in other writing asserts the value of merging theory and method in rhetorical criticism, also alludes to the value of distinction when accounting for classical rhetoric’s failure to provide methods for criticism. Because, according to Black (1978), Aristotle, Cicero, Sophocles, etc. were concerned “not for the critic himself ...but for the artist” (p. 2). Black (1978) continues that the modern critic has “assumed the burden . . . of defining and delimiting the nature of his own criticism” and that “the labor of the contemporary critic

serves both to disclose the enigmas of an artistic product and to sanction, implicitly or overtly, its own methods of disclosure” (p. 2). In this dissertation I advocate for a theory-method distinction in rhetorical criticism as proposed by Bineham (1990), justified mainly by its pedagogical usefulness. For even with sufficient theoretical knowledge, those new to criticism may “struggle over *how* to look for the symbolic activities explained by theory” (p.35). Therefore, in this dissertation I maintain that rhetorical criticism should follow a concept of the theory-method distinction (although not the type as emphasized in the social sciences) within Bineham’s (1990) guidelines:

First, criticism is the application of a critic’s trained intuition. Second, any method will shape critical findings according to that method’s terminology. And third, methods should not be the focal part of analysis, but should *lead to* the illumination of discourse (p. 35).

Challenge for Visual Research Methods

According to Keith Kenney (personal communication, 2008), a professor at the School of Journalism and Mass Communication at the University of South Carolina, more disciplines are requiring students to take courses in visual communication and more professors are being hired to teach those courses. However, these visual communication professors have nowhere to go (in the United States) in order to become prepared to teach and conduct research in visual communication. They enroll in programs in journalism and mass communication, linguistics, sociology, social psychology, anthropology, and so on. Then, they either adapt what they learn from these fields to the field of visual communication or they teach themselves about the methods, theories, and literature of visual communication.

Students at universities, both undergraduate and graduate, also suffer from not receiving much of any critical feedback or scrutiny in regard to their visual work in courses. As Piper and Frankham (2007) point out, “young people’s images should be subject to the same processes of deconstruction as other texts” and also suggest that the “crisis of representation familiar in most interpretive genres is sometimes absent from what tends to be an uncritical celebration of representation.” Faculty well versed in visual research methods and analysis would be better able to teach students to look at visual communication critically, including their own visual work.

Not only is the present situation (wherein scholars investigate visual images from varied disciplines with separate and distinctive methods) difficult for beginning researchers and students, but some argue, it will perhaps be unsustainable. As Stafford (1996), suggests,

It seems infeasible, either intellectually or financially, to sustain multiple, linear specializations in art, craft, graphic, industrial, film, video, or media production and their separate histories. Instead, we need to forge an imaging field focused on transdisciplinary problems to which we bring a distinctive, irreducible, and highly visual expertise (p. 10).

The lack of inter- and trans-disciplinary studies of the visual can lead to surface level analyses and lack of theoretical depth. Although multiple perspectives within research can be beneficial, without intellectual exchange (or at least an awareness and good understanding of other approaches) among these groups it is harder for researchers to build off the findings of others or consider a research challenge in a new way. Like Stafford, Elkins (2003) wishes to:

“see visual studies that is denser with theories and strategies, more reflective about its own history, warier of existing visual theories, more attentive to neighboring and distant disciplines, more vigilant about its own sense of visibility, less predictable in its politics, and less routine in its choice of subjects. Why not work to condense the many disparate kinds of visual competence in the arts and sciences into a single place? Why not expand localized studies of the visual so that they can begin to intersect and merge (p.65)?

Currently, there is no text that compares and contrasts, organizes the wide breadth of visual research methods, discusses the most appropriate method(s), given various kinds of research questions/goals, and/or explains how a study may benefit from particular or multiple methodological and theoretical approaches based on those questions/goals. Most students and researchers, no matter the discipline, are introduced to one specific type of visual research method or primary approach (i.e., visual rhetoric, semiotics, content analysis, etc.) while others are neglected entirely. If students or researchers do eventually encounter other methods, there is rarely the opportunity to learn how these primary approaches to visual research methods intersect or can speak to one another.

Still, there are two recent texts by communication scholars that seek to be more comprehensive (either in the scope of research methods or in their structured guidance of a particular approach) concerning visual research methods: Kenney’s (2009) *Visual Communication Research Designs* and Smith, Moriarty, Gretchen and Kenney’s (2005) *Handbook of Visual Communication*. Kenney’s *Visual Communication Research Designs* provides functional guidance for conducting visual communication research. However, this

book does not include visual research methods traditionally found outside schools of journalism and mass media/communication. Kenney covers methods such as content analysis, interviews, diaries, case studies, focus groups, etc., but the book is limited (from the standpoint of a pedagogical comprehensive review of visual research methods) in that it never considers methods such as visual cultural studies or visual rhetoric. These latter approaches are very important to many disciplines including design, communication, English, and business management to name a few. Furthermore, the empirical visual methods used in journalism and mass media/communication studies would benefit from the insights these alternative approaches to visual study provide.

Smith et al.'s (2005) *Handbook of Visual Communication: Theory, Methods, and Media* also endeavors to create a comprehensive collection of visual research methods, and includes visual rhetoric approaches and methods of visual cultural studies. Each theory and corresponding visual research method is discussed separately and is then followed by exemplar studies. The editors explain that the purpose of the book is “to display the wealth of methodologies available to visual communication scholars.” The handbook admirably accomplishes this goal, but for scholars interested in learning how to select and then use a visual research method, the handbook provides little direction.

Other resources for studying visual research methods do exist but usually focus on one perspective such as van Leeuwen and Jewitt's (2001) *The Handbook of Visual Analysis* that offers a guide to those working in a range of disciplines including media and communication studies, sociology, anthropology, education, psychoanalysis, and health studies, but the theoretical perspectives remain wholly within the social sciences. In short, the

underlying thesis of this dissertation is that scholars from many disciplines would benefit from a comprehensive examination of the proposed four approaches (visual rhetoric, visual studies, visual communication and generative-design) to visual research methods followed by a discussion of what each method offers in contrast to the others and also how each method may benefit from using or having an awareness of the others.

Contributions

This dissertation addresses the gaps in the visual research methods literature by undertaking three tasks.

1. It proposes an organizational schema of visual research methods. The schema includes four overarching approaches, the main perspectives/strategies, and common methodological techniques. The schema also illustrates the relationship of various disciplines to the four approaches and their perspectives.
2. It discusses the strengths and limitations of a selection of visual research methods by conducting three short illustrative research studies. This is not an exhaustive comparison of all visual research methods by any means but demonstrates differences among approaches and the breadth of techniques. A general comparison of the four approaches is presented visually in the final chapter to allow for a more easily understandable summary of similarities/differences and strengths/limitations of the approaches.
3. Based on the comprehensive comparison of approaches and illustrative studies, this dissertation begins to examine the methodological implications for the field of visual research. Intersections within these approaches could imply a natural relationship between

certain fields, such as design and rhetoric, and the recently presented notion of visual wellbeing (Gallagher, Martin & Ma, 2011).

4. Furthermore, including a fourth “making” approach within a schema of visual research methods (especially in regard to the communication discipline) suggests that researchers should make efforts to incorporate some sort of visual “making” within their research process. Future discussions may also suggest that visual research pedagogy include applied assignments so that students may better learn these methods through creating their own visual artifacts and thus strengthening their interpretation and communication of research findings.

This dissertation contributes to multiple discussions within the visual research methods literature with various implications. First, the theoretical discussion of the four primary approaches to visual research methods adds a new perspective to the literature bringing together the history, definitions, contributions, strengths and limitations of the different approaches to visual research methods as well as bringing together literature and research in the fields of rhetoric, communication and design. Most discussions of visual research methods focus on one approach and do not thoroughly discuss limitations (with the exception of Elkins’ *Visual Studies: A Skeptical Introduction*). I pull together perspectives from numerous fields of literature, providing an integrated outlook in this dissertation. Second, the three featured visual research studies contribute to the scholarly discussion on topics often addressed by the four primary visual approaches—research projects relating to artifacts of public memory, public art and architecture, online representation (such as avatars) and science imagery. Third, by comparing and contrasting the four primary approaches to

visual research methods, I provide researchers a resource for determining the most appropriate methods for their studies and analyses. A researcher would potentially be able to see which visual research approach is best for a particular visual artifact or research question. This dissertation provides the theoretical basis to eventually propose general suggestions/guidelines that would also help ensure consistency throughout various visual research studies and establish efficient practices for researchers. Instead of having to cull through numerous texts in order to effectively guess how to go about choosing or using a particular visual research technique, a researcher could consult a single introductory reference. Some would argue that the *Handbook of Visual Communication* already accomplishes this in regard to theory. A future goal and direction of this dissertation is eventually to provide a complementary text focusing on method.

Chapter Summaries

Chapter Two: A Proposal for a Visual Research Methods Schema

The second chapter proposes a schema for organizing visual research methods both textually and graphically centered around four visual approaches and their relationship to related disciplines. The chapter also discusses key ideas and theoretical assumptions (including definitions employed by each field and short historical discussions), methods used by the approaches and their disciplinary homes and linkages, as well as descriptions of what each approach has to offer along with a discussion of its limitations as identified by outside approaches.

The third through fifth chapters illustrate two of the four primary approaches to visual research methods by executing a short research study. One study uses a visual rhetoric approach, one study uses a visual communication empirical approach (qualitative and quantitative survey data), and one uses a combination of approaches—visual rhetoric and visual communication (qualitative in-depth interviews). Short abstracts, briefly discussing the scope of the study, methods used, and findings or contributions follow:

Chapter Three: Visual Rhetoric

In the past 20 years, a growing body of research has been dedicated to examining and evaluating the rhetorical function(s) of memorials and monuments. However, not much attention has been devoted to the rhetoric of sites whose subject matter has undergone symbolic transformation—initially representing a cultural icon or iconic moment and then eventually representing a cultural point of contention. In order to determine what happens when a monument engenders highly averse emotional reactions, not because the site or its material symbolic elements have changed but because the cultural discourse has changed and its interpretive context transformed, the significant cases of the Wagner statue in Edgewater Park, an Ohio state park, and the statue of Lenin in Seattle’s Fremont district are analyzed rhetorically. These statues were dedicated without much controversy but currently act as unpleasant reminders of various oppressive ideologies. Ultimately, this analysis demonstrates how the rhetorical function of a material representational piece may shift over time and how investigating available enthymemes may be particularly useful when analyzing a public artifact. For even when an artifact is a fixed material piece, changes in social and interpretive context reveal a text that is interpretively open. Framing the enthymemes through dimensions

of kairos, this study shows how their availability changes and how even the most material rhetoric remains symbolic.

Chapter Four: Empirical Research Method (Survey)

Currently, the use of avatars to represent a company or an individual is a relatively new phenomenon with limited predictive research. However, early adopting retail sites are increasingly using avatars—computer-generated human-like visual images. For example, IKEA now provides ANNA, a human-like assistant with multiple social cues to lead customers throughout their shopping experience.

Previous research on the visual communication of avatars focused on the reactions people have with the avatar itself and did not consider that there might be different assumptions or opinions about the user of that avatar. The “user” is the person, group of people or organization being represented by the avatar online. Therefore, this study has three major purposes. First, to determine if active Internet participants make assumptions about users (again, the “user” could also include an organization) solely based on the visual cues of the user’s avatar. Second, to provide businesses, nonprofits, and individuals insight into the kinds of assumptions (if any) people make regarding the visual design of avatars. And third, to determine the relationship between the assumptions people make regarding users based on the visual characteristics of their avatars and their perceived credibility.

This study involves conducting an empirical analysis of both quantitative and qualitative data to determine what, if anything, active Internet participants assume about the users of nine different anthropomorphic avatars. One hundred and nine students completed a three-part survey. The first portion of the survey asked three open-ended questions so that

students could respond to the images without previously defined categories or vocabulary determined by the researchers. Part two of the survey listed a series of demographic and credibility questions with pre-determined closed-end items for the students to choose from. Part three asked students to tell the researchers information about their sex, age, frequency of Internet use, level of experience with the Internet, and participation in online environments of World of Warcraft, Second Life, and Habbo Hotel.

Chapter Five: Integrated Methods (Visual Rhetoric and In-Depth Interviews)

Scientists and governments have realized the future potential of nanoscience research, a multidisciplinary field, and countries have instituted initiatives to promote nanoscience in their universities and labs. While the rate of discovery has increased dramatically, much of the public is still unfamiliar with nanoscience and current advancements in the field. As discoveries in nanotechnology continue and use of nanoparticles becomes more common, public perception of the science will become more important in determining whether or not the research has a premature end due to lack of public support. Scholars have found that one of the most persuasive powers of science is how it is visually portrayed to the public.

What makes nanoscience images especially interesting and fundamentally rhetorical is that they have to be actively created (machines do not create the images) given that the particles are not even visible through optical magnification. Microscopes have to reflect topological information to a reader that creates a 3-dimensional surface map. Scientists and computers then interpret information from the surface map in order to generate a visual image. Value and color are then added to the image to help audiences distinguish

meaningful elements. But the image does not represent anything as it was viewed; rather, the image had to be constructed through interpretive decisions.

The purpose of this study is to demonstrate how various types of nano images (categorized according to the Robinson typology) operate rhetorically to articulate public knowledge. Because there is a wide variety of nano imagery and various audiences involved, this study concentrates on a few images representative of Robinson's image typology (2004): schematics, documentation, fantasy, and fine art. This study also considers how the images function rhetorically in regard to Western lay audiences as opposed to scientists or experts in the field.

This study illuminates some of the decisions and changes made when creating a schematic, documentation, fantasy or fine-art nano image and how those decisions function rhetorically to convey various messages. Through critical rhetorical analysis and the feedback from subjects within the study, it is determined how an audience reacts differently to the various typological categories. This information may help scientists understand how the public's knowledge and perception of nanoscience is shaped through nano imagery.

Chapter Six: Visual Studies, Implications and Conclusion

The sixth and final chapter revisits the contributions of the study and also presents a visual comparison of the four approaches to visual research methods. Chapter six examines the findings of the three illustrative studies and, branching out from the discussion of the theoretical assumptions and limitations in chapter one, also discusses what a visual studies and design-*making* approach (the two approaches without illustrative studies) could offer the topics from chapters three and four—contested public monuments and people's reactions to

avatars. This is done for two reasons. First, to illustrate what a study executed from a visual studies approach would look like and second, to see if the visual studies approach would offer anything different from the visual rhetoric and visual communication approaches. Finally, this chapter talks about future research stemming from this dissertation concerning visual research methods.

Limitations

This methodological research study is limited by a number of choices. The first is the overall strategy of using illustrative examples, of varying subject matter and frameworks, to discuss the strengths and limitations of visual research methodologies. Although these illustrations would not be considered “case studies,”ⁱⁱⁱ they have a similar limitation due to their unavoidable need to make selections. As in case studies where “evidence is infinite in its complexity, specificity, and contextuality,” illustrations and cases both inevitably have to focus “attention on specific aspects of that infinity, highlighting some aspects as relevant and obscuring others” (Ragin, 2009, p. 523). However, using illustrations when discussing methodological considerations is a common strategy used in most methods handbooks where each method is usually followed by an “illustration” or “sample study” (e.g. Creswell’s *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*). The illustration strategy is useful for researchers who wish to demonstrate which types of situations or questions necessitate particular methods or approaches. Therefore, although another strategy where there are multiple attempts, each using a different method to answer one research question or problem (so only the method is the only thing changing), may seem like the best way to highlight the strengths and limitations of certain methods—it only allows

the discussion of one particular research problem. By using illustrations with different research problems, we may consider the most appropriate visual research method or combination of methods for a variety of situations and contexts.

Another limitation with the illustration strategy is that the same researcher that conducts the illustrative studies, myself, will also be critiquing those studies. This could be potentially problematic for a couple reasons: 1) because of the general intent to discuss possible limitations of a particular method, this objective may result in unintentional bias in the execution of the study and 2) I may not be able to step away far enough from my own work to perform a meritorious critique. In order to address the latter issue, my committee and other experts from the respective fields of the illustrations will also provide critical feedback. Also, because I hope to publish the findings of each individual illustration, the studies will be performed at the highest theoretical and methodological standard.

As a researcher with the majority of my training in communication and rhetoric, my lack of experience and training with design practices could also be seen as a limitation by those in the field of design. Critics may ask, can someone unfamiliar with applied design practices speak to the importance of integrating the perspective of design into communication and vice versa? Admittedly, there are numerous issues in the field of design that I will not be able to speak to, but in respect to visual research methods and design's connection to communication and rhetoric, I've found (through observing studios, taking design seminars and a PhD research methods course and participating in design-oriented conferences) that these fields also have much to offer the field of design (and vice versa). Furthermore, this

disconnect from the discipline of design may also be a strength because I have no personal connection that may bias my perspective in favor of current design research practices.

Finally, by the time this dissertation is completed, the context of the illustrations within the study may have shifted substantially. For example, when this dissertation was in its initial stage of planning and organization, experts were predicting Second Life would be one of the most popular online social networking sites and therefore, as a largely visual medium, the phenomenon would be a natural candidate for a visual research study.

Unfortunately, since those predictions in 2007, the numbers have shown that the site has not lived up to expectations. Just as the relevance of the artifact is not as pertinent, the relevance of avatars, statues and nanoscience images may also change. However, by also discussing the contribution to methodological considerations, the relevance of a particular artifact should not detract from the larger concern of how interrogating visual research methods should allow scholars and students to become better all around researchers and communicators.

CHAPTER TWO

Visual Thinking: A Discussion of Approaches, Methodologies and Contexts

Consigny (1987), in his interpretation of Aristotle's *The Art of Rhetoric*, argues that clarity is an indispensable virtue and "indeed the criterion of successful conveyance" (p.413). This is particularly important for a dissertation that takes as its object of study different paradigmatic approaches. For the sake of clarity, I review the purposes of this dissertation in brief:

1. To propose (textually and graphically) a schema to help organize the numerous strategies/perspectives and techniques of visual research methods.
2. To discuss the strengths and limitations of the various approaches as identified in the literature.
3. To illustrate the potential opportunities afforded when using a combination of the four main visual research approaches.

Various assumptions underlie these purposes. First, an investigation of visual research methods is necessary to advance the related theoretical discussions because methods are "a way to detect symbolic actions which are accounted for by theory" (Bineham, 1990)—methods articulate how to pursue theoretical insight. Second, as articulated by Burke, because a study can only reveal implications *of and through* a particular method's terminology, researchers should approach methods so that they "encompass a broad range of terms and possess a scope substantial enough to incorporate the maximum number of possible explanations for human action" (Bineham, 1990, p. 36). Therefore, within this dissertation I advocate for a combination of methodologies or mixed methods to enable

visual researchers to “use all that is there to use” (Burke, 1973, p. 23) when designing their research framework.^{iv} Studies such as Brummett’s (2006) analysis of *The Wizard of Oz* or Gozzi, Barnes & Daddario’s (2009) analysis of a romance comic book cover, use a variety of critical techniques to analyze their artifacts but do not incorporate qualitative-empirical or correlational strategies. In order to accomplish the first and second goal indicated above, this chapter will first revisit the categorization schema I am proposing that divides visual research approaches into four main types. Next I will interrogate various taxonomies and discussions put forward by leading visual research scholars in order to further justify my proposed schema. Following this interrogation, a comprehensive schema of the range of visual research methodologies, their relationships to one another and to the disciplines, is provided. The chapter ends with an investigation into the strengths and limitations of the four main visual research approaches in addition to common ways scholars in each field define these visual areas of study.

The Four-Approach Classification Schema

As previewed in the first chapter of this dissertation, I propose a schema of visual research methods consisting of four main divisions that I refer to as “approaches.” These four main approaches are in response to the many taxonomic discussions in the literature (that I examine later in this section) and in response to the still emerging field of visual research that is currently establishing its relationship with traditional fields and disciplines. I use the term “approach” with the four main divisions (referring to “a way of considering or handling something, especially a problem”) because the term is broad enough to allow for a simple categorization while still encompassing the wide range of visual research methods.

According to the dictionary definition, an “approach” is more of an outlook on how to best deal with a particular issue as opposed to specific procedures. The Barnhurst et al. (2004) meta-study that identifies the three most common approaches of visual communication research is one of the primary justifications for the inclusion of *three* of the divisions in the proposed four-approach schema. Besides this justification for the proposed taxonomy, I also argue that each of these three approaches—visual rhetoric, visual studies, and visual communication—offers a distinctive theoretical perspective that in turn determines the methodological choices (these are explained in-depth in the second half of this chapter). An informal survey of visual research within various disciplines, university programs, and academic and professional organizations, further supports this taxonomy as the organizations/programs almost always identify with a specific approach.

Another critical characteristic of my schema that makes it unique is that in addition to the three analytically-based approaches, a fourth *making* or design-oriented approach is also included. This fourth main approach addresses a gap in other visual research taxonomies that analyze visuals after the fact but do not move toward *making* or generating new visual images. Visual rhetoric and visual communication do generate material through their writing and often pedagogically through photography and film projects (especially visual communication) but the research focuses less often on a specific visual or design challenge. This distinction is informed by the difference between “design inquiry” and “research inquiry” as articulated by Groat and Wang (2002). Design inquiry usually centers on “an empirical object located in a particular place and time” that a designer wishes to create and research inquiry revolves around an “explanatory conceptual system with use beyond the

confines of one place and time”^v (p. 49). In other words, the “visual creating or making” approach is a generative approach in the sense that the findings from this research approach tend to be used for specific and immediate visual design challenges. Research findings culminating from the other approaches often add to theory with the assumption that the findings will be applicable in some way to other visual questions.

Most often, design inquiry is separated from critical and empirical inquiry in a variety of contexts (in education, in taxonomic discussions, in academic journals, etc.) but with this division each type of inquiry is denied further development through shared findings. Just as rhetorical critics also consider themselves rhetors through their writing, visual researchers should also be skilled or at least well acquainted with principles of visual creating/making.

Unlike Smith et al.’s (2005) rhizome map (see Figure 2.1), my proposed taxonomy is presented as a hierarchy, where “strategies/perspectives” fall as subcategories to the “approaches,” and “techniques” fall underneath “strategies/perspectives.” Disciplinary relationships to the “techniques” are also presented through my proposed visual schema. In order to help organize the numerous visual communication techniques, they are grouped under broad categories of “strategies” or “perspectives.” Groat and Wang (2002) also use the terms “strategy” and “techniques” in their explanation of research processes. They use Barnhart’s (1995) definition that strategy is “the skillful management and planning of anything.” In other words, the strategy refers to the overall research plan. “Techniques” on the other hand, also referred to as “tactics,” are a way of carrying out a particular task or strategy—the method of achieving the research design. The term “perspectives” is also used in conjunction with “strategies” because as Patton (2002) explains, the term is broad enough

to include the most common conceptual and philosophical frameworks and it is a term used similarly by countless other methodological research scholars.

Many other visual researchers have written taxonomic discussions about visual research methods. In order to further justify my proposed schema I will work through what each taxonomic discussion brings and fails to bring to our overall understanding of the large arena of visual research methods, fields and contexts.

Justification for the Four-Approach Schema

As Hope (2006) indicates, there have been a significant number of anthologies and monographs featuring a startling array of techniques and subjects related to visual research. Hope provides a sense of this variety, including such examples as Finnegan's (2003) study on the nature of print culture and circulation of the FSA photographs (interpretive research) and Barry's (1997) investigation within perception and cognition studies (empirical comparative research). Despite this wide range, what is pertinent to this study, is that the monographs and anthologies share a focus on a single specialized subject or object and do not encompass the broad spectrum of visual communication research studies.

As mentioned in chapter 1, other scholars tracing the relationships among visual research approaches have organized their discussions in a variety of ways—some more simply than what I propose here and some at a level of complexity that risks inaccessibility. For instance, Smith et al.'s (2005) approach to organizing visual research, in their own words, is executed from a theoretical standpoint and is extremely complex. Furthermore, they often treat the theory and methods of visual research as synonymous. This is especially evident in their rhizomatic map.

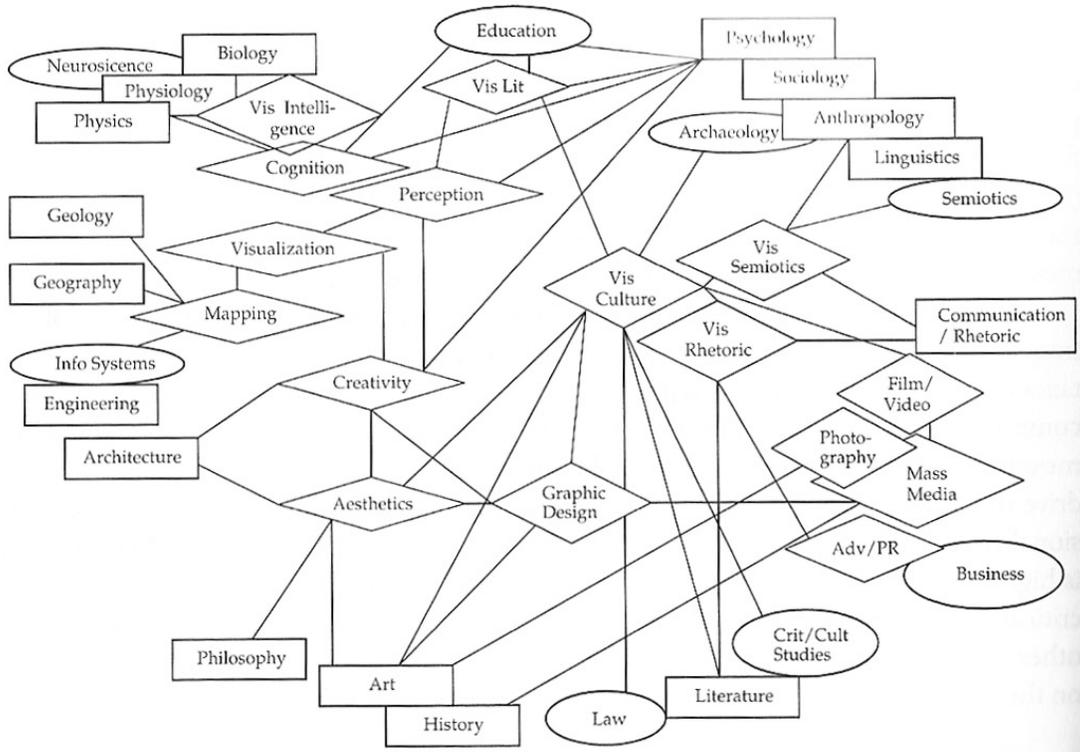


Figure 2.1. Smith et al.'s 2005 map of visual communication in their *Handbook of Visual Communication*. “Molar” items are represented by squares, “molecular” items are represented by ovals and “intersections” are represented by diamonds.

Their motivation for creating the rhizomatic map was to illustrate that “if visual communication is emerging as a field, then there should be a sense of a repertoire of theories and research methods that scholars in that area find useful” (p. xiii) and so the editors/authors sought to display this repertoire. Granted, many theories of visual research are closely intertwined and are referred to in the same way. So, for example, semiotics, a study of the cultural sign process and closely related to the field of linguistics, is referred to as one of twelve main theories of visual communication scholarship in *The Handbook of Visual Communication*. Although semiotics is most often referred to as a discipline, there are

variants of semiotic theories.^{vi} Also, a researcher could use a semiotic technique to analyze visual artifacts (this is the same for visual rhetoric, cultural studies, aesthetics, etc.).

However, if there is no effort at visually displaying a theory in relationship to method, why treat them as separate in other contexts? Smith et al.'s (2005) rhizome map is limited because 1) they do not make any attempt to illustrate these distinctions or lack thereof and 2) because it is extremely difficult to visually comprehend for both novices and veterans of visual research. Perhaps the root cause for challenges within their illustration is the failure to use principles learned and upheld within the field of visual research itself^{vii}. Instead of using experts of visual communication to justify their visual organization strategies, Smith et al. (2005) use Deleuze and Guattari's (1987) metaphor of the rhizome. As they put it, the organization of visual communication "is scattered and fragmented" (p. xi). Therefore, they determined that concepts or "terms" of visual communication "could be organized (and understood) according to a decentered system of molar aggregates, molecular movements, and lines of flight" (p. xv) and they "avoided overarching philosophical schemas or unifying theories" (p. xv). The problem with this approach when trying to illustrate an emerging field is that the overall purpose of the graphical representation (to provide clarity or understanding in something that is recognized as "scattered and fragmented") is abandoned and the relationships are hidden beneath complex graphical arrangement. In short, looking at the visual enlightens no one. Smith et al. (2005) say they are responding to Stafford's (1996) call to "begin the imaging of the field of visual communication" (p. xxi). However, carefully reading Stafford's (1996) invitation shows us that she requested an imaging of "the structure and activity of visual cognition itself—for both our praxis and our methods" and that creating

“a hybrid art-science of visualization...challenges us not to remain unskilled and naïve ingesters of misinformation we did not help to produce” (p. 39). Instead, we should “assert that innovative collaboration can occur only in a community of intellectual equals” (p. 39). This invitation suggests that 1) the importance of conceptually mapping practice and methods in addition to theory and 2) in order for true innovative collaboration to occur it would be helpful to see clearly and so better envision the relationships among the methods and disciplines.^{viii} Smith et al.’s (2005) decision to disregard overarching schemas or hierarchy is also confusing for a handbook of *visual* communication because hierarchy is a basic and necessary concept in concept mapping. Furthermore, when looking at the rhizome map without the text many would assume there was a hierarchy because, according to designer Hugh Dubberly, social grammar of visual interpretation indicates that the elements at the top of the page are the most important. As Kolko (2009) points out, “Designers, as well as those who research and describe the process of design, continually describe design as a way of organizing complexity or finding clarity in chaos.^{ix}” Again, the purpose for Smith et al.’s (2005) illustration was to demonstrate visual communication’s emergence as a field, or we could say as an academic culture, so it seems a somewhat difficult task to accomplish without at least some sense of rank order. It could be argued that the field of visual communication needs to be organized or better managed because there is a sense of “data glut.” Sometimes this process of managing complexity is referred to by designers as “synthesis.” Kolko (2009) explains that “synthesis reveals also a cohesion and sense of continuity; synthesis indicates a push towards organization, reduction, and clarity” (p. 15). Activity theory’s premise, that complex mental processes are more useful to society when manifested physically in some

way, is applicable here because it suggests that schemas and hierarchy are useful tools or manifestations of mental processes where some kind of interpretation is made within a larger complex system.^x When creating a visual within the print context, employing the expertise of graphic design practitioners and scholars should be helpful. Another basic principle of graphic design is the concept that simplicity begets clarity. As graphic designer Ashton explains, “effective graphic design is the outcome that touches a desired audience with economy and yet leaves one with the idea” (Twemlow, 2006). Although Smith et al.’s (2005) rhizomatic illustration is admirable in its ambition (working as it does with Moriarty and Kenney’s (1995) 102 visual communication concepts and topics simply as a starting point), it falls short economically and inevitably fails to convey a clearer and deeper understanding of the field of visual communication.

By contrast to Smith et al.’s (2005) focus on theory, other visual communication researchers have focused more specifically on the *methods* of visual communication when trying to organize their discussion of the field. Van Leeuwen and Jewitt (2001), Hope (2006), Stanczak (2007), and Barnes (2008), have all produced collections of visual research studies that present a number of diverse methods for examining visual artifacts. Hope’s (2006) collection of papers was selected from presentations at the Rochester Institute of Technology’s William A. Kern conferences in visual communication held in March 2001 and April 2003 and encompass what Hope (2006) calls the “full circle of the discussion of vision.” This assembly of essays is commendable in that it tackles meaning-making and development of self, methods, practices, and theories of visual rhetoric, but there is the sense that her “full circle” organization of the field—from the process of visual perception and

cognition being central to the formation of self to the use of various communication technologies to “symbolically structure appeals to mediated identities”—was artificially determined by the collection of essays instead of an authoritative identification of the most pertinent issues of the field.

Barnes’ (2008) taxonomic discussion is similar to Hope’s (2006) in that she focuses more on visual communication (as opposed to neighboring disciplines in visual research such as sociology or anthropology) and its role in the broader field of visual research. Her goal, understanding the impact of visual messages on attitudes and behaviors, also seems more focused and consequently more accessible for a beginning researcher in visual communication. She explains her goal as to present “a number of diverse methods for examining visual imagery and understanding how the visual experience impacts people on conscious and unconscious levels” and her introduction presents a thorough examination of the literature—covering work in visual advertising, visual studies, visual culture, visual literacy, visual rhetoric, and omniphiasm^{xi}. Her collection then neatly presents approaches for examining a wide range of visual artifacts. One way to build upon Hope’s (2006) and Barnes’ (2008) work would be a more in-depth discussion of the accomplishments and shortcomings of the methods examining either the conscious or unconscious and also a comprehensive “picture” of visual communication’s relationship to other approaches and disciplines.

Stanczak (2007) also sees the need for an investigation of methods as they are juxtaposed. He suggests that his audience actively “read perspectives against each other and against the grain of their own internal positions,” explaining that contributors to the book

“were selected with the hope of sparking internal conversations across the chapters” (p. 17-18). This kind of deliberation is not actually conducted by Stanczak (2007) or any of the contributing authors but his recognition and recommendation that comparisons should occur supports all three of my goals in this dissertation. Like Barnes (2008) and Hope (2006), Stanczak (2007) structures visual research methods around methodological and theoretical and epistemological themes. His four-section arrangement touches on two approaches and a variety of techniques such as archival photographic documentation, content analysis, video-confessionals, image discourse analysis, and video-metaphor. As he puts it, he addresses the conceptual aspects of photography, archival research, the use of still cameras in empirical research and new strategies beyond the still image. However, like Barnes (2008), his overview of visual research methods is not as comprehensively ambitious as Smith et al.’s (2005) theoretical discussion.

Although van Leeuwen and Jewitt (2001) also present a collection of essays in a similar format to those visual research scholars previously mentioned, one of their general goals, to provide “exemplification of a range of methods and perspectives of visual analysis in sufficient detail to make it possible for readers to actually pursue the approaches explained in the book,” is very different. The authors of the essays in this collection do make an admirable effort to explain their research process (or methods) in great detail so that even a novice to visual research can understand how they arrived at their conclusions. Van Leeuwen and Jewitt (2001), like Stanczak, also ask researchers to consider a number of approaches but further develop this recommendation by suggesting that all visual research “depends on the nature of the project in which it is to be used, on the visual material that is being investigated,

and on the goals of the research project” (p. 5). This may seem like an obvious statement but when a scholar is trained within a particular approach, that approach may seem like the only way a visual question may be tackled. Here again, the addition of a comprehensive map of the field of visual research as well as a discussion of the methods and their relationships to one another would provide a helpful addition.

Kenney (2009) and Noble and Bestley’s (2005) approaches to writing about visual research methods are alike in the way they organize their discussions around one particular discipline or visual research approach. Kenney (2009) focuses on visual communication and qualitative strategies and Noble and Bestley (2005) focus on visual research as it relates to design. Both Kenney (2009) and Noble and Bestley (2005) create an investigation akin to an actual visual research methods textbook. Instead of an editor’s collection and organization of visual research methods, Kenney (2009) and Noble and Bestley’s (2005) conversation is more of an instructional guide to visual research methods. Kenney’s (2009) contribution to the visual research methods conversation is truly unique because of his stated goals: first, to “mend the split in communication programs” in order to think about “communication as a single field, with a common set of theoretical perspectives and methods” and second, to provide pedagogical systematic guidance regarding how to design a collection of visual communication research studies. Kenney’s (2009) discussion falls short in the way a single volume in a compendium falls short of providing a complete impression of a complicated subject. He claims to position visual communication “on the humanities side of social science” (p. 17) but this claim is debatable because his systematic guidance is somewhat antithetical to a humanities approach. Kenney himself admits that a disadvantage to his

discussion is the idea that visual communication follows a straight line when in reality it does not and scholars identifying with the visual rhetoric and visual studies approach would likely find Kenney's (2009) dialogue restrictive and limiting.

Noble and Bestley (2005) incorporate two large tasks in their methodological text for graphic designers. First, they attempt to provide an introduction to a variety of visual research methods applicable to designers, and second, they attempt to argue for the importance of research in design. However, perhaps because of these two large tasks and the number of subtopics they try to address, their organizational format is perplexing. Many of their categorical distinctions appear arbitrary and don't match up with how other visual researchers use the same categories. For instance, on the cover they provide what one would expect to be a list of methodologies because that is what the title indicates. The list is as follows: "investigation, analysis, synthesis, communication, experimentation, audience, craft, production, materials, systems, method, process, semiotics, semantics, rhetoric, design." Yes, some of these terms have been described as methodologies (such as semiotics, rhetoric and experimentation) but others of these terms refer to a discipline, a process, or a specific moment in the research process. The organizational format within the book continues down this same path of organizational ambiguity. Also, many of the research techniques highlighted in the book are emergent studies that have not undergone an extensive review process or been tested in any other manner prior to the appearance in the *Introduction to Research Methodologies* text. The techniques appear to have been developed by colleagues of Noble and Bestley, although this characteristic alone is not a problem. Noble and Bestley cover methodological related topics such as semiotics, communication theory, systematic

approaches to design problem solving, semantics, rhetoric and discourse theory, but again the categories here are confusing and barely scratch the surface of the research methodologies available and useful to designers. Another text, perhaps somewhat less accessible to a beginning design researcher but better organized and comprehensive, is Groat and Wang's (2002) *Architectural Research Methods*. Groat and Wang's (2002) unique take on the visual research methods discussion is that it is both "comprehensive and an entry point" (p. 3) meaning that they seek to address the full range of research methods available to architectural research and also intend to introduce readers to the primary characteristics and applications of each research method they include.

The visual research schema I propose attempts to take a great deal of complex information, similar to Smith et al. (2005), and present it in a more easily understandable format so as to allow for sharing among researchers of different approaches and to offer guideposts for novice visual researchers. What my proposed schema does differently in respect to all the related taxonomies discussed above is provide clarity, as encouraged by Consigny (1987), through its identification of four main approaches. And yet, this proposed schema also has the necessary complexity to represent an area of inquiry from numerous disciplines that also utilize over nine different strategies/perspectives. This visual area of inquiry is probably best referred to as an "indiscipline," a term proposed by Mitchell (1995) to describe inter, cross, and trans disciplinary work that is at the "inner and outer boundaries of disciplines." An "'indiscipline' is a moment of breakage or rupture, when the continuity is broken and the practice comes into quotes" (p. 541). Because the visual representation of the schema (discussed in the following section) uses principles garnered from visual design as

well as direct input from design experts, its graphics are also accessible to both experienced visual researchers as well as novices to the field. Finally, because this schema attempts to incorporate outlooks from all four research approaches—visual rhetoric, visual studies, visual communication, and design-*making*—it is grounded deeply in a wide range of well-respected literature and is not idiosyncratic or representative of one individual’s ideas.

Visual Representation of the Proposed Schema

Conceptual mapping is something that designers and other researchers have long used to clarify various areas of inquiry. Very broadly, these areas can include information such as relationships among people and objects, processes and goals. As designer Janet Abrams (2006) explains, conceptual mapping in an age of information-saturation is a means of “making arguments and processes visible.” Designers indicate that clarity is paramount for a successful conceptual map. Although the organization of Noble and Bestley’s (2005) discourse may be problematic, their attention to conceptual mapping highlights the importance of the mapping process and also provides useful information when designing a comprehensive visual representation of the methodological relationship of visual research. As they emphasize, mapping, the act of “collecting, editing and re-presentation of information” is only valuable when made available in “a communicable visual form” (p. 72). If the map is more confusing than the textual discussion of the concepts, the map has failed in its basic purpose to enlighten through a clearer message or alternate perspective.

As discussed in the justification for the four-approach classification schema, many other research projects have made an effort to trace the relationships among visual research approaches—some through a collection of visual research studies that present diverse

methods capable of examining visual artifacts and some whose diverse methods suggest that a visual experience impacts people on conscious and unconscious levels. Some even go as far to suggest that audiences actively “read perspectives against each other [as presented in the collections] and against the grain of their own internal positions” in order to “spark internal conversations” (Stanczak, 2007, pp. 17-18). What these authors have not yet accomplished is to develop a schema of visual research methods that retains a high level of complexity and yet offers accessibility for novices as well as experts. This inaccessibility is partly due from choosing *not* to illustrate overarching schemas or a hierarchical structure that would help create an economical and still more comprehensive understanding of a complex field. They have also failed to highlight the distinctions between theories of visual research methods and their methods even if many of the terms overlap. Finally, although some of these authors do call for further deliberation among various research methods, this dialogue of comparison is never conducted within these texts and there is no overview of visual research methods as comprehensively ambitious as Smith et al.’s (2005) review of visual communication’s theoretical foundation.

Thus, the conceptual map I present here (as seen below on p. 39) shows how a schema of four approaches can be represented in terms of its relationship to particular strategies (teal circles), techniques (small black words), and related disciplines (colored circles).

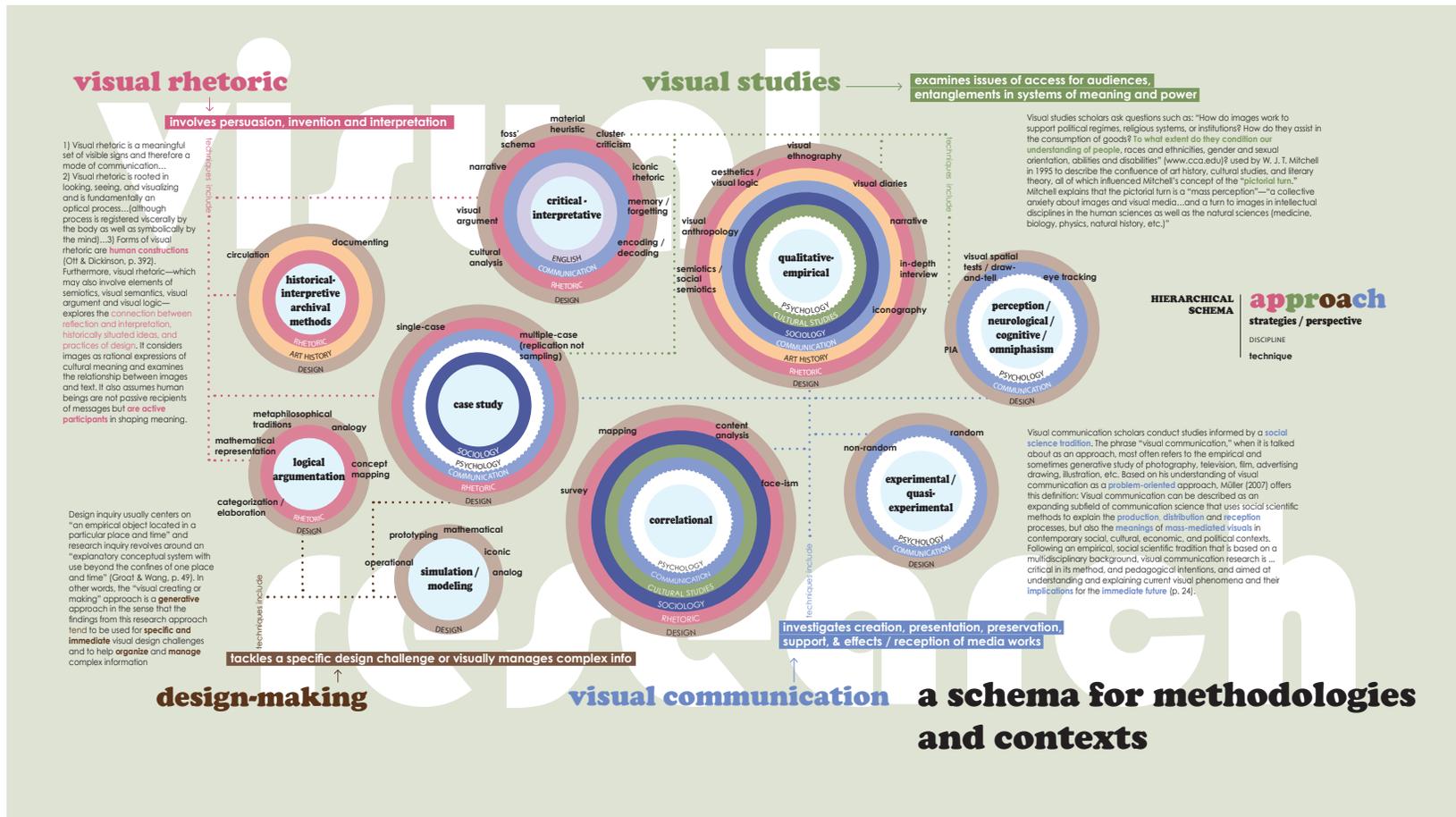


Figure 2.2. Visual representation of proposed schema for visual research methodologies and contexts. Visual representation of schema can also be downloaded at www.kellynm.com under "research."

This conceptual map presents the techniques of visual research methodologies as they relate to the three analytical approaches to visual communication research as well as the more applied “visual creating or making” approach. Three of the approaches are more analytical in method (visual rhetoric, visual studies and visual communication) while the fourth is more applied or involves *making*—an approach to help researchers tackle a specific design challenge (design-generative). Dividing the schema into four approaches provides the necessary simplicity to begin an understanding of a highly complex field. It also tackles this goal from a methodological perspective as well as responding to and supplementing the visual schemas already published (even if those were created from a theoretical perspective). My conceptual map differs from Groat and Wang’s (2002) visual organization of methodologies in that it presents a more comprehensive picture of visual research from a broader spectrum of disciplines (currently nine listed in this map). It also focuses on mapping *visual* research as it is currently being enacted and defined and does not focus on a general methodological discussion as it applies to *all* research.

Now that I have proposed, both textually and graphically, a schema to help organize the numerous strategies and techniques of visual research methods by a four approach division, I continue by investigating the key concepts and theories of the four approaches as well as their methods and disciplinary homes and linkages as they are identified in the literature.

Visual Rhetoric

Key concepts and theoretical assumptions.

When referring to visual rhetoric, scholars may be using one of two common definitions. The meaning of one refers to the visual impact of the object itself (i.e. the visual rhetoric of the political poster helped constitute the incendiary nature of the organization) and the second refers to an approach rhetorical scholars have adopted to analyze the visual (Gallagher used expertise in visual rhetoric to analyze the Civil War memorial). Ott & Dickinson (2009) advance a short list of principles where scholars of visual rhetoric agree.

1) Visual rhetoric is a meaningful set of visible signs and therefore a mode of communication...2) Visual rhetoric is rooted in looking, seeing, and visualizing and is fundamentally an optical process...(although process is registered viscerally by the body as well as symbolically by the mind)...3) Forms of visual rhetoric are human constructions (p. 392).

Furthermore, visual rhetoric (as an approach for analyzing the visual)—which may also involve elements of semiotics, visual semantics, visual argument and visual logic—explores the connection between reflection and interpretation, historically situated ideas, and practices of design. It considers images as rational expressions of cultural meaning and examines the relationship between images and text. It also assumes human beings are not passive recipients of messages but are active participants in shaping meaning. This is partly why visual rhetoric critics, and all rhetorical critics of various texts, do not assume function is synonymous with purpose. Therefore, critics seek to discover how an image operates for its viewers instead of what was intended by the creator.

Visual rhetoric involves persuasion, invention, and interpretation. Visual artifacts or images move an audience to action, awareness, or to certain values but, through interpretive writing, the visual rhetoric critic may also persuade or enlighten his or her audience in regard to understanding the impact of the visual artifacts. There is the suggestion that rhetorical critics (as well as visual studies critics) have the power to advance stability or change based on their ability to provide a historical backdrop and social context—strengthening doxa or making available to a larger population interpretive enthymemes toward a creation of doxa. Wander (1983) argues that because rhetorical critics have this power, they also have a social obligation to involve themselves in public controversies so that they might immerse themselves in the “material conditions” in society. Although Wander’s extended argument may be more zealous than some critics see feasible, Foucault provides a more approachable description of the “specific intellectual,” a rhetorical critic who takes action within the specific site he/she find him/herself and on the terms of his/her own expertise (Foucault, 1980, interview 1977, p. 126). Foucault’s writings on critical commentary have been taken up by rhetorical and literary critics to help explain the motivation for critical analysis. Foucault’s idea is that as critical interpretations become public they gradually seep into public discourse and becoming ‘correct’ ways of reading cultural artifacts or sites (Blair & Michel, 2000, p. 32).

Rhetorical critics also analyze visuals of the everyday. Once the field of rhetoric expanded to include other purviews such as art, and science (in addition to literature and speech), it also began to look at visuals we encounter through mundane daily activities. In his analysis of the visual environment of Starbucks, Dickinson (2002) explains, “rhetorical

analysis of the everyday ... seems to be a crucial activity for those of us determined to understand the material ways rhetoric constrains and enables our subjectivities” (p. 5).

Methodology.

When rhetoric scholars met in 1970 to reexamine how rhetorical criticism should be identified and to determine top priorities for the field, “methodology” was described as encompassing two poles: the “critic-artist” and the “critic-scientist.” The “scientists,” according to Sloan et al. (1971) proceed methodically but not mechanically by maintaining a distance from the object of study. The “artists” may have similar evidence to the scientists but by taking into account the audience they make sure to phrase insights, analyses, and judgments “in a way that orders or reorders the rhetorical event” (Sloan et al., 1977, p. 223)..” The humanity of the critic, because of the artistic pole, is “necessarily inherent” in the work, so even the critic-scientist does not proceed objectively. Visual rhetoric also incorporates these two poles methodologically. As mentioned earlier, visual rhetoric differs from other forms of visual research because it asks how a visual artifact persuades and also involves an inventive turn on the part of the critic. The rhetorical critic does not simply observe and report but takes his or her analysis a step further to illuminate contemporary rhetorical transactions. Although the concept of agency has lost momentum in the postmodern era, it is traditionally an important notion for rhetorical critics because rhetorical criticism is both an art and a practice. Not only do critics espouse their agency within the interpretation and invention of their own writing but often they make an effort to offer insights into how the visual artifact(s) may shed light on themes and possibilities that enhance agency.

A visual rhetoric critic will ask: how does this artifact move an audience to action? How does it teach? How does it exhibit certain values?^{xii} The rhetorical critic also has the opportunity to evaluate an image, to assess whether it “accomplishes the functions suggested by the image itself” (Foss, 2004). Here, the critic would ask questions such as What does it do? Is the image congruent with a particular ethical system? Does the image offer emancipatory options or improve the “quality of the rhetorical environment?” (Foss, 2005, p. 147). Instead of placing great importance on the aesthetics of the visual, rhetorical critics examine how a piece can move an audience or how an audience may identify with a piece. Van Eck claims that art historians have unfortunately obscured the importance early modern artists placed on the ability of their artwork to move or persuade. Rhetorical critics do not simply address their appreciation of the beautiful but inquire about the function of a visual artifact. Furthermore, they do not assume an artist’s work will definitely have the ability to move or persuade.

Rhetorical critics also consider the significance of contingency or *kairos* because it relates back to the question of audience. To say the right thing at the right time, to have a particular physical response, to experience something with another person, are all related to the historical context or historical situation. Because meanings are flexible, the ability of an image to influence an audience depends on the context and the particular audience.

In addition to agency and *kairos*, Olson et al. (2008) provide a very useful review of some of the most common conceptual resources available to critics through the rhetorical tradition. These concepts, described as “resources for analyzing and understanding symbolic acts of persuasion in context,” include visual argument, enthymeme, *topoi*, common rhetoric

devices such as depiction and metaphor and Burke's notions of the tragic and comic frames, psychology of form, identification and representative anecdote. More recent concepts include ideograph, image event, rhetorical circulation, and iconic photograph. Olson et al. (2008) point out that critics of visual rhetoric also draw on transdisciplinary thinkers—the same thinkers most closely associated with visual culture/visual studies (see Visual Studies section for a list of the main transdisciplinary thinkers and visual culture concepts). The most important thing to remember regarding the development of visual rhetoric, according to Olson et al. (2008), is that it has evolved using concepts taken from both “traditional rhetoric and the humanities more generally” (p. 8).

A familiar question posed to rhetorical researchers from scholars using other approaches is often, “why use rhetorical criticism to get at meanings of messages rather than just asking people what they think?” One reason is that meaning is complex. A researcher might ask someone what she understood from a message multiple times and get a different answer every time. Also, a researcher cannot rely on the intention of the message's creator because this is not the same message as what may be interpreted by an audience. Another possible reason, though some scholars may disagree with this argument, is that people may not be able to fully articulate meanings or articulate the meaning in enough detail or complexity. Just as artists have the ability to capture our most deepest sense of emotion, wellbeing, or fear, into a piece of artwork, a rhetorical critic may offer an analysis that gets an audience to a deeper sense of meaning. The rhetorical critic tries to articulate a message in ways that others may not have considered before or illuminate for others possible meanings.

Finally, rhetorical critics also try to reveal meaning from a perspective of many and not just one individual's experience in order to illustrate how a text functions rhetorically.

Disciplinary Homes and Linkages.

Visual rhetoric claims many intellectual homes as relevant to itself in part because rhetoric claims so many intellectual studies as relevant. The argument can be made that rhetoric is universal in scope and shared among all scholarly disciplines because all disciplines are concerned at some point with invention and the communication or application of invention. McKeon (1987) claims that rhetoric is one of the few clear examples illustrating the tendency of the arts and sciences to interact across disciplinary boundaries. Rhetoric scholars consider the field linked to political science and sociology because of their questions regarding power and community. History is also very important for rhetoric because critics often draw from historical texts and it is also important for understanding context. Because they are also interested in form and aesthetics, rhetorical critics also acknowledge literary theory and poetics as other very important disciplines to the field. Psychology and its interest in effects, logic and its study of arguments, and epistemology and its questions about the nature of truth are all disciplines and issues very integral in a rhetorical analysis. Likewise, visual rhetoric has links to art theory, anthropology, rhetoric, cultural studies, psychology, and media studies. Hill and Helmers (2004) also appropriate Mitchell's term "indiscipline" to define visual rhetoric as an "indiscipline" is a site of inquiry characterized by "turbulence or incoherence" (Mitchell, 1995, p. 541). This term also concedes visual rhetoric's mingling of the verbal and the visual and its "exciting possibilities for inquiry" (Hill & Helmers, p. 18).

Limitations.

One of the most frequent criticisms of visual rhetoric from a design-making or visual communication approach or from disciplines of art theory and aesthetics is that rhetorical critics do not know how to produce the visual artifacts they study. Most critics of visual rhetoric are not teaching students how to produce visual texts such as photography, filmmaking, design, etc. Like their students, these critics do not produce visual texts but only know how to act as “a consumer, an agent by proxy at best” (Benson, 2008). This criticism first emerged when the Report of the Committee on the Advancement and Refinement of Rhetorical Criticism expanded the purview of rhetorical research. Waldo W. Braden for instance, immediately argued that rhetorical critics are not trained to deal with images or other forms of nondiscursive rhetoric. He asked, what more can rhetorical critics offer than an art historian or designer who has had extensive training with the visual? One way a scholar from the rhetorical approach would answer that question is to say that to evaluate an image from rhetorical standards is much different than aesthetic standards. Where designers or art historians are concerned with the aesthetic merits of a visual piece, rhetorical critics are concerned with the influence of image and the “way images are constructed to affect such influence” (Foss, 1994, p. 214).

Benson (2008) highlights another problem with this “disjunction between criticism and practice” (p. 414). His assessment of current visual rhetoric analyses by scholars disconnected from practice is that the critical assumptions and theories brought to bear reveal only “stigmatized identity, crippled agency, distraction, diversion, nostalgia, self-exhibition, exclusion, and the manipulation of collective memory” (p. 414). Bensons’ criticisms likely

do need to be considered by scholars in the field of visual rhetoric and one possible avenue would be through a re-articulation of agency. By thoroughly interrogating an image through a rigorous rhetorical approach, critics may be able to illuminate possibilities for agency through their insights.

Not only are visual rhetoric critics often removed from the practice of *creating* (is true of most critics: film, music, art, literary, dance, etc.) visual images but visual rhetoric theory also assumes that the audience for images is “lay viewers” or an audience unfamiliar with visual grammar. This assumption could also be criticized, especially by advocates of the design-making approach, as too presumptuous because some members of the public are professionally trained in visual practices and audiences in this digital world are becoming increasingly well versed in visual grammar by using user-friendly digital software and online programs. From the perspective of the research with a design-making approach, visual rhetoric critics should write about more than one type of audience so their analyses could be more complex and their contributions more significant. However, another way to understand the concept of the “lay viewer” is that the rhetorical scholar believes that an analysis should address an entire audience or not write simply for the most expert audience. Therefore, because rhetorical critics are so concerned with context and kairos, they may actually consider more than one type of analysis depending on whom they determine the visual rhetoric is likely to reach.

Overlooking the aesthetic for questions of function or ideology is considered part of the democratic reading of visual imagery for researchers investigating a text from a visual rhetoric approach. Mattson (2004) contends, however, that reintegrating the aesthetic with

the rhetorical enables academic discourse to “contribute to civic life in some unlooked-for ways” (Peterson makes a similar argument in her (2001) response to Foss’ schema). Mattson suggests an alternative informed by Michael Polanyi’s theory of tacit knowing and Elaine Scarry’s aesthetics that suggests ways an aesthetically enlightened rhetorical criticism could inform public life phenomenologically, sociologically, and spiritually. This criticism is interesting because two scholars from a rhetorical approach, Mattson and Peterson, first brought it to the fore and presented a solution by proposing their own schemas. Because visual rhetoric has such an extensive history in the field of rhetoric, it would be difficult for the field to entirely divorce itself from aesthetic concerns because it has been a concern of rhetorical theory historically.

Another criticism of visual rhetoric researchers most often comes from scholars of the visual communication approach. Scholars of this approach often believe that visual rhetoric scholars do not test their analyses of rhetorical strategies. For the past couple of decades, Leah Ceccarelli (a rhetoric scholar) has been urging rhetorical critics to use what she calls “reception studies” to test analyses against actual audience responses. Similarly, Kenney and Scott (2003), (researchers with a visual communication approach background) in their review of the visual rhetoric literature, call critics to learn how people identified with an image “at the time” by conducting ethnographies of symbolic action like Geertz or Baxandall. Otherwise, they write, rhetorical critics are accused of articulating conscious and unconscious intentions and interpretations of an audience based only on personal inferences and insights.

Obviously, rhetoric is constrained in regard to generalizability on the level of each individual study but the opportunity rhetoric affords is based on the generalizability of the theoretical ideas that it promotes and that are not constrained.

Other scholars of visual rhetoric have identified this same issue pedagogically stating that there is a problem in the assessment of visual rhetoric assignments and that “instructors seem to abandon a criterion motivated assessment in favor of a more holistic procedure that relies upon implicit standards of rhetorical affect or creative or aesthetic qualities” (Ferstle, 2007, p. vii). In other words, it is difficult to assess a visual rhetoric assignment when the evaluative criteria available in the literature are ambiguous and personal. However, I am not so sure that this problem is the result of the rhetorical approach or the result of instructors who do not make an effort to base their evaluative criteria on the most appropriate questions of rhetorical effect.

Scholars from the visual studies and visual communication approaches also believe that visual rhetoric critics should try to support their analyses by using findings from other areas of research such as cognitive studies or neuroscience. The implication here is that the field of rhetoric sometimes becomes too specialized and loses its generalizable significance. Buchanan (2001), a design professor with a scholarly background in rhetoric, urges that, “it is only proper that whatever our concern about the problems of writing and speaking well, rhetoricians should also direct their attention to innovations in other fields and disciplines, particularly sensitive to the movement of their own doctrines and devices and the consequent innovations that have occurred as a result” (p. 184). For example, Van Eck (2007) describes a rhetorical strategy used by early modern artists to portray a character that looks out of a

painting and displays emotions that the artist is trying to elicit from his or her audience. Coincidentally Messaris (2009) points out there is a neurobiological basis for the emotional “mirroring” that does occur from this strategy and the artists were using a “rhetorical strategy whose efficacy is, in a sense, ‘guaranteed’” (p. 217). The claim, as explained by McKeon (1987), is that by supporting rhetorical analyses with evidence from other areas of research, visual rhetoric critics could possibly make firmer conclusions and “discover intelligible patterns” (Buchanan, 2001). Although an investigation for supporting findings from other research disciplines may very well be helpful, it should also be noted that, if rhetorical critics arrive at interesting and helpful findings through rigorous interrogation of a visual artifact without any kind of supportive data from an outside discipline, this should not indicate that the rhetorical analysis cannot offer something beautiful and relevant of its own merit. Often it may be the case that the rhetorical analysis may motivate a study with a researcher from another approach entirely.^{xiii}

Furthermore, and perhaps the strongest argument for a rhetorical approach, is that the concepts and criteria used in oral and written rhetoric are based on approaches that were, in fact, grounded in “making,” that is, in observing and theorizing effective practice and in instructing students to produce rhetorical artifacts; these concepts and criteria have been tested for effectiveness over centuries of practice and instruction.

Visual Studies

Key concepts and theoretical assumptions.

Interdisciplinary visual scholarship, often referred to as “visual studies” or “visual culture,” examines society’s access to images and their entanglements in systems of meaning and power. Visual studies scholars ask questions such as “How do images work to support political regimes, religious systems, or institutions? How do they assist in the consumption of goods? To what extent do they condition our understanding of people, races and ethnicities, gender and sexual orientation, abilities and disabilities” (California College of the Arts)? Depending on the context, the terms “visual studies” and “visual culture” are either carefully distinguished or indifferently conflated. For instance, Dikovitskaya (2006) defines visual studies as:

Visual culture, also known as visual studies, is a new field for the study of the cultural construction of the visual in arts, media, and everyday life. It is a research area and a curricular initiative that regards the visual image as the focal point in the processes through which meaning is made in a cultural context (p. 1).

Elkins (2003) on the other hand, explains that the terms “cultural studies,” “visual culture,” and “visual studies” have vague but significant differences. Although arguments are made that the history of visual studies dates back hundreds of years, most assign the term “visual culture” to art historian Michael Baxandall—considered one of the founders of “visual studies,” a field of study that appeared 20 years after the publication of his 1972 book *Painting and Experience in Fifteenth Century Italy*. Baxandall’s take on visual research has

been characterized as a fundamentally postmodernist point of view, a perspective taken up by many visual studies researchers.

The earliest encounters with cultural studies are most often attributed to literary critics Raymond Williams and Richard Hoggart who changed their social criticism within a literary perspective to social criticism of everyday life (Johnson, 1986). Today, cultural studies is generally defined as “the search to understand the relationships of cultural production, consumption, belief and meaning, to social processes and institutions” (Lister & Wells, 2001, p. 61). Although there have been some distinctions made between British and American cultural studies movements, there is conventional agreement that both branches are “committed to the study of the entire range of a society’s art, beliefs, institutions, and communicative practices” (Nelson, Treichler & Grossberg, 1992, p. 4). Along with Williams and Hoggart, Stuart Hall is also considered one of the founding figures of British cultural studies. One of Hall’s (1997) main concerns is with the concept of representation. He makes the argument that because culture is about “shared meanings” and because meanings can only be shared through our common access to language, that language, as a representational system, constructs meanings. Studies of visual culture hold many of the same principles except that studies of visual culture argue for the centrality of vision (as opposed to only language in the written and spoken sense) in everyday experience. However, “Visual cultural studies” is not considered a sub-division of cultural studies but a new method of analysis for the visual field of concern. “Visual culture” is preeminently an American movement (cultural studies began in England around the 1950s) and is younger than cultural studies by several decades. With the late 20th century’s explosion of imaging and visualizing technologies

(digitization, satellite imaging, new forms of medical imaging, virtual reality, etc), it is suggested that “everyday life has become ‘visual culture’” (Lister & Wells, 2001, p. 61).

Visual culture also refers to the values and identities that are visually communicated and constructed by a particular culture and “to the enormous variety of visible two-and-three-dimensional things that human beings produce and consume as part of their cultural and social lives (Barnard, 2001, p. 2). For instance, the photograph, advertisement, and television programming are the first things that come to mind for most people when they think of visual data but this information can also include objects and buildings, not just images.

“Visual studies,” the youngest of the three terms, was used by W. J. T. Mitchell in 1995 to describe the confluence of art history, cultural studies, and literary theory, all of which influenced Mitchell’s concept of the “pictorial turn.” Mitchell explains that the pictorial turn is a “mass perception”—“a collective anxiety about images and visual media...and a turn to images in intellectual disciplines in the human sciences as well as the natural sciences (medicine, biology, physics, natural history, etc.)” (Grønstad & Vågnes, 2006).

Visual studies is sometimes distinguished from visual culture by its openness unrestricted interest in vision; as Mitchell explains (actually criticizing the term), it could “have anything to do with vision,” whereas visual culture is culturally constructed. Visual culture, according to Mitchell (2002), commits to the belief that vision is a “cultural construction, that it has been learned and cultivated” (p. 87). Visual studies has no such hypothesis. In this dissertation, the terms “visual culture” and “visual studies” are conflated

and could include other related fields as well. For consistency's sake, when referring to these various but related fields, I use the term "visual studies" in this dissertation.

Methods.

Because visual studies researchers investigate questions of power and consumption, much of their research examines the concept of visual pleasure. Visual pleasure has been discussed in connection with power issues because scholars (especially film scholars) have argued that conventions of popular media are structured according to someone's viewing pleasure (most often male) where the camera (or tool that creates the image) disempowers those before its gaze (or the subject of the image). Researchers of visual pleasure discuss concepts such as scopophilia and the gaze to elucidate various types of visual pleasure such as voyeurism, fetishism, and narcissism. Subjects of visual pleasure, or the person or persons being viewed, essentially hand over control to the spectator whose work is "one of prolonged observation, performed at the margins of a particular activity or event" (Azoulay, 2005, p. 44).

Investigating the relationships of cultural production, consumption, belief, and meaning to social processes and institutions as they are exhibited visually also reveals issues of surveillance, privacy, and uses of space (Emmison & Smith, 2000, ix). In general, visual studies, as compared to cultural studies, owes less to Marxist theory and devotes more attention to Barthes, Baudrillard, Foucault, Lacan, and Benjamin. Therefore, visual studies is further from analyses that might lead to social action and are more connected to culturally oriented sociological analyses and in particular "what is seen."

The “age of reproduction” is also especially important for visual studies theorists because as the “image travels to the spectator” the meaning of images is permanently changed. Continuous reproduction results in images that are “ephemeral, ubiquitous, insubstantial, available, valueless, and free” (Berger, 1972). Most visual studies researchers mark this era, where the image changes status, at the invention of photography. Today, visual studies scholars have to consider another era where the spectators, and not just the experts, commonly produce images.

It is difficult to describe specifically the types of visual research methods used by researchers from a visual studies approach. According to the journal *Visual Studies*, visual studies promotes “acceptance and understanding of a wide range of methods, approaches, and paradigms that constitute image-based research.” It also states that visual studies is committed to promoting “an interest in developing visual research methodology in all its various forms” and encourages “research that employs a mixture of visual methods and analytical approaches within one study.” However, it is most likely safe to say that there is a critical interpretive element to any visual studies research project much like rhetorical criticism.

Disciplinary homes and linkages.

W. J. T. Mitchell consistently asks questions throughout his essays such as, “Is visual studies an emergent discipline, a passing moment of interdisciplinary turbulence, a research topic, a field or subfield of cultural studies, media studies, rhetoric and communication, art history, or aesthetics?” (2002, p. 86). He insists that visual studies is a perfect example of what Jacques Derrida called “the dangerous supplement.” Mitchell goes on to address these

questions but the point is that visual studies often struggles with these questions of identity. Historically, visual studies is considered an interdisciplinary project that began in the early 1990s by numerous scholars identifying with a wide range of disciplines. In fact, the definition of visual studies and its relationship to other visual disciplines, such as art history and aesthetics, sparked an ongoing debate among visual scholars about the legitimacy of academic disciplines. Multiple fields continue to influence visual studies including art and aesthetics, anthropology, sociology, photography, film studies, as well as science and technology. Often however, the role of the communication discipline is commonly referred to as central to visual studies.

Limitations.

One of the most thorough and comprehensive discussions about the issues and limitations of the current state of visual studies is Elkins' 2003 book, *Visual Studies: A Skeptical Introduction*. Here, Elkins claims overall that visual studies is "too easy" and that "The scattered subjects and untheorized choices of methods make it fairly simple to generate texts and unrewarding to compare one study to another." He proposes that visual studies needs to create texts of more lasting interest by balancing the innovative subject matter with strong theoretical and methodological innovation. He then lists ten criticisms and/or suggestions for the field such as defining what part of the visual world is appropriate for analysis, asking and answering larger questions and incorporating science into the discourse^{xiv}.

The three components of Elkins' arguments—that visual studies should be 1) "Denser with theories and strategies," 2) "Warier of existing visual theories and more attentive to

neighboring and distant disciplines” and 3) “less predictable in its politics”—are closely related and probably the most damning of his criticisms. However, many visual studies scholars could argue that the field *does* in fact draw from dense theories and strategies. For example, considered one major resource for the canon of visual studies theory is Mirzoeff’s *The Visual Culture Reader* (First and Second edition), 60 essays that include works by Althusser, Balsamo, Barthes, Baudrillard, Debord, Descartes, Dubois, Lacan, Manovich and many other recognizable postmodern writers. This thick collection of essays from well respected authors (although Mirzoeff says it is impossible to represent the “polymorphous field that visual culture is becoming”) seems to indicate that visual studies does at least have available its own set of dense theories to draw from, though the density of the theories could be debated.

Communication scholars have also begun to question some of the assumptions by visual studies scholars regarding power relationships. Finnegan (2006), a rhetorical critic from the discipline of communication, writes that there are three potential ways to frame “communication as vision”—surveillance, spectacle and analogy. In her essay she argues that framing vision as surveillance is problematic because the dialectic of power relationships (e.g. “the gaze” and someone being “watched”) impedes researchers’ abilities to imagine relationships in different ways and “blinds us to other interpretations” (p. 62). Her problem with the notion of the spectacle (Debord’s term for a “social relationship between people that is mediated by images”) is that audiences are passive viewers that absorb but do not engage. The spectacle turns attention away from materiality. Both visual studies concepts, surveillance and the “spectacle,” fall into the trap of “iconophobia” where vision is a

dangerous one-way street. Instead, Finnegan argues that visual researchers should frame communication as vision through analogy, “a perceptual process tied directly to how humans come to know and learn. It recognizes difference and attempts creatively to negotiate it by juxtaposing it with points of connection and similarity” (p. 63).

Finnegan’s point that visual studies has traditionally been framed by surveillance and spectacle can easily be seen in Mirzoeff’s *Reader*. Of the four sections of the collection of essays, two of those sections are titled, “spectacle and display” and “the gaze, the body and sexuality.” Visual studies takes these visual power concepts at face value and conducts its analyses accordingly. An alternative to this could be a notion of visual wellbeing as described by Gallagher, Martin & Ma (2011). A “state of feeling healthy, happy and content, of sensing vitality and prosperity, recognized precisely in one’s experience of objects through the visual sense” (p. 30). This is different from, and therefore able to account for the limitations of *looking* associated with visual pleasure, which has been theorized primarily using such concepts as scopophilia and *the gaze* to describe the kinds of pleasures related to voyeurism, fetishism, and narcissism. People may experience a type of looking that is different from these concepts. They may experience visual pleasure that “sustains them, that involves inter-subjectivity and conscious experience” (p. 30). Thus, there is a need to examine how visuals might work beyond these theoretical concepts that are central to visual studies.

This commitment to a set of postmodern theorists inevitably results in visual studies politics’ appearing predictable. However, the problem may not be that visual studies needs to move beyond its Marxist perspective but that it stops at a predictable conclusion without

asking as Elkins puts it “what distance from capitalist practices is optimal” (p. 71). In other words, visual studies’ politics are predictable because, like their contributions to theory, their analyses do not go far enough. Elkins cites Rosalind Krauss to support his argument that although visual studies often sees itself as revolutionary instead it “serves as ever more technologized structure of knowledge and helps to acclimate subjects of that knowledge to increasingly alienated conditions of experience” (p. 71). When Elkins asks that visual studies be “less routine in its choice of objects” he explains that though visual studies “calls for an expanded visual field” (p. 86), current research does not reveal a field interested in non-art artifacts. He then argues that visual studies should expand to include visuals in the sciences and visuals of the everyday. This is one area where it seems visual rhetoric studies are doing a good job of expanding their purview—perhaps this is because (as Dickinson [2002] writes) of rhetoric’s attention to the pragmatic. Elkins criticism of the “lack of visibility” specifically in regards to visual studies may be true. In order to refute many of Elkins arguments about visual research in general, a researcher must consult studies being done outside of visual studies.^{xv} As Elkins suggests, visual studies has great potential, but that is due to its openness to interdisciplinarity. As Finnegan (2004) points out, one of the strongest aspects of visual cultural studies is its focus on culture. “It recognizes the ways that visibility frames our experience of the world, acknowledging, in Mitchell’s words, ‘that vision is a mode of cultural expression and human communication as fundamental and widespread as language’”^{xvi} (Finnegan, 2004, p. 244).

Visual Communication

Key concepts and theoretical assumptions.

Reviewing the literature, it becomes apparent that visual studies strongly influences and overlaps with visual communication research. Still, visual studies research is not identical with visual communication. As alluded to by Elkins, visual studies perspectives are sometimes criticized from positivist or quantitative perspectives. Critics of this nature argue that the material chosen for visual studies analyses appears to be chosen to suit the analysis instead of illustrating a representative sample (Banks, 2008). Visual communication scholars on the other hand, conduct studies informed by a social science tradition. The phrase “visual communication,” when it is talked about as an approach, most often refers to the empirical and sometimes generative study of photography, television, film, advertising drawing, illustration, etc. The purpose of these studies is to help provide understanding of the creation, presentation, preservation and support of media works as well as the effects and reception of audiences. Based on her understanding of visual communication as a problem-oriented approach, Müller (2007) offers this definition:

Visual communication can be described as an expanding subfield of communication science that uses social scientific methods to explain the production, distribution and reception processes, but also the meanings of mass-mediated visuals in contemporary social, cultural, economic, and political contexts. Following an empirical, social scientific tradition that is based on a multidisciplinary background, visual communication research is problem-oriented, critical in its method, and pedagogical

intentions, and aimed at understanding and explaining current visual phenomena and their implications for the immediate future (p. 24).

Methods.

Because of the social science influence, research methods in visual communication are more empirical in design than in visual rhetoric or visual studies^{xvii}. They use both qualitative and quantitative methods to “explore the actual structuring, functioning and effects of visual phenomena in complex social, economic, political and cultural contexts” (Müller, 2007, p. 19). The variety of contributing disciplines (discussed following this section) also results in the use of a variety of empirical methods—interviews, experiments, surveys, content analysis, diaries, visual ethnography, focus groups, visual-spatial intelligence tests, case studies, etc.

Disciplinary homes and linkages.

Disciplines identified as having influenced visual communication include history, sociology, psychology, education and communication. More specifically, visual communication is strongly influenced by fields such as visual anthropology (examines use of visuals in cultural contexts through visual documentation most often photography and film) and visual sociology (interested in broader processes and structures of visuals). Both of these fields are recognized subfields of their “mother” disciplines and have their own organizations: the Society for Visual Anthropology and the International Visual Sociology Association.

There are a variety of other fields and disciplines that make contributions within visual communication whether it be in regard to the “structure, functioning or effects.” Müller (2007) mentions British art history (less concerned with impact and meanings and more on aesthetics), information visualization, visual literacy (follows a pedagogical mission with variations such as visual perception, visual literacy and intelligence, and visualized knowledge and information), and cognitive and media psychological approaches (that focus on the effects of visuals on the audience).

Limitations.

Amid all the visual communication research methods, visual scholars ask what is the specific methodological contribution of visual communication? One of the most common methods used by visual communication researchers is content analysis. Most often revered as a sophisticated method within communication science, content analysis is trickier with images because of the difficulty of standardization. Visuals are not as easy to read because we do not have a dictionary or a grammar of visuals. Visual communication scholars sometimes use variations of traditional content analysis and employ interpretive and reception-based content analysis. According to Ahuvia (2001), reception-based content analysis allows researchers “to quantify how different audiences will understand text” and in interpretive content analysis researchers go beyond quantifying the most straightforward denotative elements in a text.” With these two methods, the belief exists that readers’ understanding of the artifact should be used as the basis for coding. The potential disadvantages to using content analysis with images (or using content analysis for any medium) are that the researcher may associate frequency of content with significance of

content and also may use content categories without relating them to a theoretical perspective (Kenney, 2009).

Another way to approach the argument that content analysis is trickier with visuals is to discredit the assumption that there is not a grammar of visuals. Social semiotics theorists Kress and van Leeuwen and cognitive psychologist Donald Norman make it a point to focus on the visual because they approach analyzing the visual with certain assumptions. Instead of presuming that there is no grammar of visuals, Kress and van Leeuwen (1996) argue that “like linguistic structures, visual structures point to particular interpretations of experience and forms of social interaction” and they then propose a theory of Western visual grammar. They argue that “the ‘universal’ aspect of meaning lies in semiotic principles and processes” and “the culture-specific aspect lies in their application over history, and in specific instances of use” (p. 4). Even with the overwhelming shifts in technology and globalization, the idea is to search out a framework in which to invent and organize visual content. Although postmodernists react negatively toward the idea of a universal way of describing visual forms and their universal significance, there may be some very fundamental strategies for reading images as is also suggested by the concept of “visual literacy” where audiences are able to “read” the meaning of an image. Norman, in his books *Design of Everyday Things* and *Emotional Design: Why We Love (or Hate) Everyday Things* also nods to the idea that there is something unique about the visual that may not be able to be put into words. People viscerally respond to design and there is really no such thing as purely objective design. Form may be influenced by such quantifiable sciences as ergonomics or economics, but in

the final analysis design choices are made to satisfy conscious and subconscious desires (Heller, 2004).

Müller (2007) also lists a variety of challenges for visual communication; the most relevant to this dissertation are listed here:

- Educational Institutionalization—In order to promote scholarship in visual communication, a coherent curriculum of visual communication studies needs to be designed.
- Maintaining Critical Potential—In visual communication there is the potential for critique and this should be kept a chief objective in both research and teaching.
- Mastering Transdisciplinarity—The common goal of all disciplinary approaches should be to integrate research on the full visual communication process, from production, to distribution, to meaning-attribution and reception processes of visuals.

Although Müller (2007) lists these as challenges specifically for visual communication, they are also present challenges for visual rhetoric and visual studies. Therefore, although criticism exists in regard to the non-empirical nature of visual rhetoric and visual studies, the three approaches are not necessarily incompatible. As Banks (2008) suggests, a visual communication study could consist of a sample of visual phenomena made in a formalist or rule-governed way and then be subjected to a more interpretive analysis. This is comparable to the research design of the illustrative study in chapter six.

Similar to how Kenney and Scott (2003) ask visual rhetoric scholars to apply methods of social science to their analyses, scholars committed to a visual rhetoric approach find limitations with the amount of attention the social sciences and visual communication scholars devote to issues of rhetoric. As Simon (1990) points out,

Broadly speaking, virtually all scholarly discourse is rhetorical in the sense that issues need to be named and framed, facts interpreted and conclusions justified; furthermore, in adapting arguments to ends, audience, and circumstances, the writer (or speaker) must adopt a persona, choose a style, and make judicious use of what Kenneth Burke has called the “resources of ambiguity” in language (p. 9).

This statement applies to visual communication scholarship because just as a writer or speaker must “adopt a persona” and “choose a style,”^{xviii} so does the creator of a visual image. Artists, photojournalists, designers, etc., are often identified by their “style” and this is created by certain choices the visual author has enacted. Therefore, when conducting a visual communication study, rhetorical issues of framing and context would likely be valuable considerations.

In addition to these observations, scholars of the visual rhetoric and visual studies approaches will sometimes criticize visual communication studies for not arriving at philosophical, inventive, or artistic insight. They argue that the studies appear limited in that they simply present findings applicable to a specific group at a given time and even the more generalizable findings remain narrow in scope (Hill, 2004; Scott, 1994). However, almost all visual communication scholars approach their research postpositively recognizing that discretionary judgment is unavoidable in their research and that “proving causality with

certainty in explaining social phenomena is problematic, that knowledge is inherently embedded in historically specific paradigms and is therefore relative rather than absolute” (Patton, p. 92). Therefore, most of them believe that multiple methods, both quantitative and qualitative are needed to generate and test theory. Especially when using qualitative research methods, many, if not all, visual communication researchers embrace the interpretive skills needed to analyze the behaviors and beliefs of participants and situations. Most visual communication researchers would argue that although their studies may be specific to a certain context that if there is a sufficient amount of “thick” description in a study two potentially similar contexts can be adequately assessed and transferability may be achieved.

Design-Making

In this dissertation, the term “design” sometimes refers to the discipline of design but when it is in conjunction with the term “making” it refers to the fourth approach—“*design-making*.” Design scholars are sometimes hesitant to label the design process or their inventive form as “research” because they view the inventive design process as subjective in the sense that rule-based statements do impart restrictions. As Davis (2008) points out, ironically “the greatest skepticism about expanding design research programs seems to reside within the discipline itself, where there is ongoing debate about what constitutes design knowledge” (Introduction section, para 1). Although the design process considers numerous factors that all represent the workings of reason, that reason is “not limited to (and cannot be limited by) pure propositional definitions” (Groat & Wang, p. 105). Many scholars refer to the “black box” approach to understanding design as opposed to the “glass box” where decisions can be explained by rule-based propositions (Jones, 1992; Groat & Wang, 2002).

The schema presented in this research dissertation does not dispute the idea that “generative figural production is a different mode of inquiry from analytical research” (Groat and Wang, p. 188). It does argue, however, that despite their differences, the two approaches (making and analysis) should be considered and understood by researchers who study the visual in order for these researchers to comprehensively grasp the range of visual knowledge available to them. Furthermore, most scholars agree that there is not one overall research strategy under which “design” can be contained; therefore, in the visual schema proposed, the discipline of design is illustrated as connected to all areas.

The design process is important to incorporate into the visual research methods schema in addition to these analytical approaches because, as it has been forming in the 20th and 21st centuries, design offers a “pathway for bringing theory—ideas about the nature of the world and how we should live our lives—into closer relationship with practical action and the creation of diverse kinds of products and experiences” (Buchanan, 2001, p. 186). Furthermore, design theorists agree that more than any other field, communication is most central to design and animates almost all discussions of design theory and practice (Buchanan, 1989). Although the proposed visual schema makes a distinction between the “design-making approach” and the discipline of design (which can learn from a variety of methods throughout the design process), the following section refers to “design” the discipline in the broadest sense because the key concepts and theoretical assumptions of design the discipline and design-making the approach can be similar in regards to what they offer the other three analytical approaches.

Key concepts and theoretical assumptions.

Buchanan (2001) makes the case that design research can be traced back to the early 17th century with the work of Galileo Galilei and his investigation into the science of mechanics. Francis Bacon is also given credit for contributing to the origin of design research with his project the Great Instauration that looked into the human ability to command nature into action, mold nature into art, and create artificial things. Like rhetoric, design is both an art and a practice and invention is central to both. In addition to this, design is more than a superficial manifestation of social and economic forces because it investigates principles of production or “making” that require investigation but are often passed over as topics for research in universities. Buchanan (2001) offers his definition of design based on the balance of the many relationships that contribute to design: “Design is the human power of conceiving, planning, and making products that serve human beings in the accomplishment of their individual and collective purposes” (p. 9). There are various disciplines within the study (e.g. fashion, industrial design, graphic design, etc.) of design and each with its own “established tradition of archiving, documenting, critically writing, and publishing history, as well as engaging with social, cultural, and political contexts” (Triggs, 2011, p.3). Sanders (2008) points out that while design research is currently a “jumble of approaches,” they “nonetheless share a common goal: to drive, inspire, and inform the design development process” (para 1). After being asked to write a paper on the state of design research, Sanders developed a map that defines and describes design research according to two intersecting dimensions—a “research-led perspective” and a “design-led perspective.” As Sanders (2008) explains, a “research-led perspective” is historically connected to applied psychologists,

anthropologists, sociologists, and engineers. The “design-led” perspective is a much more recent dimension and focuses on design theory. Categorizing design research further, Sanders also divides these two perspectives according to a “culture categorized by an expert mind-set” and a culture characterized by a participatory mind-set. Within these four cross-sections, Sanders places five pockets of design research: user-centered design, generative design, participatory design, design and emotion, and critical design (see Figure 2.3).^{xix}

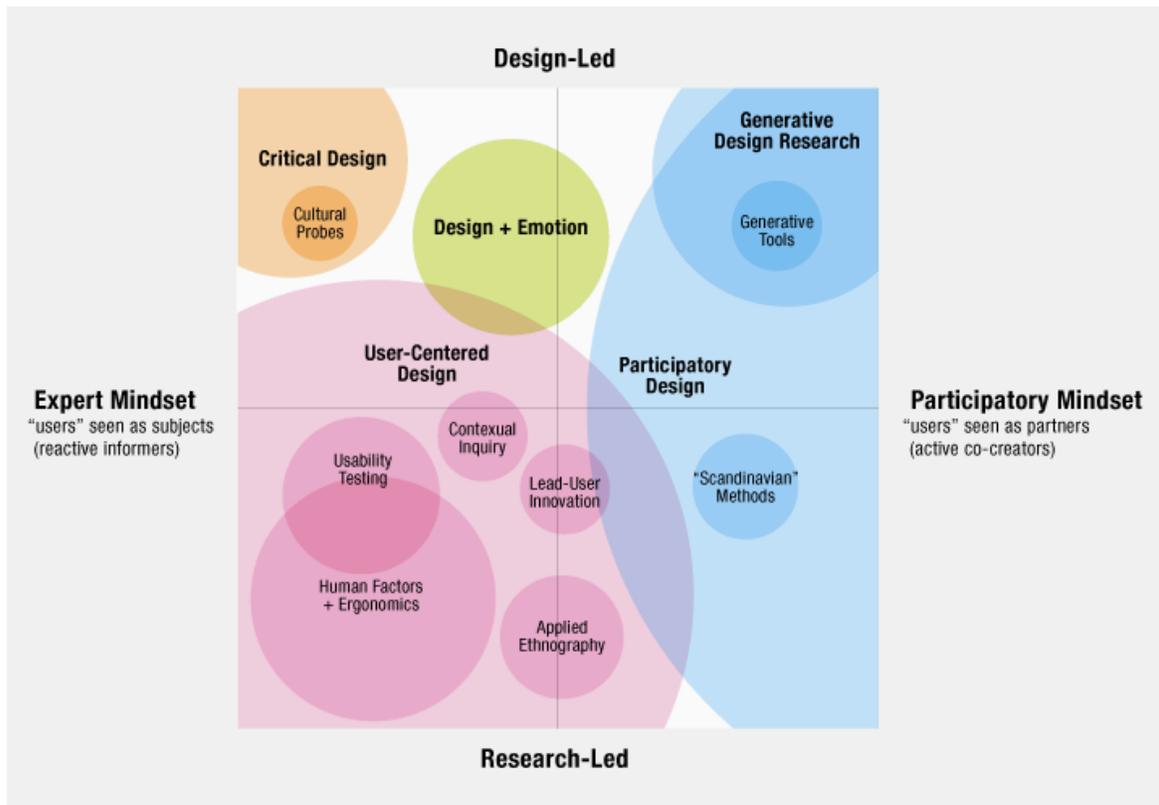


Figure 2.3. *Liz Sanders' map of design research and research types. Image taken from www.dubberlydesign.com.*

Following her mapping of design, Sanders notes that it is “clear that the current growth in design research is on the design-led (versus the research-led) side of things.”

Designers have also recognized that people need the freedom to make or give shape to the world around them according to their own tastes. Sanders (2006) notes that in the past (and perhaps still currently) design has been “far better at serving consumption than we are at serving creativity” (p. 68). Illich (1975) argues that designers should design “convivial tools” that allow people to invest themselves in a task for a sense of accomplishment and to enrich their environment. Because designers are beginning to realize the desire to create in all humans (not only professional designers or artists), Sanders predicts designers will create far fewer industrial tools denying individual meaning but will instead create “scaffolds upon which everyday people can express their creativity” (2006, p. 75).

Methods.

More and more designers have realized that the adoption of a rigorous methodology to address at least part of the design process can help the designer to focus a project and define an exact problem or series of problems that need to be addressed. Design as a discipline is interesting because the range of design challenges is so variable that it may possibly use one (or more) of any of the four visual research approaches. Thus the process of design research may use visual rhetoric, visual studies, visual communication or a design *making* approach. Partly due to this range of approaches, designers may also use a variety of strategies including interpretive-historical, qualitative, correlational, experimental, simulation, logical, and argumentative. An important strain of design research, in regards to this dissertation, is the research on making as a practice.^{xx} There are a number of different contexts where making is used as a technique for gathering research data, but the idea is that objects or artifacts (e.g. websites, cell phones, toys, etc.) are placed in environments with

people to stimulate reaction and gather data about interactions. Sometimes this technique is referred to as prototyping. According to Kurvinen, Koskinen, and Battarbee (2008) a “prototype is not only a representation of a product or technology—such as a paper prototype, a software prototype, or a physical mock-up—but that it consists of both the representation and the social interaction the participants create together.” In that prototyping involves representing complex relationships and ideas, it also relates to the idea of concept mapping referenced earlier in this chapter and that will be discussed again in chapter six. The concept map’s technique of “situating a large and diverse amount of extant theoretical literature into a single conceptual system” is actually a strategy that could be referred to as a visual form of “logical argumentation.”^{xxi} Action and participatory research also relate to “making” as a research practice where an exercise may have to be reiterated many times in order to be efficacious. Action research is similar to “participant observation” in anthropology research, however, in action research the researcher is supposed to act as a change agent and influence the situation (Wisner, Stea, & Kruks, 1991). Some specific *making* techniques could involve having participants model ideas or “draw-and-tell” responses and then the researcher would also interpret and create a visual response to the design challenge. Of course designers also use simulation and modeling themselves as a research strategy (another variant of a design-making approach) but the goal of simulation research is to “capture the complexity of real-world behaviors in ways that do not require reduction to a limited number of discrete variables” and may “reveal unexpected results that can inform” future research (Groat & Wang, 2002, p. 296). In other words, the goal is to understand the future behavior of a context and not to find a solution for social problems (as

is the case with action research).^{xxii} In all these *making* research strategies and techniques, the common thread is that the researcher participates in *creating* a visual artifact in order to address a research question.

Disciplinary homes and linkages.

Design researchers often identify with the same disciplines of the visual studies approach because the examination of meaning and power is also relevant to design. Another explanation for this connection is that more recently researchers from both design and visual studies are investigating ways to intersect with cognitive studies, neuroscience, especially in regard to how both of these disciplines research the topic of emotion. Similarly, because visual communication researchers are also interested in producing visual artifacts as well as analyzing them, many of the same disciplines that adhere to a visual communication approach also incorporate elements of design into their programs. “Design studies” also focus on subjects such as the history of Design, Design Thinking, History of Aesthetics and Material Culture. Perhaps one of the most recent trends in design education in universities is the establishment of design criticism programs. Design criticism, like popular/cultural and rhetorical criticism, researches, analyzes and evaluates design in regard to its social, political and environmental implications (School of the Visual Arts in New York, 2010). Design critics feel that they can offer more than a theoretical discussion but may also be able to provide ways to develop solutions to the criticisms they’ve voiced.

Limitations.

Much design research today attempts to understand the designer's intention in relationship to the interpretation or reception of the audience or user. Prior to this, design research often focused on design objects for specific uses and while much less attention was paid to individual interpretation or the cognitive processes of an audience's reaction after a design object was launched or presented. In graphic design specifically, the designer's role was defined in terms of facilitating the communication of other people's messages to a specific audience (Noble & Bestley, 2005). According to Kazmierczak (2003), historically, designers did not have adequate tools to bridge the gap between audience interpretation and design decisions. He claimed that the "reliance on aesthetics and style is symptomatic of this gap." However, during the late 1990s, design (and more specifically graphic design) updated and published the "First Things First" manifesto, originally written in 1963 and published in 1964, but again relevant in the height of design's interest in a more social agenda. The manifesto urged designers to enter a discussion about the function and purpose of design and asked them to operate more "effectively with a more methodological approach" (Noble & Bestley, p. 46). By the late 1990s there were still only a handful of doctoral programs in design (including North Carolina State University), but these programs began creating a culture and tradition of research borrowing from fields such as computer science, linguistics and psychology (Gallagher, Carter & Miller, 2003). Design researchers have tried to incorporate more systematic research methods and have begun shifting attention toward the semiotic functions of cognitive interfaces. Consequently, semiotics and cognitive studies have both become prominent areas of study for designers.^{xxiii} Nevertheless, many systematic

research methods have sparked interest in designers and some have worked at creating their own structured methodologies. For instance, Matt Cooke, instead of creating a variety of visual solutions for a client, created a four-step working methodology based on the design process that also involved the act of creating and testing public information products. Cooke's goal was to prove that designers could use a structured methodology and still retain creative ingenuity (Noble & Bestley, 2005).

Although design is currently very interested in using various approaches to visual research, designers often distinguish their knowledge and research from that of scientists and social scientists by pointing out their lack of attention to testable theories. While designers do have theories, they do not have to test these theories empirically in order for them to be considered well-established characteristics of visual grammar or common practices for the field. Most often, design theories are only 'testable' in relation to practice, to professional recognition, to meeting business or organizational objectives and prolonged existence (Moore, 1997). However, there is even debate as to whether or not the design process can ever truly be completely explained by empirical evidence. As Hillier and Hanson (1984) articulate, "A complete account of the designer's operations during design would still not tell us where the solution came from." (p. 253). This does not mean however, that there are not attempts to make the design process transparent. Dubberly found over 150 models on the process of design, many of which he presented in an article *How do you design?* Many designers are skeptical that any theories will be able to fully or wholly define the design process and don't see that as a priority anyway. This kind of argument, regarding the need for empirical evidence, is very similar to the arguments posed by rhetorical critics (see

“Limitations” in “Visual Rhetoric” section in this chapter). Often, designers see their work as subsumed within the category of art production and like art production it cannot and probably should not be overly concerned with determinate descriptions. Though designers, especially during their training, do make attempts to map their creative decisions it is debatable whether or not they can ever accurately or completely describe this process.

Concluding Thoughts on the Four Approaches

As discussed here, via contributions and limitations of the four primary approaches to visual research methods, visual research has grown from and continues to disperse throughout many fields and disciplines. Critics also insist that with the increase in visual phenomena more studies are conducted without visual rigor and without contributing to any theoretical background (Elkins, 2003; Finnegan, 2004; Müller, 2007). Other critics, although coming from a completely different perspective, argue that studying images, especially artistic images makes them objects of science and that is *not* how the work was meant to be treated. Or, by treating the works as objects of science, the researcher may completely miss the deeper meaning or appropriate wonder or pleasure. Michael Ann Holly (2008) alludes to Heidegger in his own evaluation of research methods in an interview: “the manipulations and maneuvers of any research paradigm can contribute to the process of stripping the work of its awe, the awe that makes art still matter (Smith, 2008, p. 180). I see an opportunity to investigate these criticisms through an illustration of each of the four primary approaches with the expectation that each approach has something unique to offer and so may advance current visual theory through cross-divisional structures.

CHAPTER THREE

A Visual Rhetoric Approach to Understanding Transformation of Material Rhetoric(s)

As indicated in chapter one, this is the first of the short research studies that uses a visual research method. This particular chapter uses a visual rhetoric approach to analyze the changing function of static public monuments. The intention here, by using a visual rhetoric approach, is to demonstrate what a visual rhetoric approach has to offer researchers in relation to some of the other approaches (as is illustrated in later chapters) and to illustrate some of its limitations or specific instances where another approach might offer additional valuable insights. (These strengths and limitations are reviewed in graphical format in the final chapter). The format of this research study proceeds as it would in an academic journal featuring rhetorical analyses.

“We need to have a sense of history, but we also need to know who we are today...”

(Daniel Barenboim, 1991)

Beginning in the last quarter of the 20th century, research has been dedicated to the rhetorical messages and functions of memorials and monuments. In part, this is due to the conviction that they play an important role in creating and maintaining a collective identity.^{xxiv} This collective identity is constructed because the memorial is “a site of symbolic action, a place of cultural performance, the meaning of which is defined by its public and persuasive functions” (Browne, 1995, p. 237). Often, we consider memorials and commemorative texts (as well as flags, national anthems, currencies, capital structures,

cultural icons, and public holidays) as national symbols (e.g. the Lincoln Memorial). These national symbols preserve the dominant definition promoted by the nation at the time of inception as well as “the fossilized debates and controversies that have crystallized around these symbols over decades or, in some cases, centuries” (Geisler, 2005). Some scholars go as far as to argue that these national symbols are “the emotional glue that binds the nation together, and without them the nation arguably cannot survive” (Mayer, 2005, p. 5).

Commemorative texts, whether national memorials or not, can vary from more traditional physical forms such as museums, monuments, and statues, to less traditional aural and web memorials (Hess, 2007; Cohen & Willis, 2004).

Critics conceptualize rhetoric, especially the rhetoric of monuments and memorials, as both symbolic and material. Depending on what they hope to achieve, critics will develop critical frameworks through which commemorative practices are examined, illuminated, interpreted, etc. Blair (1999) looks specifically at the materiality of rhetoric, arguing that previous rhetoric has only been defined by its “symbolicity.” She provides evidence that rhetoric should not be treated as purely symbolic because it cannot account for the consequence of its materiality. Kenney & Scott (2003) write that documenting the functions of visual images is the most important endeavor for visual rhetorical studies because “we must learn how people at the time identified with the image/item and how they were persuaded” (p.49).

According to Poole (2005), literature dedicated to the rhetoric of the memorial includes studies of complex sites that do at least one of the following: memorialize conflict-ridden social movements and wars, spark competition between various groups during the design

process (i.e. official and vernacular voices), reflect conservative reactions to the loss of national identity and/or visually enact contested national narratives of historical symbols (e.g. the Confederate flag).

However, not much attention has been devoted to the rhetoric of sites whose interpretive context and audience have changed over time—initially representing a cultural icon or iconic moment and then years after installation representing a local, national, or cultural point of contention. So what happens when a monument engenders highly averse emotional reactions, not because the site or its material symbolic elements have changed but because the cultural discourse has changed?

In order to answer these questions, I rhetorically analyze the significant cases of the Richard Wagner statue in Edgewater Park, an Ohio state park on the coast of Lake Erie, and the statue of Vladimir Lenin in Seattle’s Fremont district. These statues were both dedicated in a context without much controversy but currently act as unpleasant reminders of various oppressive ideologies or histories. Ultimately, through this analysis I will demonstrate how the rhetorical function of a material commemorative work may shift over time and how the ancient rhetorical concept of the “enthymeme” may be used to analyze “the substance of rhetorical persuasion” in visual and material public artifacts (Smith, 2007). For even when the artifact is a fixed representational material piece, changes in social and personal context reveal a text that is interpretably open.

One aim with this visual rhetoric analysis of these two monuments is to first explore the literature on memorials and materiality and then investigate the literature on kairos and enthymeme as possible ways to understand the symbolic transformation of a material space

over time. By examining these case studies, I will illustrate how the available enthymemes for interpreting these monuments have changed and how, therefore, even the most material rhetoric also remains symbolic. Furthermore, within the context of this dissertation, my aim is to demonstrate the resources of rhetoric for analyzing visual communication.

Rhetoric of Commemorative Texts

Materiality is a crucial concept within critical analyses of monuments and memorials and its relationship to the symbolic nature of these sites is an important topic of discussion for visual rhetoric critics. Examinations of monuments and memorials^{xxv} remind us of the accomplishments of an individual, group, event, or ongoing struggle, while also acknowledging the losses (Gallagher, 1999). No matter the procedure or cultural practice, public collective memory is partially determined by looking at the memorial as “a site of symbolic action, a place of cultural performance, the meaning of which is defined by its public and persuasive functions” (Browne, 1995, p. 237). Browne’s description of memorials stresses that rhetorical interpretation depends on the individual’s point of view and that the sites are rhetorically powerful only through cultural knowledge. By referencing both the symbolic and performative aspects of the text, Browne still emphasizes the importance of the symbolic but also foregrounds what would become the basis of Blair’s argument for materiality as an essential component of commemorative sites and practices. Blair (1999) points out that rhetoric is not actually rhetoric “until it is uttered, written or otherwise manifested or given presence. Thus, we might hypothesize as a starting point for theorizing rhetoric that at least one of its basic characteristics (if not the most basic) is its materiality” (p. 18).

But why turn to rhetoric's materiality instead of its symbolicity? Blair (1999) contends that there are some things for which rhetoric's symbolicity simply cannot account. One of those things is its consequence. Some of Blair's most well known studies that conceptualize rhetoric as material examine public art and memorials. She and Michel (2000) state that although they "believe that studying symbolism alone and in the absence of materiality is inadequate to an understanding or critique of any rhetoric, it certainly is so in the case of public art" (p. 46). This is because memorial and public art draw our attention not only to what a text means but to "what it does" and we can not be fooled into thinking that what a text does is the same as what it is supposed to do (Blair, 1999, p. 23). Though all rhetoric is concerned with consequences, material rhetoric extends or continually reminds us of the consequences because it is less ephemeral composition. Material rhetoric is about how rhetoric acts on us, the resources that it puts in front of us and from which we engage in practices of identity and meaning construction that are embodied as much as they are intellectually, symbolically driven.

Merelman's (1995) approach to analyzing cultural projects, like Blair's, describes four forms or "apparent outcomes" or consequences the cultural projection^{xxvi} may take. However, as Gallagher (2006) points out, this focus on outcomes fails to examine both the substance and structural features of the image that audiences use to make meaning. It also fails to "understand the specific means through which cultural projects come to influence specific audiences as well as the culture at large" (p. 179). Furthermore, Merelman assesses the success of a cultural projection in relation to the dominant ideology, whereas a rhetorical

perspective would examine the “cultural projections of different groups that compete for cultural projection” (Gallagher, 2006).

Other studies analyzing displays of the visual discuss how icons^{xxvii} have the power to shape public understanding and action long after an event has passed or crisis has been resolved but do not sufficiently address the fact that even icons themselves are interpretably open and therefore open to change as the context shifts. Hariman and Lucaites (2002) point out that appropriations of images demonstrate “how public life is continually redefined in respect to an array of attitudes” but only briefly discuss how the image, whether appropriated or not, can function differently depending on context. Context is an important concept in the discussion of the symbolic and material nature of a monument or memorial because there are two kinds of context that should be considered. First, it is more rare that the physical environmental context where the monument is located will change, but, as the following cases will demonstrate, it is a possibility. Second, the cultural context brought to the site by the audience is a context that will continue to change even if the material nature of the site does not. Hariman and Lucaites (2002) conclude their analysis of the iconic photograph from Tiananmen Square by emphasizing the ideology it reinforces “depends on the context,” referring to the context of the image once it is appropriated by modernist simplification. As they point out, the image “could be taken, and has been taken, anywhere in the world” (p. 130). This analysis demonstrates how an image can be used, exploited and transformed depending on the context in which it is placed and the way in which it is framed, but it does not address the changing context brought to an artifact by individuals (via their personal experiences and cultural upbringing) or simply by the passing of time.

Commemorative sites are important to analyze because they point to the fact that visual artifacts are highly contextual and physically lasting or permanent. I refer to context in two ways—a cultural context, the larger historical and social context in which the monument exists and an interpretive context, the individual deductions made by each individual upon viewing the monument. Many scholars, according to Kenney & Scott (2003), erroneously believe that visual images have universal meaning, or at least a fixed set of meanings, and call for ethnographies of symbolic action. The arguments in this paper support the suggestions of Gallagher (2006) and Kenney & Scott (2003), that because visual artifacts are highly contextual, and therefore continually undergoing transformation, we must continue to evaluate the highly symbolic nature of even the most fixed material texts.

Kairos and Enthymeme: A Strategy to Analyzing Visual Persuasion

Here, I explore enthymeme as a useful strategy for analyzing monuments and memorials because of its intimate relationship to context. Although rhetorical scholars often define enthymeme in different ways, Conley (1984) identified six points of consensus among rhetorical scholars. The fifth point is especially relevant in terms of context because it states that “premises of an enthymeme are not simply statements of probable fact but reflect values and attitudes as well.” (p. 169). The values and attitudes of an audience toward a material site are very much determined by the material environment as well as their knowledge of and historical relationship to the site’s subject matter. As Bitzer (1959) points out, the attitudes and values of the audience is very important to the success of an enthymeme because it can only exist through “the joint efforts of speaker and audience, and this is its essential character (p. 408). Many scholars, from Aristotle onward, have made the claim that the audience plays

a central role in any rhetorical interaction by inserting its own knowledge and experience (Finnegan, 2001). In other words, the audience deductively draws conclusions about an argument by “filling in the blanks.” Scenters-Zapico (1994) presents a social constructivist understanding of enthymeme by stating that it is “an understanding that metamorphoses and jumps among the live social and the technologically social world of print, radio, television, e-mail, fax, etc. in order to become meaningful to its seeker-recipient” or meaningful to an audience actively seeking information (p. 82). Another crucial component to this social enthymematic understanding^{xxviii} is the realm of “appearance, ambiguity, fluctuation, becoming and (most important) opinion” (Jasinski, 2001, p. 183)—the traditional rhetorical concept of doxa. An audience will deductively draw conclusions about an argument but much of their judgment might already be socially formed through common opinion. The particulars of the doxa would change, more than likely, according to which community an audience most closely identified. To summarize, enthymematic understanding is timely and socially constructed through physical interpersonal social interactions as well as mediated popular interactions and doxa.

Because of the importance of this timeliness, kairos also acts as an important aspect in the construction of enthymemes. Both dimensions of kairos—understanding an order that shapes social action as well as the “uniquely timely, the spontaneous, the radically particular” sense of the concept (Miller, 2002) may help explain the available enthymemes of a memorial. The commemorative texts are most often intended and performed as sites of decorum or sites that perform some sort of necessary and appropriate communication (according to the sponsors) that help shape social action. The artist’s (or artists’)

interpretations and the audience's personal and cultural experience bring a particular set of circumstances to the rhetorical situation. This contrast between public decorum and the "uniquely timely" are pertinent in the case of public monuments because their construction has seen a shift in these dimensions of kairos. For example, where once conventional public decorum dominated artists' considerations for a public monument in the United States—their creativity restricted within the traditional columns, statues and fountains—the uniquely timely Vietnam Veterans Memorial designed by Maya Ling Lin created and allowed for a new creative design style in the case of public monuments and memorials. Currently, the "uniquely particular" is not restricted to the audience's interpretive context but has been extended to the design and materiality of the monuments themselves.

Similar to Kenney and Scott's objection to those who believe that visual images have universal meaning or a fixed set of meanings, Scenters-Zapico (1994) points out that in the social construction of enthymemes we cannot believe the interpretations we articulate based on "what we have available to us" or the present understanding of the text is "always going to be convincing to others or to ourselves." He continues by stating simply, "our knowledge will evolve. In contemporary terms, it will become updated" (p. 83). Therefore, how a monument functions rhetorically depends on the audience and its own socially constructed interpretive and social context. The available enthymemes for a particular rhetorical circumstance depend on the situation's construction of kairos because the interpretive reading will include both the audience's knowledge of monument propriety as well as the current social context of the monument's subject matter (its fleeting moment). For instance, at the time the Vietnam Veteran's Memorial was erected in 1982, various visitors to the site

would be aware of the earlier decorum of public memorials and later would even have a visual reminder with The Three Soldiers bronze statue (completed a year later as a compromise for those in favor of a more traditional memorial design) only a few steps away from the wall. At the same time, visitors would also be aware, though through very different individual contexts, of the social context and general public opinion of the Vietnam War. This social context, as well as the knowledge of decorum, eventually evolves or becomes updated—the cultural knowledge required for reading and understanding the memorial changes and so do the available enthymemes. However, because of the memorial’s materiality, it also provides sense of stability acting as a centripetal force to the understanding or interpretation of the memorial. Although these understandings may evolve, they must also relate back to the physical/visual cues of the memorial. Because of the national memorial’s unique architectural style, the audience could understand the argument to be that this memorial is designed differently because this war was unlike anything the country had experienced before. Today, as more monuments and memorials have also strayed from the customary column, statue or fountain, the available enthymeme may not be the same as it was in 1982. Monuments and memorials in the United States are read with an updated social understanding and therefore the available enthymemes will have changed.

Wagner in Monument

Within the online community “Objectivist Living”, a discussion recently took place about the existence of the 18-foot high statue of Richard Wagner in Edgewater Park (see Figures 3.1 and 3.2 for photographs of Wagner statue).



Figure 3.1. *Photograph of Wagner statue with view of Edgewater Park and City of Cleveland. Perspective is from behind the statue. Photograph by Douglas Norris.*



Figure 3.2. *View of Wagner statue's face and upper torso. Photograph by Douglas Norris.*

One entry on the blog successfully iterates the most common reaction for passersby when first encountering the monument, “It’s *tres* weird because you see all these people in swimsuits, grilling, lounging, and there’s Wagner.” The statue, which only says “Wagner” at the base and includes no further explanation, is surprising not only because of the contrast between its formal stance complete with 19th century attire and the surrounding leisurely activities, but because of Wagner’s well-known ties to anti-Semitism. As one of Northeast Ohio’s most heavily used recreational facilities and the host to festivals such as the Native American Powwow, Kite Festival and numerous charity run/walk-a-thons, Edgewater Park seems an unexpected location for a potentially controversial monument. Although Wagner was an outspoken anti-Semite, the Jewish community (and others) developed a strong revulsion to the composer until the Nazis appropriated his music and persona^{xxix} (Bruen, 1993). Having been dedicated to the city in 1911 by the Goethe-Schiller Society, the Wagner statue at that time did not have the same cultural connotations as it does today. Evidently, for the Goethe-Schiller Society to have chosen Wagner as a subject for emulation, the rhetorical function of the statue must have undergone some kind of transformation. After explaining the history of the statue’s erection, the change in Wagner’s public image, and the context in which the monument is currently situated physically and socially, I analyze the Wagner monument in terms of two possible enthymemes, the “great man” and the “aesthetic.”

At the time of the Wagner monument’s dedication, the German population in Cleveland, Ohio, was one of the largest in the state.^{xxx} A large portion of the German population settled in Western Cleveland near Edgewater Park, which was purchased by the city in 1894, and many recreational facilities were subsequently provided.^{xxxi} The Germans’

decision to present the Wagner statue as their gift to Cleveland may surprise those familiar with the long list of some of the most well known composers who came from Germany, including Bach, Beethoven, Brahms, and Mendelssohn. One plausible explanation is that Wagner was not only well known as a composer but also as a poet, writer, and conductor. Unlike most other great opera composers, Wagner wrote his own scenarios and librettos, based on ancient Germanic myths, another key to German cultural pride. He was noted to have advanced musical theory through his “Gesamtkunstwerk” or “total artwork” which he described as the synthesis of all the poetic, visual, musical, and dramatic arts. He is also credited for many theatrical innovations because he even went to the trouble of building his own opera house to create his operatic visions. All of his contributions, however, were not without controversy during his life and soon after his death. Most composers felt compelled to align themselves with or against Wagner. Due to Wagner’s unorthodox lifestyle and views in music and politics, even Karl Marx commented on the public’s conflicted appreciation of Wagner (Katz, 1986). Wagner voiced his opinion of the “Jewish problem” but prior to WWII the general public did not respond to his writing with as much detestation as today (or after the Holocaust). Even in 1936, the program of the Israel Philharmonic Orchestra included works by Wagner, who was being recognized as one of the great Western composers (Bruen, 1993). *The Cleveland Plain Dealer* reported the day after the monument’s dedication that Wagner had been described as “the greatest of modern meister singers” and that the desire of the society was to “inspire in Clevelanders more love for art, poetry and music.” Therefore, it is likely that for the Germans of Cleveland, Wagner was not chosen as an honored figure

based on his anti-Semitic views but because of his contributions to music and because he symbolized a dedication to traditional German culture and German excellence.

The limestone Wagner monument at Edgewater Park is larger than life. While the figure of Wagner stands 6 feet tall, his actual height was only 5' 4" and he was called "the little great man." Wagner is depicted as standing, looking straight ahead facing the city. In his left hand he holds gloves and papers while his right arm hangs at his side. The only text on the front base of the statue simply reads "Wagner." On the back an inscription says "Der stadt Cleveland / Gewidmet vom, Goethe-Schiller-Verein, Okt. 15, 1911" (The English translation is: "Dedicated to the City of Cleveland, the Goethe-Schiller-Society, Oct. 15, 1911"). The sculpture is done in the neo-classical style with decorative embellishments surrounding the corners of the base. At the time the statue was dedicated this kind of single-man conventional monument was falling out of favor in the art world with many critics arguing that such monuments were destined to fail as "dull and repetitive, [because] they were limited to a few simple poses and gestures often copied from antiquity...(Savage, 2010, p. 195)." Or, critics claimed that the problem with the statues was more systematic, that in the city's public squares and circles they "were usually plopped there without much thought about connecting them to a larger landscape design' (Savage, 2010, p.196). However, in response to this argument, the Wagner monument is even more perplexing because its surrounding environment is so incongruous with the landscape design. The fact that the Goethe-Schiller-Society picked this location is one of the most interesting rhetorical decisions because it was inevitable, even at the time, that the statue would stand out amid its surroundings. It has no competition with other man-made architectural structures and

strikingly contrasts with the casual setting of sandy beaches and picnic tables. It would seem, based on the juxtaposition between the natural setting and formal sculpted structure that the Goethe-Schiller Society's intent was not an effort to add to the recreational experience for beach-goers but to do exactly what art critics complained about, to act as an "independent object", valued for [its] historical or memorial qualities" and to act as an object of "individual beauty." The statue functions as a thing to be revered and, to reiterate the Goethe-Schiller Society's own words, to "inspire" its viewers. To a group of proud immigrants, the fact that critics of the traditional forms of the public monument were convinced "there is nothing in this world as invisible as a monument,"^{xxxii} was just not relevant to what they were trying to accomplish. For them, the long-established form served to reiterate their beliefs that their German heritage as well as an artistic figure as great as Wagner and the virtue of supporting the arts, all deserved to be represented as subjects of respect and admiration. The sculptor of the statue, Herman Matzen, probably the city's most famous sculptor in 1911 and a teacher at the Western Reserve School of Design, led the creative design of the project. Funders of the project wouldn't have considered the potential insights of a spatial designer or landscape architect simply because it wasn't customary for this sort of endeavor. In short, the funders believed the German-American people deserved this kind of monument and how better to accomplish that goal than with one of the most well respected sculptors in the city who also happened to be a German immigrant.

The controversy surrounding Wagner has, of course, to do with his anti-Semitic views, but even more so with the appropriation of his writing and music by the Nazis. He was Hitler's favorite composer, and his works are commonly associated with the experiences of

millions of Jews and other people the Nazi regime terminated. The independently managed Israel Philharmonic did not decide until after Kristallnacht in 1938 to stop performing Wagner. Today, there is still an informal ban on all public Wagner performances in Israel, although government-owned radio broadcasts are not uncommon. For most of the same reasons, some non-Jewish Europeans find Wagner barely acceptable, particularly in countries occupied by the Nazis during WWII (Said, 2001). Wagner, like the swastika, has undergone a symbolic transformation. Regardless of his actual place in history he has become a symbol for Nazi ideology.^{xxxiii} Bruen (2001) however, points to a counter argument in regard to the comparison, “Despite some similarities, there is also a great and important difference ... in terms of their symbolic functions: whereas the swastika is a small sign without any inherent significance or special aesthetic value, Wagner was among the five or ten foremost European composers who enriched our cultural heritage immeasurably” (p. 102). Said (2001) discusses the controversy of playing Wagner by acknowledging that many people strongly dislike the man but then makes a distinction between Wagner and his music.

He was an unquestionable genius of the theatre and music. He revolutionised our whole conception of opera; he totally transformed the tonal musical system; and he contributed 10 masterpieces, operas that remain among the summits of Western music. The challenge he presents, not just to Israeli Jews but to everyone, is how to admire and perform his music while separating it from his odious writings and the way the Nazis used them (para. 3).

Still, Barenboim (2001), Said (2001), and other scholars who consider the issue (Katz, 1986) agree that those audience members still extremely and justly sensitive to the horrors of the

holocaust should not be forced to listen to Wagner and, therefore, Wagner should not be a part of the standard subscription series for the Israel Philharmonic Orchestra.

Given the changing and changed cultural *kairos* as articulated with this historical and social summary, a monument of Wagner in the U.S. is further problematic because it does not simply exhibit his music; it puts the man himself at the focal point. Another possible approach to the monument might have been to depict a character of one of Wagner's operas but this would not have sufficed as a symbol worthy of exemplifying what the German immigrants considered the epitome of German culture. Today, a monument to German music in the "Walk of Ideas" in Berlin presents huge musical notes as a way to depict their great composers, but this kind of sculpture would have been very unusual for the 1911 context in the Midwest and even during the Senate Park Commission's new notion of the public monument.^{xxxiv} The entymemes necessary for reading a modern monument like the "Walk of Ideas" simply did not exist (and really did not until the Vietnam Veterans Memorial as mentioned earlier). When motivated groups or individuals within the Goethe-Schiller Society decided they were going to build a monument based on the pride of their musical heritage, the doxastic thinking would naturally place the composer as the subject of the commemoration.

Signs that certain segments of the public are aware of the controversy surrounding the statue are evident through the lack of formal publicity.^{xxxv} Even so, this does not mean the statue has become invisible. After searching through public websites and blogs, I found many community groups like the Cleveland Photographic Society and the "Frontrunners Frontwalkers" list the Wagner statue as a meeting site because of its prominence and easy-to-

access location. However, in respect to the revered message that Geothe-Schiller Society had intended, the monument is essentially invisible. It does not function as a site of reflection or reverie for the community groups but as a passive landmark akin to a street sign. For those who recognize what the Wagner statue used to represent for the German people of Cleveland, what should have been their sense of reverence is replaced with feelings of melancholy as they realize that 1) the public's recognition and pride for classical composers is not what it once was (the doxa has changed) and 2) the community of German immigrants has diminished greatly in size. This sense of loss is felt within many industrial cities suffering from large declines in population in urban settings and whose cultural and historical landmarks (such as churches and theatres) become much less frequented.

Using Wagner to represent the epitome of German culture is now rhetorically problematic because the available enthymemes have changed. Although the kairos of the statue once made sense and brought a celebratory crowd, today due to historical contextual shifts the available enthymeme that places Wager on a pedestal has nearly vanished. The materiality of the statue has not changed dramatically (besides a chip on the nose) but its symbolicity as an object of pure pride or the "great man" has changed because it has lost its enthymematic power.

The "great man" theory, popular with historians of the 19th century, is often associated with historian Thomas Carlyle who believed heroes shape history through their personal attributes and divine inspiration. Supporters of this theory aim to explain history by the impact of "great men," heroes or any kind of highly influential individual associated with exceptional charisma, genius, or significant political impact. The traditional monument is a

visual argument for this theory of the “great man.” Someone (whether a group or individual) chooses to erect a life-size or larger-than-life-size material representation of a cultural hero who has had a significant social impact. Most often, this is done to honor the man and his contributions and sometimes those with whom he is associated. An audience, with its cultural knowledge of the “great man” honored in monumental form, fills in the necessary blanks that this man has had some kind of admirable influence and should be emulated and/or honored. In short, the “great man” enthymeme in relationship to the Wagner statue makes the argument that Wagner is a cultural hero who has made a significant social and especially artistic impact and this enthymeme operates for the German population (and any other population) who still holds these sentiments. In the case of the Wagner statue, it is possible that this “great man” enthymeme is still available, because the most important criterion for the “great man” is the extent of his influence on history. His influence, despite his changed cultural kairos, definitely instigated tremendous change in orchestral composition, especially for opera. But, as mentioned previously, the German audience that would have available the enthymeme of Wagner as a “great man” has decreased dramatically. Today, the only audience that would likely still have access to this enthymeme would be the most elderly of the Cleveland German population and the classical music aficionados. The younger segment of the public (German and otherwise) may not have any enthymeme available about Wagner besides a very piecemeal social construction. The Jewish population, may also have similar trends in available enthymemes to the German population, in that the earlier enthymemes of pain and trauma constructed after the Nazis appropriated Wagner’s music may only be available to the older generation of the Jewish community. The younger Jewish population

may have knowledge of the controversy surrounding Wagner but their understanding is less directly constructed, because they live in an era when Wagner is beginning to be played in Israel and so their available enthymeme is unavoidably different from that of their ancestors. The irony here is that as German and Jewish audiences become younger their tendencies for dominant vs. alternative readings come close to flip-flopping or at least move toward the middle. Where the younger German audience may now find the monument distasteful or simply uninteresting, the Jewish audience may find a new exposure to Wagner's music (though definitely not his social views) enlightening and the monument to him interesting for historical or kitschy reasons.

Much of the aesthetic philosophy is based on the late 18th century writing of Immanuel Kant, although ancient Greek philosophers including Socrates, Plato, and Aristotle made many of the initial important contributions to the theory. Some of the identified universal characteristics of aesthetics include the admiration and cultivation of virtuosity or any technical skill, non-utilitarian pleasure, satisfying rules of composition that place the artwork in a recognizable style, and imitation where works of art simulate experiences of the world or each other. The "aesthetic" enthymeme for the Wagner statue is complicated because there is more than one available "aesthetic" enthymeme. An audience in 1911 could consider the artistic quality of the statue itself (regardless of its content). In this instance, visitors fill in the blank with interpretations that could be written to sound like, "this artistic work by Herman Matzen, one of the most well-known sculptors in the city at the time, satisfies the universal signature of virtuosity and technical skill and I admire this piece of sculpture." Although the Wagner statue was created as a traditional representational piece without genuine

consideration of its surroundings, arguments can be made that the enormous piece of limestone and the expert sculpting abilities of Matzen have created an aesthetically beautiful piece—a piece of transcendent beauty. Although incongruous with its surroundings, the large sculpture stands back just enough from the sand and is so much taller than any accompanying objects that it connotes a beacon-like quality—a lighthouse or sea captain looking out unto the horizon. The monument may be even more aesthetically pleasing now than in 1911 as the weathered look of the limestone seems to add to monument's sense of strength. Wagner literally stands as a giant man fighting the elements of the Great Lake similar to the limestone boulders along the shore. Although the community references Wagner statue nonchalantly, they also do not decorate or vandalize the monument. In this way, the material dignity of the statue is left intact, as the extraordinary is not forced to submit to the ordinary.

Content-wise, visitors could interpret the Wagner monument and its available aesthetic enthymeme as the philosophy of the aesthetic in two different ways: first, remembering Wagner's own writing on the truth and beauty of total artwork (an aesthetic ideology he would have been recognized for in 1911) and second, for his appropriation by the Nazis and the Nazi aesthetic (an aesthetic he is also associated with today). For the Goethe-Schiller society in 1911, the enthymeme concerning Wagner argued that Wagner represented strength, pride, artistic genius and skill and his contributions were considered truly beautiful. Today, the cultural discourse and available enthymemes surrounding Wagner the man are not all quite so beautiful. Most people, even classical music enthusiasts, wouldn't hold Wagner as a figure for emulation, socially. Furthermore, depending on the individual context a person brings to the subject of Wagner, even his music may connote feelings of injustice and

suffering. Instead of being uplifted when approaching the monument, a member of the Jewish community for instance, may feel revulsion or outrage. Germans in the area may also see the monument as an entymematic reminder of a shameful period of history that they would like to forget. Lovers of Wagner's music may also appreciate a physical tribute that introduces others to a beautiful art form but may disagree with the decision to represent the man himself, drawing on the new entymeme for decorum as created by the Vietnam Veterans memorial. Just as the Senate Park Commission in 1900 was urging, an audience concerned with inspiring the arts would likely prefer "constellations of elements that coalesced into true spatial compositions" (Savage, 2010, p. 196). Although the Goethe-Schiller Society's stated intent was to inspire "more love for art, poetry and music" with the Wagner monument, it is difficult (unfortunately) to see how this would be accomplished rhetorically through the visual aesthetic of the representational figure.

Because of the heated discourse surrounding Wagner years after the monument's dedication (especially within the Jewish community and even more so with respect to Holocaust survivors), its rhetorical function has undergone a transformation because the available entymemes have changed or simply disintegrated due to a changed social awareness. No longer a site functioning only to exhibit a proud German heritage, the site now functions rhetorically as a kitschy landmark, an injurious reminder to the Jewish people, a sorrowful symbol of the decline in a once thriving immigrant community, and a topic for discourse—a discourse much different from what had been socially exchanged in 1911.

Lenin in Seattle's Fremont District

A traveler through the bohemian-style neighborhood of Fremont, Seattle, may be confused and even disturbed to discover a huge seven-ton bronze statue of Vladimir Ilyich Lenin towering over Evanston Avenue North and North 36th Street (see Figure 3.3 for photograph of Lenin statue).



Figure 3.3. *Photograph of Lenin statue in Seattle's Fremont District. Photograph by Morris Tranen.*

Despite the leftist, artsy, or eccentric disposition of the members of the community, there is something out of place with this relic in the proximity of a post-industrial business center often described as a European market. However, the statue also receives much more attention from locals and tourists in comparison to the Wagner statue and this is likely because of its prominent location in the bohemian district or as Fremont is sometimes referred to (as on the sign welcoming visitors crossing the bridge) “the center of the universe.”

The monument of a bearded Lenin is molded in bronze and frozen in a deliberate stride while in intense contemplation. Most viewers wonder, why and how did this communist symbol land in this dissonant environment? So was it created for this site? The answer is, no. The background story of the Lenin statue is an unusual case. By all standards, it is unusual for statues (especially those weighing 7 tons) to travel over vast expanses of land and sea. It was crafted by the Soviet artist Emil Venkov and erected in 1988 in Poprad, Slovakia. Savage (2010) remarked that although the production of statue monuments declined overall after 1925, “celebratory statues continued to be in demand, and, ironically, they seemed to grow larger and more assertive the more they diverged from the new memorial trends” (p. 244). His statement holds true in the case of the Lenin monument. It is obviously celebratory and massive, standing over 16 feet tall. Just one year after its dedication, the statue was torn down during Czechoslovakia’s 1989 liberation from communism and left in a junkyard with Lenin face-down in the mud. Lewis Carpenter, a Seattle resident and art connoisseur who happened to be teaching in Poprad at the time of the liberation, bought the statue for a rumored \$13,000 and shipped it home for \$28,000 after mortgaging his house (Glazov, 2000). Following Carpenter’s death in 1994 from a car accident, the statue was planted at the

Fremont crossroads where it still “(dis)graces today,” according to English professor Monica Popescu whose main research area includes Eastern Europe and post-communism. To recover debt from the statue, Carpenter’s family made an arrangement to loan it to the Fremont district until a buyer emerged. As it has been for many years, Lenin's statue is still for sale for \$150,000.

Unlike the Wagner monument, the Lenin statue had more than one dedication and the second resulted in protests from many Russian émigrés. In their opinion (and many others), Lenin represented the communist system that had persecuted and killed millions of their fellows. However, even among the protests, the residents of the Fremont community in favor of keeping the statue ultimately won their case as the statue still stands and is a popular tourist landmark. The proponents of the statue argued that the statue was not about communism or Lenin but about “pure art” and devoid of any political meaning except to spark healthy discourse (Glazov, 2000). From their perspective the sculpture represents the notion that art transcends and outlives politics. This argument is somewhat ironic, because it was most art critics in the early 1900s who found this genre of memorials overdone and lacking consideration of its impact on the surrounding environment. In their opinion, if the artistic and creative quality of the statue was the deciding factor in whether or not it should be placed in Fremont, the statue would not currently exist in that location.

Many community members and tourists even see the colossal monument as humorous, often standing beside it for photographs and, according to local Seattle blogs, an upscale pizza place (voted “Best Pizza” by many polls) started including a sketch of the Lenin statue on its delivery boxes. Even the Fremont Chamber of Commerce added the image of the

Bolshevik leader in two places within its “Walking Guide to Fremont.” An interesting note, this is a branch of the same Chamber of Commerce that in the 1920s had the campaign called “Americanism” in response to the threat of communism. As would be expected, although the Lenin statue is popular and humorous in some circles, the Russian and Eastern European émigrés did not and still do not see the humorous undertones of “having to face again the father of a regime responsible for numberless deaths, crimes, deportations, and ruined lives” (Popescu, 2003).

The available enthymemes and doxastic understanding for the Lenin statue differ drastically depending on the cultural background of the individual. Although a monument to Hitler would appall almost any citizen in Seattle (no matter the artistic merit), there is not the same unified revulsion for Lenin—not the same collective enthymeme. In an article explaining his very personal dislike of the statue, Glazov (a descendant of Russian émigrés) writes that the difference is between the context of racial hatred versus class hatred:

Mass murder and genocide is [sic] inexcusable in our society in the context of racial hatred, but it remains understandable, and even laudable, especially in academic circles, in the name of class hatred. Thus, it doesn't really matter that Alexander Solzhenitsyn's *Gulag Archipelago* was about a reality that had just as much to do with Lenin as it did with Stalin. In the “progressive” mindset, Lenin must be forgiven because of his ideals ... After all, we are told that it reflects artistic merit. But reality tells us something different: that artistic impressions of mass murders can never be apolitical, not in the case of racial hatred, nor in the case of class hatred (para. 14).

In this case, Glazov implicitly references two different socially constructed enthymemes. He articulates the enthymeme of the artistic American connoisseur who has no direct connection to the social theories of Lenin and their impact when put into practice. The enthymematic argument for this American is that the statue is only illustrative of artistic merit and that the subject himself can be viewed light-heartedly even humorously. The portion of the public who can understand this enthymeme may have some indirect knowledge about Lenin's place in history (although it is likely this knowledge is not very extensive), the majority of their knowledge rests with the publicly formalized communist ideals espoused by the revolution. Or, they could simply be aware that he was a communist leader whose representation in the Fremont district is visually interesting, incongruous with capitalist surroundings, and therefore humorous. The Eastern European émigrés socially construct the second enthymeme, having been directly influenced in their lives by the communist leader. Their enthymematic understanding of the Lenin monument is that it represents political shame and human suffering. Others who learn about the émigrés' experiences can also understand this enthymeme but most tourists who jokingly take their photograph next to the statue probably do not have available to them the same social and cultural understanding.

Carpenter, in rescuing the monument from the mud of Poprad, was only successful regarding one dimension of *kairos*, that of seizing a unique opportunity. In terms of appropriate social decorum, the statue fails for the Eastern European émigrés. Here again, the materiality of the monument has not changed but the symbolic nature of what it represents has, in both Poprad where Carpenter found the statue and in Seattle. Only the context has changed—in this case both materially in terms of the site and symbolically in terms of its

historical relationship to a particular audience. This makes the Lenin statue a very unusual case because it is not very often when the material geographical context of a public monument changes so drastically or when a monument is uprooted from its original audience and placed among practical strangers to its material and social history (with the exception of the Eastern European émigrés). It is a strong testament to the importance of context and the symbolic when the strongest and most emotional readings from an audience are from those viewers who understand the statue's original intent and the external variables that led to its toppling. In the case of the Lenin monument, both the "great man" and "aesthetic" enthymemes can be applied and present some insights similar to the Wagner case. In the case of the "aesthetic" enthymeme this argument is very similar to the enthymeme that operates for the American connoisseur who views the message of the Lenin statue as advocating for art outliving political views. The statue, in the traditional monumental style, was also created in the spirit of the "great man." The statue was intended to depict Lenin as a hero of genius and significant political impact. His influence, like Wagner's, has undergone a kairotic cultural change as time has passed and fewer viewers of the statue would read him as a "great man" to be admired. Still, the visual argument as materialized by the statue and the members of the public that Glazov criticizes, contend that Lenin was a social innovator.

Very much akin to the Wagner case, the "aesthetic" enthymeme for the Lenin statue is also complicated because of the conflict between artistic quality and the monument's subject. The Lenin statue exists in its current setting only because Carpenter thought the statue was an artistic masterpiece and not because of any reverence for Lenin the man. Other viewers of the statue unfamiliar with Lenin's class hatred or supportive of his political

positions profess their description of the monument as truly beautiful. However, unable to move past Lenin's offensive historical acts, Eastern European émigrés understandably cannot see the statue as truthful or beautiful. This raises questions about how aesthetically beautiful can a public monument really be when its impact on the surrounding environment is so incongruous. Public monuments create a different rhetorical situation than a statue in a museum because the function of their material rhetoric extends beyond the statue itself. The rhetorical power garnered from the statue's aesthetic beauty is compromised when set against a backdrop of a Taco del Mar. The statue functions less as an object to be revered and more as a novelty item for tourists to look at lightheartedly. In this sense the extraordinary elements of the statue, the colossal size, the remarkable bronze, the brawny stance, all contrast with the surrounding ordinary chain restaurants, tourist poses and 21st century automobiles. In the case of Wagner, the transcendent beauty of nature and a sculptor's attempt to express the strength of the creative individual go hand in hand in terms of the material aesthetic. Visitors might be surprised at the content of the statue in a park of leisure and recreation, but as the photo in Figure 3.1 illustrates, the extraordinary elements of the statue and its backdrop work together to evoke beauty. By contrast, the photo of the Lenin statue shows a connection between the extraordinary and the ordinary but in an unusual juxtaposition. Beauty may not be a useful goal for a statue of Lenin but by placing the statue in Fremont the audience becomes distracted by the juxtaposition. The result of this distraction is a piece of public art that does not move a public toward positive change or remembrance but instead to comedy. Perhaps this is why the community feels more inclined to treat the statue as more of a mascot than an honored piece of artwork. According to

advocates of the Lenin statue, it deserves a place in Fremont because of its artistic merit; however, the relationship of the statue to its material neighborhood (see Figure 3.3) fails to convey the transcendent beauty the supporters vocalize and is visually humiliated dressed in women's attire for gay pride parades, decorated like a Christmas tree during the holiday season and appearing on pizza boxes.

Implications

Although hurtful to many, these monuments may provide some rhetorical remedy for the postmodern citizen's longing for a sense of place (though, in the case of the Lenin statue, this could actually confuse the issue). Hayden (1992) and Dickinson (1999) discuss the American population's hunger for history and a sense of place in response to the production of space as a commodity (skyscraper downtowns, convention centers, freeways, shopping malls, parking lots, etc.). Designers try to satisfy this hunger and "redeem badly planned and programmed commercial space with references to historical styles, pre-industrial vernacular styles or contemporary commercial culture" (Hayden, p. 263). However, as both scholars explain, aesthetically and politically these strategies do not succeed in creating a genuine sense of history and place. By contrast, these monuments, although controversial, present an open and honest glimpse of historically dominant ideologies (even if popular in a much different environment as with the case of the Lenin statue). As Barenboim mentioned in his rationale for playing Wagner in Israel, "saying that Wagner will not be played in Israel gives us a further link to the Judaism of the 1930s and 1940s." This quote is provocative because it acknowledges that a conscious absence can also pay homage to a historical memory.

The same reasoning could also be applied to the monuments. Removing the monuments would be a formal and physical denunciation of the Nazi or Lenin's communist ideologies and for a moment create a historical sense of place through destruction. Possibly however, this decision would be problematic because it also fails to acknowledge the historical context in which the monument was erected and the present context in which it exists. The counter-argument also exists that removing the monument would eventually allow people to forget the hurtful and controversial ideologies and this would be a disservice to the continued social discourse. For without the material reminder a discussion would no longer take place. What may be more appropriate and rhetorically beneficial would be additional information provided at the sites to help explain their context and acknowledge the controversies. Because of the controversies surrounding the monuments, when people do become aware of the monuments existence, a debate sometimes ensues. Occasionally, stories will appear in local and regional newspapers discussing the history of the monuments. Most of these stories mention that inquiring letters or personal interest by the journalist were what prompted the article. Similarly, community blogs and national blogs often discuss the appropriateness of controversial monuments such as the conversation mentioned earlier in the online community "Objectivist Living."

Leaving the monument in its present location or providing more information at the monument also suggests a doxastic "state of mind" as argued by Havelock (1963). For Havelock, doxa was more than opinion but the fundamental state of mind within an oral culture and that someone in this state of mind could tolerate inconsistencies and contradictions. Jasinski (2003) summarizes, "A doxastic culture, then, contains multiple

points of view that are in competition with each other, and this competition is enacted discursively.” In instances like the Wagner and Lenin monuments that have undergone a symbolic transformation due to historical developments, contradictions inevitably exist because the materiality of the artifacts does not allow for easy change or explanation. The monuments allow for these contradictions to be enacted physically. Plato attacked doxa based on the idea that contradiction should be eradicated. Therefore, those who believe that a tolerant society should not visually portray socially intolerant men in an honorable fashion would have a strong case for removing the statues entirely, according to Plato. Still, others could argue that this contradiction deals only in abstraction and too dramatically simplifies the issue by removing its context. Although I discuss how the context has been transformed in both cases, it has also been shown that earlier contexts, such as when the statue was first constructed, are a part of the statue’s context. In other words, it could be that instead of a simple change to a context that instead there is a layering of contexts for a material site. This is why the concept of the enthymeme is so important, because the contexts as I have analyzed them are not replacements for earlier contexts but instead build upon the statues’ history. People interpret monuments as they approach them not based entirely on the visual aesthetic characteristics but on their knowledge of its historical content as well as their understanding of the monumental decorum. Although statues similar to the Wagner and Lenin statue may have fallen out of fashion among art critics in the early 1900s, this was not the case with the groups and organizations (especially immigrant and marginalized groups) funding and leading the creative direction of the monuments. If the intent is to celebrate and revere a particular man/woman, event, or group it is hard to deny that a creation like the massive

Lenin statue will do the trick. Even after its first toppling, the audience disassociated with its original cultural context defends its worth as an artistic piece worthy of preservation.

However, the power the Lenin statue conveys through its giant build can only extend as far as the new context will allow. Covered in Christmas lights or Halloween decorations, even placed on the front of a pizza box, Lenin the statue loses some of its dignity and the statue monument becomes less of a figure to be revered.

Other possibilities for future treatment of the statues, in addition to providing additional information at the monuments (or on websites devoted to the monument sites, i.e. Edgewater Park or Fremont), is to have critics make concerted efforts to publicize their examination of these complex sites in order to engage in “full critical participation in society” (Klumpp & Hollihan, 1989). Because it has been shown through inquiries to newspapers, blogs, and news sites, that monuments’ audiences are interested in their history and seek to gain further insight into the symbolic meaning of these material sites, there is a suggestion that critics have the power to advance stability or change based on their ability to provide a historical backdrop and social context—making available to a larger population additional interpretive enthymemes (Wander, 1983; Lentricchia, 1983).

Both Wander and Blair argue for the centrality of the material condition. Blair maintains the centrality of a monument’s materiality by asking for an examination of its consequence or what the text “does.” Wander asks that critics involve themselves in public controversies by illuminating interpretations and possibilities so that they experience the material conditions in society and satisfy their obligation to humanity. Within both of these understandings regarding the significance of materiality, exists the other crucial dimension of

interpretation—the symbolic. As illustrated by these cases, the social construction of available enthymemes is vital to the interpretation of a monument—essentially what it does. When McKerrow (1989) in support of Wander posits that one of the most important principles of the critic is “criticism as performance” he explains this by defining the critic as “advocate for an interpretation of the collected fragments” (p. 108). Both the critic and the audience provide interpretations of the site based on their individual and social contexts and the related doxa. The critic and the audience can understand a text only through their available enthymemes, enthymemes, symbolic in nature that are continually in flux due to their dependence on context, even those related to the most material rhetoric.

As this analysis briefly suggests, the “great man” and “aesthetic” enthymemes are common enough in the public’s reading of a monument or memorial that this common understanding could indicate a small repertoire of topoi in Western civilization used to construct enthymemes in interpreting public monuments—a repertoire that is culturally conditioned and defines decorum. Of this repertoire, the “great man” and “aesthetic” enthymeme are two but others should be investigated. Identifying this repertoire would be beneficial to rhetorical critics as well as designers of these monuments to help understand common possibilities for reading and interpreting material representations. Furthermore, this analysis suggests that designers should also consider some of the benefits as well as the drawbacks of memorial genres that have fallen out of vogue. Even though a particular option may not be the most fashionable, there may be elements of various proposals that marginalized groups find attractive, and incorporating these may help the monuments remain more visible.

Reflections on the visual rhetoric approach.

As indicated in the discussion of rhetorical approaches laid out in chapter two, the analysis in this chapter illustrates how rhetorical concepts may help scholars and students arrive at deeper insights when applied to understanding contemporary visual artifacts, particularly by 1) promoting insights about the views of many or a variety of larger audiences (as opposed to one individual reading) 2) using evidence drawn from historical concepts as well as unique individual insights of the critic and by 3) espousing agency of the critic through inventive writing and interpretation.

More specifically, this analysis arrived at a deeper sense of understanding regarding the symbolic nature of rhetorical sites through two unusual cases where a context had been transformed. Another possibility for analyzing these two sites would have been to do a systematic survey of visitors to the statues, asking them if they were offended, if they found it aesthetically pleasing, etc. However, it is unlikely that this study would have arrived at the same unique observations through survey only and without critical analysis because participants would not devote the same amount of time and energy filling out a survey. More generally, the answers provided by visitors would reveal what they liked or did not like those specific monuments but it would not help answer questions regarding the interplay between the material and symbolic rhetoric.

Rhetorical concepts such as enthymeme, kairos and doxa, were extremely valuable tools, aiding clarity and logic because the critical insights could be built upon widely theorized ideas with a strong historical tradition. Also, the purpose of this analysis was *not* about viewer reaction but was meant to determine the rhetorical function of controversial

public monuments and to investigate how various communities and opinion leaders address these unchanging material sites. Focusing on how the monuments function within the community, the analysis articulated how for certain groups the monuments fail due to the changing social decorum. Surface level examinations of the Wagner monument in public conversation reveal that it is still widely referenced on community boards, blogs, etc. A closer reading and more thoughtful interpretation revealed that these community references treated the Wagner statue as a benign object. Furthermore, for those familiar with the fame Wagner used to retain and the previous cultural richness of the German-American community in Cleveland, Wagner now is more an object of nostalgia and even mourning. These assertions could be made based upon evidence drawn from the historical rhetoric concepts as well as unique individual insights of the critic. This does not mean there are not potential interpretations equally viable and probable. However, rhetorical analysis *does* provide the foundation for a deeper understanding and the well-researched information to spark future discussions of memorials having undergone a symbolic change (even when their physical appearance has not).

CHAPTER FOUR:

A Visual Communication Approach to Discovering Credibility and Other Assumptions

Attributed to an Avatar's User

Like chapter three, this is the second of the short research studies that uses a visual research method. Instead of a visual rhetoric approach, this chapter uses a visual communication empirical approach to investigate the assumptions Internet users make, based on the visual information, regarding individuals or organizations using avatars. The intention here is not only to provide insight about how Internet users form opinions based on visual cues but to demonstrate what a visual communication approach has to offer a researcher in relation to some of the other approaches. At the end of the study, some of the limitations or specific instances where another approach might offer different and valuable insights are discussed. The format of this research study, prior to the discussion of the approach itself, proceeds as it would in an academic journal featuring a visual communication approach.

Understanding that the Internet is predominantly an ocularcentric medium (Hillis, 1999), business firms are spending billions of dollars on attempts to design websites that will visually attract customers and then retain their attention (Arnold, 2004). Along with being visually attractive, retail organizations would also like to enhance a personalized feel on their websites that customers would normally receive from salespersons offline. Consequently, early adopting retail sites are increasingly using avatars—computer-generated human-like visual images. For example, IKEA provides ANNA, a human-like assistant with multiple social cues to lead customers throughout their shopping experience.

Currently, the practice of using an avatar to represent a company or an individual is a relatively new phenomenon with limited predictive research. There is also a lack of research on the impact of visual communication on the Internet-using population in general (Kensicki, 2003). Because of the importance of visual cues online and in light of the holes in the literature regarding their impact, Kensicki (2003) proposed a model of visual credibility that called for bright warm colors and the use of photographs on websites. This model, however, does not address avatars. Other studies have demonstrated that the use of an avatar on a retail website leads to increased persuasiveness (Holzwarth, Janiszewski, and Neumann, 2006; Wang, Baker, Wagner, and Wakefield, 2007) but these and other studies also call for the continued systematic study of how people make sense of these online others (Wang et al., 2007; Lee & Nass, 2003). Although previous visual communication studies have begun to address visual credibility, this is only framed in reference to the avatar itself. The studies do not address what people online assume about the “user.” The “user” in this study is defined as *either* a group or individual that personally created, or sponsored the creation of, the avatar. An individual “user” would most likely use the avatar in a gaming or social interaction setting while a group or organization may design an avatar to act as a visual liaison for a customer service representative or public relations/affairs associate (whether this is a living person or acting via artificial intelligence). People might find some websites more credible with an avatar spokesperson but is this always the case with all avatars and all types of websites? Do people automatically assume anything about a person or a group when they see a human-like representation? Given the ease of creation and manipulation in digital media, do people active on the Internet assume anything based only upon human-like visual

representations? These are just a few of the questions that the avatar and visual credibility literature have not yet investigated.

Therefore, this study has three major purposes. First, is to determine if people active on the Internet make assumptions about avatar users solely in relationship to the visual cues of the user's avatar. Specifically, do visual cues presented by the avatar influence user credibility? Second, is to provide businesses, nonprofits and individuals some insight into the kinds of assumptions (if any) people make regarding the visual design of avatars. The third and final goal is to determine the relationship between the assumptions people make regarding users based on the visual characteristics of their avatars and their perceived credibility. Studying audience perception in regards to the group or individual behind the avatar is especially important as more businesses and organizations begin to utilize avatars to communicate with customers and associates. The results of this research should help them better communicate their desired messages through all online interactions. This article begins by reviewing previous literature relevant to the discussion regarding the visual communication of avatars and the issue of credibility and visual credibility.

Credibility

Perhaps one of the most studied concepts in the communication literature (next to communication apprehension), this review only briefly touches on the credibility literature and its direction within online communication. Credibility is a source trait that indicates to what degree a person is perceived as believable, trustworthy and competent (McCroskey & Young, 1981). Early studies focused on how receivers of information process messages based on specific characteristics of the speaker (Hovland & Weiss, 1951). Studies further

indicate that credibility is one of the primary predictors for certain interpersonal and mediated interaction outcomes such as attitude change and trust. Research on credibility has been extensive but has relied heavily on textual communication. Any consideration of visual communication has largely focused on interpersonal communication issues like attire, race (Farr, 2007) and nonverbal communication (e.g. body movement). However, as Kensicki (2003) points out, these issues do little to explain “how visual components of messages influence source credibility within a mediated context” (p. 142). Pertinent to this research however, studies of textual messages have found that audience evaluation of those messages has been so closely linked to judgments of source credibility that “although source credibility is supposed to influence perceptions about the message, in fact, messages also influence perceptions concerning the credibility of the source” (Slater & Rouner, 1996, p. 975). In the case of visual communication, one source of the message would inevitably be the graphic image.

More recently, credibility studies have begun to examine what effect new technologies have on source credibility and the media (Martin & Johnson, 2010); Flanagin & Metzger, 2007; Flanagin & Metzger, 2000). With the introduction of blogs and news on the Internet, some studies have examined the credibility of blogs in relation to other more traditional online news sources and offline news sources (Johnson, Kaye, Bichard, and Wong, 2007; Johnson & Kaye, 2004). Because of the publishing capabilities of the average person in the digital world, researchers are also investigating shifts in institutional roles and how that affects professionally trained journalists and their journalism (Hayes, Singer, and Ceppos, 2007; Pavlik, 2004). Other studies have investigated credibility as perceived on

social networking sites like Facebook (Walther, Van Der Heide, Kim, Westerman, and Tong, 2008).

Visual Communication of Avatars

There are conflicting findings in avatar research about overall trends in the likeness of an avatar to the actual physical nature of the person it represents. In some ethnographic studies, avatars were found to usually be false representations described as “a masquerade in which participants disguise themselves under the spectacle of false visors and habits” (Webb, 2001, p. 590). One user even described the world of avatars as “mass hallucination.” Avatars in the study were generally humanoid, (although some participants use animal representations) heavily stereotyped along lines of gender and ethnicity (usually appearing white) and significantly sexualized and glamorized (p. 563). In contrast, another empirical study found that people chose human avatars (like in the Webb ethnography) that matched their gender (Nowak & Rauh, 2006). It suggested that because people prefer their avatar to be aligned with their own gender and type (human) it might indicate that they would “tend to choose avatars with other characteristics similar to their own” (p.172).

Avatars function by addressing key issues in online interaction and can communicate messages about the identity, social presence, accessibility, and status of the user (Taylor, 2006; Salem & Earle, 2000; Turkle, 1995). For avatars to function successfully in this way, two elements of representation are very important: believable appearance and realistic movements (Capin, Pandzic, Thalmann, and Thalmann, 1998, p. 2). Apparently these two elements are even more important in multi-user networked virtual environments because representation is relied upon more heavily for communication.

Recently, more research has been done on the specific way avatars are perceived by and influence viewers. In the early nineties, scholars began to observe the impact of avatars on viewer's perception of an interaction. They speculated, "It is possible that the presence of an avatar is a strong social cue that influences people's perceptions, leading them to perceive interfaces as more 'social'" (Nass, Steuer, Tauber, and Reeder, 1993, p. 112).

Communicating online through text eliminates the nonverbal communication usually associated with interpersonal interaction. Therefore, it is understandable that people would be receptive to having a face within an interface. Not only were people receptive to the idea but they also "tried to interpret faces and facial expressions, which makes the users pay attention to the face and engage in the task" (Koda & Maes, 1996, p. 6). The plasticity of avatars, or the possibility of modifying appearance and personality, is a unique property to this kind of visual communication (Bente, Rüggenberg, Krämer, and Eschenburg, 2008; Bailenson, Yee, Merget, and Schroeder, 2006). Because avatars have the possibility of overcoming the restrictions of traditional media by creating a space of "other" (in contrast to the spaces of "here" and "now" of traditional media), they could be a means of contextualizing interaction fostering salience of nonverbal communication (Bente et al., 2008).

Studies are also beginning to reveal that people have certain preferences or judgments when it comes to the gender and anthropomorphic nature of the avatar. Research subjects largely believed less androgynous and more anthropomorphic avatars were more attractive and credible and that people were more likely to choose these characteristics for their own representation (Koda & Maes, 1996; Nowak & Rauh, 2006; Wexelblat, 1997). Interestingly, they also found that all participants, regardless of their own sex, thought the masculine

avatars were less attractive than feminine avatars (Nowak & Rauh, 2006, p. 153). However, in another study, (Nowak, 2004), less anthropomorphic avatars were rated as more credible and engaging than more anthropomorphic. As stated earlier, whether or not avatars most usually represent the true physical nature of their user is still debated. Today, discussion also continues about whether avatars that more closely represent a user's physical body set up higher expectations that could lead to disappointment if other users discover the fallacy of the representation. Avatars are increasingly more visually detailed and sophisticated in order to satisfy the nonverbal communication that is lost in online interaction. But some studies indicate the more intricate an avatar's graphics, the less satisfied the viewer is when his or her expectations (expectations surrounding the assumption that the sophisticated representation of a user imitates his or her physical body) are not met (Slater & Steed, 2002; Garau et al., 2003). Of course, avatars can also be representations of a self other than a user's physical body and it is interesting that users intimately acquainted with online environments may assume an avatar represents a realistic or unrealistic representation of the body. This could indicate that very realistic characteristics may not be the most important consideration for a business or an individual when trying to create a credible online persona.

Most recently, studies have begun to explore the credibility of avatars, but these studies were framed around the credibility of the avatar and not the assumptions people make about the credibility of the user. For instance, Nowak & Rauh (2006) asked participants to rate their affinity for avatars of varying sex but did not ask them if they assumed the user of the avatar was of that same sex. The literature reveals that people react to avatars based on specific visual cues. It is not known whether or not people then attribute these same

reactions, or assume the same visual characteristics about the user of the avatar. In other words, do avatar viewers see the avatar and the user as one and the same?

Therefore, one empirical study of both quantitative and qualitative data to determine what, if anything, active Internet participants assume about the users of nine different anthropomorphic avatars was conducted. Assumptions about the user and attributed credibility judgments by testing the following three hypothesis were investigated:

H1: Frequencies of participant's assumptions with regard to sex, race, ethnicity, class, will be distributed according to characteristics designated by the avatar.

H2: An avatar's visual cues will influence the viewer's perception of credibility of the user (the credibility corresponding to each avatar will differ from one another).

H3: Male and female perceptions of user credibility, based on the visual communication of the avatar, will differ.

Research questions for further exploration and to enhance the data were also asked:

RQ1: What types of distinctions do people make between the avatar and the person or group behind the avatar (user)?

RQ2: What are the types of assumptions people make about the avatar and its user?

Method

Participants.

Gen Y (Millennials) or the "Net Generation" as they have been dubbed, is the largest Internet-using population and consists of adults generally 18 – 32 years old (Keeter & Taylor, 2009). Selection of participants for this study were based on the following criteria 1)

adequate sample size, 2) purposeful sampling, 3) participant familiarity with technology and 4) greater likelihood participants would use new technology (Pew, 2009). Participants were recruited from four different lower-level communication courses in a large university in the Southeastern United States. As a combined quantitative and qualitative study, the population needed to adhere to the goals of both types of data collection. A large sample base of lower level communication courses that include undergraduates from outside of the communication major were used for the this study. In line with a qualitative agenda, the sampling was still purposeful in that the participants were younger and more savvy technologically, especially considering that this large university makes use of a lot of technology in the classroom. Even if students were moderately unfamiliar with technology coming into the school, the nature of their environment would require them to acquire a greater familiarity with the technology that their professors generally use and may require them to use. As mostly communication majors, these students were assumed to have a certain interest in media and relationship building which suggests they had some opinion about the formation of online relationships. Additionally, because the students were still enrolled in lower-level courses it was assumed that they were relatively new to research regarding the influence of online visual communication and visual credibility.

Measures.

A three-part survey was created to gather student reactions about the users (again, “user” in this study refers to the group or individual who created the avatar or sponsored its creation) of nine various avatars (see Figure 4.1). In the first two sections the “user” was defined as the “person or group behind the avatar” and each question reminded students of

this distinction by referencing the “user.” The first portion of the survey asked three open-ended questions so that students could respond to the images without previously determined categories or vocabulary. Participants were asked:

1. What are your initial thoughts / reactions to this avatar? (e.g. attractiveness, credibility, like/dislike, etc.)
2. Describe the user of this avatar
3. Please list the qualities of the avatar that lead you to arrive at your description of the user.

Part two of the survey listed a series of demographic and credibility questions with pre-determined closed-end items for the students to choose from. Participants were asked: “After looking at this avatar I assume THE USER is most likely ... ” They were then presented with categories of sex, age, race, ethnicity and social class as defined by Gilbert & Gilbert (1998). In addition to traditional categories of social class, participants were also asked if the “user” was a member of the creative class as described by Florida (2003)^{xxxvi}. This question was included because pre-tests of the qualitative survey revealed that many participants felt that the act of designing an avatar and constructing a visual online identity could be seen as a creative act and associated this with a creative profession. A definition of the creative class was provided next to the question on the final survey (not the pre-test). Credibility was measured with nine Likert-type items on a 5-point scale. The main focus of credibility research in communication has been on message and source credibility. The items used in this study were taken from McCroskey & McCain’s (1974) measure of source credibility. The most relevant items to this study included references to: intelligence,

confidence-in, status, honor, desire for friendship and desire to be like. McCroskey & McCain (1974) investigated credibility in order to improve evaluations of teacher credibility. Because participants in this study were asked to look at a single avatar at a time, similar to studies measuring source credibility, we employed McCroskey & McCain's terms rather than media researcher's terms (such as Berlo, Lemert, & Mertz's classic 1969 study). Although this is an old scale, many of the items used by McCroskey & McCain seemed relevant to this pilot study. In the future it would be worthwhile to study how credibility of the "user" relates to more recent investigations of digital credibility (Martin & Johnson, 2010).

Part three asked students to share information about their sex, age, frequency of Internet use, level of experience with the Internet, and participation in online environments of World of Warcraft, Second Life and Habbo Hotel. Students were asked about these three online environments because these were three of the actual environments where a few of the avatars originated. If the students were very familiar with these three environments this might have an affect on their responses. (However, only one student said she was an active member in any of these online environments.) It is important to ask about the students' relationship with the Internet because past research has shown a correlation between an individual's preferred medium and high levels of perceived credibility (Rimmer & Weaver, 1987) (to view the survey as it was distributed to participants see Appendix).

Stimulus.

The nine avatars were chosen from a variety of sources including the Creative Commons of Flickr (a photosharing site), the introductory page of Habbo Hotel, SitePal.com and specifically Ikea's ANNA. Only the human-like avatars were chosen for this study in

order to reduce some of the visual variables. Furthermore, human-like avatars are the current trend on business sites because they feel that this provides a human element that is lost through online purchasing (as opposed to in retail stores). Avatars were also selected based on their representations of different races, age, sex and level of graphical sophistication. Avatars originating from World of War Craft, Habbo Hotel, and Second Life were chosen because they represent some of the most popular and well-known avatar-facilitated online environments. Because avatars from SitePal.com and Ikea's ANNA are representative of strategies already used by businesses and organizations to enhance their site, these representations were used as well. In the case of avatar images equipped with backgrounds, the backgrounds were removed with Adobe Photoshop so that participants weren't influenced by any visual cues outside of the avatar itself. All avatars were presented in color on the center of the screen with a white background (see Figure 4.1 for images of avatars).

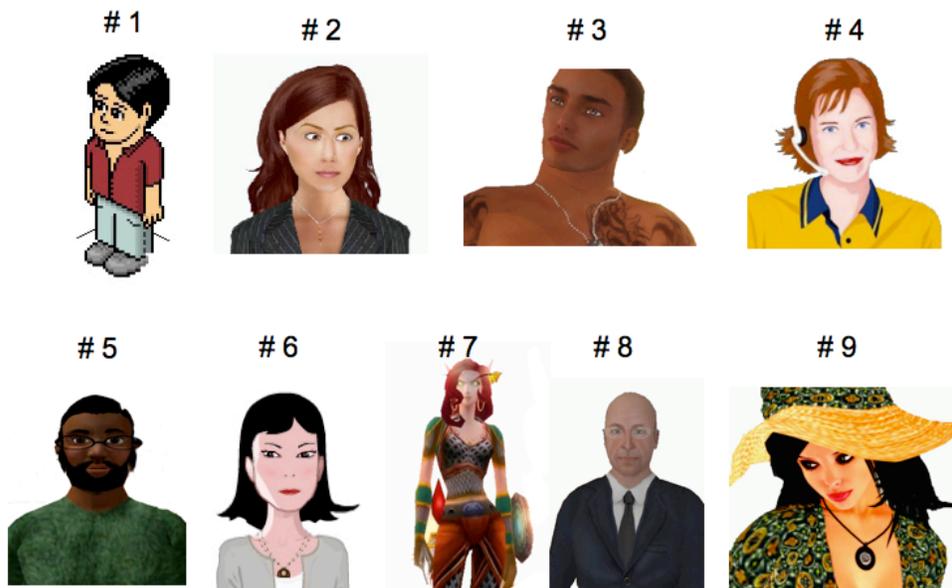


Figure 4.1. *Images of nine avatars shown to participants. Avatars collected through creative commons license in flickr unless from corporate site.*

Procedure.

Prior to having students complete the survey, discussions took place about the type of avatar that would be shown to them (human-like, computer-generated images) as well as the concept of the “user” (person or group using the avatar). Students were then given a printed questionnaire. Throughout the completion of the survey, students were aurally reminded to consider what they assumed about the person or group of people who had created or sponsored the creation of the avatar instead of their reactions to the computer-generated image. So that students could view the avatars on a screen instead of a printed format, one avatar image with a corresponding number was displayed on a large screen in the front of the room. Students were given as much time as they needed to complete the corresponding questions for part one. For part two, the avatar images were displayed again in the front of the room in the same sequence. At the end of the two sections, a combination image of all the nine avatars was displayed in case students wanted to look at the images for a final time and add any thoughts to their survey. Respondents generally took about 45 minutes to complete the survey.

Quantitative Analysis

The study analyzed frequencies of characteristics attributed to the user: sex, age, race, ethnicity, social class and relationship to the creative class. In order to explore the frequency of the variables in relation to the nine different avatars, a two-part factor analysis of positive and negative traits was conducted on the nine avatars using SPSS. However, of the nine items tested on Avatar #2 (responses to the nine Likert questions pertaining to credibility) none loaded cleanly on the second or third component of a principal component analysis.

Therefore, the analysis was run again on all nine avatars as a single factor with the one variable “avatar traits” having a positive and negative end. Next, participant responses were recoded into the same variables and the reliability was analyzed. On a nine-item scale for nine avatars, the reliability ranged from .771 to .875. Because of the good reliability of the data a new variable was then created from the means of the nine items (recoded into the same variables). Descriptive statistics of means were looked at to determine which avatars were significantly different from one another (at the .05 level) and to help order the avatars from the most positive credibility response to the least positive. Finally, a repeated measures ANOVA (within-subjects factor = nine avatars and between-subjects factor = sex) was run to test the equality of means and in order to determine if there was a significant difference between male and female participant responses.

Hypotheses Results

One hundred and nine students, principally freshmen and sophomores, completed the survey. Their ages ranged from 18-40 with a mode of 63.2% between 18 and 20 (there were also 33.7% between 21 and 30). A majority of the students were female (71.6%) and 26.3% were male. As expected, a very high majority of students (93.9%) rated their level of Internet experience as 5 or above on the 7-point Likert scale with 7 being labeled a “great deal.” Similarly, they rated their use of the Internet as very high (95.8%) circling a 5 or above on the 7-point Likert scale with 7 being labeled as “I very often use the Internet/WWW.”

Hypothesis 1 predicted that frequencies of perceptions about categories (sex, race, ethnicity, class) would be distributed according to characteristics depicted by the avatar (see Table 4.1). From a descriptive statistics standpoint, the data reveal that people used the visual

characteristics of an avatar to make similar assumptions about the user. The two characteristics with the highest consensus among participants were sex followed by race. Generally (except for Avatar #7), participants agreed the user's sex would be the same as depicted by the avatar within a range of 81.4% - 93.1%. The largest discrepancy among participant responses occurred when making assumptions about Avatar #7, a female avatar. Thirty-nine percent of participants assumed the user was a male and only 48% assumed the user was female. Within the race category, the lighter the skin tone of the avatar the greater consensus among participants that the user was white – 84.3% assumed the user of Avatar #2 was white, 89.2% assumed the user of Avatar #4 was white and 87.3% assumed the user of Avatar #8 was white. As skin tones and hair color became darker, participants agreed less on the specific race of the user (i.e. 49% of participants agreed Avatar #9 was white and 33.3% said they “did not assume.” Although there was a greater consensus on certain characteristics, the percentage of “do not assume” was always relatively low compared to the majority of answers or combination of assumed answers in the same category. For example, the highest percentage of “do not assume” responses occurred in the ethnicity category for Avatar #7 with 50%—only half of the respondents thought they couldn't determine the user's ethnicity from the visual cues of the avatar. Furthermore, 50% was much higher than the average “do not assume” of 16.22%, which was the mean percentage of the six categories and nine avatars. Ethnicity (mean of 28.75%, not including Avatar #7) followed by belonging to the creative class (mean of 22.88%) were the two categories where participants most often responded “do not assume.”

Hypothesis 2 predicted that the visual cues of the avatar would have a significant effect on the perceived credibility of the user. This hypothesis was supported because a descriptive analysis revealed significant differences in responses to the visual credibility of the nine avatars (see Table 4.1).

Table 4.1

Percentage of various attributes as designated by the viewer.

									
	1	2	3	4	5	6	7	8	9
SEX	93.1=M 2.9=F 3.9=DK	85.3=F 8.8=M 4.9=DK	93.1=M 3.9=F 2.9=DK	81.4=F 6.8=M 6.9=DK	91.2=M 4.9=F 3.9=DK	91.2=F 4.9=M 3.9=DK	48.0=F 39.2=M 11.8=DK	92.2=M 2.9=F 3.9=DK	87.3=F 6.9=M 4.9=DK
AGE	40.2=HS 20.6=C 23.5=30s 8.8=DK	67.6=30s 12.7=C 4.9=DK	55.9=C 21.6=HS 18.6=30s 2.9=DK	59.8=40s 29.4=30s 5.9=DK	35.3=30s 26.3=40s 22.5=C 9.8=DK	41.2=30s 41.2=40s 23.5=U20 8.8=DK	40.2=HS 32.4=C 11.8=30s 9.8=DK	57.9=40s 32.4=60s 5.9=DK	49=C 31.4=30s 8.8=DK
RACE	65.7=W 12.7=DK	84.3=W 10.8=DK	63.7=B 11.8=W 18.6=DK	89.2=W 8.8=DK	57.8=B 14.7=DK	60.8=A 28.4=W 9.8=DK	53.9=W 36.3=DK	87.3=W 10.8=DK	49=W 11.8=H/PI 33.3=DK
ETHNI.	50.0=H 21.6=NH 29=DK	68.6=NH 6.9=H 24.5=DK	51.0=H 16.7=NH 32.4=DK	73.5=NH 2=H 24.5=DK	60.8=NH 7.8=H 31.4=DK	68.6=NH 2=H 29.4=DK	47.1=NH 2.9=H 50=DK	71.6=NH 2.9=H 25.5=DK	39.2=H 27.5=NH 33.3=DK
CLASS	41.2=LMC 25.5=CL 14.7=DK	62.7=UMC 16.7=L.MC 6.9=DK	30.4=LMC 16.7=CL 15.7=DK	31.4=LMC 27.5=UMC 24.5=CL 5.9=DK	45.1=LMC 22.5=UMC 10.8=DK	37.3=UMC 27.5=LMC 18.6=EC 12.7=DK	28.4=LMC 13.7=CL 10.8=UMC 30.4=DK	48=EC 34.3=UMC 5.9=DK	36.3=LMC 26.5=UMC 10.8=C 19.6=DK
CC	59.8=N 15.7=Y 23.5=DK	50=Y 28.4=N 21.6=DK	47.1=N 28.4=Y 24.5=DK	57.8=N 22.5=Y 19.6=DK	46.1=Y 29.4=N 23.5=DK	40.2=N 32.4=Y 27.5=DK	59.8=Y 19.6=N 20.6=DK	38.2=N 35.3=Y 26.5=DK	58.8=Y 22.5=Y 18.6DK

F = female. M = male. DK = Do not assume. HS = high school. C = college. W = white. B = black. H = Hawaiian/ Pacific Islander. H = Hispanic. NH = non-Hispanic. LMC = lower middle class. UMC = upper middle class.

Of the nine avatars attributed to users, the bald-headed white male in the formal suit (Avatar #9) tested the most highly credible with a mean of 2.4031 (the lower the mean the

higher the credibility). By contrast, participants perceived the user of the younger man with the slightly darker skin tone, tattooed chest and necklace (Avatar #3) as the least credible with a mean of 3.1721. Participants also perceived the most neutral user (closest to 3 on the Likert scale) to be the one represented by a male child with a red shirt (Avatar #1). Overall, the majority of avatar users were rated as having a slightly more positive than negative credibility. The only users receiving a negative rating (although only slightly negative) were those linked to avatars #3 and #7. All users were rated significantly different from at least four other users (see Table 4.2).

Table 4.2

Credibility as combination of males and females.

	Image	Mean Credibility	Significantly Different from in Pairwise Comparisons
8		2.4031	1, 2, 3, 4, 5, 6, 7, 9
2		2.5621	1, 3, 4, 5, 6, 7, 8
9		2.6776	1, 3, 4, 7, 8
6		2.7320	1, 2, 3, 7, 8
5		2.7495	1, 3, 7, 8
4		2.8497	2, 3, 7, 8, 9
1		2.9804	2, 3, 5, 6, 8, 9
7		3.1307	2, 4, 5, 6, 8, 9
3		3.1721	1, 2, 4, 5, 6, 7, 8, 9

Avatars ordered from most to least positive responses.

Hypothesis 3 predicted that male and female perceptions of user credibility, based on the visual communication of the avatar, would differ significantly. This hypothesis was supported because males rated the credibility of eight out of nine users lower than females with a significant difference of .001 (see Figure 4.2 and Table 4.3).

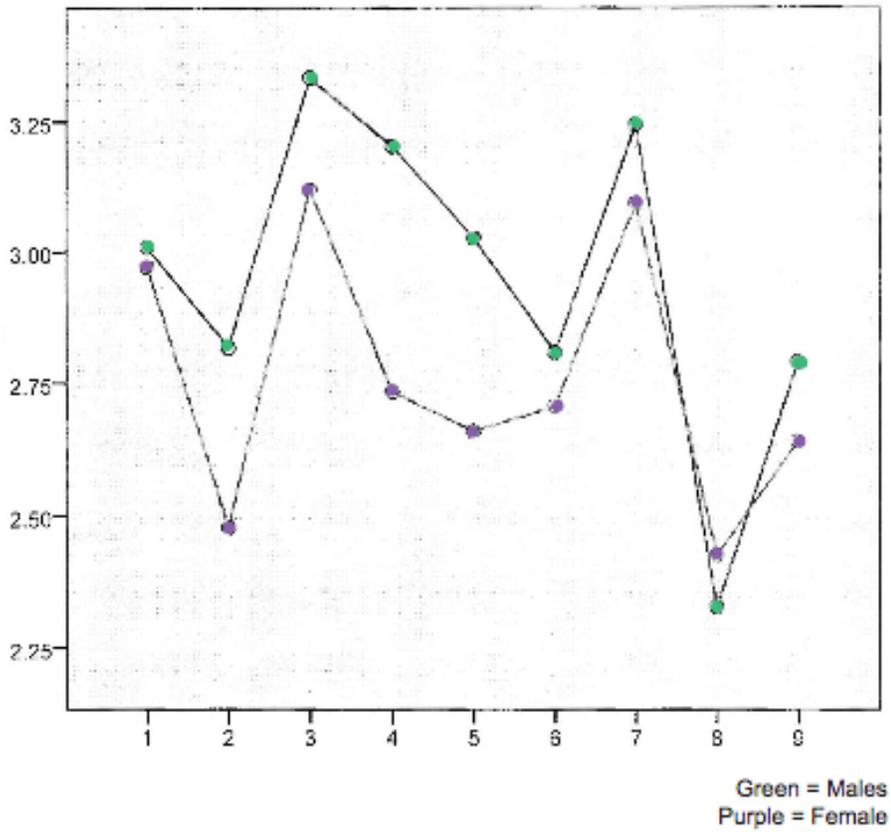


Figure 4.2. *Estimated marginal means of male and female participants.*

Table 4.3

Mean credibility for males and females separately.

	Image	Mean Credibility Females	Mean Credibility Males
8		2.4219	2.3416**
2		2.4838	2.8077
9		2.6278	2.7984
6		2.7173	2.8148
5		2.6500	2.9957
4		2.7347	3.1811
1		2.9847	2.9957
7		3.0812	3.2510
3		3.1319	3.3333

Avatars ordered from most to least positive responses.

Avatar #8, the elderly white male dressed in a suit, was the only avatar rated higher by males than females, although the interaction was not significant (see Table 4.4).

Table 4.4

Avatar and participant sex

Source	SS	df	MS	F	Sig.	Partial Eta ²
Between-Subjects						
Sex (S)	6.289	1	6.289	6.556	.000	.983
Error	95.927	100	.959			
Within-Subjects						
Avatars (A)	42.814	8	5.352	16.998	.001	.145
A x S	4.710	8	.5891	.870	.062	.018
Error	251.874	800	.315			

Qualitative Data Analysis

To determine what types of distinctions respondents made between the avatar and the person or group behind the avatar (RQ1), an inductive analysis framework was worked within by reducing the data, creating thematic categories, and drawing conclusions (Goetz & LeCompte, 1984; Miles & Huberman, 1994). In order to reduce the data, responses were reviewed and units coded according to each avatar and each survey question. The unit of analysis was any sentence, phrase, or paragraph written by a student that represented a coherent distinct thought about the avatar or user (depending on the question). Most often these were simple phrases not paragraphs. In order to create the thematic categories, a subset

of data was coded into similar groups using a constant comparison technique (Glaser & Strauss, 1967). This process yielded five categories regarding types of distinctions (RQ1) and three categories regarding types of visual cues (RQ2). A couple of these categories overlap simply due to the nature of the subject and the research questions. These categories were named according to what had been identified as their defining feature(s) and the data was then coded accordingly. A subset of the data, as well as definitions of each category, was given to an independent coder and he was asked to code units into the predefined categories. Using Scott's formula, a test for intercoder reliability was run for all eight themes that revealed an 86% reliability rate between all coders, a rate that is considered acceptable.

Avatar Vs. User: Fantastical or Representational? A Typology of Distinctions Made

In this section I describe the five types of assumptions respondents made about users and their avatars (RQ1), and discuss the three types of visual cues that were influential in triggering these assumptions (RQ2).

RQ1: Types of Assumptions Made About Avatar and User

The results of this analysis suggest that people make five different types of assumptions concerning possible distinctions between avatar and user. Sometimes these assumptions lead the respondent to draw the avatar and user closer together—meaning that they see the user as being physically like the avatar as well as having all the same supposed personality attributes. Occasionally respondents would simply write, when asked to describe the user, “user is the avatar.” I present definitions of each category of assumption observed along with representative responses as further illustrations.

Technological capabilities.

Respondents definitely made assumptions about the technological capabilities of the user based on the graphical sophistication of the avatar. When an avatar was more simply designed (like avatar 1) and looked more like a child's cartoon, respondents made comments that the user was not very experienced with computers and some would even describe it as boring. However, the respondents did not make technological suggestions that indicated they were very experienced either. Respondents also appeared to react most strongly regarding the technological capabilities of Avatar #2 whose eyes would follow the mouse cursor. Some of the quotes that initially lead us to consider the technological assumptions follow:

Older user, not very technologically advanced. (Avatar #1)

User probably has a great deal of knowledge in technology and graphics. (Avatar #2)

The user is probably a very simple kind of person, possibly shy and quiet, doesn't have much experience with technology. (Avatar #1)

Nerdy tech guy who's way into video games. (Avatar #7)

Knows how to use up to date technology. Maybe a young woman who wants to go into design. (Avatar #9)

As these quotes indicate, viewers would also make assumptions about the users age based on their avatar. It could be that less technologically advanced users are seen as being elderly while those with more complex graphics are thought to be young because of their familiarity with the technology. However, I cannot say this for sure because there could be other visual cues that influence age distinctions. Respondents also seemed to have the most disagreement about the user of Avatar #9 and I suspect that this was partly because the avatar

was an attractive female in non-business attire but who also had one of the most technologically complex avatars. These three characteristics must have seemed incongruent to respondents in light of their personal stereotypes because many assumed that the user of Avatar #9 was actually male or “overcompensating” for something. This kind of common rigid distinction between avatar and user for Avatar #9 was also reported for Avatar #7 another strong female. However, there was much more agreement among respondents that the user was a gamer and that the context was World of Warcraft.

Personality attributes.

Personality attributes refers to how the respondents described the personality of the user based on the physical characteristics of the avatar. As I will discuss in the results for RQ2, most than any other determining factor, the facial expression of the avatar indicated the personality type of the user. Except for Avatar #9 where respondents assumed hidden motivations for graphic decisions, these personality assumptions corresponded almost directly back and forth between the avatar and user. In other words, if an avatar looked dejected and unhappy, a high majority of respondents would also write that the user was unhappy. Some examples of this follow:

Someone who is friendly and is helpful. (Avatar #4)

A business woman who is happy and professional, willing to help. (Avatar #4)

Person who is very uptight and likes to have things done her way. (Avatar #6)

Unhappy with life, doesn't know what else to do. (Avatar #6)

Someone who wants others to learn or like learning, while displaying a kind profile.

(Avatar #5)

Depending on the respondent's own experiences, some of them would assign more hidden personality characteristics labeling person based on the avatar's visual cues. For instance, although most respondents described Avatar #4's personality as "bubbly" and "friendly." Many described her as having a darker side writing statements such as, "Follows the rules yet backstabs," "Uptight, puts on a big "mask." So, in most cases the personality assigned to the was almost identical to how the respondent perceived the personality of the avatar. However, if the respondent identified the avatar as being representative of a "type" of person, then he/or she was likely to describe the user as being further away from how most respondents identified the personality of the avatar based on visual cues.

Individual preferences/ chosen professions/unique behaviors.

Not only would respondents often attribute personality characteristics to a user with a particular avatar but they would also discuss the user's individual preferences and specifically state the user's profession. For example, quite a few respondents saw Avatar #3's tattoos and shirtless torso and then explained that the user liked hip hop music. More examples of these statements follow:

Reveres X-Men and Clue. Pretends to have fake British accent. (Avatar #8)

A businessman in his 40s/50s; possibly a large company employee, bank worker, someone in high position. (Avatar #8)

Appears to be a cross between a telemarketer and a soccer mom. (Avatar #4)

Maybe a rapper? Or a tattoo artist. Nothing professional. Homeboy is definitely not a doctor. Maybe a skateboarder. (Avatar #3)

Loud, obnoxious, doesn't look like Barbie but wouldn't tell you that her weight bothers her. White female – 5'8 – 180lb, fun to be with though, insecure. (Avatar #7)

With certain avatars, the professions, individual preferences and behaviors attributed to the user were very similar across respondent answers (Avatar #4). However, other avatars seemed to spark more creative answers as can be seen above (Avatar #7, Avatar #8, etc.).

Context.

Suggested earlier in the technological discussion about female Avatar #9 and female Avatar #7, respondents appear to have the most agreement in their description of a user when they can also identify a context in which the avatar would be used. For example, a majority of respondents explained that the user of Avatar #7 was a “gamer” and this avatar was likely used in a game similar to World of Warcraft. Although their descriptions of a “gamer” personality differed, there was at a good amount of similar themes based on the context that they assumed the avatar was being used in. Another clear example of this occurred with the descriptions of Avatar #4's user. Because of Avatar #4's headset, almost all respondents tied the user to some kind of profession that involved a headset. More than any other user description, more people also mentioned the possibility that the user of the avatar was actually an organization. Although the respondents did differ slightly in their descriptions of Avatar #4's user, there were running themes of a professional woman, a customer-oriented woman, a helpful woman or organization. There were other examples where respondents assigned a context to an avatar but only the avatars where a majority of the users described matching contexts are relevant to this category.

Physical attractiveness.

Although elements of physical attractiveness and its cues will be discussed in the results of RQ2, it is included here as a category because it may possibly be an indicator for the magnitude of distinctions assumed between the avatar and the user. When analyzing the data, I noticed a relationship between the level attractiveness of the avatar (as identified by the respondents) and the actual physical attractiveness of the user. When an avatar was described as “hot”, “pretty” or “attractive,” it was more likely that the user would be accused of “trying” or “overcompensating” or more generally representing him or herself as something other than how he or she appeared online. By contrast, it was *very* rare for a respondent to write that a user was likely a lot more attractive than the chosen avatar.

For example, avatar #3 was described many times as being “attractive” and “good-looking” but respondents often described the user as “not as good-looking as this Avatar b/c the user may be projecting onto his avatar,” or “Perhaps a misfit using this character in a video game in which one steals cars or wishes they looked like the character” or “probably trying to appear “cool” and appeal to younger people.” There were respondents who wrote that they thought the user likely looked similar to the avatar but they would usually follow a statement like this with a qualifier such as, “but has enhanced some features like his eyes and tattoos.” Avatar #5 on the other hand was often described as “nerdy” and “unattractive” and it was not uncommon for respondents to describe the user as “probably looks exactly like this and works for a computer company or other business maybe at a university.” There were no statements stating that the user was probably “trying to appear” nerdy or unattractive.

RQ2: Types of Visual Cues Influencing Perception

As mentioned in the methodology, there are some overlapping features in the thematic categories. The three types of visual cues I identified as influencing perception (RQ2) included: “dress and artifacts,” “facial expression,” and “technology.” The data used to answer RQ2 came from the answer to the third question in the survey (for each avatar image), “Please list the qualities of the avatar that lead you to arrive at your description of the user.” Three general categories clearly emerged from the data. Here I present descriptions and/or definitions of each category of influential visual cues along with representative responses as further illustrations.

Dress and artifacts.

I used the term “artifacts” for the first category based on McCornack’s (2007) definition of the term “artifacts:” “A nonverbal code that represents the way we use objects or personal accessories to express ourselves or personal accessories to express ourselves or influence how others view us.”

People were very quick to judge the career of an individual based upon that individual’s outfit. For example, many said that the user of Avatar #2 was a “Young woman who is in a corporate position” or that she was a “Business professional, accomplished, and organized/scheduled.” Almost all respondents explained that they made this assumption based on the avatar’s conservative and businesslike attire. Similarly, many respondents made comments about the profession of Avatar #8 based on his attire. They felt that Avatar #8 was used by an, “Older man in his 50’s who is intellectual and has a stable career; maybe a scholar or some kind of professional like a psychologist.” The college professor theme was

prevalent in responses to Avatar #8, and some also felt that it could be a pastor. Here respondents pointed to the suit and glasses when accounting for their assumption. Reactions to the avatars and users were also quite strong when the avatar did not have a professional appearance. One user hypothesized about Avatar 3: “Maybe a rapper? Or a tattoo artist. Nothing professional. Homeboy is definitely not a doctor. Maybe a skateboarder.” Respondents in this instance, explained their descriptions by referencing the shirtless torso, tattooed chest and chain-necklace.

Facial expression.

The facial expression category relates somewhat to the “personality” category from RQ1 because it involves the general mood attributed to the avatar and/or user as well as qualities associated with the avatar and/or user’s character. From the data emerged a prominent amount of responses where respondents ascribed personalities to the avatars based upon the avatars facial expressions and these judgments of personality tended very strongly to carry over to the user of the avatar. For certain avatars (such as Avatar #6) the general consensus appeared to be that if a user created an avatar with a certain personality this must indicate that the user has the same feelings and characteristics.

When making judgments about the user, many seemed to extrapolate beyond what one could know simply by looking at the avatar. In all reality, respondents to the survey really could only *assume* things about the users (there is nothing they could know about the user *only* from the visual cues). Some of these assumptions however, went into more detail than a simple general description. For example, one person wrote about Avatar #9, “Young female, upset about something, is not too serious about life, pretty, brunette, wears a lot of

makeup, maybe slightly slutty.” Some of the perceptions are even more detailed and imaginative taking the time to choose an appropriate scenario for a specific facial expression. One person said that the user of avatar #6 was, “A disappointed individual. Her look shows disapproval. Maybe a mother chatting online to her college son/daughter?” Here the person not only made assumptions about the mood of the user, but also assumptions that the user was a mother and that her child was in college. Others perceived similar negative emotions of the user, as when some thought she was “rude looking” or “uptight and mean” though these descriptions did not present details about the user’s life or family. Generally it appears that most respondents did perceive a distinction between the personality of the avatar and that of the user, especially when the facial expression was unpleasant or unfriendly.

Technology.

The technology category, like the “technological capabilities” category from RQ1, referred to any comments regarding the sophistication of the graphics and the technological capabilities of the avatar (such as eye movement with cursor).

This category suggested a bias among the respondents towards more technologically savvy avatars. It is different from the three preceding categories in that here respondents were not quite making judgments on the avatars’ humanistic qualities, but instead were focusing on the technology that was used to make the avatar more or less realistic. These judgments should not be underestimated, however. Based on the comments received in the surveys, technological savvy played a large part in credibility judgments as well.

Many comments were simple and to the point, merely pointing out a lack of technological prowess. For example, many users were quick to say Avatar #1 was an “older

graphic, outdated” or that it was “not attractive, old, and very pixilated.” Another said that Avatar #4, “Made me laugh at the cheesiness/cliché-ness of it. Looks like an older version. So vector looking vs. a 3D (model). I hate her shirt.” Such judgments were not made only when an avatar was outdated. If an avatar was very detailed or realistic, people commented on that as well. For example, one person said that Avatar #3 had “Good graphics, bright blue eyes, tattoos, chain necklace, young, attractive, tan.” The graphics here were respected, even if the avatar itself was not. Another person said this of Avatar #9: “She’s pretty. It looks like she was developed on Second Life or something because of how detailed and complete she looks.” Graphical sophistication was admired. Respondents had no empathy for failed attempts on the other hand. These critical comments were evidenced by phrases such as: “Uhh...that’s kind of weird how she [her eyes] would follow the mouse/cursor around—like Big Brother, a bit scary/eerie. Cute necklace but she looks like she’s scrapbooked together—like in *The Truman Show*” (Avatar #2). Avatar #2 had eyes that could follow the cursor and I explained this to the survey participants prior to their completion of the questionnaire because they were only shown a still image. While it seems likely that this was an attempt at making the avatar more lifelike, it seemed to actually have the reverse effect among the survey takers. Many respondents commented negatively on the moving eyes.

Many of the technological comments spoke to the credibility of the avatar and/or user such as: “Don’t like him, no credibility. Too fake, looks so blocky” (Avatar #1). In this instance, the respondent made judgments about credibility based on graphical sophistication of the user’s avatar. People judged the user of Avatar #1 to be “Someone who is not familiar with computers”, a “Young teenager not sure how to use program”, or an “Older user, not

very technologically advanced.” These comments are representative of respondents making judgments based on the technological ability of the user. If the graphics were better, the opinions changed accordingly as was the case with Avatar #2 when one person wrote, “User probably has a great deal of knowledge in technology and graphics.”

These technological judgments were important because they reveal that credibility can be context specific, even in a technological realm. If one displays a greater mastery of the technology, then one is judged to be more credible at least in terms of one’s legitimacy in a virtual online realm. Such technological credibility may be able to balance judgments made based on dress and artifacts such as those made in regard to Avatar #3 with his tattoos and naked chest.

Further Discussion Regarding Assumptions of Avatar and User

According to the survey data, in most cases, perceptions of the user strongly correlated with the avatar itself. With the exception of Avatar #7, which many felt could be used by a male playing a video game, most tended to assume that the person using the avatar shared the same gender as the avatar. Also, most assumed that the race of the avatar was evidence of the race of the user. When answering question two of the survey about the perception of the avatar user, comments such as “Asian or dark haired woman professional” and “Pretty Asian Woman” about Avatar #6 were evidence of this phenomenon. It was also very common for people to assume an even greater level of detail about the user based on the avatar. One person described the user of Avatar #5 thus: “Black male with beard and glasses.” Another said, “Again, probably looks exactly like this and works for a computer company or other business maybe at a university.” Comments like these indicate a very high

level of trust bordering on naivety in the user of the avatar to create an avatar just like him or herself.

However, such trust was tempered by a general belief that if the avatar looked too good or extreme, the user must be compensating for a less glamorous reality. One person commented of Avatar #3: “Probably a really masculine guy. I think the user of this avatar probably looks something like this but has enhanced some features like his eyes and tattoos.” Another said something similar about Avatar #9: “A girl who wants to be this one day or maybe a girl fooling everybody to make them think she is attractive.” As mentioned above, such comments were especially prevalent about Avatar #7, which was the most extreme of the selection in terms of appearance, as when one user said that a “morbidly obese 30 year old virgin male” was likely the user or another who thought that the user could be, “A mannish girl playing an online role playing game, or a young boy who thought this character would be sexy to use.”

In a few cases, people did distinguish between the age and social status ascribed to the avatar and that of the user of the avatar. Again, as with appearance above, such distinctions tended to arise when the avatar seemed to be more extreme. For example, one person made this comment regarding Avatar #3’s user: “High school, black male who is rebellious, wants tattoos when he’s older.” Another went even further saying, “The user is probably a younger boy who thinks that a tough avatar makes him cooler. No actual tough guy would be using this.” Several other comments accused the user of being a “wannabe gangsta. Overall, if an avatar had a more average appearance, then the participants did not make a distinction between its perceived social class and that of the user. When an avatar

was less culturally conservative in dress or artifacts however, people did make such distinctions. One possible reason for drawing these distinctions could be how respondents assign a context to the avatar based on all three categories of visual cues. Although respondents were not told the original location of the avatar, most respondents decided to assign what they viewed as the appropriate context, whether that was a company website, customer service site or gaming environment. Because it is typical for gamers to choose avatars that may not resemble their personal physical appearance, it was common for respondents to remember this association and then assign a user opposite to the physical cues of the avatar. This assumption of context is very important for businesses and organizations to remember when they are designing their avatars. It suggests that they should consider the appropriateness of the avatar's genre or run the risk of confusing their intended audience.

Conclusion

Previous research on the visual communication of avatars has focused on the reactions people have with the avatar itself and has not considered there might be different assumptions or opinions about the user of that avatar. This pilot study suggests that although people generally make assumptions about the user based on similar visual characteristics of the avatar that they do indeed make distinctions between the two—occasionally even disparate distinctions. Other studies that have examined the attractiveness of avatars report that female avatars are viewed as more attractive (no matter the sex of the viewer). This study indicates, however, that when it comes to judgments of credibility, the sex of the avatar does not have an affect. Male avatars, although possibly less attractive according to the literature, were rated just as credible as the female avatars. The avatars' artifacts, and their

conservative nature as indicated by the culture, had the greatest affect on participants' view of user credibility. This finding, regarding avatar artifacts and their relationship to visual credibility is significant because, based upon review of the literature, it has not been established previously and opens up significant areas for further research.

As a pilot study, this research had many limitations. Future research would need to survey a greater number of subjects, more diverse subjects and preferably have the subjects view the avatars on a computer screen. Furthermore, the context of the avatar, whether it is situated within a banking website or first-person shooter game, would most likely have an affect on how the credibility of that avatar is perceived. Because our subjects viewed the avatars within a college classroom, this setting may have taken the place of the missing online context. Consequently, students may have been drawn to the more conservative avatars that made sense to them within the context of the classroom.

Even considering these limitations, the results of this study should indicate to businesses and nonprofits that it is important to consider the assumptions people make about the user (whether it is a group or individual) of the avatar. Although current literature says that an avatar presence increases a website's persuasiveness, this study demonstrates that people can have adverse reactions to an avatar based on the visual cues of the avatar alone and may then attribute those same characteristics to the user. In these cases, it would be illogical to assume that the avatar's presence would increase the persuasiveness of the site.

Reflections on the visual communication approach.

As indicated in the discussion of the visual communication (empirical) approaches laid out in chapter two, the pilot study (using both qualitative and quantitative methods) in

this chapter illustrates how an investigation informed by a social science tradition can help explain “current visual phenomena and their implications for the immediate future” by 1) using a narrowed problem-oriented approach that reduces variables 2) using reception testing techniques such as surveys and 3) drawing from tested findings (dimensions of credibility) of multidisciplinary literature.

More specifically, this study was able to examine specific questions about the assumptions people make about the avatar and the person(s) creating or sponsoring the avatar. Both the qualitative and quantitative empirical data is useful for these kind of questions because it allows for the examination of specific variables such as the demographics of a particular audience and the visual cues (color, shape, line) of the avatars themselves. There are issues relating to generalizability and relevance of the data (due to changing social behaviors, practices, demographics, etc.) (Hill, 2004; Scott, 1994) with this kind of empirical study that examines a small selection of variables. However, pilot studies such as these are necessary in order to rigorously examine additional visual variables and build upon existing findings within the literature.

There are possibilities for critical improvement within this pilot study by examining the rhetorical issues of framing and context more carefully. Some of these issues are addressed following the study’s findings within the discussion of limitations, but an actual “critique” of the data and its relationship to social practices, as Müller (2007) suggests, would be a valuable practice for visual communication researchers (and is not thoroughly examined within this pilot study as it exists at this time). Further discussion and examples of

what this kind of critique could look like (using the avatar study as an illustration) takes place in the final chapter of this larger study.

CHAPTER FIVE

An Integrated Methods Approach to Interpreting Public Perception of a Novel Science

Unlike chapters three and four, this short research study does not focus on one particular visual research method approach but instead uses two methods to illustrate an integrated approach when investigating questions of visual phenomena—in this case, four types of nano images. The reasoning behind using an integrated approach of two methods is to first, demonstrate what a study of this nature would look like and second, to determine how the findings from each method may build off of one another and thus deepen the analyses and implications of the study. The format of this research study proceeds as it would in an academic journal featuring both a rhetorical analysis and a qualitative study of in-depth interviews. Examples of how concept maps and/or illustrations (for literature reviews and conceptual frameworks) might be used within an integrated study are also presented.

Scientists and governments recognize the potential of nanoscience research, and countries have instituted initiatives to promote the multidisciplinary field of nanoscience in their universities and labs. While the rate of discovery has increased dramatically, much of the public is still unfamiliar with the field itself as well as any current advancements in the field. As discoveries in nanotechnology continue and use of nanoparticles becomes more common, public perception of the science will become increasingly important in determining whether or not government and private industry support the research. If the public is against the use of nanotechnology this will impact the fate of nanoscience funding, and in turn, the rate of research and product developments. One of the most persuasive ways science can

communicate and introduce a novel science to the public is through visual imagery (Baigrie, 1996).

What makes nanoscience images especially interesting and fundamentally rhetorical is that they have to be actively created given that nanoparticles are not even visible through optical magnification. Instead, the microscopes have to reflect topological information to a reader that creates a 3-dimensional surface map. Scientists and computers interpret information from the surface map in order to generate a visual image. Value and color are then added to the image to help audiences distinguish meaningful elements. Because of this interpretive process, the image does not finally appear as it actually physically exists. For instance, the added color is false because a world at the nanoscale is colorless (the nanoscale is smaller than wavelengths of light). Robinson (2004) points out that these nano images can easily vary from one another because scientists have not established a common understanding of what has been altered in representation and what messages the images should seek to convey.

So, how does interpretive manipulation of color, light, form and contrast, influence the public perception of nanotechnology? As stated earlier, much of the information the public absorbs is visual, and this, as well as the textual messages, influences their conclusions. Furthermore, the visual design and imagery present on particular websites where the images exist (for example university science magazine and blog sites) science magazines, blogs) may determine whether or not the public decides to remain long enough to read the information. The purpose of this study is to demonstrate how variations of nano images operate rhetorically to articulate public knowledge or interest.

Because there is a wide variety of nano imagery and various audiences involved, this study concentrates on images representative of schematics, documentation, fantasy, and fine art—modeled after Chris Robinson's image typology (2004). Robinson is a faculty member in the Department of Art at the University of South Carolina (USC) and is also an active member of the USC NanoCenter. His research investigates education, imaging nanoscience and the societal and ethical implications. Robinson's (2004) article in which he proposes his typology, *Images in Nanoscience/Technology*, explores how “contemporary technology is changing the tools and the methods of the way we perceive.”

This study considers how the images function rhetorically only in regards to the Western lay audience as opposed to scientists or experts in the field. In order to avoid having participant reactions dominate or drive the rhetorical analysis, the images were analyzed rhetorically before being shown to a sample of the public in order to analyze their reaction. This study contributes to the field of both social science and visual rhetoric by further demonstrating the influence of scientific images on the public and the rhetorical nature of those images. Landau, Groscurth, Wright, and Condit, (2008) call for this type of study explaining,

Audience studies on the impact of visual images on public understandings of nanotechnology are absent. There is a gap in the emerging academic literature on nanotechnology, on science in general, and, crucially, on assessing how nanotechnology will affect the general population, especially considering the significance of visual scientific images in history and in contemporary mediated public persuasion (p. 2).

Therefore, by investigating the public's perception of nanotechnology, this study expects to contribute to the literature on reception studies in science by also offering ways to better visually communicate about nanoscience information to the public. Target audiences for this study include scientists creating the images, policy makers, designated communicators for the field of nanotechnology, and those interested in using a mixed methods approach to studying images in science communication. The intention for this study is to demonstrate to these audiences the social significance of visual communication so that they might make better rhetorical decisions—especially when dealing with a novel science such as nano.

Using a combination of both critical rhetorical analysis and qualitative interviews, this study also follows the suggestions of Leah Ceccarelli who urges rhetorical researchers to work within an interdisciplinary perspective. Using findings from the interpretative analysis and the feedback from subjects within the study, this study illustrates some of the rhetorical logics of the images and determines in what way an audience reacts to the various typological categories (if at all). This information will help reveal how the public's knowledge and perception of nanoscience is shaped through nano imagery.

Findings from this study may bring to light moral challenges within the field of nanoscience. They may also help determine public support for future research and development and how to further amplify or attenuate that support through nano imagery.

Public Understanding of Science and Influence of Images on Perception

Over the past twenty years, the public's scientific knowledge and expertise has been increasingly important in social and political policymaking. Indeed, in 1991, a journal titled

Public Understanding of Science was established to address this perceived need. Scientific communities, political policymakers, and corporate bodies, have to consider the public's understanding of science when making decisions about the production and implementation of scientific research, as indicated in a conversation Johnson (of Federation of American Societies for Experimental Biology's Office of Public Affairs) (1990) had with a congressional committee staffer, "Public opinion [is a dominant factor in determining science policy and funding. It is the background – a complex backdrop – that frames the debate in which we make decisions" (p. 2431). Because of the power of public opinion, much energy has been devoted to studying issues of public engagement in order to facilitate informed participation.

Even with these engagement efforts, much of the public's understanding of science is developed through its experience with popular scientific literature. Recent scholarly studies have begun to criticize the non-factual rhetoric of popular scientific literature but not as much attention has been devoted to criticizing the rhetoric of the popular scientific images. Despite the claims by some scholars that visual research from the perspective of the audience has been neglected (Barthes, 1964; Evans & Hall, 1999; Kenney & Scott, 2003; Mitchell, 1994), there are some studies which examine the persuasive power of scientific images as displayed to the public, (Baigrie, 1996; Dombrowski, 2003; Farnsworth and Crismore, 1991; Lefevre, Ren, and Schoepflin, 2003). Findings from these studies suggest that images contribute to public acceptance of scientific developments even more than verbal arguments.

The following review of the literature provides a brief description of nanoscience and its history as well as a sense of the public's awareness of the subject. Additionally, studies

involving rhetoric and nanoscience, and then more specifically, the visual rhetoric of nanoscience are summarized. And finally, it explores one of the few studies tackling the public’s perception of nano images from a reception studies perspective. Figure 5.1 maps the approximate relationship of the literature covered in this review.

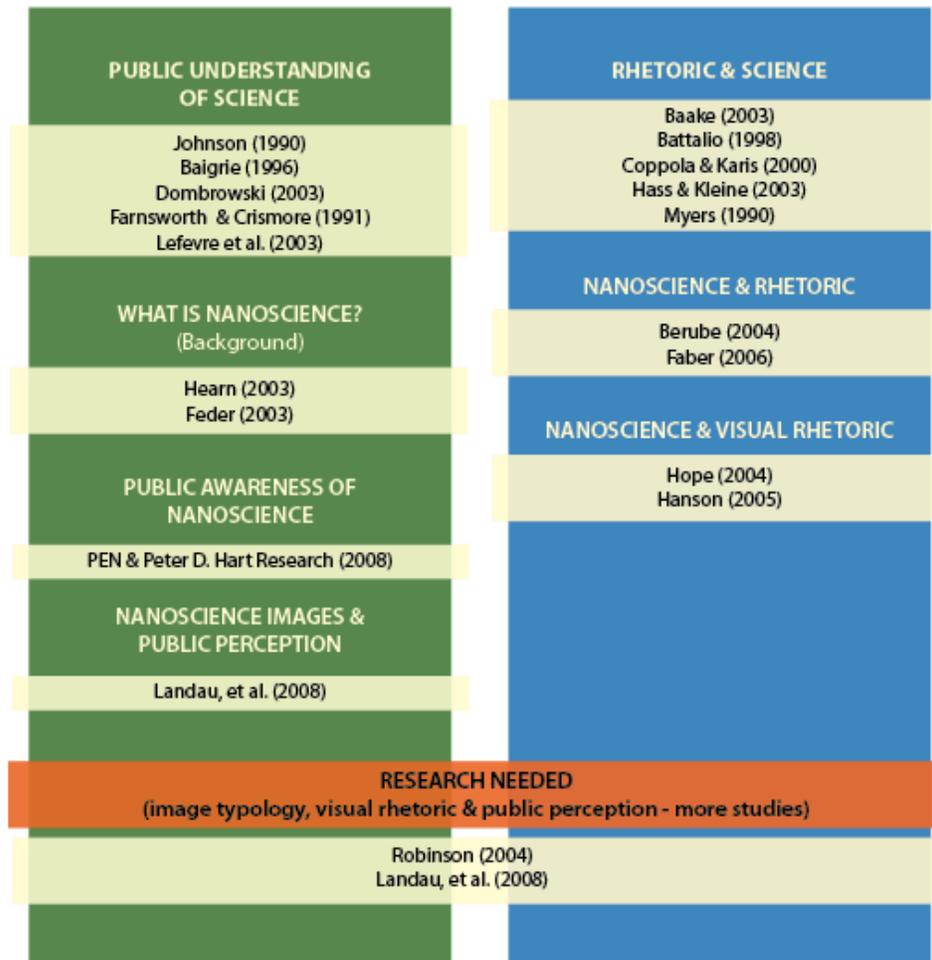


Figure 5.1. *Map of topics and literature related to nano images*

What is Nanoscience?

Nanoscale science or “nanoscience” is an emergent field that examines the principles of matter at a molecular level. Nano is the prefix for 1 billionth. In terms of meters, 1/100th

of a meter is a centimeter and 1/1,000,000,000th of a meter is a nanometer. Another point of reference—a single strand of human hair is 50,000 to 80,000 nanometers wide. In 1959, a scientist named Richard Feynman from California Institute of Technology predicted that one-day scientists would be able to work on that molecular level, building things atom-by-atom, molecule-by-molecule. Then in 1980, Gerd Binnig and Heinrich Rohrer at IBM's Zurich Research Laboratory introduced the scanning tunneling microscope, and in 1985 Binnig invented the atomic force microscope. These two technologies allowed scientists to observe and operate at the atomic level, allowing for the possibility of nanoscience research. In 1990, IBM scientist Don Eigler formed the IBM logo out of xenon atoms demonstrating to other scientists the potential for exact manipulation of atoms at the molecular scale. Shaping atoms in different ways at the molecular level led to speculation that atoms with different geometries could be used for different types of building blocks (such as nanotubes).

Because of the wide range of elements, and combinations, the potential uses for nanotechnology continue to grow. Nanotubes for instance, are highly conductive and strong so they are useful for making computer chips and memory storage devices. Carbon is also considered to be of the more stable elements at the molecular level. More recent uses of nanotechnology have occurred in automobile manufacturing to create stronger parts. In textile manufacturing, use of nanotechnology increases stain resistance, and softness of materials. And the cosmetics industry, nanotechnology is currently used to create various beauty products such as skin cream and suntan lotions (Hearn, 2003). Even food manufacturers are using nanotechnology for packaging and are experimenting with other uses—although these possibilities are the most controversial. Some researchers and scientific

writers have claimed that nanoparticles, because of their size and potential for seeping into skin and vital organs, may be toxic to humans (Feder, 2003). Yet, a major industry forecasting firm determined that in 2007 nanotech goods in the global marketplace totaled \$147 billion (The Project on Emerging Nanotechnologies, 2008).

In both fictional and investigative programming in popular media, nanotechnology has been associated with “cryogenics and the repair of damaged cells (Drexler, 1986, p. 135), “a cure for cancer, self-repairing highways, bulletproof clothing as thin as a rain jacket” (Berger, 2003), and affordable, abundant energy (“The Wizard,” 2003)” (popular media references pulled from Faber, 2006). Those more speculative about building molecular-sized machines have coined the term “grey goo” to refer to a hypothetical end-of-the-world scenario where intelligent self-replicating swarms of nanorobots devour everything in their path eventually consuming all matter on earth (Radford, 2003). These nanorobots were the foundation of Crichton’s (2002) plot for the novel *Prey*.

Public Awareness of Nanoscience

Although the media has made some efforts to cover nanoscience in their reporting, a recent study released by the Project of Emerging Nanotechnologies (PEN) and Peter D. Hart Research (2008), indicates that almost half of U.S. adults have heard nothing about nanotechnology, and nearly nine in 10 Americans say they have heard just a little or nothing at all about the emerging field of synthetic biology. Both technologies involve manipulating matter at an incredibly small scale. The study continues by stating that about 50 percent of adults are too unsure about nanotechnology to make an initial judgment on the possible tradeoffs between benefits and risks. The public who is willing to make an initial judgment

think benefits will outweigh risks by a three-to-one margin when compared to those who believe risks will outweigh benefits. According to the poll, public awareness about nanotechnology has not measurably changed in the United States since 2004 when Hart Research conducted the first poll on the topic on behalf of the PEN.

Rhetoric and Science

Over the past two decades, rhetorical studies have depicted the process of scientific research and application as a “highly social discursive process” and one of rhetorical activity (see Faber, 2006; Baake, 2003; Battalio, 1998, Coppola & Karis 2000; Hass & Kleine, 2003). Prelli explains that at least since the 17th century and perhaps since Plato’s time, science explicitly denied any connection to the rhetorical tradition. However, in the past few decades science has been the subject of rhetorical interpretation with foundational studies such as John A. Campbell’s rhetorical analysis of Darwin’s *The Origin of Species* and Maurice A. Finocchiaro’s *Galileo and the Art of Reasoning*. Rhetorical scholars coming from a conservative standpoint (where there is the belief that communication texts are designed to persuade members of scientific communities and that the scientific findings themselves are not objects for rhetorical scrutiny) examine topics such as: various modes of inquiry, the ethos of scientific practitioners, the organization and persuasive nature of scientific publications as well as scientific discourse and debates in various mediums. Some of the more prominent scholars in the conservative camp of the rhetoric of nanoscience camp include: Charles Bazerman, Greg Myers, Jean Dietz Moss, Lawrence Prelli, Carolyn Miller and Jeanne Fahnestock. Scholars who study rhetoric of science have also shown that the

rhetorical products of scientific research operate within very particular changing social networks.

Nanoscience and Rhetoric

There has not been very much research on the rhetoric of nanoscience. Berube (2004) uses a case study to examine the rhetorical strategies used by proponents of a particular nanoscience technology and how these messages are spun out to the public. In the case of the self-assembling nanobot, Berube concludes that E. Eric Drexler buried the concept under layers of rhetoric that were “detrimental to a coherent message that would have been helpful to the public.” Faber (2006) conducted another well-known study on the rhetoric of nanoscience when he examined the representations of nano in written and popular media from 1986 to 1999. Faber argued that this time period marked a fragmented public in regard to nanoscience and that the emergence of the topic in the popular media “occurred as a competitive and transitional social–rhetorical process.” Although the accounts in the popular media were created within the established understandings of science they were also influenced by biographical and other social criteria of the research (such as religion).

Nanoscience and Visual Rhetoric

While only a handful of visual rhetoric studies have looked at nano images, each has focused on the rhetorical nature of the images because of how they are actively generated from a surface map. Hope (2004) points out that nanoscience images invite viewers to “participate in a magical transformation of the environment” because the images are displayed in high-color contrast and arranged into patterns and shapes that are pleasing to

observe. She concludes that the images “work as powerful rhetorical constructs that allude to the sublime and the mysterious” and are “aesthetically compelling and mystifying.”

Similarly, Hanson (2005) mentions the mystifying nature of the molecular landscapes saying that nanoscience images communicate more than a “new visible worlds” notion (like at the microscopic level) but that they also allude to computer-generated virtual worlds (p. 9).

Nanoscience and Images

In addition to rhetorical studies of nano images, at least one study has begun to look at the impact of visual images on the lay American audience specifically in relation to nanotechnology through inductive qualitative analysis using semi-structured interviews. Landau et al. (2008) first asked subjects about their general knowledge of nanotechnology and then recorded their reactions to two different visual images. The reactions from these two images revealed ten themes: “science, (medicinal) machines, technology, very small, sky, motion, (childhood) toys, bodily blood, injecting (disease), and foreign (insect).” Researchers conclude that these themes are evidence of polarities that exist in regard to science images. These polarities lead to flexible but also precarious public attitudes in response to nanotechnology.

Conclusions

As alluded to earlier, investigating in what ways science images, from various media and contexts, influence public perception is an important project for scholars, scientists and policy makers because reactions to the images may likely impact future funding of nanoscience research and policymaking regarding the technology. In general, research

concerning public perception of nano images is lacking. One of the few published studies concerning the public perception of nanoscience focused on two images and one specific type of nano image and did not compare a selection of nano images from Robinson's image typology (2004)—schematics, documentation, fantasy, and fine art. Among the handful of articles that examine the visual rhetoric of nano images, the images are described and interpreted but there has been no comparison between these rhetorical evaluations and the results of audience reception studies such as Landau et al. (2008).

Conceptual Framework

Theoretical Perspective

This study approaches the research questions from two theoretical perspectives—a naturalist perspective, which in this study corresponds to the empirical visual communication approach, and a critical perspective which corresponds to the visual rhetoric approach and which is often included as part of the emancipatory perspective. The naturalist perspective refers to researchers' beliefs that they will be able to gain knowledge about people's reactions to nano images through in-depth interviews but that these reactions will vary according to previous knowledge, experience and culture. The critical perspective is similar to the naturalistic perspective in that it also stresses the role of the social, political, cultural, ethnic, and gender issues that influence the social construction of reality. However, research from a critical perspective also concentrates on dynamics of power and marginalization especially as they affect less dominant groups. Finally, the critical perspective also stresses the importance of the historically and socially situated context of the study's content (Groat

& Wang, 2002). Because a visual rhetoric method considers both the role of the social and political (as well as other) issues that help enforce the power of an influential message as well as the historical and social context of the artifact/text being analyzed, this method (and therefore this study) exists within a critical perspective.

Goals and Context

The goal of this study is to determine how the rhetoric of four different types of nano images (fantasy, schematic, fine art and documentation) influence both public perception of nanoscience and public knowledge of nanoscience. Thus, the rhetoric of the four categories is considered according to the various groups of “public” available for the study (students, professionals, elderly, teenagers, etc.). Other intervening variables include personal experience with nanoscience, interest in science in general, the cultural background and/or religious beliefs of the individual and the context in which the image is viewed. In order to reduce variables, religion and cultural background (though important) are not considered for this initial study. Although context is very important to a rhetorical analysis, the images are not analyzed within their original context (the images are taken from webpages, magazine covers, books, etc. and displayed without a background) because interview participants were not given a context. In the rhetorical analysis, context is discussed according to where an image of a particular type would *likely* appear or according to the kind of context viewers would likely associate with the image.

Research Questions

By looking at schematic, documentation, fantasy and fine art images (Robinson's typology) it may be possible to determine if the response or perception of certain nano images relates to the style of the image. The following three research questions guide the analyses:

RQ1: In what ways does the rhetorical function of the nano image change or not change depending on its "type"?

RQ2: How do audiences decode, or react to, various types of nanoscience images?

RQ3: How does the visual rhetoric of various types of nano images influence public perception and/or knowledge of nanoscience?

Methodology

Research Design

This study used a two-stage mixed methods approach to answer the research questions (Creswell, 2003). First, a visual rhetoric method was used to perform a close, systematic inspection of the images. According to Rice (2004), postmodern analysis of visual communication requires layers of approaches and methods (Rice, p. 64). This essay uses this layering approach to method by drawing upon a number of rhetorical concepts and approaches including: Foss's schema for visual rhetoric and more specifically her idea regarding the role of function in a visual analysis as well as Burke's concept of identification. The aim here was to describe, interpret, and evaluate the image content in order to gain greater insight into the consequences of the images. After conducting this analysis, a series of

in-depth interviews was conducted in order to thoroughly collect opinions about the images and to suggest possible transferable findings from the sample population. In this way, (through a short demographic questionnaire implemented at the end of the interview) inferences about the perception of the population could be made (Babbie, 1990; Fowler, 2002). Using the in-depth interview process was beneficial because participants could provide historical information and the line of questioning could be controlled (Creswell, 2003).

Although there have been a few studies regarding nanoscience images, rhetoric, and public perception (as discussed above), none of these studies has incorporated rhetorical methods with qualitative in-depth interviews. This two-stage mixed-methods approach (see figure 5.2) allows researchers to interpret the meaning of images using their own rhetorical knowledge in addition to reactions of the interviewees. Researchers could potentially compare results to determine if they inform one another and/or form a coherent rhetorical vision.

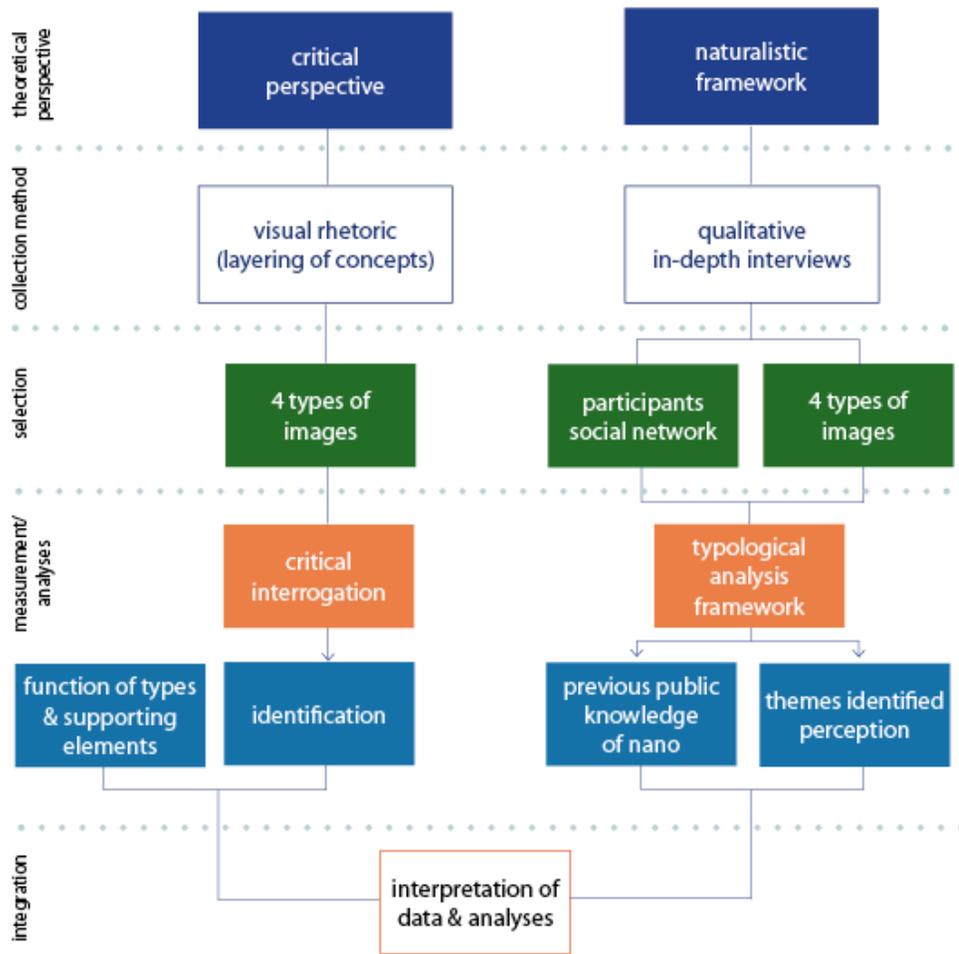


Figure 5.2. *Map of the methodological framework.*

Study Participants

First, for purposes of the interviews, a convenience sampling strategy was used (Patton, 2002). Similar to the Landau et al. (2008) study, participants were recruited by using personal social networks as a starting point in a large public university in the southeastern United States.^{xxxvii} Students and faculty of the university were not considered eligible for the in-depth interview portion of the study in order to “ensure that the social networking approach would reach out into the general community rather than back into the university”

(Landau et al., 2008). Members of the public already participating in nanoscience research were also deemed ineligible because they may have already formed opinions of nanoscience images based on their higher-than-average knowledge on the subject. Most participants for this study originated from the southeastern region of the United States and interviews took place face-to-face. However, because some interviews took place through the telephone or through online methods (i.e. online chat, Skype, etc.), this enabled participants from other regions of the United States to participate as well. Because the research questions focus on how personal experience and culture work with the visual rhetoric of the image to influence knowledge and perception of nanoscience, a large heterogeneous sample of various ages, races, ethnicity, educational experience, etc. was desirable. Or, as Groat & Wang (2002) suggest, rather than selecting people to be interviewed through random sampling the goal was to “maximize the variety and range of perspectives represented” (p. 174). The nature of the in-depth interview allowed for an initial sample of 25 people so that everything could be transcribed and thoroughly analyzed. Because of the possibility for future research in this area, participants were asked for demographic information to help highlight possible transferability of the sample and so other publics could be targeted in the future.

Stimulus: Nanoscience Images

Fourteen images were chosen from a variety of sources on the Internet. At least three sources were chosen for each category to satisfy the “more-than-one” principle (Kaplan & Kaplan, 1982). Some of these images have also appeared in print form but the online images were chosen because some of the interviews were conducted online. The images were selected because they were tagged by whoever posted the photo with one of the words from

the four categories (schematic, documentation, fantasy and fine art). They were also chosen because they were some of the most visited or linked-to images on the Internet (determined through a Google search). The images (in an uncategorized format) as well as the descriptions of the categories were given to a leading nanoscience communicator to check for reliability of the defined categories. The nanoscience expert placed the images in the same categories as identified by the researcher (and as tagged online)—demonstrating a 100% reliability for the image categories.

For the schematic category an image of a single-walled carbon nanotube above a graphene sheet (Figure 5.3) was taken from the SPIE website, a site for the international society advancing light-based research (<http://spie.org/x33070.xml?ArticleID=x33070>).

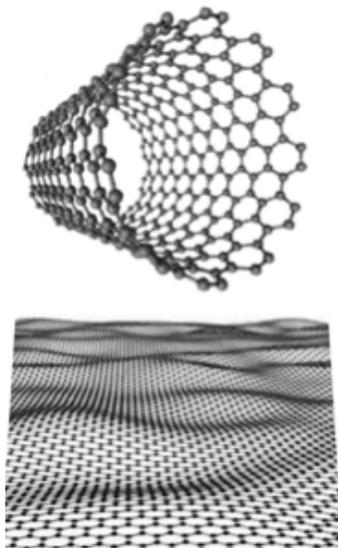


Figure 5.3. *Single-walled carbon nanotube above a graphene sheet.*

Another image of a carbon nanotube was pulled from the Princeton website (www.princeton.edu/~cstaii/CN/Carbon_nanotubes.html). This image had also been labeled as a schematic image (Figure 5.4).

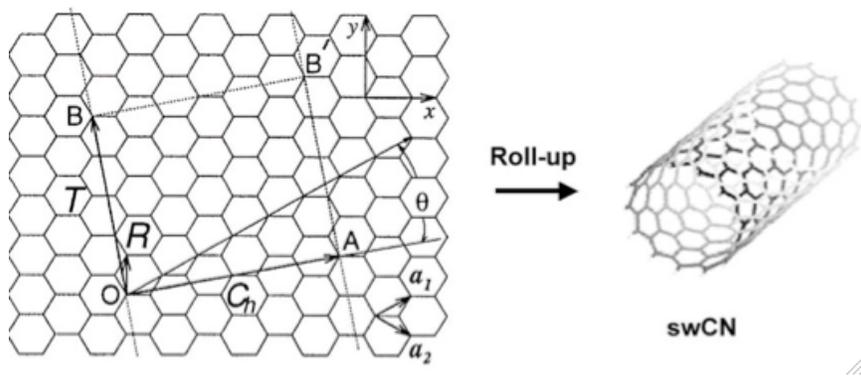


Figure 5.4. *Carbon nanotube.*

The third schematic image is a view down the middle of a boron nitride nanotube (Figure 5.5) (source Vince Crespi, Pennsylvania State Physics) from ScienceProgress.org (www.scienceprogress.org/2008/05/its-just-like-that-except-different/).

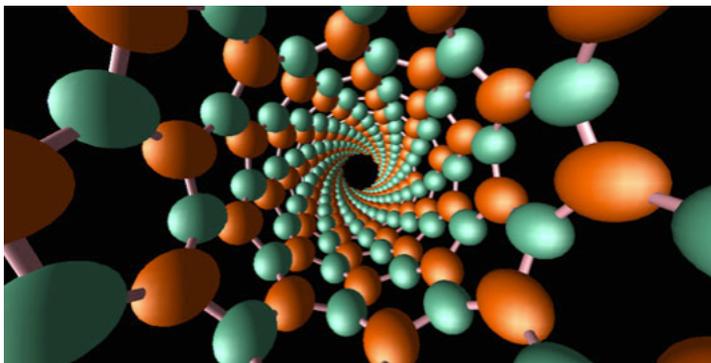


Figure 5.5. *View down the middle of a boron nitride nanotube.*

For the documentation category, an image from the UCLA International Institute website (<http://www.international.ucla.edu/article.asp?parentid=9580>) was used. The image

shows 36 cobalt atoms set in an oval at an IBM laboratory using a scanning tunneling microscope (Figure 5.6).

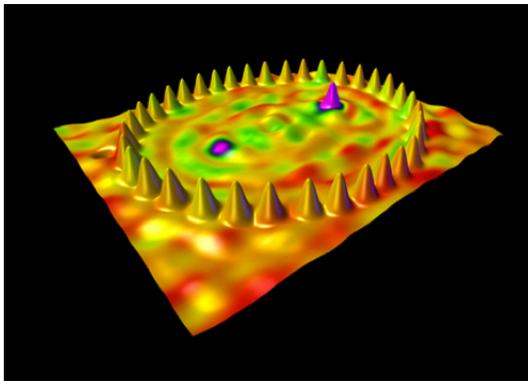


Figure 5.6. *Thirty-six cobalt atoms set in an oval.*

The next image was taken from engadget.com and illustrates the “nanocar” created at Rice University (Figure 5.7). The “nanocars” have the advantage of being able to "travel" across surfaces at room temperature (<http://www.engadget.com/2009/02/04/rice-university-rolls-out-new-and-improved-nanocar/>).

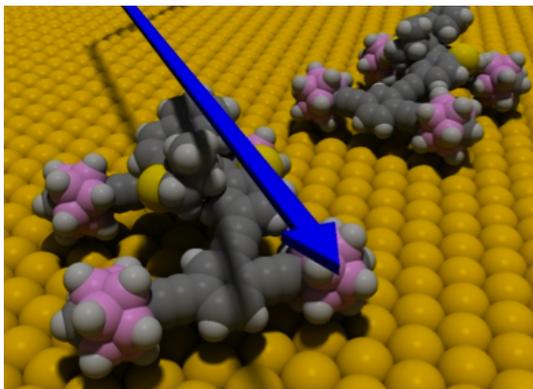


Figure 5.7. *Nanocar.*

For the next documentation image, an image from Physorg.com (<http://www.physorg.com/news133712899.html>) created by a scanning electron microscope

of copper nanorods deposited on a copper substrate (Figure 5.8) (Credit: Rensselaer Polytechnic Institute/ Koratkar) was chosen.

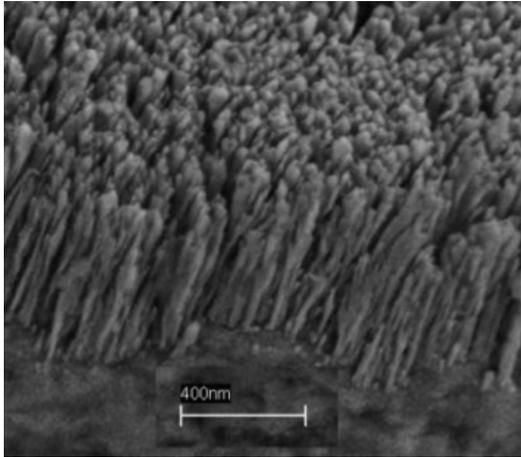


Figure 5.8. *Copper nanorods deposited on a copper substrate.*

The final image for the documentation category was created from a scanning electron microscope of “‘cleaned’ carbon nanotubes (Figure 5.9) at NIST” (Credit: NIST) taken from sciencedaily.com (www.sciencedaily.com/releases/2008/04/080415164306.htm).

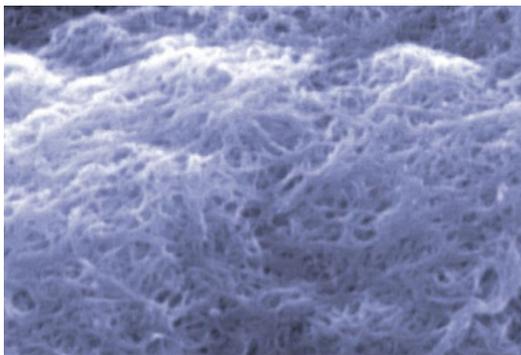


Figure 5.9. *Cleaned carbon nanotubes.*

Fantasy nanoscience images were chosen by searching for “nanotechnology” news stories. This search provided the researcher many images of mechanical nano devices. The images were not always given captions (probably because they are mostly works of fiction).

Images chosen include the nanolouse (Figure 5.10)

(<http://www.nature.com/nature/journal/v421/n6922/full/421474a.html>), a nanoworld with a

mechanical arm (Figure 5.11), (<http://www.redicecreations.com/article.php?id=2354>) and a

nanobot flowing through a human blood stream (Figure 5.12)

(<http://www.techwall.org/tech/nanotechnology-biotechnology-future/>).

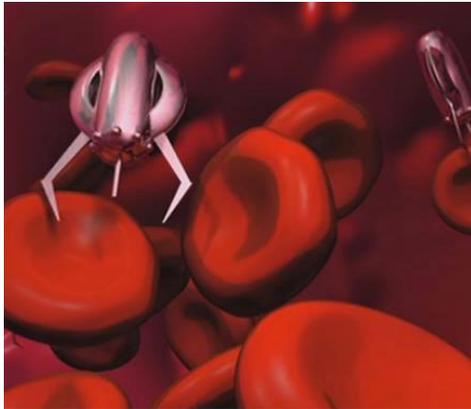


Figure 5.10. *Nanolouse.*

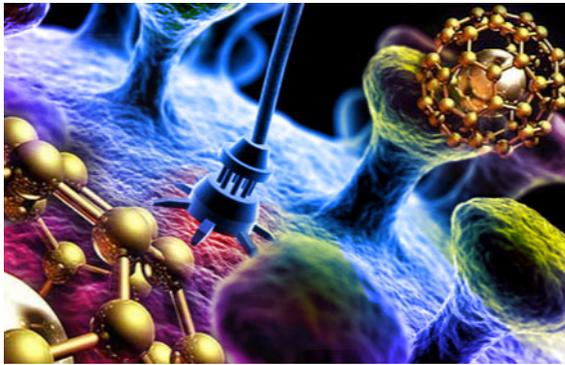


Figure 5.11. *Nanoworld with mechanical arm.*

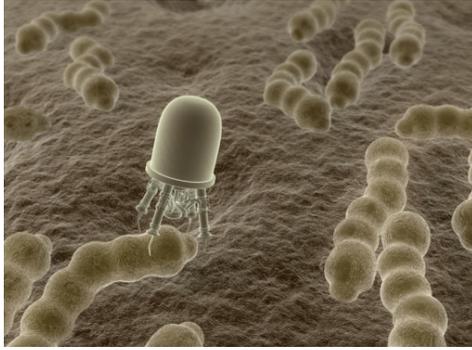


Figure 5.12. *Nanobot flowing through a human blood stream.*

For the final category, the fine art image, four images were used from the NanoArt Show “The Art of Science: Nanostructures Un-structured, an art show at the University of Georgia (<http://panz.myweb.uga.edu/Art-NANOSTR.html>). The blue colored image is Ga ball-Si crystal-SiOx nanowire octopus (Figure 5.13), the light purple and green image is germanium-catalyzed ZnO nanowire (Figure 5.14), the red colored image is of a germanium beads chain (Figure 5.15), and the green image illustrates germanium-catalyzed ZnO nanowire on a copper grid (Figure 5.16) (all four images provided by: Zhengwei Pan).

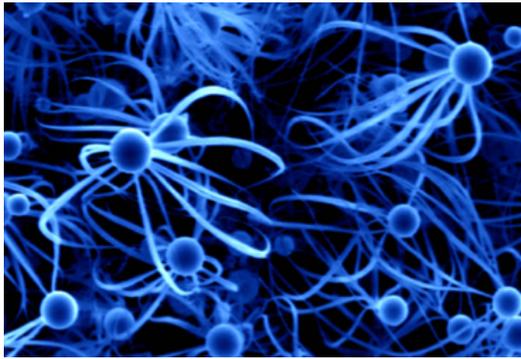


Figure 5.13. *Ga ball-Si crystal-SiOx nanowire octopus.*



Figure 5.14. *Germanium-catalyzed ZnO nanowire.*

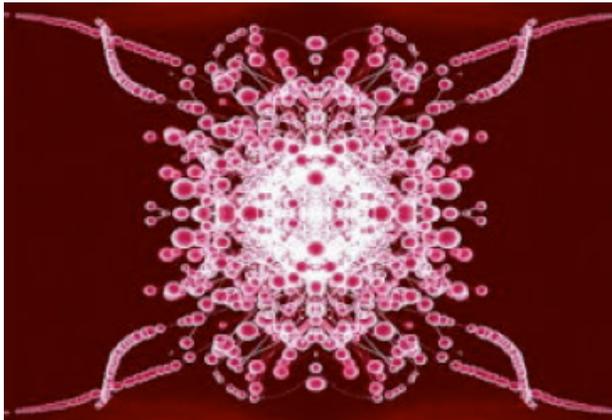


Figure 5.15. *Germanium beads chain.*

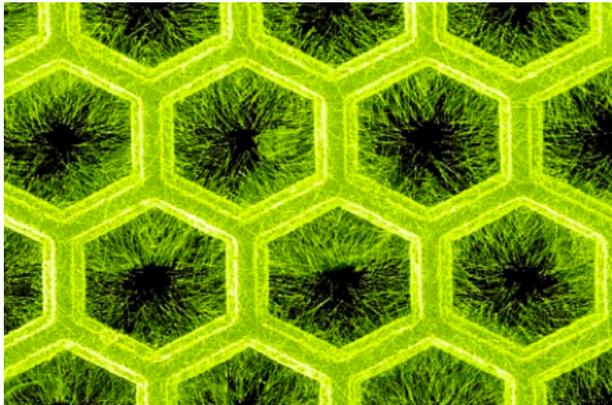


Figure 5.16. *Germanium-catalyzed ZnO nanowire on a copper grid.*

Although the images have been grouped here according to category, during the interview process the images were not presented in the order here and the styles were mixed.

Method 1: Visual Rhetoric Analysis

To review, this study uses a layering approach of various visual rhetoric concepts and schemas. The Foss (1994) schema, as an example of a visual rhetoric schema, proposes that an artifact be judged on the function, rather than the purpose, of an image because “purpose involves an effect that is intended or desired.” Furthermore, according to Foss, rhetorical critics should not judge an image based on the intention of the creator. Identification of the function is then followed by an assessment of how well that function is communicated and what kind of support is available for that function in the image. Here, the critic’s concern is with stylistic and substantive dimensions of the image including subject matter, medium, materials, forms, colors, organization, craftsmanship, etc. Foss insists that some of these dimensions may support the function while others may detract from it.

Method 2: In-Depth Interviews

In-depth interviews consisting generally of three parts were conducted to gather participant reactions about the selected images. All interviews were conducted in the respondents’ location of choice. The audio was recorded and then fully transcribed. The first portion of the in-depth interview process asked participants open-ended questions about what they knew about nanoscience/nanotechnology. Regardless of what the participants answered, another description of nanoscience/nanotechnology was discussed with the participants so that all participants were somewhat aware of the image content prior to viewing. In order to determine how participants decode or react to nanoscience images and how the visual rhetoric of various images influences the public perception and knowledge of nanoscience (RQ2 and 3), the second portion of the interview presented participants with images on a

computer screen (like they would view through online portals and websites) while corresponding open-ended questions were asked. Part three of the interview asked demographic questions as well as questions relating to previous experience and cultural background. Some of these categories (demographic and cultural) included: education, income, sex, age, past experience with nanoscience, interest in science, etc.

Data Analyses

Initially, the images' stylistic and substantive content was interrogated in order to determine how the visuals functioned rhetorically and how the variation in types altered the visual rhetoric (RQ1). In order to determine how the visual rhetoric of various types of nano images influenced public perception of specific images and public knowledge of nanoscience (RQ2 and RQ3), recordings and transcripts of the interviews were analyzed using a typological analysis framework that included processes of reducing the data, creating thematic categories, and drawing conclusions (Goetz & LeCompte, 1984; Miles & Huberman, 1994). The outcome of the inductive process resulted in three themes, far fewer than Landau et al.'s (2008) ten. The data was then given to an independent coder who was asked to code units into predefined categories (the three thematic categories identified). This step was conducted in order to determine the reliability of the units within the identified categories. Additionally, a test for intercoder reliability was run using Scott's Pi (Craig, 1981) that resulted in an acceptable 86% reliability. Also, in the results section, each of the research questions is referenced so that they could be answered in terms of thematic categories and the prior visual rhetoric analysis. Next, the findings from the initial visual rhetoric analysis with that of the thematic categories and information used to answer RQ2

were compared. Finally, a holistic analysis of respondent knowledge and perception of nanoscience in relation to respondents' demographic information was conducted to investigate how all the different variables relate to one another to answer RQ3.

Visual Rhetoric Analysis

“Schematic” images, as explained by Robinson (2004), are the more traditional graph and diagram images of scientific visualization like line drawings and molecular models of the DNA spiral. Two of the three schematic images chosen for this study (see Figures 5.3, 5.4 and 5.5) are presented in black and white like the line drawings Robinson (2004) describes (or like traditional pen and ink drawings). Figure 5.4 of the images uses arrows and connecting lines to convey that one object is representative of another.

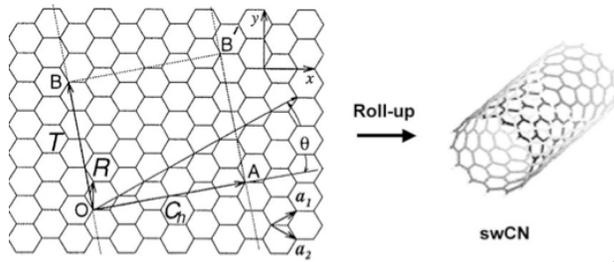


Figure 5.4. *Carbon nanotube.*

Evidently, the flat honeycomb pattern in Figure 5.4 is intended to represent what the nanotube looks like prior to the material being rolled. Figure 5.3 differs slightly from Figure 5.4 because it lacks any text and any kind of arrows or connecting lines.

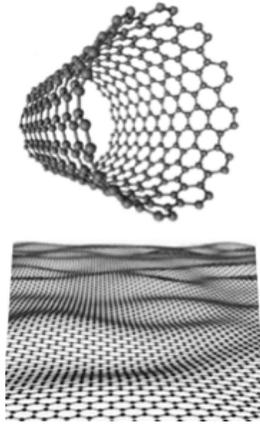


Figure 5.3. *Single-walled carbon nanotube above a graphene sheet.*

Although it is a two-dimensional image, the more detailed shading and use of linear perspective creates the illusion of three dimensions. An attempt to illustrate a three-dimensional figure only occurs on the right half of Figure 5.4 in order to illustrate something flat that had been rolled. Figure 5.4 uses an educational rhetoric through the use of arrows, vector lines and text within the images—an image similar to what would be found in a textbook or drawn on a board by a professor (most likely in even less detail).

Figure 5.3 presents an illustrative rhetoric that could also be found in a textbook but not for the intention of explaining how something works or its individual components but to provide students an illustrated idea of another world or an entire concept.

This strategy assumes the viewer is aware of how the pieces fit together or that this kind of explanatory information is unnecessary (either because of previous knowledge or disinterest on the part of the viewer). The shading, detail and perspective in Figure 5.3 invites viewers to enter the nano world and gives them a visual reference to consider the carbon nanotube. If the caption were not provided, a viewer may assume that the floating artifact above the sloping base of the illustration was constructed out of the same material. However,

it is more likely that a viewer would spend time focused on the rolled nanotube because it takes up the majority of the image. Furthermore, the use of perspective drawing, with one side of the tube opened toward the right, draws attention to the center of the nanotube. The attention to detail and the commitment to geometric shapes is reminiscent of the graphic artist M. C. Escher—an artist who reveled in depicting mathematical principles. Like Escher’s images, the visual rhetoric of Figure 5.3 invites viewers to partake in a prolonged stare that evokes a tactile sensibility in viewers.

Figure 5.5, unlike Figures 5.3 and 5.4, consists of very bright orange and green coloring and is similar to the molecular modeling of DNA, another type of schematic image according to Robinson (2004).

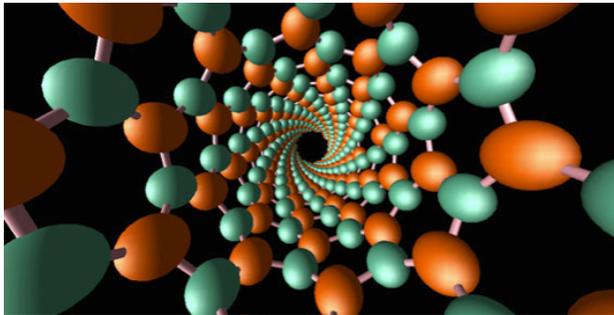


Figure 5.5. *View down the middle of a boron nitride nanotube.*

The shading of the spherical components and the use of the linear perspective creates a three-dimensional effect that attracts the viewer to the center of the image. Because the center of the nanotube is arranged in the middle of the drawing, viewers have the sense of looking down the inside of the tube and may also feel like they could fall in, like Alice’s journey down the rabbit hole. The black background also imparts a feeling of the unknown like that of traveling through outer space. The rhetorical messages within this schematic image are

much different than that of the black and white images. Although Figure 5.3 may present an illustration of another world it does not convey the excitement, hypnotic feel, and perhaps intimidation for some, as does Figure 5.5. This is not to suggest however, that the hypnotic rhetoric is solely the result of the bright colors. Imagining a similar scenario where Figure 5.3 contains bright green and orange does not produce the same kind of mesmeric impact. Instead, the dramatic and captivating perspective of the image is what most strongly contributes to the spellbinding rhetoric of Figure 5.5. Compared with Figures 5.3 and 5.4, an argument could be made to place Figure 5.5 under Robinson's (2004) "documentation" category instead of the "schematic" category because the schematic images are defined as having little "visual drama." With its strong use of linear perspective and vibrant colors, Figure 5.5 does utilize some visual drama. However, because it is so similar to the type of DNA modeling images that Robinson (2004) also defines as schematic, Figure 5.5 fits most neatly within this category. In summary, all three images would be considered "schematic" by the Robinson (2004) typology but only Figures 5.3 and 5.5 would be inviting to anyone not involved in some capacity in nanoscience research or education because the pedagogical rhetoric provides information that outsiders would not likely decode on their own. This kind of jargon-specific visual rhetoric would likely be alienating to an audience outside the world of nanoscience.

Robinson (2004) continues his typology discussion by defining documentation images as "attempts to characterize how the image really is." This is usually done through the use of "photography, microscopy, illustration, and animation." One of the documentation

images chosen for this study is in black and white (Figure 5.8) while Figures 5.6, 5.7 and 5.9 are in color.

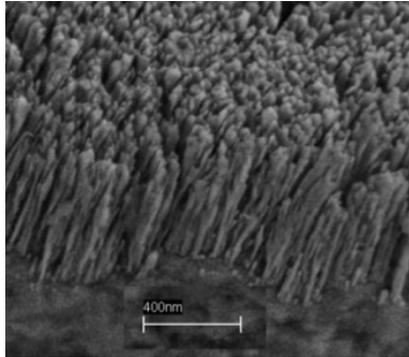


Figure 5.8. *Copper nanorods deposited on a copper substrate.*

Similar to the schematic image (Figure 5.4), Figure 5.8 includes a horizontal line with the text “400nm” indicating the length of that line equals 400 nanometers. Although only one image is in black and white, two of the four images have similar stylistic qualities in that they look like a photograph of what someone would witness through a microscope. This photograph-like quality is due to the high contrast lighting (very dark blacks and very white light) and high resolution. Robinson (2004) writes that documentation images do not offer any additional insight or illumination but are created only because they “look ‘cool.’” However, in the case of nanoscience it would seem that this kind of image functions in a similar rhetorical manner as Figure 5.3. For the world at the nanoscale, most people cannot envision what it could possibly look like without being given some sort of visual direction. These documentation images look like photographs or like images seen through microscopes in high school or college and so they make nanoscience seem more familiar. Or in Burkean terms, viewers are able to more easily identify with the image because it reminds them of illustrations they have viewed in their past. In this same respect, viewers may also begin to

see nanoscience as “dirty” or “gross” because a common educational experience with microscopes is to reveal the world of bacteria and dust (also common in commercials for cleaning products). Especially with photograph-like images, the subject matter looks like something growing or multiplying (even though the images are static). The color in Figure 5.9 helps that particular image seem more appealing but even that visual content connotes objects such as cobwebs or a substance to be removed during a spring cleaning (somewhat ironic because the caption makes a point to mention that the image is of “cleaned” carbon nanotubes).

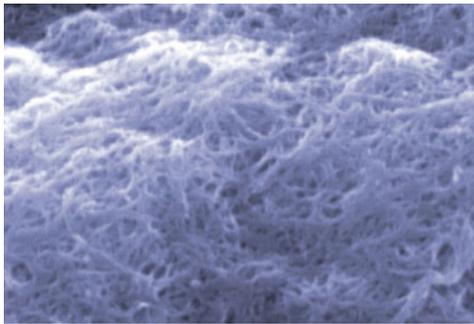


Figure 5.9. *Cleaned carbon nanotubes.*

The visual rhetoric of Figures 5.6 and 5.7 is similar to that of the rhetoric of schematic Figure 5.5 in that the colors and perspective for all three figures are bright and even a little intimidating.

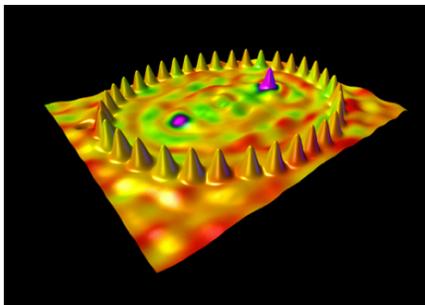


Figure 5.6. *Thirty-six cobalt atoms set in an oval.*

For both Figures 5.6 and 5.7 (also like Figure 5.5) an argument could be made to place them in a different category—in this case, the schematic category—because they are idealized versions of the subject matter.

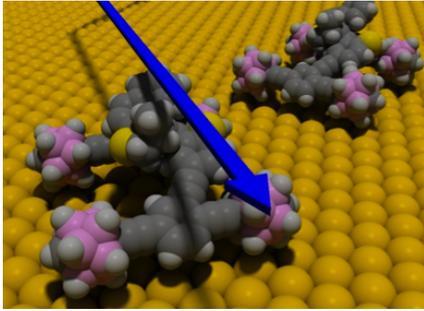


Figure 5.7. *Nanocar*.

However, the extent to Figure 5.6 and 5.7’s “visual drama” puts them more perfectly in the documentation category.

Instead of being developed through microscopy, these two images are digitally illustrated and Figure 5.6 easily resembles Eigler’s ‘Electron Corrals,’ one of Robinsons’ (2004) examples of a documentation image. The illustration technique creates a different kind of visual rhetoric because of the colors and the crisp picture. The rhetoric does not connote messages of dirt but is more aggressive. The very bright red paired with the yellow and the circle of spikes in Figure 5.6 communicates heat and sharpness, neither of which are comforting adjectives. The colors of Figure 5.7 are not as menacing as the red but they clash in such a way that a viewer cannot feel contentment—especially when the blue arrow abruptly shoots from above on the left side of the image.

The arrow greatly contributes to the militant feel of Figure 5.7 because it implies a strong move forward to a specified goal for the machines. It harshly slices through the picture and leaves a shadow creating a double slice straight through the image.

To review, the visual rhetoric of the two microscopy schematic images for this study, although they may establish identification with their audience of recognizable types of images, they may also convey images of dirtiness, of the unknown, even of disgust in a novice audience. The visual rhetoric of the digitally illustrated images may not disgust an audience per se but they are more aggressive and dissonant because of the bold and jarring color and configurations. It would seem that the intent for these documentation images is to make the unfamiliar world of nanoscience and its new developments more familiar for its audiences. However, due to the either very raw, unrefined shapes or the overly dramatized color, the overall visual rhetoric may leave viewers with an unsettled feeling in regard to nanoscience.

“Fantasy” images, according to Robinson (2004), allow illustrators greater freedom in their depiction of nanoscience because it is more acceptable for the visual cues (lines, color, size, shape, etc.) not to be based in hard science. Robinson (2004) writes that these images captivate “at the risk of misinforming.” These are the images most common in popular nano science fiction including characters such as “monster-like mechanical devices, often shown in veins and arteries.” All three of the images chosen for this study contain one foreign “mechanical device” (Figures, 5.10, 5.11 and 5.12).



Figure 5.10. *Nanolouse*.

The popular image of a ‘nanolouse’ using “pinchers and a needle-like probe to grab and sample a red blood cell” (Figure 5.10) is referenced specifically by Robinson (2004) and also used by Landau et al. (2008). Two of the images (Figures 5.10 and 5.11) use very bright colors whereas the third uses a style similar to the “documentation” images—a black and white and very detailed illustration that looks more like a photograph (Figure 5.12).

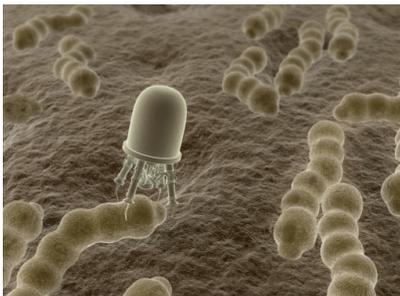


Figure 5.12. *Nanobot flowing through a human blood stream*.

However, even in the two color images, the way in which the color is used is drastically different. The red blood cell image uses only variations of red, most likely to convey to audiences that the mechanical device is within a human bloodstream. The colors in (Figure 5.11) are reminiscent of images of the fantastical genre, with very bright neon pastels that change throughout the matter in a random fashion and almost appear to glow.

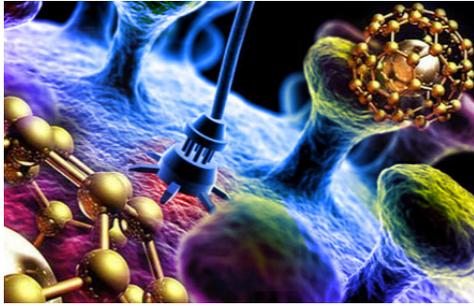


Figure 5.11. *Nanoworld with mechanical arm.*

In all three fantasy images, the mechanical devices are made distinct from the surrounding environment through the use of straight lines and smooth, sharp edges. As Robinson (2004) alludes, the mechanical devices in the images do not reference any kind of human control. Two of the mechanical devices seem to maneuver themselves freely throughout their nanoscale worlds while the third image (Figure 5.11) appears to have descended from another entity above (this could or could not be human-related). What seems most interesting with these three images is that where in some ways it seems like the subject matter is the most similar compared to the examples of the other typologies (all three contain a mechanical device entering a world at the nanoscale), because of the coloring and the way each nanoscale world is depicted, the rhetorical functions appear the most divergent. The image with the blood stream (Figure 5.10) suggests to a viewer “this is what is possible” with nanoscience. Someone seeing this image is lead to think, these are the kinds of things happening with nanotechnology or could happen one day soon. Part of the reason they might have this positive outlook is because of similar scientific images that this alludes to, images that the public have experienced in school where people are able to journey through the body. The final outcome, in films where shrunken vessels journey through the body, is usually positive. Protagonists may have to battle infections but these protagonists—such as white

blood cells, other natural workings of the body, or the shrunken visitors—are able to fight off the threat. However, because the mechanical devices appear to float about freely without reference to human control, this also creates an anticipatory rhetoric due to the variety of potential outcomes. Certain outcomes may be positive where the autonomous micro machines navigate efficiently and accomplish their goals. Other imagined outcomes could be that the micro machines go rogue fostering mayhem and destruction in their wake. Figure 5.11, although it has intriguing and attractive colors and imagery, does not provide viewers with any reference to a world with which they are familiar. The mechanical-device most likely would allude to something having to do with outer space as well as the world the mechanical device is entering—even the golden spheres float in the atmosphere suggesting no gravitational pull or perhaps a world under water. This sends a rhetorical message that nanoscience borders on fiction or deals with issues unrelated to the real-world. In short, the rhetoric of the fantasy images instills a rhetoric of just that—fantasy. The visual rhetoric exemplifies excitement for the possibilities but it also implies suggestions for how the most cutting edge technology could be invasive and also unresponsive to human demands.

As defined by Robinson (2004), the creators of fine art images seek “some form of meaningful and long-term effect on culture.” Robinson (2004) claims that artists should be involved in scientific visualization because they “have the ability to mediate complex information and assist in the public’s understanding.” All four “fine art” images analyzed in this study are in color (Figure 5.13, 5.14, 5.15 and 5.16). Three of the images consist of mainly one color (all of these colors are very bright and not seen as commonly in nature) while the fourth (Figure 5.14) uses many colors.



Figure 5.14. *Germanium-catalyzed ZnO nanowire.*

Although the images do not appear animated or illustrated, they also do not look like something under a microscope (at least according to most people's experiences with microscopes). Instead, the colors are vibrant but not overwhelming and the form very aesthetically pleasing. When compared to the other images, this group is definitely the most organic. The few straight lines that are depicted, like in Figure 5.16, are contrasted with more sporadic and unpredictable lines that jut out within the geometric shape.

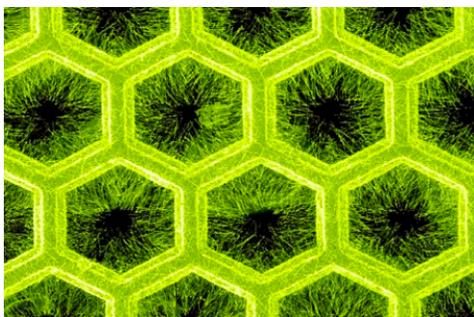


Figure 5.16. *Germanium-catalyzed ZnO nanowire on a copper grid.*

In Figure 5.15, with its perfect symmetry, the image appears like it could change at any moment.

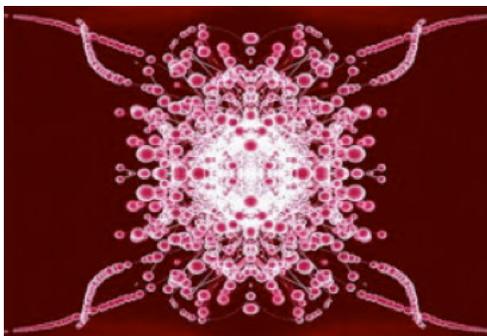


Figure 5.15. *Germanium beads chain*.

This dynamic feeling is most likely because the beads appear to grow from the center of the image, leaving the viewer to wonder if the beads will sink back into the center or continue to grow outward. The visual rhetoric of these images created through their beauty intrigues viewers, inviting their curiosity and longer stares. Instead of quick glances, the magnetism of the images, due to their organic form and vibrant but appealing colors, manage to alleviate many negative associations people have with science—feelings of intimidation, unreality, scariness and even disgust. The use of aesthetically pleasing symmetry, shapes and colors indicates that the intent is not to surprise or upset an audience but to draw their attention to the image and prompt them to consider the content. The organic and aesthetically pleasing nature of the fine art images sends a calming message because of the pleasing colors and references to real-world objects and experiences such as jellyfish, the ocean, a flower or a field.

Qualitative Analysis of Interviews: Decoding Nanoscience Images (RQ2)

In the Landau et al. (2008) study, researchers argued that for “non-scientists’ visual images of science are drawn from and fixed back within a specific ‘visual’ domain of ‘science’ images” (p. 9). They arrived at this conclusion after inductively identifying 10

different themes resulting from interviews of people responding to two nano science images. The themes identified within this study however, were much more broad and thus did not result in the same conclusion. Only three themes were identified when analyzing the interview data (RQ2), 1) science education (Landau et al. referred to this as “images of science” 2) science fiction and 3) everyday objects and situations. These themes were identified across all four of Robinson’s typology of nanoscience images. Observations of participant reactions according to each typology are discussed following the description of the themes.

Science Education

This theme demonstrated how participants identified certain types of image techniques as similar to other images they have witnessed in science and math classes, science textbooks and science journals and magazines. Interestingly, there was not one specific type of science image that participants most often identified with science education. A majority of participants did mention that Figure 5.4 (a schematic image) reminded them of school in some way but at least one image from all three other typologies had participants mention that it reminded them of school. Participants decoded images using their experiences with science education in the following examples:

This looks like an x-ray of bacteria. Like something is moving or we’re getting information from it. It looks gross or moldy. The lack of color gives me this impression. This looks like a slide you would look at in high school that was bacteria laden. It looks like dust mites or something. (Figure 5.12: fantasy image)

This is not as exciting [as images viewed previously]. This looks like a drawing just to talk about it, like its just trying to get information out there. Maybe like it would be used to teach what it could be. I feel like you would see it in a textbook and learn it for a test so this doesn't give me good feelings because it looks boring and difficult. There seems to be a lot of information on here. There are lots of letters, and arrows, etc. (Figure 5.4: schematic image)

This looks like an amoeba under a microscope. It reminds me of school. (Figure 5.15: fine art image)

I don't like this picture. It reminds me of chemistry...so negative thoughts. It's weird to put subjective thoughts on objective pictures but this reminds me of chemistry and I didn't particularly like chemistry. It's the atom. That looks like a ring. You know how they do models? I think that's the bubble model... Like in chemistry they'll have a structure like this where they're filled in and the electrons orbit the nucleus. (Figure 5.7: documentation image)

It makes me think of school, like a diagram or something in a textbook, like something explaining the synthetic process. It gives me dread because it reminds me of something on a test. It looks like they sprung from each other. The arrow and the colors don't go well together, they're not pleasing and it reminds me of a textbook. (Figure 5.7: documentation image)

When participants were asked to further explain what they meant when they said it reminded them of a certain class they would often follow up with, "it looks like an image you would see in a/n [insert science or math course here] textbook." Sometimes participants were

more specific, noting that especially for the fantasy images (not that they identified them as such because they were not labeled) they would more likely be on the cover of the textbook. For example, one participant said of Figure 5.11, “I feel like this should be on the cover of a science book. Like in the two corners they look like they would be some weird atomy molecule jazz, and this center thing looks like a plug going into an outlet, and these look like they are exploding.” As illustrated in the few examples above, a general emotion associated with the “Science Education” theme is often negative with participants feeling frustrated or bored with their lack of knowledge or they associated the image with a distasteful experience from the classroom. More examples of this follow:

This makes me think of something that I don’t understand. It makes me feel kind of retarded. Like, maybe I should know this stuff. It makes me want to go the other direction. Like, my father was a surgeon and I was just like ‘F*#% this. I want to be done with chemistry now.’ I mean what does this stand for? Why does it have an x and y axis in the middle of the folded rollup? What do the letters stand for and why? We’ve got different angles and lines. Some are thick and some are dotted. It makes me think nanoscience is extremely complex. Ridiculously complex. (Figure 5.4: schematic image)

I thought of seaweed or something at the bottom of the ocean. I guess this makes me confused. I don’t understand what is going on. It looks like it’s from a microscope. (Figure 5.8: documentation image)

I guess it kind of grosses me out. If you zoom in it looks webby. In microbiology we learned about pathogens and ecoli and the intestines are lined with the epili and so it

kind of reminds me of that. So it kind of grosses me out. (Figure 5.8: documentation image)

Science Fiction and Outer Space

This theme illustrated how participants would decode certain images by relating them to popular movies or books and their conception of outer space. Although the argument could be made to separate outer space as a theme in and of itself, it was paired with science fiction for this study because participants almost always treated them synonymously (This is also similar to how they treated the words “molecules,” “atoms,” and “cells” where the terms were used interchangeably). For instance, this was one participant’s reaction to Figure 5.11, “Outer space. Like an explosion? No, not an explosion but its got a lot going on. It’s interesting and I kind of like it. Sci-fi. Like something you’ve seen in a movie.” Not so surprisingly, participants most often used the “science fiction” term when describing their reactions to the fantasy images. In another example, one participant said,

This looks like something I’ve seen on a sci-fi movie. This looks like a war machine. At first I thought it was big but now these look like red blood cells so I think of those movies where they go inside someone’s body and have a war. It makes me feel reminiscent for movies when I was younger. (Figure 5.10: fantasy image).

Other examples include:

Outer space! Like an explosion. No, not an explosion – but it’s got a lot going on. It’s interesting – I kind of like it. Sci fi. Like something you’ve seen in a movie. (Figure 5.14: fine art image)

This is a little shrunken space ship flying through a pool of red blood cells. It reminds me of the science fiction movies you might see on kids shows. (Figure 5.13: fantasy image)

This reminds me of the space rovers on planet mars. It's pretty interesting. (Figure 5.6: documentation image)

Every Objects and Situations

The “every day objects and situations” theme illustrates that participants may decode nanoscience images using familiar objects and situations related to the science genre, but whether or not it is science related really depends on their own personal interpretations and take on the image. Very often participants made non-science related everyday associations having to do with personal experiences from their own past or media they've seen, like:

This makes me think of jellyfish because I went to a restaurant that had a fish tank with jellyfish in it that had a blue light underneath it so all the jellyfish lit up blue. I like this image because of that memory. (Figure 5.13: fine art image)

This looks like an infrared image of a cult-like ceremonial structure, almost like Stonehenge. It also looks like Bart Simpson's spiky hairdo. I don't know whether to think it is funny or creepy. (Figure 5.6: documentation image)

Really it looks like Christmas. It looks like the webbing around a Christmas tree. It makes me feel itchy. I'm allergic to pine trees. It looks like Christmas trees when it is wrapped up in that plastic wrap when you buy it from the boy scouts on the corner. (Figure 5.16: fine art image)

This reminds me of the scrubbing bubbles commercial but on a really dirty bathtub. The shapes are similar and the lack of color makes me think it is dirty. (Figure 5.12: fantasy image)

Therefore, it did not appear that participants were making any attempt to relate their reactions to science. Even with Figure 5.4 (the image that most participants associated with science education) there was the occasional association with the everyday. For example, one participant said of the schematic figure, “This image looks like honeycomb or a fruit rollup.” Another said that the image looked like a “Parmesan cheese rollup” that she had seen a chef create on the Food Network. These descriptions fit better under an alimentary category as opposed to science.

Typology and Other General Observations (RQ2)

Many of the typology observations in this study support Robinson’s (2004) assertions and recommendations regarding best strategies for depicting nanoscience visually to the public. Robinson (2004) questions the usefulness of the documentation image when communicating scientific ideas because of their extreme manipulation and inaccuracy. As mentioned earlier, he believes the images are created because they “look cool” and not because they offer any additional insight. The qualitative data from this study, does suggest that documentation images may not be the “right approach” to build public understanding and enthusiasm for the novel science. Although there were a wide variety of reactions to the documentation images, the emotional reactions were generally negative in response to all of them. Four very different documentation images were chosen in order to account for the variety of ways documentation images can be created and yet participants disliked images

created by both the microscopy and the illustration technique. They described the microscopy images as “dirty,” “gross,” “death-like,” “creepy” and/or “boring.” The illustration images received some of the most divergent descriptions but most described these images as “weird,” “militant,” “confusing” and “frightening.” There were the occasional positive comments that described the images as “fun”, “interesting” or “serene” but these reactions were definitely in the minority and were sometimes changed by the end of the interview to a more negative response as the viewer spent more time with the image.

By contrast, participants appeared to have a much different experience when viewing the fine art images. They usually described these images as giving them “happy” or “peaceful” feelings and commented on their “symmetry” sometimes describing them as “pretty” or “aesthetically pleasing.” Figure 5.15 was the only fine art image that had more mixed reactions from the participants. Although they also described Figure 5.15 using words like “symmetrical” and “interesting” most of them also thought it resembled a bug and so would also describe it as “creepy,” declaring that bugs are “gross” or make them “nervous.” This seems to suggest that whatever content association participants had with the image was the most powerful determining factor in their general like or dislike of the image. Figure 5.14 (another fine art image) was the image participants liked the most with almost every participant saying that the image reminded them of wild gardens specifying the action of blowing the seeds from the top of a dandelion. Like the participant who said she liked an image because it reminded her of a specific memory (blue aquarium memory from Figure 5.13), this kind of specific and personal association to a positive or negative experience was crucial to the final opinion of an image.

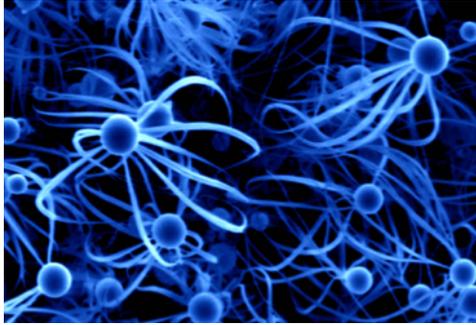


Figure 5.13. *Ga ball-Si crystal-SiOx nanowire octopus.*

Robinson (2004) suggests artists would be the best mediators for the cultural role for nanoscience and the results of this study appear to support this claim because participants definitely spent the most time with, and reacted most positively, to these images.

Two of the three fantasy images (Figures 5.10 and 5.12) were overwhelmingly described as “scary,” “creepy,” or “gross.” Figure 5.11 on the other hand was usually described as “colorful”, “fun” and “energetic.” Because Figure 5.11 differed mainly in color and in the machine’s lack of autonomy when compared with Figure 5.10 and 5.12, it would seem that these factors were important to the participant’s reaction. Further discussion about Figures 5.10 and 5.12 revealed that participants were usually nervous about the floating machines saying that even if they assumed the intended purpose was positive (like used by a health professional) it still made them unsure. However, participants would only briefly touch on the machine-like arm in Figure 5.11 making benign associations like “power cord” or “outlet.” They also commented on how much they liked the variety of colors as opposed to the clashing colors of Figure 5.7 (documentation image) as mentioned before or the “blah”, “dull,” “tired,” and “dirty” lack of color in Figure 5.12.

Two of the three schematic images (Figure 5.4 and Figure 5.5) also left participants with negative feelings. They described the images as making them feel “stressed”, “rushed”, “uncomfortable” and “tense” because the images looked “hard,” “complex” or “hypnotic.” Figure 5.3 however, did not draw any negative reactions but instead a wide range of scientific and everyday associations including: Dali artwork, M. C. Escher artwork, desert dunes, Chinese handcuffs (childhood toy), molecules/atoms, afghan blanket, basket ball net, yellow brick road and a waste basket. These associations produced descriptions of feelings such as curious, cool, creative, neutral/matter of fact, and soothing. Like the fine art images, it seems telling that participants compared this image with famous artists instead of associating it with an image in a textbook. Only one participant mentioned that the image looked like something he had seen in a science class.

Knowledge Gained (RQ3)

Based on participant responses to final interview questions about gained knowledge or reactions to nanoscience following exposure to the images, the most common (and only) real change observed by participants was that they now believed nano particles were very diverse (a wide variety of visual forms) and that it was likely nanoscience could be used in many types of technologies. Some participants also said that they were more interested in nanoscience after seeing the on-screen images but that they had not really learned anything new. There were however, a few participants that said they had not learned anything about nanoscience and that seeing the images didn't really change their knowledge or perception.

Implications

It may seem surprising that fewer themes were identified in this study with 14 images presented to interview participants than the Landau et al. (2008) study only presented two images. However, because the variations in the reactions to the images were so numerous the themes identified would have to be very broad to encompass this variation. This only further supports Landau et al.'s (2008) later argument that "polysemy exists in the memories and attitudes of the individual" (p. 10). Because of the polysemic nature of images and the participant's memories and attitudes, perhaps even more so with ambiguous science images, the themes identified would have to be very broad given the number of images, types of images, and participants. The results of this study contradict Landau et al.'s (2008) earlier assertion that "lay people" will refer back to the domain of science images. Although quite often participants did refer back to science images, there were many times (even when the participant was more familiar with nanoscience) when they would simply react to an image according to whatever everyday image or situation first popped into their head, regardless of whether or not this association was even remotely related to science.

Another compelling finding to note is that the way in which the images were created (whether they appeared more manipulated or more like photographs or drawings) did not determine whether or not participants had more positive or negative responses. Participants described both Figure 5.6 (documentation image) and Figure 5.14 (fine art image) as highly manipulated but they generally disliked Figure 5.6 and were very approving of Figure 5.14. Furthermore, Figure 5.8 (documentation image) was described as "natural" or like a photograph of a microscopic image but participants had just as gloomy conclusions about

that image as the highly manipulated documentation images. These findings suggest that other factors, such as personal associations, color and lighting are much more important to the outcome of a participant's reaction than the way in which it is created.

Future Research

Following the entire research proposal as outlined here, future studies should include even more images within the same categories to see if findings in this initial study are supported. Other studies with images that do not as easily fit within categories should also be conducted in order to see if those images might provide better information to participants. Also, future research should consider context (what type of medium the image is located) in order to determine how that may also plays a role in public perception and knowledge of nanoscience. It would also be interesting to try and lead participants through their own interpretative analysis of the images, providing them with rhetorical concepts to draw from, to see if their evaluations are the same as the researcher. This exercise is somewhat similar to the study here but would require a little more coaching of the participants as well as some writing by the participants.

Reflections on integrated methods.

Conducting a visual rhetoric analysis of the nanoscience images along with the in-depth interviews, helped answer some of the inevitable questions about participant reactions. For instance, just as the rhetorical analysis anticipated, participants' reacted negatively to Images 5.4 and 5.5 because of their educational experiences and need for explanation or associations with school. By contrast they did not have the same negative associations with

schematic Figure 5.3. The rhetorical analysis suggested this was because of the attention to detail and the commitment to geometric shapes that invites a prolonged stare. It was also less intimidating because of the lack of letters, numbers and lines and linear perspective that drew viewer attention to the very center of the image (like Figure 5.5).

The rhetorical analysis also provided a more concentrated perspective with an abundance of data. The qualitative data illustrated how people reacted to a variety of images but the rhetorical analysis helped explain how the rhetoric of the image influenced these reactions. Much of the discussion within the results of the qualitative portion of the study was partially based on the previous knowledge obtained through the rhetorical analysis. The qualitative data also provided information for a deeper understanding of how people decode the image's rhetoric. For instance, the rhetorical analysis of the fantasy images mentions two different messages, 1) excitement for progressive possibilities as well as 2) nervousness about loss of control. The qualitative data illustrated that the latter message was the stronger of the two according to the responses by this group of interview participants. Future studies could go back to the rhetorical analysis and try to find rhetorical evidence that helps explain the strength of the latter message.

Because of the number of images used for this study, it was inevitable that there would be many different reactions and participant behaviors. Often, those participants that felt like they had some pre-existing knowledge of nanoscience attempted to give answers that they thought the interviewer was seeking or the "right" answers instead of relying on their own personal reaction. These interview participants also had a much harder time sharing their feelings about images claiming that the less artistic an image appeared the more "neutral"

they felt. The rhetorical analysis reveals that none of the images are “neutral” and that sometimes the images with the least amount of color and detail (like Figure 5.4) are in fact very powerful images. Furthermore, this study also revealed the interesting relationship between rhetoric and aesthetics. Although there has been some effort to divorce visual rhetoric from aesthetic concerns, the idea being that attention should be drawn away from creators’ intentions and artistic concerns and toward the function of the visual image itself, this study suggests that aesthetics play a large role in the persuasive process. The fine art images, the images with the highest concern for aesthetics and that used aesthetic principals in their construction (also created by experts in aesthetics), were the images that participants enjoyed looking at the most and according to both the qualitative and rhetorical analysis invited a more prolonged and thoughtful look. This suggests, like Peterson (2001) articulates, that there should be less of a distinction between rhetoric and aesthetics, that ignoring aesthetics “misses the role beauty plays in assessments of rhetorical excellence” and that there is usefulness for “the vocabularies of fine and graphic arts: (p. 22).

The qualitative data supported the rhetorical analysis in the case of those participants that admitted having no knowledge of nanoscience. These participants had no problem expressing their emotions about all styles of the images and usually reacted most negatively to the images with educational content. The types of images as identified by Robinson (2004) are helpful in categorizing images in order to increase awareness about the function of the image. However, a rhetorical analysis of nanoscience images provides a more focused explanation and extensive evidence about specific images that both scientists and artists could/should consider when creating future images for the public.

CHAPTER SIX

Facing Research Challenges Using a Different Approach

Research on and about the visual is increasingly important and relevant to a growing number of fields and disciplines. As the sheer number of images has increased in Western society (referred to by some scholars as the “pictorial turn”), so have the number and range of methods, subjects, theories and paradigms that constitute image-based research. With so many disciplines and fields utilizing contrasting approaches and techniques, it can be difficult for a researcher or student of visual communication to gain a comprehensive understanding of visual research and its methods. Even more mystifying for students new to visual research is that many fields and disciplines continue to test a variety of techniques in order to determine what works best for their particular research challenges. Therefore, constructing a schema of approaches to visual research methods is an important endeavor to help researchers and students, from a variety of fields and disciplines, see what approaches, strategies / perspectives, and techniques are available to them and how certain approaches can help with particular types of research challenges they encounter (or, in other words, help beginners see both the individual trees as well as the overarching forest).

Although a schema explained through text is important for reaching a deeper understanding of scholarship, providing a visual illustration of the schema helps map relationships when the subject matter is so varied and sprawling, as is the case with approaches to the visual. As mentioned in chapter two, Smith et al.’s (2005) rhizome map was admirable in its goal to map the relationships of visual research theories, disciplines, fields, ideas, etc. However, their efforts to illustrate a non-hierarchical relationship using

“molar,” “molecular” and “intersections,” results in a map of visual noise that is both difficult to understand and that actually does suggest a hierarchy as it is presented visually. In short, a map of this sort, one intended to illustrate relationships within a complicated field, needs to be regularized and simplified in order for it to accomplish what it set out to do.

The visual schema presented in this dissertation is a good first step in illustrating the field as it has defined itself throughout the literature. This dissertation identifies the most frequently mentioned approaches to visual research as they were described and then traces their connections to related perspectives and techniques. This process clearly represents the actions and typical background research for creating a concept map. As Mintzes, Wandersee, and Novak (2000) explain, concept maps are “tools for organizing and representing knowledge.” Pellegrino, Chudowsky, & Glaser (2001) identify concept mapping as “a method for arranging conceptual nodes—and labels of nodes and links—to show relationships among multiple concepts in a domain.” This is precisely why mapping the field of visual research methods is important—because it illustrates our *understanding* in a comprehensive yet accessible manner. Hugh Dubberly (2010), founder and director of Dubberly Design a design firm with a strong interest and history in concept mapping, explains, “The big picture is clear because all the ideas are presented on one surface. At the same time, it’s easy to see details and how they relate” (para. 2). However, this does mean that the visual representation provides 100 % coverage or that it will not change in the future. As Novak & Gowin (1984) write, we may develop new concept relationships in the process of drawing concept maps. This is also an important aspect of representing ideas visually. Although information is gathered prior to creation and although there are systems for

illustration, it is ultimately a generative process. For those visual researchers who are reticent to put forth their individual own insights throughout their writing, this process may help them gain back some of their agency as they recognize new relationships they, or others, did not see before. As Novak & Cañas (2008) declare, and as insight from design studies has also demonstrated, concept mapping as well as other forms of visual making can be a “creative act and may help to foster creativity.”

In addition to the proposed schema (the visual illustration and discussion of the four approaches) this dissertation also makes contributions to a variety of communication literatures through each one of the pilot research studies—the visual rhetoric of memorial sites having undergone a symbolic transformation, the information communicated visually to viewers about the person or organization who created an avatar, and the visual rhetoric and participant reaction to four types of nano science images. Each study presents findings important to the particular research challenge as well as illustrates the strengths and limitations of a specific method or methods used to address the research questions. These findings are reviewed here:

Chapter three investigated how a monument functions rhetorically (a monument that potentially elicits hostile emotional reactions) when it undergoes a symbolic transformation—not because the material elements of the site have changed but instead because the cultural discourse has changed over time. In order to address this issue, the significant cases of the Richard Wagner statue in Edgewater Park on the coast of Lake Erie and the statue of Vladimir Lenin in Seattle’s Fremont district were analyzed rhetorically. The process for this analysis consisted of exploring the literature on memorials and materiality

and then investigating the literature on kairos and enthymeme as possible ways to understand the symbolic transformation of material artifacts over time. The study successfully demonstrated how the rhetorical function of a material commemorative work may come to shift over time and how the ancient rhetorical concept of “enthymeme” enables a thorough analysis of “the substance of rhetorical persuasion” in visual and material public artifacts over time (Smith, 2007). This led to the determination that even when an artifact is a fixed representational material piece, the changes in social and personal context reveal a text that is interpretably open. By examining these case studies, it was illustrated how the available enthymemes for interpreting these monuments have changed and how therefore, even the most material rhetoric also remains symbolic.

Based on the insights garnered from the visual rhetoric approach, future research for that particular study could look at other statues that have undergone a symbolic transformation. Potential cases for analysis include statues that have in some way caused controversy and have been cited for removal, such as an assortment of confederate monuments, the statue of “Peace and Brotherhood” in Kars, Turkey, and Moscow’s statue of Peter the Great. Another possibility for future research would be to analyze the rhetoric of statues that have already been torn down such as the ancient Buddhist statues in Afghanistan’s Bamiyan valley in 2001 or statues that were toppled in response to the falling of a political regime.

Chapter four investigated whether or not people automatically assume anything about a person or a group when they see a human-like representation on a screen. In other words, the study sought to determine what audiences assume, especially in regard to credibility,

about a person or organization based only on the visual cues of an avatar they created or sponsored. The study had three major purposes: 1) to determine if visual cues presented by the avatar influence the credibility of the avatar sponsor, 2) to provide businesses, nonprofits, and individuals some insight into the kinds of assumptions (if any) people make regarding the visual design of avatars, and 3) to determine the relationship between the assumptions people make regarding users based on the visual characteristics of their avatars and their perceived credibility. The data revealed that people did indeed use the visual characteristics of an avatar to make assumptions about the user and that the visual cues of the avatar had a significant effect on the perceived credibility of the user. Also, male and female perceptions of user credibility, based on the visual communication of the avatar, differed significantly. The results of this analysis suggest that people make five different types of assumptions concerning possible distinctions between avatar and user. These assumptions were identified as: 1) technological capabilities, 2) personality attributes, 3) individual preferences/chosen professions/unique behaviors, 4) context, and 5) physical attractiveness. Sometimes these assumptions lead the respondent to treat the avatar and user as one—meaning that they would see the user as being physically like the avatar as well as having all the same supposed personality attributes.

The three types of visual cues identified as influencing perception included: “dress and artifacts,” “facial expression,” and “technology.” Previous research on the visual communication of avatars has focused on the reactions people have to the avatar itself and did not consider that there might be different assumptions or opinions about the user or sponsor of that avatar. This pilot study suggested that although people generally make

assumptions about the user based on visual characteristics of the avatar, that they *do* indeed make distinctions between the two—occasionally even disparate distinctions. Furthermore, other studies that have examined the attractiveness of avatars report that female avatars are viewed as more attractive (no matter the sex of the viewer). This study indicated however, that when it comes to judgments of credibility, the sex of the avatar did not have an effect.

Future research regarding the assumptions viewers make about the person or group of people that created or sponsored an avatar would need to survey a greater number of subjects, a more diverse pool of subjects, and have the subjects view the avatars on individual computer screens. Furthermore, the context of the avatar, whether it is situated within a corporate website or online role-playing game, would most likely have an effect on how the credibility of that avatar is perceived. Therefore, context, as insight from rhetorical studies has demonstrated, should also be considered as a factor for future avatar studies.

Chapter five, the chapter that incorporated both a visual rhetoric and a visual communication approach, sought to demonstrate how variations of nano images through the manipulation of color, light, form and contrast, (categorized according to Robinson's typology) operate rhetorically to articulate public knowledge or interest. More generally, the study was intended to demonstrate the influence scientific images might have on the public as well as the rhetorical nature and function of those images. Rhetorical assessments were made for each group of images.

The rhetorical analysis illuminated how schematic images, with a dramatic and captivating perspective, functioned as “spellbinding” rhetoric. Other images that used visual codes specific to a particular audience, usually those well versed in nanoscience, functioned

in a way that alienated outside audiences or those audiences that were unfamiliar with nanoscience. This kind of image, involving arrows and numbers, functioned to evoke feelings about the “work” involved in the learning or educational process. A couple of the documentation images, those that looked similar to what would be viewable through a high school or college microscope, functioned to disgust viewers because of the associations with bacteria and dust mites as shown to them in these scenarios or through popular media commercials for cleaning products. The color images were visually more aggressive, communicating heat and sharpness. These images were either very raw and unrefined or overly dramatized in both color and shape functioning only to provide viewers with feelings of distaste. The rhetorical functions of the fantasy images were the most divergent, either suggesting to viewers what could be possible (potential uses for the nanotechnology) or communicating fear through images of micro machines going rogue. Overall, the fantasy images functioned to portray nanoscience as science fiction. Finally, the fine art images, the most organic and aesthetically pleasing of the images, alluded to “real-world” objects and experiences, such as jellyfish, the ocean, flowers, etc., that functioned to intrigue viewers and alleviate negative associations of intimidation, unreality, scariness and disgust.

In the Landau et al. (2008) study, researchers argued that ““non-scientists’ visual images of science are drawn from and fixed back within a specific ‘visual’ domain of ‘science’ images” (p. 9). The themes identified within the qualitative analysis in this study, however, resulted in only three themes being identified. Participants related the images to (RQ2), 1) science education (Landau et al. referred to this as “images of science” 2) science

fiction and 3) everyday objects and situations. These themes were identified across all four of Robinson's types of nanoscience images.

The qualitative data in chapter five provided more information for a fuller understanding of how people decode the rhetoric of the images. The rhetorical analysis helped illustrate that none of the images are actually "neutral" and that sometimes those images with the least amount of color and detail are very powerful. It also helped explain the rhetoric within each individual image and how it functioned to influence viewer reaction.

The study of nanoscience images, illustrated how the potential for mixed methods to extend data and deepen an analysis. This kind of mixed method approach could be applied to a whole variety of artifacts and research challenges.

More specifically, future research on nanoscience images should include more images within each category of Robinson's typology and should also begin to include the context of the images, whether they appeared on the cover of a magazine, in an online article, in a television segment, etc. It would also be beneficial to continue sampling a wide range of participants of various ages.

Applying Visual Studies

While an illustrative case of a visual studies approach or design-making approach was not conducted for this dissertation, this chapter from this point onward examines how these two approaches could be applied to research questions from the previous chapters. The research questions become vital to the comparison of the approaches because each approach is suitable for different kinds of research questions and challenges. A visual studies approach is applied to the research challenges from chapters four (monuments of Wagner and Lenin)

and five (perception of avatars and their user(s)). A design-making approach is also more briefly discussed as it was used to create a concept map that compares and contrasts the defining characteristics and possible limitations of the four approaches.

Visual Studies Approach to Wagner and Lenin

As previously mentioned in this chapter, the Wagner monument in Cleveland's Edgewater Park and the Lenin Monument in Seattle's Fremont District were critiqued using rhetorical concepts of enthymeme, kairos, and doxa to inform the analysis. Using a visual studies approach, the focus shifts to how audiences decode the dominant messages of the statues and the corresponding ideological implications of those dominant messages.

Decoding Wagner in Monument

“At a glance, then, cultural studies and rhetorical studies seem to share in much that is taken to be important these days: both aiming to reveal the relationship between expressive forms and social order; both existing within the field of discursive practices; both sharing an interest in how ideas are caused to materialize in texts; both concerned with how these structures are actually effective at the point of “consumption” and both interested in grasping such textual practices as forms of power and performance.” (Rosteck, 1999, p. 2)

Although Rosteck points out the strong similarities between rhetoric and cultural studies, critics from both fields have sometimes been asked to explain their understanding of the differences in their fields. The answers often mention what is “generally” the case,

because inevitably there are exceptions within both fields. Roughly ten years ago, critics most commonly made the distinction that rhetorical studies is generally more interested and adept at analyzing political strategy in conventional political discourse while cultural studies more often considers issues of gender, performance, and desire in popular media. Today, this distinction is hard to support because many critical studies continually cross these boundaries. It appears the main or more consistent differences appear to be between the history of the fields and the theories/theorists from which they most often draw.

In their study of the Astronauts Memorial, Blair and Michel (1999) mentioned that when they started to notice the visitors to the memorial and their reaction to the site, their work began to incorporate a cultural studies approach. They explained that this did not turn them away from rhetoric but they began to ask less conventional questions than would be typical of rhetorical critics. According to Blair and Michel, rhetorical study at the time seemed “unnecessarily impoverished by its tendency to treat audience experience in only perfunctory or assumptive ways” (p. 68). However, they also mention their shared concern with Condit that focusing on audience reception may be used as evidence against a critic’s response “on grounds that the popular audience would not share the critic’s response” (Blair and Michel, 1999, p. 68). In regards to visual rhetoric studies today, audience response and the materiality of a phenomenon are considered much more central to a thorough rhetorical analysis—partly due to the schema of materiality as proposed by Blair (1999). The first portion of this discussion uses Hall’s theory of encoding/decoding (1974) because historically it is a foundational theory for both cultural studies and visual studies. Other central ideas for visual studies, such as polysemy and visual pleasure, are also discussed.

Hall's Encoding/Decoding Model

The main premise of Hall's model is that there is no single meaning for a message because viewers do not passively accept the dominant message unless they prefer it personally. Hall's model originally had three categories of social positions: dominant, positional, and negotiated. When a viewer adopts a preferred reading, a reading that fully accepts the text's code (this may or may not have been the result of any conscious intention on the part of the author) this is referred to as the "dominant reading." By contrast, a person who opposes messages of the dominant reading has constructed an "oppositional reading" of the message. The negotiated reading occurs when a viewer accepts a good portion of the dominant meaning but also resists certain aspects. According to Hall (1997), we learn to decode messages by first interpreting messages within our family, where we were brought up, our workplaces, our institutions and our other practices. When people belong to the same communities, it is likely they may share many of the same meanings derived with their friends, neighbors, families, etc. In short, "Hall said that representation constitutes multiple meanings because reality itself has multiple meanings" (O'Donnell, p. 528). O'Donnell outlines questions inspired by Hall that suggest we "go inside the image itself" to find meaning, including What is present? And, what is absent? How does the meaning that we derive implicate us in the production of that meaning? Is there meaning that is different from what we expected to find in a representation?

Visual Studies Analysis of Wagner

Using a visual studies approach to further investigate the Wagner and Lenin statues in chapter three may extend the discussion about of audience reception through

concepts of encoding and decoding. A visual studies approach is more likely to guide an analysis around data gathered from popular culture and so this section investigates online comments and reviews.

As an unmoving and aurally silent artifact, a monument's power is partly determined by its location. Most visitors to Edgewater Park who are successfully "hailed" (Althusser's term for an image calling to the viewer) by the Wagner statue are surprised because of the juxtaposition between the symbolic and material content of the statue and its location. Most people would assume a statue of Wagner would be located near a concert hall or at a site with similar cultural and aesthetic content because of his famous orchestral and operatic writing. When they happen upon the monument they often assume the monument has something to do with the Cleveland Orchestra, as the Objectivist Living blog illustrates. Instead, it was the members of the Goethe-Schiller society who made the powerful decision to commission and erect the statue in a public lakefront park. For many people who may never have the opportunity to attend a concert hall, a visit to Edgewater Park may expose them to Wagner because, whether they are motivated by the beach or the festivals, many people come from all over the state to visit the park. There are many people who view the monument without any previous exposure to the composer, but if curious or having had frequent encounters with the monument, they may take it upon themselves to investigate. Furthermore, the location of the statue, removed from beach and closer to the trees, helps the statue retain a more formal and less recreational atmosphere as it is further away from the beach and away from the leisurely bathers. The location also provides the opportunity for Wagner to take on a dramatic stance as he looks out toward the city. Another unusual feature of the monument's

location is that it is only a few feet away from several parking spots. On the one hand, the monument loses some of its formal aura because of the parking spots—now not as far removed from much of the park activity. On the other hand, its location provides the monument with most of its viewing traffic, as it acts as a common meeting area for friends and community groups.

As illustrated by writers posting in online message boards, the neo-classical style of the monument is very powerful and impressive when decoded by some viewers and over the top or comical when decoded by others. Again, because of the formal sculpture style and 19th century attire, the statue at first sticks out and grabs the attention of passersby. However, this style is not necessarily something with which the common park visitor will find a connection. Most viewers will recognize the statue as representing a historical figure but they might not make a connection with how that figure has any influence on their life. However, some viewers will make a connection. For instance, after posting a photograph of the Wagner statue on Flickr, two contrasting online comments included: “Great statue and a excellent shot of it!!” and “Apocalypse Now? LOL.” Some who see the statue admire the neo-classical style and size while others appear to think it is overly dramatic. Furthermore, because the base of the human figure is 12 feet off the ground, this situates Wagner above all passersby preventing any kind of level interaction. Even if someone were to stand next to the statue in an attempt to block it from being seen he or she would fail because of the statue’s large size. Wagner would always remain visible and so the material space presents little chance for any physical attempt to prevent its being viewed.

Wagner, as the statue's subject matter, marks the greatest opportunity for stark contrast in message decoding based on the viewer's cultural and educational background. For the German society who chose Wagner to memorialize, he represented the great man and the great artistic aesthetic. Wagner fits well with the "great man" ideology because the most important criterion in this ideology is the extent to which a person made a historical impact. Regardless of whether his overall influence was admirable or deplorable, Wagner definitely instigated tremendous change in orchestral composition, especially for opera. For those viewers who are not acquainted with opera or Wagner's musical compositions, the "great man" ideology is not as applicable because they are not aware of Wagner's influence. When they decode the material message, they must rely on the aesthetic qualities of the statue to make their evaluation, especially because no written information is provided.

It is likely the Flickr comment that stated, "great statue," was referring to the artistic decisions of the sculptor and was not making a social comment on the appropriateness of the subject matter. As the monument was sculpted by one of Cleveland's most well known and influential sculptors, Herman Matzen, it is likely that many viewers with a purely aesthetic reading of the monument would decode in a similar fashion. Matzen was a teacher of carving, modeling, designing and casting at the Western Reserve School of Design and its successor the Cleveland School of Art, from 1888 until his retirement in 1926.^{xxxviii} Throughout his 40 years of teaching he left a legacy of public sculpture. Some of his most well known sculpture pieces include statues at the Lake County Courthouse in Ohio. In this instance, Matzen's artistic visions rebelled at creating yet another neo-classical representation of "Law" and "Justice," and he proposed a radical departure through the use of the biblical

figures Cain and Abel. “Instead of taking figures which are symbolic of what is produced in a court house, we have chosen to embody in two figures that which makes a courthouse necessary,” reasoned Matzen about his concept (Cooke, 2001). He saw in them allegories supporting the growing movement toward prison reform and inmate rehabilitation. In a style similar to the Cain and Abel statues (installed in 1913), the limestone Wagner monument at Edgewater Park appears larger than life, dominating physically (as well as ideologically in the case of Jewish people) over its viewers.

However, placing the statue within an aesthetic ideology is more complex when a critic also considers that subjects for monument should represent both beauty and truth according to this ideology (see chapter three for a discussion of the aesthetic ideology). Initially, people may believe that Matzen’s sculpting expertise is aesthetically pleasurable but once they begin to learn more about Wagner the man, these findings may understandably alter how they decode the dominant message. Most likely, viewers like this would now have a negotiated reading, accepting the sculpting skill of Matzen and the impact Wagner had on the performance arts but also resisting Wagner’s connection to anti-Semitism. For the Goethe-Schiller society in 1911, Wagner represented strength and pride and his work was considered truly beautiful. Today, the cultural discourse surrounding Wagner the man is not quite so beautiful. Most people, even classical music enthusiasts, would not place Wagner on a pedestal for emulation. It is probable that for most musicians aware of Wagner’s history, they would have to play his music by subscribing to a negotiated understanding of the man as a historical and influential figure.

Depending on the individual context a person brings to the subject of Wagner and even his music, the statue may trigger feelings of injustice and suffering and it is very likely that a person with an adverse cultural connection would have an oppositional reading to the monument. Individuals voicing their disapproval of the monument through online discourse exhibit some of these oppositional readings. Instead of being uplifted when approaching the monument, or even acknowledging an appreciation for Matzen's artistic ability, a member of the Jewish community for instance, may feel outrage. Germans in the area may also see the monument as a reminder of a shameful period of history that they would like to forget. Even lovers of Wagner's music may also appreciate a physical tribute that introduces others to a beautiful art form but may disagree with the decision to represent the man himself.

In addition to reviewing the possible ways the monument could be decoded, it is important to ask what is present and what is absent, especially when evaluating a physical monument where interaction and response is more difficult (without removal). Although there is no physical landmark condemning the monument, the fact that it is in a state park where all other landmarks are thoroughly documented and advertised, while the Wagner monument is neither documented nor advertised, is significant. There are no signs directing people from the lower portion of the park to the monument, there is no explanatory sign next to the monument explaining its history and there is no mention of the monument on any of the official Ohio Natural Resource state park web pages (although many other statues are mentioned on the site).

Like Mount Rushmore, the Wagner monument is "a product of its history, its public interpretation, its appropriation and reproduction, even its satirization [maybe not the

monument itself but Wagner as a popular figure]” (Blair & Michel, 2004, p. 182). However, unlike Mount Rushmore that does more than just remember a shameful history but advocates it (p. 183), the Wagner monument is not publicized by the Ohio government. There is also evidence of failure to provide the statue with maintenance and upkeep as illustrated by the chip on the monument’s nose. This could also suggest that the German community has lost interest in the monument as they still have the means (through community organizations and wealthy German families) to arrange upkeep as well. However, interviews with three prominent members of the Cleveland German cultural community suggest that they are still very proud of the Wagner monument in Edgewater Park and the German display in the Cleveland cultural gardens that also includes a smaller statue of Wagner.

Also telling, although the monument is mentioned multiple times through a Google search, the oppositional readings denouncing the monument publicly and calling for its removal (as mentioned earlier), are much more difficult to uncover than the dominant preferred reading. In a Google search of “Wagner monument Edgewater State Park,” the monument is mentioned on three different websites in the first page of results but never as an oppositional reading. Considering the government and public treatment of the statue, it seems that although at one point the Jewish population may have been outraged at the existence of such a statue in a public place, as time continues to pass the issue becomes less and less pertinent, especially to the younger Jewish population. Although it is hard to say exactly how many oppositional readings the monument triggers today, let alone 60 years ago, it does seem that *if* the monument remains standing, no oppositional material is placed at the site, *and* critics fail to voice their opinion publicly, then the preferred reading of Wagner as a “great

man” of “truth and beauty” prevails. Although the public may begin to forget who Wagner is in any respect, the materiality of the monument continues to keep the dominant ideological message dominant.

Lenin and Polarized Readings

Finding and analyzing the variations of readings concerning the monument to Lenin in Seattle’s Fremont District is made easier by the statue having been listed on Yelp, the website where people write reviews about a range of topics for cities around the world. Like the informal Google search conducted with the Wagner statue, the results on Yelp reveal a dominant reading of the Lenin monument as a praiseworthy piece of artwork, receiving 4.5/5 stars from 49 reviews. However, this dominant reading might be slightly altered from the original intended meaning when the statue was erected in Poprad, Czechoslovakia (now Slovakia) in 1998. Originally in Poprad, the monument was intended to embrace the ideology of the “great man” as was the case with Wagner. After reading the reviews from U.S. visitors, it seems that now the most common readings believe that the statue of Lenin is either artistically impressive or kitschy, and comical. A large part of the kitschy or comical reading can be attributed to the monument’s surrounding commercial context of Taco del Mar, an Organic Espresso, and a Kwangjai Thai Cuisine. Perhaps even more comical in light of Lenin’s social viewpoints, the statue is also often home to passersby who rest on the monument steps after a hard morning of shopping. A few of the online reviews mention how the statue is decorated with holiday ornaments throughout the seasons. Occasionally, people who rate the statue with five stars also claim to subscribe to a communist philosophy and do consider Lenin a “great man” in every respect. Some reviewers simply post quotes from

Lenin, like his writings from *Imperialism, The Highest Stage of Capitalism*. On the other hand, the oppositional viewpoints in the case of Lenin are even more polarized and emotional than in the case of the Wagner statue. On Yelp, four people gave the statue 1 star and four more gave it 3 stars, indicating that roughly 16% of reviewers were simply not that impressed and this was generally due to the subject of the statue, not the artistic ability of the sculptor.

Examples of these readings follow:

Everytime [sic] I pass by this statue it fills my heart with joy as I reflect on a romanticized notion of the past: A promise to bring a better life to the peasants of the world doesn't seem like such a bad idea. Workers unite, we will destroy the oppressive reign of the bourgeoisie and create a more perfect, equitable world. (Derek M., 4-star review)

The grand irony of course is a statue of an avowed communist is surrounded by the greatest successful experiment of capitalism the world has ever known, the USA. And that statues of Lenin were torn down after the end of the Cold War all across the country he ruined speaks volumes to his legacy... So "tongue -in -cheek" we gape at a statue of a vicious man who's actions led to the killing of millions and the virtual enslavement of an entire empire. Like the odious admiration of Che Guevara, we make heroes of villains in an attempt to be cool. If the USA was engineered by Lenin, Yelp would not exist. And of course the free spirit of Fremont would be quashed. The artwork itself is excellent, but if this is meant as a reminder of history, how about a plaque at his feet reminding us all he lead to the killing of ten million people. I guess this is very personal because my grandmother fled Ukraine as Lenin's terror quickly

spread. In just a few generations we forget the horrors and make it fun and ‘kitschy.’

Perhaps next we'll have Hitler in a tie dyed t-shirt or Mao Tse Tung in a hot tub. (Tres B., 1-star review)

These two reviews, clearly represent both the dominant and the oppositional readings but Yelp also provides many negotiated readings such as this: “My friends who lived behind the ‘Iron Curtain’ before the revolutions of 1989 find it humorous that a statue of Lenin is in Seattle... How it got here is an interesting story...” (Craig M.). Although Craig gives the statue 5 stars, the fact that he acknowledges his friends’ reactions, who seem to spot some incongruity between the setting and Lenin’s philosophy, points towards a negotiated reading. He seems to value the statue based on its characteristics as an interesting conversation starter, whether that conversation is about political viewpoints or simply the history of the statue.

Wagner and Lenin are very similar in that they were both very influential in their respective fields and also had strong social viewpoints. However, Lenin could enact larger and much more dramatic changes based on his position and rise to power stemming from these same viewpoints. In the case of Wagner, his anti-Semitic viewpoints were not entirely central to his compositional work. Perhaps this is why there is less apparent rage or frequency in the oppositional viewpoints with Wagner and perhaps this also explains why the government feels it is acceptable to ignore the monument. It could be that as the public becomes more removed from Lenin’s history (as seems to be the case with most reviewers who were not actually connected to eastern European émigrés), the oppositional readings will become fewer and fewer—with Lenin’s material form continuing to communicate the dominant message of “the great man,” even if some dismiss it as a slightly kitschy piece of

public art. In regard to the monuments themselves, as opposed to the men as historical figures, the very apparent dislocation of the Lenin statue is one huge differentiating characteristic. The immigrants in Cleveland dedicated the Wagner statue out of cultural pride, whereas the immigrants in Seattle are the most offended public by the visual reminder of Lenin. Removing the statue from its original physical context means that the symbolic interpretations have to change because the audiences do not have available to them the same interpretive frameworks.

Using a visual studies approach to analyze the cases of Wagner and Lenin allows us to investigate questions about the power of a particular statue and its influence on public interpretation with one of visual studies foundational models, Hall's Encoding/Decoding theory. Although visual rhetoric analyses may also consider viewer responses, it is more typical for a visual studies approach to allow the comments to take a more central role in guiding the analysis because visual studies scholars are highly focused on investigating audience reception and whether they take a more active (filtering content, resisting content) or passive (complacent and vulnerable) role. The visual rhetoric analysis and the visual studies analysis within this dissertation are similar in that they speculate on the various interpretations people would have when viewing the monument. The visual rhetoric approach however, was more concerned with situating the analysis within historical contexts and using the findings to extend outward to larger theoretical concepts. The visual studies approach emphasized reception research and the importance of the individual cases. The extent to which an audience resists media messages is important to a visual studies approach because it implicates the powerful and the oppressed.

Visual Studies Approach to Perception of Avatar Users

Using a visual studies approach to further investigate the data from the surveys in chapter four may allow for a deeper discussion about the cognitive framework of the participants. A visual studies approach assumes that the visual is central to the interaction of power roles and so it investigates these roles and also pulls from a wide range of literature where visual ethnographers, such as Turkle, have offered comparative data of thick-description.

In chapter four, a qualitative analysis using an inductive analysis framework was used to arrive at a number of thematic categories. As it mentioned, avatars are important aspects of a visual culture to study because they represent the user and mediate every experience he or she has within the CVE. Like the lieutenant machines described by Latour (1995) “they hold the places of the roles delegated to them” (p. 275). The most popular adult CVEs, such as World of Warcraft and Second Life, allow users to visually experience almost anything imaginable through their avatars because of continued increase in technological capabilities. When users are less inhibited by the technological boundaries they are better able to express themselves (if they choose to) and fulfill their fantastical desires. By contrast, in many online programs that include avatar capabilities, users are only able to select from a few choices of hair, clothing, skin color, etc. Inevitably, avatars are eventually duplicated and everyone in the world looks very similar. Users cannot express their individuality, at least visually. According to Turkle (1995), “Avatars and textual bodies facilitate interaction...as well as more generally mediate users engagement with the world” (p. 438). Besides holding the representational place of the user, avatars also aid relationships between users.

A fair amount of research has been done on the trends in avatar creation, the function of avatars and viewer's reactions to avatars, but much less research has been done on the power relationships of the avatars and person or organization being represented by the avatar within a variety of contexts (whether this is CVEs, online stores, social networking sites, etc.). Because avatars are often depicted as visual images without sound, text, touch or smell, using methods of visual studies to analyze the avatars and the participants' survey data, is an appropriate method for this analysis. As Castells (1996) writes, "Symbolic communication between humans, and the relationship between humans and nature, on the basis of production (with its complement, consumption), experience, and power, crystallize over history in specific territories, thus generating cultures and collective identities (p. 15). The "symbolic communication" in this case consists of the visual nature of avatars and is important to examine because it may reveal deeper insights about the collective identities of humans and how these are influenced or constructed by or within an online context.

Visual Studies and Methodological Considerations

Using visual studies methods to analyze avatars is beneficial because it considers the context or background of a cultural practice or text. In other words, the production of the texts, in this case designing avatars, is seen as a cultural practice. In fact, what's considered a distinct feature of Cultural Studies "is the search to understand the relationships of cultural production, consumption, belief and meaning, to social processes and institutions" (Lister & Wells, 2001, p. 61). Visual culture also refers to the values and identities that are visually communicated and constructed by a particular culture and "to the enormous variety of visible two-and-three-dimensional things that human beings produce and consume as part of their

cultural and social lives (Barnard, 2001, p. 2). For instance, the photograph, advertisement, and television programming are the first things that come to mind for most people when they think of visual data but such data can also include objects and buildings, not just images.

It is also important in visual studies that visual phenomena not be reduced to a single common mean or median, according to O'Donnell (p. 522). Furthermore, that "images (and discourse) are always associated with power relations is the one premise that all cultural studies practitioners (and visual studies practitioners) agree on." For it is these power relations that determine the economic, political and social interactions, that in theory, "determine who is represented and who is not, who speaks and who is silent" (p. 524). These are all important theories and issues for the visual studies researcher.

Lister & Wells (2001) draw on a series of methods to arrive at their framework for a visual studies analysis including: semiotics, psychoanalytic cultural theory, art history, aesthetics and the sociology of culture. A series of methods and theories are drawn upon, including the method outlined by Lister & Wells, Lakoff and Johnson's (1999) embodied cognition and Donald Norman's experiential cognition. This study considers questions such as: How does the visual design of avatars relate to our bodily experience? How has offline categorization and schema in Western culture shaped the visual characteristics of avatars?

Visual Studies Analysis of Avatars and Users Through an Examination of The Body

Lakoff and Johnson (1999) argue that the body determines the nature of the human mind and that even making a distinction between the two is deceptive to understanding cognition. In short, their discussion of embodied cognition states that the body shapes all aspects of the mind. They expand on this thesis by explaining how humans understand their

world through conceptual metaphors and image schemas. In his current research, Johnson (2007) discusses the interesting ways sensory-motor experience plays a role in this process of understanding. Aesthetics is not just an art but pertains to how humans make meaning. Although aesthetics has been cast out as irrelevant in philosophical theory, Johnson says that in reality it should be central to understanding meaning. He strongly refutes the idea that we as humans can be creative thinkers by ridding ourselves of the carnal.

Avatars are interesting phenomena with which we can consider these ideas because one common goal of the online world is to allow people a complete social experience without the use of their entire physical body. In theory, using an avatar could provide an experience almost completely separate from one's body but in practice and partly due to viewer assumptions, this is problematic for a few reasons. First, as demonstrated by research in retail websites, people long for the attention of a salesperson or a single physical entity they can communicate with—hence the growing popularity of the avatar. Second, in many online contexts, the entire experience is still mediated through things familiar to the offline body. The visual perspective for the user is relative to the avatar's perspective within the world. Essentially, the physical body and the avatar are connected through body-oriented metaphors. And thirdly, some of the most common reactions to avatars, as seen through the survey data, relate in some way to sex. As Jeska Dzwigalski, a community manager with Linden Lab of Second Life says, “this has to do with being human, more than technology” (Clendaniel, 2007). Dzwigalski makes a good point. Even in an online context where the choices for activities, people, and exchange of ideas seems limitless, one of the most popular assumptions relates back to one of the most basic physical experiences of the offline human

body. In theory, avatars may provide people anonymity and a new identity but they do not disconnect them from their own body identity, whether through their own choices or through the assumptions made by outside viewers.

Also telling, people don't seem to want, or be able to envision, a world where they are very different from their bodies. Recent studies reveal that people most often choose human avatars that match their gender (Nowak & Rauh, 2006). Because people prefer their avatar to be aligned with their own gender and type (human) it could indicate that they choose avatars with other characteristics similar to their own. Perhaps viewers assume the close relatedness between the user and his or her avatar, not because of their own lack of imagination but because they are naturally aware of this human tendency to match our representations close to our physical bodies.

Communicating online through text eliminates the nonverbal communication usually associated with interpersonal interaction. Therefore, it follows that people would be receptive to having a face within an interface. Not only are people receptive to the idea but they also "tried to interpret faces and facial expressions, which makes the users pay attention to the face and engage in the task" (Koda & Maes, 1996, p. 6). This idea that the most attention is paid to the face was also supported in the survey data where respondents were most responsive to those avatars with more easily readable facial expressions. In general, respondents agreed to a much greater degree when the facial expression was more extreme such as in Avatar #4 (a very friendly expression) and Avatar #6 (a very sour expression).

The avatars in Second Life, and avatars in general, address key issues in online interaction by communicating messages about the identity, social presence, accessibility, and

status of the user (Turkle, 1995). For avatars to function successfully in this way, two elements of representation are very important: believable appearance and realistic movements (Capin et al., 1998, p. 2)—both directly related to the body. In other words, for an avatar to successfully communicate messages of social presence, visual cues about the body are crucial. These two elements are even more important in multi-user networked virtual environments because representation is relied upon more heavily for communication. It also appears from the survey data, that when movements are seen as less than realistic it only detracts from the credibility of the avatar. With avatar #2, whose eyes followed the cursor, the action does not appear identical with human movement because the remainder of the face and body do not move with the cursor. Some speculate that slight variations in avatars, supposedly representative of humans, are even more disturbing to viewers because they see it as flaw. Instead of something intentional and creative, they see the avatar as being slightly off, creepy or diseased. In order to create believable representations, users may gravitate towards a representation of themselves that more closely represents their true physical characteristics or, as Lakoff and Johnson (1999) would hypothesize, an extension of their body. However, it would be more complicated to visually represent what the physical body or characteristics of an organization would look like. Researchers are still investigating through other empirical studies if this is the case.

Because online experiences are all new experiences at one point for visitors, and visitors have to confront a large amount of visual information, it makes sense that they would look for shortcuts in comprehension. Schema structures provide this cognitive shortcut with structure for the experience. All schemas serve the function of “encoding (taking in and

interpretation) of new information, memory for old information and inferences about missing information” (Augoustinos & Walker, 1995, p. 36). Most empirical schema research has focused on person schemas, role schemas, self-schemas and event schemas (p. 57). Person schemas allow people to make sense and categorize interactions with other people, self schemas consider how people conceive themselves or their own projected identity, role schemas refer to the expected behaviors or positions placed on people by society, and event schemas are explained as cognitive scripts that describe how events should preferably occur in everyday activities.

Spending time with the survey data demonstrates that these schemas transfer to online interactions. Studies show that people have certain preferences or judgments when it comes to the gender and anthropomorphic nature of the avatar. Research participants, presented with a wide variety of avatars, largely believed less androgynous and more anthropomorphic avatars were more attractive and credible and they were more likely to choose them for their own representation (Koda & Maes, 1996; Nowak & Rauh, 2006; Wexelblat, 1997). Interestingly, they also found that participants (no matter their sex) thought the masculine avatars were less attractive than feminine avatars (Nowak & Rauh, p. 153). These findings suggest that people have a hard time escaping their physical self-schema (designing their avatar in reference to their own body) as well as their role schemas (by thinking the female avatars were more attractive). Although the survey data did support the same conclusions about the masculine vs. feminine avatars, there were other obvious schemas held by the group of participants, including technological schemas and schemas regarding extreme style and artifacts.

For instance, respondents would assume that the more control a person has when designing his or her avatar (the technological expertise), the more control he or she will have in other technological pursuits. Respondents assumed that if a user is a fantastic designer, he or she will have the most control, and they attribute greater power to the user, as was the case with Avatar #2. Reminiscent of the offline world role schemas, those users with the most power own the most things and are the most credible. As Yee asks, “Why can’t we break away from a consumerist, appearance-oriented culture?” What does this say about us, “that we trade our consumerist-oriented culture for one that’s even worse” (Boss, 2007)?

One possible difference from the offline world schema seems to be that slightly different things are valued within avatar culture, even recognized by participants who claim to be not as avid users of the Internet. For instance, the ability to create realistic clothing is valued over name brands. Not once did participants relate what a user was wearing to a specific name brand. However, they did comment on the realistic look of the style. Clothing with rips and tears can be an impressive item to wear because of the difficulty of making the flaws look real. This might actually sound similar to the offline world except that a realistic name brand tear isn’t valued any more than another tear of the same visual quality.

The survey data also revealed that respondents made assumptions about the context of the avatar based solely on the visual cues. Respondents appeared to assume that because a user sought out a particular context, like World of Warcraft, they approached the experience with certain expectations. Just as a museum invites its visitors to be serious, an online game presents an aura of playfulness, sex, daring and friendliness. Participants assume that users approach and design avatars with these expectations in mind. They also assume that

participants begin creating new event schemas where they script their goals and desires. This was most clearly indicated in the assumptions made by respondents about avatar #7.

The avatar as a phenomenon prompts many questions based upon a cognitive framework. The oscillation between in-world and offline world experience raises many questions about how an individual or organization being physically represented by a particular avatar may invite change in their life because of that avatar. “Metaphorically, “ according to Biocca (1997), “we might say that the virtual body competes with the physical body to influence the form of the phenomenal body. The result is a tug of war where the body schema may oscillate in the mind of the user of the interface” (p. 81). Not only can the embodiment and design of avatars significantly alter a user’s in-world perception of body but the offline body schema as well. On top of this, the assumptions about the user (person or organization using the avatar as representation), made by outside viewers, may also have a profound impact. Furthermore, it seems quite possible from this preliminary study that not only do avatars develop characteristics of the users but that the reverse may also be true.

By considering the avatars from a visual studies approach, researchers may be led to ask different questions in future studies. They may want to investigate if the assumption by interview participants—that avatars are often representative of their users—is actually the case, and if the reverse is also true—that the online world begins to influence the behavior of the user. Interpreting the social implications of the data also demonstrates how many of our offline assumptions and stereotypes are transferred to our reading of online figures.

Design “Making” Investigation of the Four Approaches

As stated in chapter two, the fourth approach proposed in this visual research methods schema is an approach that moves toward *making* or generating new visual images in order to prompt discoveries about immediate visual design challenges. For example, if a design making approach was applied to either the controversial monument or avatar study, each study could be organized as a design challenge. Alternative questions would be phrased such as: In order to account for the various enthymemes and interpretations of these monuments, what could we design (e.g. signs, pathways, etc.) for these sites that would stimulate healthy conversations? Or, what would be the best way to go about designing avatars for a company or individual’s website that is concerned with credibility (e.g. would we design multiple avatars? Would we stick with conservative traditional ideas of credibility)? Once we have gained information from the survey data, how should it be used to inform the creation of future avatars? As Groat and Wang (2002) point out, this making approach is concerned with an “empirical object located in a particular place and time” and knowledge emerges when working to address that challenge. Following these exercises in making, scholars of this approach would investigate what knowledge they had gained from these exercises. The three analytical approaches all have something to gain from a making approach because it puts many analytical findings into practice. Likewise, the design approach can equally benefit from the analytical approaches by using that information to inform future designs. In other words, the “visual creating or making” approach is a generative approach in the sense that the findings from this research approach tend to be used for specific and immediate visual design challenges.

In order to conduct a final comparison and contrast of the most commonly used visual research methods, a design-making approach was used to construct a visual concept map (see Figure 6). This concept map, unlike the visual representation of the schema, is meant to allow for a more easily understandable summary of similarities/differences and strengths/limitations of the four approaches and may lead viewers to additional observations about the relationships of the four approaches not mentioned in this dissertation. The concern with this map does not involve the variety of strategies, techniques and related disciplines but a further investigation of unique strengths and possible challenges.

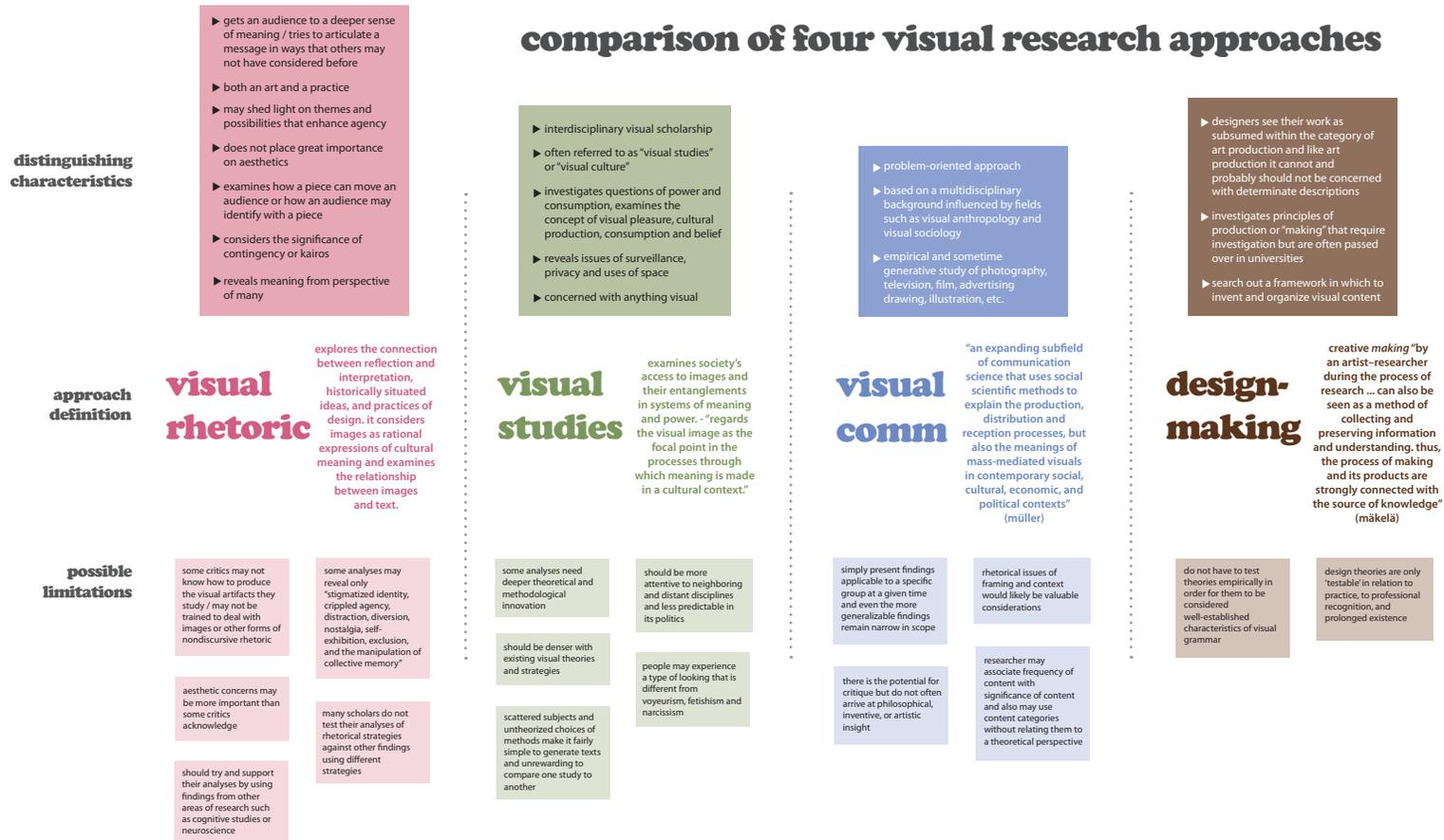


Figure 6. A concise comparison of the four visual research approaches.

The map, which includes common definitions, distinguishing characteristics, and possible limitations, may be used in a course about visual research methods to help students understand the main differences between the approaches (similar to the differences covered in research courses about qualitative and quantitative methods). The map may also be a useful tool for scholars of visual research who are closely tied to one approach but want to expand their research so that their scholarship is fuller, deeper and more thorough.

Constructing the map was a process that consisted of drafting and then critically analyzing multiple maps. Each draft was made to account for the suggestions from the previous map. When forced to illustrate ideas using fewer words and arranging the words side-by-side, it became apparent that I had begun to treat the four approaches differently. In the case of the visual rhetoric approach, it was found that I explained the criticisms more like axioms than comments voiced by a few and but not all. It is more unlikely that I would have noticed this difference if I had not visually set the four approaches together on one plain. By working through various drafts I also began to see other potential additions to the map (and dissertation) including a list of notable scholars in each approach and a discussion of how each approach addresses the circulation of images.

Future Research

The overall goal of this dissertation was to bring four different approaches to visual research methods together in one discussion so that each method could be more thoroughly understood and to make apparent relationships and interrelationships. Each approach has a something valuable to offer the other methods but this is also not to say that a study that only uses one approach is not valuable. However, it would be beneficial for researchers, especially

visual researchers within such a rapidly developing field moving in multiple directions, to be aware of the four approaches and to be open to what each can offer the other.

Future plans for this dissertation project are to construct more maps benefiting the field of visual research. One example of a future map consists of a timeline of visual research and its theories. Another map could illustrate how visual research approaches and techniques are more or less alike, or more practical or more theoretical by orienting the different approaches spatially across coordinated planes. Even if some of the information has already been covered in a map from this original dissertation, re-engaging in making should lead to further insights and contributions. I also intend to continue by providing general suggestions/guidelines for particular visual research techniques in order to help ensure consistency throughout various visual research studies and establish efficient practices for researchers. Instead of having to cull through numerous texts in order to effectively guess how to go about choosing or using a particular visual research technique, a researcher could consult a single introductory reference. The introductory reference would provide explicit practical guidance (both in textual and visual form) on implementing these techniques so beginners would not have to learn using published studies lacking discussion of the process as their only source. What would be especially useful for students and researchers would be to invite authors of some of the most seminal visual research studies to discuss their entire research process and include accessible directives. In other words, it would be helpful to have the authors revisit their studies and discuss each step of their process so that novices to their particular approach and/or technique could have resources that help guide their decisions. Finally, interviews of academic leaders in the field from all four approaches would be

interviewed to hear their understanding of the strengths and limitations of the four approaches and to see if they also believe the four approaches have something to offer one another.

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ENDNOTES

ⁱ Much research has also been devoted to the rise of the visual and its connection to the world of advertising. Because of the persuasive nature of visuals in advertisements and because of advertising's crucial role within the western economy and culture, analyzing advertisements is an important way to investigate the communicative power of visuals and its role in mediating social change. The twentieth century improvements in image production strongly contributed to the shift within advertising away from primarily text-based messages to images. According to Leiss, Kline, Jhally, and Botterill (2005) this shift resulted in "advertisers devoting less copy to talking about products, and more to claims about how those products could benefit people's lives." Leiss et al. (2005) make the argument that advertising is of pivotal importance in modern society because the discourse through and about objects holds a special place in our lives. This discourse is privileged because 1) "the state of our economy is the predominant concern in public affairs" 2) messages about goods surround us through our interactions with communications media and 3) because our interpretation of the social world is formulated against the backdrop of these messages" (p. 20). Ewen (1999) also makes the case that the "'image is everything' ethos of the eighties seems like a premonition" for the state of society's obsession with propaganda today, however he focuses more generally on the idea of "style" and "image." Williamson (1978) also makes the case for the huge role advertisements play in shaping society by focusing on how audiences decode the advertisements and especially the visuals. Therefore, understanding the visual's role in shaping cultural norms and social change must also

consider the role of advertisements, their context of production, medium used, changing techniques of practitioners and the strategies used to appeal to audiences.

ⁱⁱ Not all theories are suitable for testing. This is simply one way of thinking about possible uses of methods.

ⁱⁱⁱ Case study research investigates an event, group or individual within its natural setting and with multiple methods of data collection that allows for a comprehensive understanding of the information.

^{iv} For the past couple decades, Leah Ceccarelli has been urging rhetorical critics to consider using mixed methods in their research. More specifically, she has asked rhetorical critics to use what she calls “reception studies” to test analyses against actual audience responses.

^v Though Groat and Wang are generally correct about their distinction between design and research inquiry, there are instances when research inquiry will *not* be interested with use beyond the “confines of one places and time.”

^{vi} Gottdiener’s *Postmodern Semiotics* seeks a revival of the semiotic approach once developed and made popular by poststructuralists such as Roland Barthes, by subscribing to a “variant of semiotics called ‘socio-semiotics’ which explicitly relates symbolic processes to social context and, in addition, seeks to ‘socialize’ the domain of culture by linking it to the exo-semiotic realms of economic development and political conflict” (p. vii).

^{vii} There are of course other possibilities for the flaws in the map that could be related to heuristic or parsimonious causes.

^{viii} Stafford defines the art-science relationship as “intersections of the old historical arts with the new optical technologies.”

^{ix} Novak and Gowin (1984) also discuss the process of concept mapping and its importance. Their contribution is discussed further in chapter six of this project.

^x Kaptelinin and Nardi (2006) describe activity theory's principles, history, relationship to other theoretical approaches, and application to the analysis and design of technologies. It describes the accumulating body of work in interaction design informed by activity theory and also provides a comparative analysis with theoretical competitors within interaction design: distributed cognition, actor-network theory, and phenomenologically inspired approaches.

^{xi} Omniphiasism is a concept proposed by Rick Williams, a philosopher, photographer, and educator. He suggested people make sense of what they see through cognition, experience, intuition and association and he made attempts to analyze the visual using a technique called a “personal impact assessment.” This technique asked questions such as: What is my first emotional response to the visual? Do I like it? Dislike it? How do I feel about the image?

^{xii} Many theories provide the basis for addressing these rhetorical questions. For instance, Activity Theory would be a very useful theory to investigate how an object may rhetorically move someone to action.

^{xiii} One example where insights from a visual rhetoric approach prompted studies from other approaches occurs in the 2003 edited collection *Persuasive Imagery: A Consumer Response Perspective* edited by Scott and Batra.

^{xiv} Elkin's ten suggestions include:

1. Theory, and references to Marx does not go far enough—visual studies needs to ask and attempt to answer larger questions.
2. Visual studies currently finds only “preconscious meanings”—“it is counterintuitive that the same people who claim that we are visually literate beyond all previous periods in history also write undergraduate textbooks intended to teach literacy.”
3. Visual studies needs to consider what part of the visual world is appropriate and amenable for analysis, not all the visual world needs interpretation.
4. Though visual studies calls for an expanded visual field, current research does not reveal a field interested in non-art artifacts.
5. Visual studies needs to incorporate science into the discourse to discourage the polarization of the humanities and sciences and to encourage undergraduates to take foundational courses in cognitive psychology, neurology, and physiological optics.
6. Much writing in visual studies incorporates Benjamin, Foucault, Warburg and Lacan unnecessarily. It can accomplish what it wants without forcing these concepts.
7. Visual studies needs to seek a deeper history of the field of study.
8. Visual studies work *should* be about visual objects, but the research seems as if it's written about novels, scripts, or screenplays.
9. At this time visual studies cannot truly be multicultural because there are only “limited and disorganized methodological resources for theorizing the crossing of cultural lines.”
10. Visual studies scholars need to write ambitiously and “cut the common clichés.”

^{xv} The review of Elkins' book by Sunil Manghani in the *Journal of Visual Culture* agrees with almost every portion of his argument.

^{xvi} Here, Finnegan is quoting W. J. T. Mitchell, W. J. T. (1995). Interdisciplinarity and Visual Culture, *Art Bulletin*, 77, 540-41.

^{xvii} Though social science is often considered more empirical, rhetorical scholar Edwin Black once said that rhetorical criticism is fundamentally empirical because it always is grounded in the particular case.

^{xviii} Style in this sense refers to the characteristics of the writing itself and has also been defined as those figures that ornament discourse and represent the person writing.

^{xix} Researchers in the user-center design zone “work to help make new product and services better meet the needs of ‘users.’” Researchers in the participatory design zone attempt to “actively involve the people who are being served through design in the process to help ensure that the designed product/service meets their needs.” Researchers in the design and emotion zone “represent the coming together of research-led and design-led approaches to design research.” Researchers in the critical design zone evaluate the status quo and rely on “design experts to make things that provoke our understanding of the current values people hold.” Researchers in the generative design zone empower “everyday people to generate and promote alternatives to the current situation.”

^{xx} Making as a practice in design is almost identical to the classical Greek concept of *technê*, the rationale of *poeisis* (making).

^{xxi} Logical argumentation appears as one of the nine strategies/perspectives in the proposed schema presented visually.

^{xxii} Simulation research is limiting in that there is no definable way to assure the accuracy of the replication. Furthermore, simulation research can become very expensive.

^{xxiii} Some important texts about design and semiotics include: Nadin, M. (1990). Design and Semiotics in W.A. Koch (Eds.) *Semiotics in the Individual Sciences*, Vol. II. Bochum: Brockmeyer, 418-436.; Ockerse, T. (1984). *Semiotics: Principles in Action for the Graphic Designer*; Gottdiener, M. (1995) *Postmodern Semiotics: Material Culture and the Forms of Postmodern life*. Blackwell: Cambridge, MA.

^{xxiv} There is debate about whether or not there are more challenges to a collective identity in a postmodern heterogeneous society where mass culture like mass media is diminished. Furthermore, there is debate about whether or not the nation-state as a concept is diminished. Some scholars argue that globalization leads to a global society that transcends national identity. Others however, such as Fulcher (2000) argue that this notion “overlooks the continued importance of national institutions and international relationships, and the emergence of strong regional organizations, in a society that is essentially multi-level rather than global in character” (p. 522).

^{xxv} Commemorative texts vary from more traditional physical forms such as museums, monuments and statues, to less traditional aural and web memorials (Hess, 2007; Cohen & Willis, 2004).

^{xxvi} According to Merelman, cultural projection is "the conscious effort of a politically, economically and socially subordinated group to place new, more positive images of itself before dominants, for the purposes of increasing its own cultural capital" (1995, p.3).

^{xxvii} Sturken and Cartwright provide a helpful definition of "icon" as "an image that refers to something outside of its individual components" and "has great symbolic meaning for many people" (p. 36). Hariman and Lucaites explain that iconic photographs have five particular rhetorical elements: aesthetic familiarity, civic performance, semiotic transcriptions, emotional scenarios, contradictions and crises.

^{xxviii} "Social enthymematic understanding" is a phrase used by Scenters-Zapico (1994) that refers to an individual's understanding of an enthymeme based on social influence and individual insight.

^{xxix} In spite of his anti-Semitic writings, Wagner had an extensive network of Jewish friends and colleagues. The most notable of these was Hermann Levi, a practicing Jew whom Wagner chose to conduct the premiere of *Parsifal*, his last opera. Levi maintained a close friendship with Wagner, and was asked to be a pallbearer at the composer's funeral. The Nazis frequently played Wagner during their rallies because of Hitler's affinity towards the composer. Certain scholars have argued that Wagner's views, particularly his anti-Semitism, influenced the Nazis, but these claims remain controversial. Many aspects of Wagner's worldview would certainly have been unappealing to the Nazis, such as his pacifism and calls for assimilation.

^{xxx} The nature of immigrant migration to Cleveland is similar to other Midwestern industrial centers, especially Chicago and Detroit (although Chicago's scale of immigration was much greater than Cleveland's). Until 1893 more Germans arrived annually in Cleveland than did any other national group. By 1900 the city's German population of 40,648 was larger than that of any other foreign-born community. However, the most substantial and diverse migration to Cleveland occurred from 1870-1914, the period of the "new immigration," in which many Southern and Eastern Europeans came to the U.S. This large relocation was fostered by shortages of land in the home countries, more liberal emigration policies, increased military conscription, and, particularly for the Jewish people, persecutions (Van Tassel, 1987).

^{xxxii} As one of the largest donors to the project and a resident of the West side, it is likely Leonard Schlather had a great deal to do with the decision to place the monument at Edgewater. Schlather was born in Ebenhausen Germany and emigrated to Cleveland in 1857 where he became best known for founding the largest brewery in Cleveland.

^{xxxiii} Savage (2010) quotes the Swiss critic Robert Musil's pithy remark of 1926.

^{xxxiii} An example of this connotation in popular culture is featured in episode 13 of *Curb Your Enthusiasm* when a Jewish neighbor chastises Larry David for whistling "Siegfried Idyll," a symphonic poem for chamber orchestra with a romantic background story, to his wife Cheryl.

^{xxxiv} Savage (2010) explains that "Glenn Brown, secretary of the American Institute of Architects and one of the prime movers behind the Senate Park Commission, warned in 1900

that new monuments would be held to a higher standard: ‘the stiff bronze men and horses, so common in our parks at the present time, would not be tolerated.’” (p. 196)

^{xxxv} Despite the difficulty in visually opposing the dominant ideology because of the monument’s resistance to interaction, there does exist a negated ideology against anti-Semitism. Though the dominant ideology was not entirely created around anti-Semitism, the negated ideology exists entirely as a response against anti-Semitism. Though there is no physical landmark condemning the monument, the fact that it is in a state park where all the other landmarks are thoroughly documented and advertised and the fact that the Wagner monument is neither is rhetorically significant. There are no signs directing people from the lower portion of the park to the monument, there is no explanatory sign next to the monument explaining its history and there is no mention of the monument on any of the official Ohio Natural Resource state park web pages (though many other statues are marketed on the sites).

^{xxxvi} In *The Rise of the Creative Class*, Florida proposes that there is an emergent social class made up of artists, intellectuals and knowledge workers. This class represents a shift away from traditional agricultural or industry based economies.

^{xxxvii} Approval for this study was obtained from the Institutional Review Board.

^{xxxviii} Born in Denmark, Matzen grew up in Detroit and attended the German-American Seminary (Haverstock, 2000). He then attended the Royal Academy of Fine Arts in Berlin before returning to Cleveland. Some of his more well-known monuments include the Schiller

Monument in Detroit and the War and Peace Group for the Indianapolis, Ind., Soldiers and Sailors Monument.

APPENDIX

Avatar Questionnaire and Survey

Part One: Free-Write

Instructions: Please write your most honest answer to the questions listed below in regards to the corresponding avatar. We are trying to determine what you think about the person or group who created the avatar displayed. *USER = person or group who use the avatar

AVATAR #1

What are your initial thoughts / reactions to this avatar? (*e.g. attractiveness, credibility, like/dislike, etc.,—However, these are by no means the only reactions you can have*)

Describe the user of this avatar:

Please list the qualities of the avatar that lead you to arrive at your description of the user:

AVATAR #2

What are your initial thoughts / reactions to this avatar? (*e.g. attractiveness, credibility, like/dislike, etc.,—However, these are by no means the only reactions you can have*)

Describe the user of this avatar:

Please list the qualities of the avatar that lead you to arrive at your description of the user:

Part Two: Survey

NUMBER #1: After looking at this avatar I assume THE USER is most likely (please check appropriate box):

1. Sex

- Female Male Other Do not assume anything

2. Age

- High School-age College-age Upper 20's - 30s 40s - 50s
60s & older Don't assume

3. Race

- White American Indian / Alaska native Asian Black / African American
 Native Hawaiian / Pacific Islander Don't assume

4. Ethnicity

- Hispanic or Latino Not Hispanic or Latino Do not assume

5a. Class

- Lower class Working poor
(no participation in the labor force) (service, high-economic insecurity)

- Clerical
(blue collar, adequate earnings)

- Lower middle class Upper middle class
(semi-professionals, average standard of living, college ed.) (highly educated, professionals and middle management)

- Elitist class Don't assume
(top-level executives, ivy league education common)

5b. Class

- Creative class (Function is to create new ideas, technology, creative content)
 Not in the creative class Don't assume

6. Credibility (Capable of being believed / trustworthy / plausible)

1--strongly Agree 2—Agree 3—Undecided 4—Disagree 5--Strongly Disagree.

1. This USER is *not* of very high intelligence.
1 2 3 4 5

2. I have confidence in this USER.
1 2 3 4 5

3. This USER has high status in our society.
1 2 3 4 5

4. I believe that this USER is quite intelligent.
1 2 3 4 5

5. I deplore this USER's background.
1 2 3 4 5

6. I would consider it desirable to be like this USER
1 2 3 4 5

7. This USER is *not* an honorable person.
1 2 3 4 5

8. Would prefer to have nothing at all to do with this USER.
1 2 3 4 5

9. I would like to have this USER as a personal friend.
1 2 3 4 5

Part Three: Please tell us about YOU

Please check the appropriate box:

1. *Sex*

Male Female

2. *Age*

18-20 21-30 31-40 41-50 51-60 61-70

3. *Internet Usage*

I never use the Internet/WWW 1 2 3 4 5 6 7 I very often use the Internet/WWW

4. My level of experience with the Internet is:

no experience 1 2 3 4 5 6 7 a great deal of experience

5. Are you a participating member of World of Warcraft? Yes No

6. Are you a participating member of Second Life? Yes No

7. Are you a participating member of Habbo Hotel? Yes No