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A METAPHORIC CLUSTER ANALYSIS OF THE
RHETORIC OF DIGITAL TECHNOLOGY

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Communication Studies


by
Michael Eugene Marse
September 2005

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ABSTRACT

With the coming of the digital age came new ways of communicating technological ideas. These digital technologies are different from technologies of the past in that many of them are conceptual in nature, with no equivalents in the physical world. Concepts like the Internet, and the metaphors we use to describe them have become powerful markers in modern discourse. This thesis seeks to identify and explain some of these metaphors in order to more fully understand modern communication. This study makes use of metaphoric cluster analysis to examine the technological rhetoric of Nicholas Negroponte. The artifacts are Negroponte's columns in *Wired* magazine which appeared from 1993 until 1998. The study concludes that Negroponte's metaphors are uniquely suited to promoting comfort with new technologies, while at the same time promoting Negroponte's political, environmental, and spiritual views in a consistent way.

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CHAPTER ONE

INTRODUCTION AND RESEARCH QUESTIONS

The Digital Age

The digital age, also known as the information age, has been defined as a "post-industrial revolution" (Nodoushani & Nodoushani, 2002). Communication channels that were once continuous and analog, are now discrete and digital. Countries once ruled by oil and steel magnates are now ruled by telecommunication and computer corporations. Much of modern communication research has been devoted to questions of how the human experience of communication changes in a digital world. E-mail, distance education, and the digital nature of public speaking have been topic of concern in the community of communication researchers. This study examines metaphoric communication concerning digital technology, and specifically how metaphors can be used to lower anxiety about new products and technology. The most important product of the digital age has been the Internet.

The Internet

The Internet was unofficially born in 1969 when the United States Department of Defense began funding the U.S. Advanced Research Projects Agency, which was given the task of developing new technologies that would help the United States survive the most advanced scenarios of international warfare. One of the projects of that agency was a system by which government computers could be linked together, giving the military leaders control of their computer systems in case of nuclear attack. The idea was to distribute information and command abilities across the United States so that an effective government and defense could be maintained in the event a large section of the U.S. infrastructure was destroyed. This project was known as the ARPANET. Probably the most important technological advance to come out of this project was the Transaction Control Protocol/Internet Protocol (TCP/IP) which functioned as a kind of language allowing computers made by different manufacturers and running different operating systems to communicate (Gattiker, 2001). In 1969, ARPANET linked together four locations (nodes): the University of

California Los Angeles, the University of California Santa Barbara, Stanford University, and the University of Utah.

For the first decades of its life, the Internet was mainly a tool of scientific research. Scientists used the communication between their computers to share information and take part in studies that would have been otherwise impossible. Non-scientists used computers more and more in the 1980s but it was not until 1992 that the use of the Internet became user-friendly enough for lay users around the world to take part. In that year, CERN (the European Laboratory for Particle Physics) developed a format that has become known as the World Wide Web. This format involved "links", allowing a user to go from one "web site" to another with the click of a "mouse." It also provided a shared format for viewing texts and information, and provided the first "web browser" (Gattiker, 2001).

Nicholas Negroponte

An architect by training, Nicholas Negroponte co-founded the Media Lab at the Massachusetts Institute of Technology in 1985 and has headed the lab ever since. Two of his most popular and well known advocacies concern the importance of multimedia applications for computers and

People raced to the stands to snap up the latest copy. And even those who didn't read Wired had to have it. The frenetic, fluorescent book with metallic lettering popped up everywhere -- in the White House, Hollywood, offices of investment bankers. It was as much an accessory as a magazine (Millner, 2003).

Even though the magazine's circulation fell with the end of the so-called "Internet economy" which saw the death of many Internet based business at the end of the 1990s, the magazine appears to have rebounded. For example, Wired had the fifth largest ad growth for magazine publications in the first half of 2003 (Carr, 2003). Given the magazine's popularity and availability as a text, an analysis of its metaphors seems warranted.

Research Questions

This thesis addresses the following research questions:

- 1) How does Negroponte use metaphors?
- 2) What rhetorical clusters can be located in Negroponte's work? How do these clusters form a cohesive whole?

3) What are the possible impacts of these metaphors on the world beyond Negroponte's immediate context?

The investigation of these questions will consist of a review of relevant literature in the fields of metaphor theory and post-industrial philosophy. The research will include a rhetorical analysis of Negroponte's texts, consisting of the 66 columns appearing in *Wired* magazine between 1993 and 1998. Conclusions will be drawn as to the nature and critical power of Negroponte's metaphors, as well as possible implications for cultural studies. Future research possibilities will also be explored.

Significance

While rhetorical studies of metaphoric clusters are common, no study has examined Negroponte's use of metaphor and their possible connection to the future of digital technology, and how that technology will be discussed. This study seeks to add to the impressive body of knowledge already available in the fields of rhetoric, metaphor theory and computer-mediated communication. Given the unique nature of technology communication, ample evidence exists to suggest that such metaphors are potentially

different from other types of metaphors that have been studied.

Preview

Chapter two will review relevant literature in metaphor theory, establishing a foundation for the later analysis, as well as placing the study in the greater context of communication studies. Chapter three will explain the methodology used in this study, as well as review various implementations of similar methodologies used in other research. Chapter four contains the analysis of the artifact, and the explanation of the metaphoric clusters found in the text. Chapter five will draw conclusions from the analysis relating to the research questions, as well as relating the study's findings to communication studies in general.

CHAPTER TWO

LITERATURE REVIEW

This chapter will review relevant literature in the fields of metaphor study in communication studies, metaphor study in related fields, research into metaphors of technology, and literature on the most common metaphors of the Internet.

Metaphors in Communication Studies

Stemming from Aristotle's work, many Aristotelian and neo-Aristotelian scholars of rhetoric have examined the use of metaphor in speech acts. Bowers & Osborn (1966) concluded that speeches that ended in certain types of metaphor were more persuasive than those that ended with uses of literal language. Many scholars have used metaphor analysis to study artifacts that might have been subject to Aristotelian methods only a few decades ago. German (1998) studied the use of metaphor and other types of figurative language within Native American oratory until 1912. Other studies have used metaphor analysis to examine public debates over the fires in Yellowstone National Park in 1988 (Hardy-Short and Short, 1995), bio-engineering (Nerlich,

Clarke & Dingwall, 2000), and political communication concerning the conflict in Kosovo during the Clinton administration (Paris, 2002). In other areas, scholars have used metaphor analysis in investigations of intrapersonal communication (Bowker, 1996), Supreme Court decisions (Dickerson, 1996), and ethnography (Gershenson, 2003).

Metaphor Study in Other Fields

Metaphor study has been widely popular in several fields, most prominently psychology. Levitt, Korman, and Angus (2000) suggest that metaphor analysis could be a useful diagnostic tool in psychotherapy dyads. The research suggests that metaphors (understood as cognitive and subjective conceptual display) can let the therapist know when certain changes have been made in cognition that would otherwise be unknown to an observer. For example, Bozlk (2002) asked students in a general education course to describe their own learning experience using metaphor over the course of a year-long study. The metaphors were categorized into four themes with implications for educational psychology. Wallace (2001) studied the metaphors used in interviews with British educational

headmasters and concluded that the rhetoric of the British government concerning a certain type of public school was not reflected in that school's structure.

Metaphors of Digital Technology

In an age of digital information that is incomprehensible to most humans, the metaphors with which we approach understanding of that information is central to any study of how communication takes in our modern context. Steven Johnson explains, "In an age of information, the metaphors we use to comprehend all those zeros and ones are as central, and as meaningful, as the cathedrals of the middle ages" (Johnson, 1997, pg. 45). Johnson's argument is that modern computer interface design is analogous to the architecture of a medieval gothic cathedral. The connection is that while the flying buttresses of pre-renaissance architecture were designed to picture heaven in a way humans could understand, so the interface of a computer is designed to picture Cyberspace in a way humans can comprehend.

Technology metaphors are often heavily informed by dominant cultural beliefs of a given time. Lentle (2000) studied the history of metaphors concerning X-ray

technology. He found that when X-ray technology was first developed in 1895, the dominant view of the new technology was as a telescope for seeing through someone's clothes. This metaphor reflected the prevailing conservative notions of Victorian England and its global dominance.

New technologies are rarely named using literal interpretations of their function or existence. Raad (1989) demonstrated that the use of metaphors in the naming of new technologies is on the rise. While admitting that the process still relies heavily on Greek and Latin roots, Raad examined how new technologies derive their names, and concluded in the article that the new use of metaphors are due both to an explosion of demand for new terms, and a need to make hard science comprehensible to the lay person.

Metaphors of the Internet

Modern researchers, notably Nafus (2003) have noted that referring to the Internet as a place makes the same categorical fallacy as referring to the "West" as a unified whole, or to the "United States" as a monolithic culture. Therefore, all references to the Internet as an entity with extension in time and space are metaphorical (Mihalache, 2002). Mihalache additionally points out that the Internet

derives its growth from its own synchronous development, and not from objective measurement. The most common metaphors of the Internet have been identified through an exploratory quantitative study (Palmquist, 2001), and the following sub-sections serve as introductions and reviews of each common metaphor.

Cyberspace

The acknowledged (though not universally) creator of the term "Cyberspace" is science fiction writer William Gibson (Thomas, 2003). Gibson is known for "cyberpunk" literature, a sub-genre of science fiction in which the line between man and machine is blended to non-existence. According to Gattiker:

Cyberspace is neither a pure pop nor culture phenomenon nor a simple technological artifact. Instead, it is a powerful, collective, mnemonic technology offering a computer-generated, interactive, virtual environment of cyberspace. While its virtual environments and simulated worlds, cyberspace is a metaphysical laboratory, thereby providing people with a tool for

examining our very sense of reality and the world we live in (2001, p. 12).

Cyberspace contrasts with "physical" or "real" space, and expands the notion of metaphysical reality to extend beyond what we can see and feel.

A common term for the opposite of cyberspace is "meatspace" ("Blogging: Cyberspace vs. Meatspace," 2003). The term cyberspace itself speaks of non-corporeality, spirituality, and alternatives to status quo metaphysical questions and answers. Cyberspace is a metaphor without a physical tenor, but contrasts two concepts, that of the technological world and the physical world, and seeks to blend them. The metaphor speaks of a place where flesh can be left behind and a new, better existence can be found. Cultural critics of every form and fashion, from hyper-conservatives (like George Gilder) to radical feminists (like Sadie Plant) have seen in the term their own values writ large. Embedded in the very term "cyberspace" is the notion that the Internet is a kind of space, other metaphors suggest what kind of space it is.

Internet Frontier

A frontier is defined by Webster as "the part of a country which borders an unexplored region" (1995, p. 239). Therefore, the "Internet frontier" is the concept that the Internet is a land bordering our own, touching unexplored territory. Yen (2000) argues that the Internet Frontier metaphor focuses upon the metaphors of the American West during the 19th century, and related concepts like "manifest destiny", the idea that it was the destiny of the United States to populate all the land from the Atlantic to the Pacific. It is within this paradigm that the metaphor becomes a term of nostalgia for the social norms of the American West, including lawlessness, uninhibited liberty, and limitless room for growth. Yen persuasively shows, however, that the Internet shares little in common with the Old West, and that the vocabulary of the Old West can be damaging when applied to current models. Further, he argues that an overarching metaphor of feudalism might actually be closer to the truth that the Internet represents in the real world. This is due to the control of the Internet by what Yen calls, "cyberlords," the Internet Service Providers who control all access to the

Internet itself, the companies and agencies who control access to the domain names people must register to have a "home page" on the Internet, and the organizations who determine the common protocols (languages) that all computers must use to in order to communicate on the Internet.

E-commerce

A mainstay of modern conversation about the Internet, "e-commerce" has become the preferred way of describing transactions that take place over the Internet (Kokmen, 1998). Scholars have gathered evidence recently that e-commerce is very different from traditional models of consumerism. Current research has found that customers on the Internet pay more attention to extrinsic qualities of product (price, brand name, store reputation, etc.) more than the intrinsic qualities of the commodity being purchased (Chang & Wildt, 1996). Research in marketing and advertising has shown recently that e-commerce is largely dependent on vividness and interactivity of advertising, and their ability to create telepresence (the sense of being there) and enduring attitudes in customers (Coyle & Thorson, 2001). Other findings suggest that consumers are

more likely to spend irresponsibly and/or compulsively in e-commerce (Reisch, 2003), due to the rapid and easy nature of the purchasing process. These findings, along with other research suggest that e-commerce is a metaphor that works very differently from traditional conceptions of "marketplace" and "shopping."

Information Superhighway

This term was coined by then Senator (and future Vice President) Al Gore in an article in the *Washington Post* on July 15, 1990. He describes the Internet in the following way:

Just as the interstate highway system made sense for a postwar America with lost of new automobiles clogging crooked two-lane roads, a nationwide network of information superhighways now is needed to move the vast quantities of data are creating a kind of information gridlock (1990, para. 2).

Gore envisioned this new "superhighway" as a way to deal with the information overload of the modern world. The internet becomes, in Gore's conception, an "on-ramp" to allow American to drink from the "fire-hose" of information.

This metaphor of Internet invokes the concepts of speed, of industry (getting the "trucks" of data to the marketplace), and as a way to transport oneself quickly to and from places of information.

World Wide Web

The concept of the World Wide Web was created by Tim Berners-Lee, then a software engineer at the European Particle Physics Laboratory, known as CERN (Ramstad, 1995). Berners-Lee explained, "The reason the Web works is it doesn't have indications about how we structure ourselves" (Ramstad, 1995, para. 21). Just as a spider's web is defined by its intricate connections, so is the Internet. Just as the Web has no "shape" independent of its strands, so does the Internet. The World Wide Web metaphor reflects an unwillingness to categorize in a linear fashion according to common Western ways of thinking. The Web metaphor transfers the locus of control from a top-down hierarchy to a distributed bottom-up model.

Web Surfing

This unique metaphor draws an implicit comparison between the Internet and a waterscape. Bahadur, Chan & Weber (2002) introduce the metaphor this way:

Imagine the Internet as an ocean and your computer as a sailboat. Maybe you are sailing to reach a destination, or maybe you are just sailing for fun. Either way, you shouldn't sail into the open water of the Web without first learning about sailing technique, safety, and navigation. The Web, much like the ocean, has rough seas and the occasional pirate who wants to pillage your boat, or rather your PC. But if you learn the proper technique, learn proper safety precautions, and navigate your PC correctly, you'll arrive at your destination safe and sound (p. 225).

As opposed to the web metaphor which emphasizes the various nodes, or users, of the web, the "surfing" metaphor looks at the Internet as a continuum of information, without intermediate stops between destinations. The nature of the Internet is, in this metaphorical space, constantly in flux. The relationships among users on the Internet, and with the Internet itself are forever changing and redefining themselves.

Summary

This study of Negroponte's use of different metaphors contributes to the above noted literature in two important ways. By examining the metaphors of the Internet used by a specific author, this research serves as an additional study of rhetorical metaphor use, contributing to the understanding of how metaphors communicate. Questions can now be asked about how Negroponte's metaphors build upon or subvert the dominant metaphors of digital technology. By examining metaphors in the context of the digital age, this study also contributes to the ongoing study of technology metaphors, and how these metaphors create reality.

CHAPTER THREE

METHODOLOGY

General Metaphor Theory

While metaphor theory has been widely scrutinized in the past few centuries, it is astonishing to note the disparity of views on a topic so central as the very definition of metaphor. Some have argued that metaphors are a deviant form of literal language, while others have argued that language and thought themselves are metaphorical in nature. The majority of writers on the subject have held the former view until the last few decades. The various conceptions concerning the nature of metaphor have led scholars to form three major schools concerning metaphor theory.

The first is called in some research the comparison theory, in others the literal primacy theory. Aristotle, in *Poetics* presents us with the influential beginning to this line of thought by defining metaphor as an example of "strange" (in Greek, "allogrios") language. In a more modern context, Beardsley (1976) argues that a metaphor is the connection of two words which are, by their disparate meanings, literally absurd. Thus, a metaphor is a

comparison between two words which cannot literally go together. This school of thought looks at metaphors as literary and/or textual artifacts. Further, the school assumes that words have an objective meaning, or it would not be an objectively possible task to identify absurdity within potential metaphors. Additionally, this school of thought presumes that metaphors are, as Aristotle suggested, deviant forms of literal statements.

A second group of scholars have rejected the basic notions of metaphor as absurd language, but do not argue the opposite conclusion that language itself is metaphorical in nature. This approach is known commonly as the interaction model of metaphor. The primary author of this theory is I.A. Richards (1936), who wrote that metaphorical meaning goes beyond the tenor (the literal meaning of the metaphor) and the vehicle (the understood meaning of the metaphor) of the metaphor itself. In other words, interpreting the metaphor "men are pigs" goes beyond the meaning of "men" and "pigs" to social constructs of how these two words relate to each other. Max Black (1962) expanded the interaction theory to describe the notion of how metaphors serve to obscure and focus literal concepts.

The metaphor Black uses to illustrate is heavily smoked glass upon which certain lines are perfectly clear.

Looking through the glass, the vision of the viewer is restricted and focuses on the clear lines. A metaphor like "time is money" serves to hide all notions of "time"-ness and "money"-ness that are not connected, and focuses on the shared meanings of "time"-ness and "money"-ness as a general statement. Gineste, Indurkhya & Scart (2000) pinpoint the six attributes of metaphors that define the interaction theory:

- (a) metaphor creates new meanings and new similarities;
- (b) metaphor cannot be reduced to a comparison or an analogy;
- (c) metaphor cannot be given a literal paraphrase without losing part of its meaning;
- (d) components of a metaphor (the topic and the vehicle) mutually influence each other, which results in a change in their respective meanings;
- (e) metaphors use both similarities and differences existing in their components; and

(f) metaphors imply a tension between the topic and the vehicle (para. 10).

The work of Paul Ricoeur and Kenneth Burke serve as a mid point between literal primacy and more modern views of metaphor, while at the same time providing much of the modern vocabulary and methodology for metaphor analysis. Paul Ricoeur (1977) expands Black's ideas in introducing the idea that metaphors occur at a nexus of semantic fields which combine to form not only new semantic fields but new meaning within language. Ricoeur is entrenched in the interaction theory but comes very close to the third major school of metaphor theory.

More recent scholarship (Fritch and Leeper, 1993) has used Ricoeur's metaphor analysis along with Kenneth Burke's discussion of metaphor as one of the master tropes of language in an analysis of metaphor within argumentation. Burke (1945) argues as does Ricoeur, that metaphors are examples of linguistic "perspective by incongruity." Burke means that metaphors allow the speaker to force the audience into seeing a certain concept in a way other than that in which they are accustomed. For Burke, metaphors do not only offer different perspectives on truth and reflect

truth, but they also create truth. "By deliberate coaching and criticism of the perspective process, characters can be considered tentatively, in terms of other characters, for experimental or heuristic purposes" (Burke, 1945, p. 504). Fritch and Leeper point out that these exercises in perspective do not result in universal subjectivity, but ground the object in reality through multiple analyses. What Burke calls perspective by incongruity Ricoeur refers to as "unusual syntagmatic illusions" (Ricoeur, 1977, p. 180). Further, Ricoeur argues that the "form" of a metaphor is not so structured as formal or informal logic forms (at least in the traditional sense) but instead are an examination of the tensions that make up the contrast.

In contrast to these views of literal primacy, Lakoff and Johnson argue in a very influential text that, "most of our normal conceptual system is metaphorically structured" (1980, p. 56). They argue that metaphor cannot be examined objectively, but must be analyzed in the context of the conceptual systems of their author. Similarly, Levin (1988) agrees that metaphors are inherently conceptual in character and he adds that metaphors must not be viewed epistemologically, but phenomenologically, as elements

and evidences of human conscience. In contrast to the literal primacy view of metaphor, a conceptual theory sees metaphor as the basis for all language and cognitive functions. As opposed to metaphors being deviant forms of literal language, they are the essence of what language is.

A final appropriate question is whether the cognitive root of these metaphors are culturally derived or is if there is a kind of Chomskyan instinct for metaphor as well as more general linguistic principles. The research is not extensive in this area, but Neumann (2001) points out 106 metaphors that are shared between the German and Japanese languages. Thus, Neumann argues, points to a cognitive, and non-linguistic basis for metaphor while providing a focus for future intercultural studies in metaphor theory. The authors cited in this section provide a framework for understanding how metaphors are approached. This study approaches metaphor as Lakoff and Johnson suggest, as the building blocks of language itself. The phenomenological study of metaphors included in this study seeks to uncover those building blocks, and recognize their role in communication.

Critical Metaphor Theory

Critical theory's attention to power and the structures behind power have affected every part of cultural analysis in the past century. While critical metaphor analysis has not grown into a separate field of study, the current research does suggest that metaphors can be a useful tool for describing power relationships. Wandel (2001) points out that critical theory has enjoyed an in-house debate for most of its existence between two major schools of thought. These schools have their traditions most firmly rooted in the work of Karl Marx and Michel Foucault. In the Marxist view, power is a socio-economic principle. Power hides, represses, and prevents people from reaching happiness. In the Wandel's conception of Foucault, power is a discursive principle. In this view power is positive: it creates and build and formulates (although sometimes building negatively in terms of a concept like happiness, justice, etc.). Metaphor theory offers a method that seeks to discover just what kind of power is being constructed through the artifact's use of metaphor. Specifically, this study examines whether the realities being created through technology metaphors

suggest power relationships, and what the nature of those power relationships might be.

A shift in metaphor in communication is synonymous with a shift in paradigm. Bruner and Oelschlaeger (1994) draw a clear connection between critical studies and metaphor when they argue that an important strategy in bringing about lasting change in the cultural conversation concerning environmental issues is the reissue of new metaphors to change what they call the "discourse of power" (p. 216) within that conversation.

A related idea to the idea that metaphor change is paradigm change is that metaphors set the paradigm(s) for philosophical thought. Richard Rorty (1979) offered one of the most coherent and persuasive arguments for a true delineation between the modern and the postmodern as a philosophical shift from foundationalism to antifoundationalism. To Rorty, all philosophy from the ancient Greeks to Kant and Peirce was immersed in an inappropriate metaphor, the mind as mirror. These philosophers, Rorty argues, see the mind as an objective collector of information, creating copies of the world for future analysis. According to Rorty, reality is

intersubjective and ontologically relational. It is this shift in metaphor that is the true break between the modern and the postmodern. While more current authors, such as Abrams (2002), suggest that Peirce may not have been quite as foundational as Rorty claims, Rorty's analysis has provided the theoretical foundation upon which much of current postmodern thought has been based.

Foundations of Metaphor Analysis

This study follows the framework for rhetorical studies of metaphor established by Sopory and Dillard (2002). Within this framework of theories and research methods, this investigation seeks to locate metaphors of the Internet within the greater context of rhetorical theory. In addition, this thesis works within the current discussions of postmodern and critical studies that have become so great a focus of modern scholarship.

Sopory and Dillard (2002) focused on the question of why metaphors are more persuasive than literal statements, and in which contexts. Their meta-analysis fixed six theoretical reasons for the persuasive impact of metaphor:

(1) Metaphors are persuasive because they involve pleasure or relief when the dissonant meanings of the two concepts are made consonant through understanding.

(2) Metaphors are persuasive because they raise speaker credibility, either because they are marks of fine speaking in and of themselves, or because an audience that enjoys comprehending previously unseen connections between concepts finds them pleasing.

(3) Metaphors are persuasive since they use more cognitive power than literal statements to understand, and therefore less cognitive power is left for counter arguments.

(4) Metaphors are more persuasive than literal statements since they take advantage of multiple implicit arguments at once in their meaning.

(5) Metaphors "invoke a richer set of associations in semantic memory as compared to literal language" (p. 386). These connections provide for greater "elaboration" of message content, which contributes to persuasion.

(6) Metaphors are more persuasive because they structure arguments better than literal statements.

Sopory and Dillard's (2002) quantitative analysis suggests that these theories have at least some impact in rhetorical situations. They conclude that the notion that metaphors are superior in structuring arguments best explains the effects of metaphor in persuasion. It would seem that the ability of metaphors to encapsulate information more readily than literal language is perhaps its most powerful effect, however each of these possible persuasive powers will be examined in the unique light that is afforded by metaphors of "Internet."

A key study demonstrating how metaphoric analysis can work with concepts (can be operationally defined as metaphors without "real" tenors) is the work of Tronstad (2002). Tronstad studied the concept of theatricality, and attempts to locate the relationship between theatricality and reality in a discussion of the metaphors used to describe theatricality. A similar (though with a very different artifact) is at work in this thesis.

With this rhetorical framework in place, a foundation of the critical analysis portion at work in this study can be explained. The analysis follows Bronowski (1972) in his assertion that metaphors are "the essential core of human

thought and creativity... to make a metaphor is to make a political claim" (p. 108-109). A central idea in this work is the type and impact of political claim that metaphors of the Internet become. Another key idea providing structure to the critical analysis of the Negrofonte text is the exploration of what impact the lack of a definitive referent has on the interpretations of these metaphors. In other words, a critical analysis must investigate whether that lack of a physical essence has an impact on how those metaphors are used. Two key threads of research stem from this question. The first owes its inspiration to Edelman's (1971) claim that, "metaphor and myths are devices for simplifying and giving meaning to complex and bewildering sets of observations that evoke concern" (p. 65). Edelman argues that politicians use metaphors on issues that are difficult for the voting public to understand to make an obviously (and inherently) biased image of the issue that is palatable to voters. Given the validity of this view, this work asks what image is created from mass communication (in this case, a magazine column) about the metaphorical Internet. The other key thread from which this research stems in the ongoing study of the "hyperreal"

nature of the postmodern technocratic culture. Baudrillard's (1981) discussion of the simulation/representation dynamic will be a key tool of analysis, as will subsequent discussions on how Baudrillard's analysis fits in a 21st century context.

Qualitative Metaphor Analysis

In a study very much in the spirit of this thesis, Nafus (2003) studied Internet users of St. Petersburg, Russia through ethnography, paying attention to the everyday metaphors they used to describe the Internet. She found, among other things, that most of her participants thought of the Internet as a metaphorical library, a metaphor underrepresented in this study. This study more closely resembles a traditional rhetorical analysis than an ethnography, but the research questions in this study is closely related to those of Nafus.

Metaphoric Cluster Analysis

Metaphoric cluster analysis consists of the identification, coding, and explanation of metaphors in a particular text. According to Foss:

In criticism in which metaphors are used as units of analysis, a critic analyzes an artifact in four steps: (1) examining the artifact for a general sense of its dimensions and context; (2) isolating the metaphors in the artifact; (3) sorting the metaphors into groups according to vehicle or tenor; and (4) discovering an explanation for the artifact (2004, p. 303).

Foss's methodology is adopted in total for this study. The first two chapters of this thesis reflect the efforts of step one. They seek to provide a background for understanding not only the artifact, but the context of the artifact. Chapter four contains the elements gathered from steps two and three of Foss' process, and chapter five will give the explanation spoken of in step four.

Many other scholars have used metaphoric cluster analysis to analyze rhetorical artifacts. A similar methodology was undertaken by Jamieson (1980), who used metaphoric cluster analysis to examine the rhetoric of Pope Paul VI and Jerry Brown. Ivie (1982)

used metaphor analysis to describe four rhetorical strategies used by those who argued for America's war against England in 1812. King and Jensen (1995) used metaphoric cluster analysis to analyze the reggae lyrics of Bob Marley and the Wailers. Finally, Vaughn (1995) uses metaphoric cluster analysis to examine visual metaphors within the first three *Alien* movies.

Summary

This method of analysis fits well with the metaphor theory of Lakoff and Johnson (1980) already discussed. By categorizing metaphors, this study examines systems of metaphors, rather than isolated literary metaphors. The artifact for this study was chosen on the basis of popularity and widespread availability of the text from which the artifact is drawn. Foss' (2004) analysis was chosen as the basis for the methodology of this study since metaphors are the main subjects of this study.

CHAPTER FOUR

ANALYSIS

This chapter describes the metaphoric clusters found in Negroponete's work. Out of the approximately 70,000 words included in the artifact, a total of 134 metaphors were coded, with a total of 12 metaphoric clusters identified. The clusters are presented in this chapter in order both of their statistical (number of metaphors) and interpretive (importance of implication) force within the study.

The Internet as a Parallel World

In Negroponete's work, the Internet is presented as an alternate, co-existent plane of reality existing alongside the "real" world. Metaphors consisting of tenors that do not exist in the physical world are more powerful in their implications, and more completely pedagogical in their effect. This category of metaphors develops a kind of physics for cyberspace, relating it to real world in various ways.

Negroponete conceptualizes the digital world as a place, and one in which many of the activities of the real world

can be duplicated. The key to Negro¹pon¹te's use of these metaphors is their consistent assertion of the similarities between the two worlds. He writes, "...in the digital world such hobbies can be part of the toys with which we think and the tools with which we play" (Negro¹pon¹te, December 1994, para. 7). To Negro¹pon¹te, the Internet is not only a world to do things in, but a real place in which to dwell. He explains:

Think of the change this way: the Internet is now like a city - people go places, visit communities. In fact, we even call our own pages 'home.' But when we arrive at a place and try to make things happen, we often end up frustrated (Negro¹pon¹te, May 1996, para. 5).

The Internet becomes a medium in which people travel. While this metaphor has become immersed in the psyche of most Internet users, like all metaphors this one is functionally problematic. People cannot "travel" anywhere on the Internet, only digital information changes hands.

While the "experience" of the Internet may be similar to the physical world, the structure¹ and geography of the

Internet is very different. Negroponte makes use of fascinating metaphors to explain these relationships. He argues for example, "Cyberspace is a topology, not a topography. There are no physical constructs like 'beside,' 'above,' 'to the north of'" (Negroponte, November 1996, para. 5). To reframe the metaphor slightly, Negroponte suggests that the Internet is more like a diagram than a place that could be described by a map. Diagrams are conceptual, existing to clearly show relationships and information. Even though the Internet cannot be "mapped," it can still be divided. Negroponte states in a review of Microsoft technology, "Though some cities try to use universally recognized, 'intuitive' road signs, the city of Windows certainly needs to be much more friendly to nonresidents" (Negroponte, August 1998, para. 11). While there are no topographical boundaries, Microsoft Windows still gets its own city.

This conceptual construct of the Internet as a parallel world leads to Negroponte's description of the "real" world. He writes, "Just think: How much browsing do you do in real life, or, as John Perry Barlow would say, in 'meatspace'?" (Negroponte, May 1996, para. 1). To

Negroponete then, a major difference between the Internet and the "real world" is the presence of actual human flesh. Throughout his writing, Negroponete emphasizes the almost Gnostic point that flesh leads to problems that only the digital can solve. This belief contrasts with the views of other texts that argue that technology enslaves and destroys humankind, other metaphors used in the parallel world cluster include computers described as, "net-dwelling agents" (Negroponete, May 1996, para. 10), and other computers and people on the network described as the "elsewhere" (Negroponete, September 1996, para. 7), both giving further support to Negroponete's view that the Internet is a "place" where a human can "be."

What material is, and what physicality means are subjects of much postmodern debate. Judith Butler (1993) argues that physicality is as much a result of discourse as of empiricism. She seeks in her work to recast "the matter of bodies as the effect of a dynamic of power, such that the matter of bodies will be indissociable from the regulatory norms that govern their materialization and the signification of those material effects" (p. 2). Her analysis centers around the notions of gender as they are

discursively created, but the analysis can be extended to argue that if bodies are discursively created in traditional settings, they can also be created in an Internet setting. If a discursive force can create gender as binary discursive concept, the same kind of force can make cyberpresence a concept with just as much discursive force.

Information as Water

The most widely used metaphor in Negroponte's columns concerns the nature of information. The consistent use of metaphors relating information to water suggest a common rhetorical theme throughout the artifact. This seems to match the goals of Jamieson (1980) in her analysis of metaphoric clusters as items in a rhetor's metaphoric lexicon. Jamieson argues that such clusters reflect what she calls, "deeper rhetorical consistencies" (p. 51) in the rhetor themselves. In the case of Negroponte's columns and their influential history, these deeper rhetorical consistencies help to provide a framework for digital rhetoric in its current embryonic state.

In a total of fourteen occurrences, Negroponte uses water as a metaphor for digital information. A few of

these are so well-known as metaphors they almost cease to exist as metaphors due to their everyday use in language. Examples are, "surfing the Net" (Negroponte, March 1995, para. 9), and "channel surfing" (Negroponte, June 1994, para. 6). In these instances, the human user of the Internet or television is pictured as a surfer who must ride on the powerful currents of information. In the surfing metaphor, it is not the surfer who is dominant but the wave, suggesting that it is we who must adapt to the information and not the other way around.

The metaphor of information as the ocean is also fortified with less common phrases. Negroponte extends the metaphor to include humans as sailors in the sentence, "The government is asking us to sail in an ocean of data, but it wants the ability to board our (Clipped) ships at any time" (Negroponte, March 1995, para. 11). Here humans can be seen collectively in the role of a crew of sailors, passively traveling through the dangerous and deep waters of the Internet. At the same time, Negroponte in the quote mentioned puts government control in the role of the pirate, a group who nefariously wants entry into "our" boat.

Of course, humans do not have to sail. They can choose instead to swim as in the example, "...you may have to swim through hundreds of thousands of winking and dancing bits before you get the measly 250 words (an old measure indeed) you were looking for" (Negroponte, June 1998, para. 13). Swimming through the information is slow and inefficient, continuing the same meta-language of the Internet as powerful ocean. The water is not only the dominant force once again in the metaphor, but Negroponte suggests in another place that humans cannot survive in such an information-rich environment. He writes, "...it will be a while before bandwidth is priced like clean air. Until then, we will all be using bandwidth like scuba tanks" (Negroponte, June 1998, para. 17). In this metaphor, information is still the water, but humankind's access to it is a scuba tank. Someone with limited access to the Internet is like a person swimming in the ocean with an undersized scuba tank. Once again, humanity's passivity in the face of information becomes clear. The text shows that information is conceptualized as an ocean in another important way. The Internet, like the ocean is transnational, and is an example of what environmentalists

refer to as a "commons." Negroponete writes, "Bits don't wait in customs; they flow freely across borders. Just try stopping them" (Negroponete, September 1994, para. 2).

In addition to the ocean, Negroponete also uses Information in metaphoric contrast to other bodies of water. He uses a swamp in the sentence, "In fact, more bandwidth can have the deleterious effect of swamping people..." (Negroponete, July/August 1993, para. 8). In this example, swamps have more water than the land can dispense with just as many Internet users have more information than they can dispense with. The swamp metaphor can be contrasted with the pond metaphor, which throughout Negroponete's work signifies a place of accelerated growth and advancement.

So, how do we stay fresh and do it all again? Think of fishing. You arrive at a pond that has never been fished; not surprisingly, you catch plenty. But as the number of lines grows, you will catch a lot less. One has to know when it's time to find a new pond (Negroponete, November 1995, para. 5).

To continue the analysis of information as water, the fish (ideas) are not the Internet itself, but ideas grow in the Internet, and we must go to the Internet to find them. Therefore, the Internet is portrayed as a kind of Petri dish of new ideas for the digital age in which we live. We see this idea taken up again in the example, "In the pool of knowledge at a university, professors are not the fish, but the pond. The water is not chlorinated, clear, precisely circumscribed, and inhabited by one kind of perfect goldfish" (Negroponte, January 1996, para. 10). Here the information is again the water, but the professor is the container for the information (pond), while the students are the fish. The students travel through a world of information given boundaries and definition by the professors. Information is also described as a "pool of human knowledge" (Negroponte, April 1995, para. 11).

Negroponte's use of water as a metaphoric model of information holds up remarkably well. If information is water, one would need a tool of some sort to get the choicest bits desired out of the water. We find such a construct in, "don't give a poor man fish, give him a fishing rod. The leap from a fishing rod to a personal

computer was, for some of us, easy" (Negroponte, June 1997, para. 5). However, that we again see the passivity of humanity who must depend on the information existing and traveling to the place of his or her rod (computer) in order to get the fish (usable resources). Just as water exists outside of the ocean, so also information exists outside of the Internet.

Finally, other interesting metaphors used in Negroponte's work include information as something that can be "squirted," and as water for vegetation. We read of information as something to be squirted as the author states, "...we are faced with a number of closet drill-and-practice believers, who think they can colonize the pizzazz of a Sega game to squirt a bit more information into the thick heads of children" (Negroponte, July 1994, para. 3); or "It's simple: Just because bandwidth exists, don't squirt more bits at me" (Negroponte, June 1994, para. 4). As life-giving water for vegetation we read, "the global landscape is the most fertile ground for new ideas" (Negroponte, April 1995, para. 6).

What all of these metaphors have in common are two major ideas. First, they portray digital information as

just as essential to human life as water. In the digital age, a person who does not understand the power and the use of information is akin to an ancient mariner who did not understand the power and the use of the sea. Second, digital information in these paradigms is something powerful beyond the control of humanity, who must passively react to information and seek to use the best tools at its disposal to survive in the environment of information. In this cluster, it is no longer up to humankind to decide whether to react to information or not, but has become essential.

Non-essential Information as Food

In contrast to our analysis of Negroponte's metaphors of information as water, he characterizes non-essential information as food. He describes bandwidth (the amount of information that can be sent over a given time) as something that humans have "insatiable appetites for" (Negroponte, September/October 1993, para. 5). He conceptualizes non-essential features of software as "icing" (Negroponte, July 1997, para. 8). He writes, "I often liken bandwidth to a restaurant, where slow service may not matter if you are in good company" (Negroponte,

June 1998, para. 9). The fundamental difference between these metaphors and the metaphors of information as water are that food is non-essential and is dominated by humanity, while water is essential and dominates humanity.

What makes information essential or non-essential is not the nature of the information itself, but our attitude toward the information. For example, in the context of a business meeting reviewing the last year's sales goals, only the information from the past few years is essential to the situation. Too often, Negroponte argues, we become ravenous for information that is non-essential which makes us metaphorically fat. The foods in this cluster are not hearty life-giving vegetables, but food as a whole is seen in the light of non-essential foods like icing and restaurant meals.

Technology as Divine

Often in literature, a society that encounters a new technological advance ascribes divine origins or meaning to that technology. Negroponte's columns show that the literary device is alive and well in the real world. He compares digital technology to the Christian gospel by suggesting that, "As you reach out across the world to

evangelize the information age, people will listen" (Negroponte, May 1995, para. 1). He describes the march of new digital technologies as inevitable, "There is simply no way to limit the freedom of bit radiation any more than the Romans could stop Christianity, even though a few brave and early data broadcasters will be eaten by the Washington lions in the process" (Negroponte, May/June 1993, para. 17). In Negroponte's rhetoric, new technologies do not just "show up", they have an "advent" (Negroponte, April 1994, para. 1). In this way, Negroponte argues that new technologies (in this case, the fax machine) are like Jesus Christ of Christian theology in that they come to the world to "save" it. He asserts that large-print books "will be a gift from heaven" (Negroponte, February 1996, para. 8) and that setting prices too high in such a free-market economy as the Internet offers is "sinful" (Negroponte, April 1997, para. 2).

Christian theology, however, does not completely dominate Negroponte's metaphorical vehicles. Borrowing from classical western mythology he describes inventors and their new inventions as, "the goose and the golden eggs"

(Negroponte, April 1995, para. 6). He sees ideas as coming "like thunderbolts" (Negroponte, January 1996, para. 2).

In arguing for a divine origin for digital technology, Negroponte is making a claim about human knowledge. Our collective epistemology, he argues, is incapable of understanding why or how these technologies come into place, and as such they should be respected. One reason for religion is to explain what is not understood. Divine metaphors provide a metaphysical reason for something beyond the abilities of empirical observation to observe, namely, the capacity of the human mind to invent.

Technology as Anarchy

The Internet has been viewed as the savior of both the political left and political right. Negroponte's political metaphors of the Internet confirm this pattern by presenting the Internet as a anarchic state valued by both sides. To the left, the Internet is a signifier of the end of nationalism, and to the right the Internet is a free market playground, where Adam Smith's invisible hand can finally move unrestrained.

Certainly, many different variations on the concept of anarchy as a form of government exist. Negroponte's vision

of anarchy is very nearly a post-apocalyptic one. He describes the expert user of digital technology as a "digital road warrior" (Negroponte, December 1995, para. 1). This allusion to George Miller's *The Road Warrior* (1981), starring Mel Gibson, puts the world of technology firmly in an anarchic societal paradigm in which resourcefulness and gadgets are more important than laws and morality. In his October 1997 column, Negroponte variously refers to the Internet as "a football team without a captain," an "orchestra without a conductor," a "family without parents," and a "city without police cars." All of these metaphors are framed as positive descriptions, illustrating Negroponte's explicit argument that the Internet's anarchic structure is its strength. He explains this argument by writing:

My wife and I keep a home in France. With the exception of the driver for Federal Express, nobody knows us, or even our name. The luxury of anonymity is just as extraordinary as the opposite extreme we enjoy elsewhere. (Keeping it, of course, is an art form.) And anonymity has lots of

small benefits, especially when it comes to peace and quiet. In a physical place, unfortunately, you cannot have it both ways. In cyberspace you can (Negroponte, October 1998, para. 10).

Negroponte's argument is that anarchy is valuable due to the absence of top-down control. There are no geographic boundaries in Negroponte's rhetorical anarchism. He writes concerning the topography of digital technology, "The point is that new ideas do not necessarily live within the borders of existing intellectual domains. In fact, they are most often at the edges and in curious intersections" (Negroponte, September 1994, para 13). While Negroponte applauds the free market nature of the Internet, he describes Microsoft (perhaps the largest digital technology corporation in the world) in distinctly Soviet terms, referring to them as the "evil empire" (Negroponte, July 1997, para. 12).

The Technophobe as Animal

Obviously, not everyone embraces new technology as soon as it appears. In the rhetoric of Negroponte, these people are metaphorical animals who dehumanize themselves

through ignorance. People who randomly search for what they want on the Internet are taking part in "info grazing" (Negroponte, June 1994, para. 6). This activity is linked to a cow who wanders through a pasture eating whatever happens to be beneath its mouth at the time. He writes that, "We walk around like pack horses saddled with information appliances. We should be in the saddle, not under it" (Negroponte, December 1995, para. 1). In other words, those who use digital technology effectively are the humans who ride the horse, while those who use it ineffectively are the horse. Negroponte states, "The evolutionary life of the nation-state will turn out to be far shorter than that of the pterodactyl" (Negroponte, December 1998, para. 12). Negroponte likens rote memorization as to feeding "their left brains like a Strasbourg goose" (Negroponte, December 1994, para. 9). In a contrasting metaphor Negroponte argues to those who feel that the Internet hinders educational and social growth, "Out of this backlash comes a warning to parents that their children will 'cocoon' and transform into social invalids. Experience tells us the opposite" (Negroponte, September 1995, para. 1). Children who are not socially advanced are

compared to caterpillars in a cocoon. The continuing theme present is that animals are stupid, and that if humans do not use technology effectively, they are stupid like animals.

The Techno-savvy as Driver

As we have seen, Negroponete contrasts those who use technology with those who are used by technology. The technological novices were described as metaphorical animals, while the techno-savvy are described as metaphorical drivers, in control of their own destiny.

The most obvious metaphor here is the comparison of the Internet to the multi-lane highway. Negroponete uses such signifiers as "highway of the sky" (Negroponete, May/June 1993, para. 10) to refer to satellite communication, "electronic highway" referring to the Internet (Negroponete, May 1994, para. 1), "information superhighway" (Negroponete, June 1994, para. 1), the "I-way" (Negroponete, August 1995, para. 1), and even the "Infobahn" (Negroponete, May 1994, para. 1). This last reference to the German autobahn may be the most telling. On the autobahn, there is no speed limit. Contrary to what the popular logic on the subject would suggest, there are less

accidents on the autobahn per car than on American highways. To Negroponte, the Internet is like the autobahn in that naysayers are wrong about its dangers. He advocates a full commitment to the new technology, which he considers far safer than half-hearted devotion.

The point of this metaphoric cluster is a metanarrative of travel, even using something so industrial as an automobile, Negroponte envisions technology that can not be controlled but can be utilized for personal fulfillment. Like the information as water metaphor, the road itself cannot be controlled, but can be traversed by the skilled traveler. Humanity's future is given an automobile metaphor in his mention of the "road to invention" (Negroponte, March 1998, para. 14). The future is defined by its ability to bring about new innovations and apply new ideas to existing problems. Negroponte does not restrict his metaphorical illustration to those who can or choose to own their own car. He metaphorically places public transportation as well by writing, "I made my first foray into Windows two months ago and was so appalled that I raced back to the Macintosh like someone returning to a smelly bus after trying the newer subway system"

(Negroponte, July 1997, para. 11). In this contrast, both major computer operating systems are framed as items that inhibit freedom, rather than guarantee it.

Technology as Enslaving

Humanity has feared technology just as long as it has been fascinated by it. One of the newest fears to the human condition is the fear of being enslaved by technology. Negroponte echoes this fear and gives them a definite shape. A primary fear is the loss of humanity. He described how marketing has become a tool of dehumanization by writing, "I'll pass whenever I can on becoming a data sample every time I visit a Web site, thank you very much" (Negroponte, October 1998, para. 8). Negroponte paints these same marketers as pirates (on the ocean of information) seeking to steal his "digital self" by arguing:

In fact, far too much of the information about me - my "digital self" - is not coming from me directly. It is being culled without my knowledge and used for things that have no direct benefit to me. It is being pirated for purely commercial purposes, turning my personal data from an asset into a liability.

Junk email and telemarketing solicitations are increasingly frequent examples of what result from this hijacked and repurposed information - of how good can change so quickly to bad (Negroponte, October 1998, para. 6).

Just as too much information was metaphorically described as a swamp earlier, too much information in the form of too many features on current software is pictured as a jungle. He writes, "Looked at one by one, these new features may have some merit to some people. But as they grow in number, a simple boxwood hedge starts looking like a jungle of poison ivy" (Negroponte, August 1998, para. 16). In this metaphor, as the technology gets better, it becomes harder and harder for a human to master the technology.

Negroponte describes the overuse of digital technology in two powerful ways. He describes one who uses the Internet too much as diseased. He writes, "Of course there's more to life than e-mail, but don't project your empty existence onto others and suggest "being digital" is a form of virtual leprosy for which total abstinence is the only immunization" (Negroponte, September 1995, para. 7).

Negroponete explains that 'being digital' and using the technology in a healthy way is fine, but the "empty existence" of too much Internet use could rightfully be called a kind of leprosy. Known in modern times as Hansen's disease, leprosy is a degenerative nervous disorder in which all sensation is lost in the extremities, eventually spreading to the whole body. The caricature description of limbs falling off stems from Hansen's disease patients who unknowingly hurt themselves and develop gangrene without ever being able to feel what is going on (Leprosy, 1999). Therefore, Negroponete's metaphor argues that people who immerse themselves completely into the parallel world of the Internet become deadened to the sensations of the "real" world. People who may not be overly dependent on the Internet, but who are overly dependent on digital technology devices are also enslaved. Negroponete argues, "human interaction feels more meaningful when we are next to each other, not tethered by electrons" (Negroponete, August 1995, para. 3). The ability of electrons (digital appliances within the context) to tie us to one place is a powerful notion concerning the lack of freedom in the digital age.

Technology as Toy

Given that digital technology does not have extension in time or space, or any kind of physical appearance, metaphors concerning its nature and appearance are even more powerful. One of the metaphors used by Negroponte is that of the digital world as a kind of playground or playroom. Some of these metaphors are common in everyday language, such as when Negroponte writes, "Our great-grandchildren will be astonished and amused when they recall the waste and financial loss incurred at the end of the 20th century playing telephone tag" (Negroponte, September 1996, para. 3). He also describes "The Internet is largely composed of desktop computers, assembled like the world's biggest pile of Tinkertoys" (Negroponte, March 1998, para. 7). In Negroponte's own field of multimedia technology development, the environment becomes even more playful. He described the Media Lab at the Massachusetts Institute of Technology like this, "Many people accuse the MIT Media Lab of being a giant playpen. Well, they're right. It is a digital wonderland overflowing with outrageous toys: all imaginable sorts of computers and interface paraphernalia" (Negroponte, March 1998, para. 3).

The metaphor may seem at first glance inconsistent with the earlier metaphor of information as water. That metaphor emphasized the powerlessness of humanity in the face of this information. In the case of the toy metaphors, however, the emphasis is on the user and the item being used. Toys are an apt description because Negroponte believes that the children of the world are the real power group when it comes to digital technology. As he writes:

Everyone talks about crossing barriers of geography, gender, and culture. But the most important barrier is perhaps the least appreciated: the barrier of age. Empowering kids is a double whammy because they're the ones who will most effectively break down the other barriers as well (Negroponte, June 1997, para. 1).

Negroponte believes that digital technology is and will continue to be disempowering to adults who are unable to immerse themselves, and will be empowering to the world's youth who are by nature more willing to embrace paradigmatic change.

The Internet as Marketplace

Part of the flavor and charm of a traditional marketplace is the lack of rules and regulations controlling it, allowing sellers and buyers to come together as they wish. A large part of the vision of the Internet has been as a global "swap meet" where people looking to buy could meet people looking to sell unimpeded by unnecessary barriers. Negroponte conceptualizes the Internet as a monolithic place of exchange when he writes, "Such agents could screen and filter information and anonymously let the digital marketplace know that we are looking for something" (Negroponte, March 1995, para. 6). The Internet is pictured as single mall or set of stores when Negroponte speaks against pay-for-use online shopping, "...people want to browse, window shop, or find some unexpected treasure without the sound of a meter ticking" (Negroponte, February 1997, para. 6). Indeed, Negroponte describes the Web as "...more like the window-shopping experience than the original message-passing rubric" (Negroponte, May 1996, para. 4).

Digital Technology as Aesthetic

Computer networks are not normally known for their aesthetic qualities, but Negroponte commonly uses artistic metaphors to describe digital technologies. He writes,

Cyberspace is a lattice. If a part doesn't work, you go around it. The look and feel is suddenly much more biological, taking its character more from flora and fauna than from the unnaturally straight-line geometry in artifacts of human design. Picture the loose-V formation of ducks flying south (Negroponte, October 1997, para. 4).

Cyberspace may normally be thought of more as a grid, but Negroponte uses the word "lattice" to describe the system. As opposed to a cold, mechanical ideal of this most digital of technologies, he uses concepts from nature, comparing Cyberspace to a plant or a formation of ducks. He also describes the digital age programmer, "Their programs are like paintings: they have aesthetic qualities and are shown and discussed in terms of their meaning from many perspectives" (Negroponte, December 1994, para. 14). He also writes, "These people are the forerunners of the

new expressionists" (Negroponte, December 1994, para. 14). Paintings are not the only construct used by Negroponte, he also uses the idea of a tapestry to describe what humanity achieves through digital technology. He uses the tapestry metaphor when he writes, "In a richly woven infrastructure, the Library of Congress could be transformed from a depository into a 'retrievatory'" (Negroponte, May 1995, para. 12).

Computers as People, People as Computers

In the rhetoric of Nicholas Negroponte's columns, the line between human and computer is blurred through the use of metaphor. He ascribes what are normally thought of as attributes of the computer to humans, and describes humans in terms normally reserved for computers. In his rhetoric, computers speak in a "digital lingua franca" to each other (Negroponte, November 1993, para. 3), and standards for computer communication are "another Esperanto" (Negroponte, November 1997, para. 14). Concerning human communication, he writes, "If a Martian were to turn an ear toward our planet, conversations around the world would sound like modems unable to communicate with each other" (Negroponte, November 1997, para. 11). Digital communications are

referred to in such human terms as "obese" (Negroponte, June 1998, para. 9), and "overweight" (Negroponte, July 1997, para. 6). In terms of bandwidth, he writes, "Words are thin and video is fat" (Negroponte, June 1998, para. 10). Even the human face is referred to as a "display device" (Negroponte, October 1994, para. 4).

Even common human sociological problems and computer problems are interconnected metaphorically. People who are not Internet participants are referred to using a popular term in Negroponte's work, "digital homeless" (Negroponte, May 1996, para. 9). People who are unfamiliar with the Internet are compared to people who are unfamiliar with ball room dancing when Negroponte writes:

Imagine the ballroom of an Austrian castle during the 18th century, in full gilded splendor, glittering with the reflected light of hundreds of candles, Venetian mirrors, and jewels. Four hundred handsome people waltz gracefully to a 10-piece orchestra. Now imagine the same setting, but with this change: 390 of the guests learned how to dance the night before, and they are

all too conscious of their feet. This is similar to the Internet today: most users are all fingers (Negroponte, November 1994, para. 1).

In the rhetoric of Negroponte, people become so computerized and the computers so humanized that there is no difference on a conceptual level between the two. The next chapter will make the connections between these metaphors clear, and draw a larger picture of the imagery created by Negroponte in his work.

CHAPTER FIVE

IMPLICATIONS

This chapter connects the findings in chapter four to the original research questions. This chapter also includes a discussion of the limitations of this study, as well as proposals for future research. In brief, I argue that Negroponte's metaphors use terministic screens create a consistent postmodern worldview in a political, spiritual, and even in an environmental sense.

Research Question One

The first research question was "How does Negroponte use metaphors?" The basic answer was given in chapter four, but a deeper discussion is needed. The deeper question concerns how these metaphors are designed for consumption, and what sort of reaction and response they imply. The analysis reveals three answers.

Agricultural and Marine Vehicles

Throughout his column, Negroponte seeks to disarm the confusion of his readers concerning new technology by using metaphors with agricultural and marine themed vehicles. As Osborn (1977) observes, "the sea must have crystallized

early in the dawning of human consciousness into one of the great molds of archetypal metaphor" (p. 248). The earliest of human societies (in the technical sense of the word) were made up of farmers and mariners, who told their stories and penned their myths using these metaphors as a backdrop. For Negro Ponte, the use of these metaphors serves to ease the fear of his readers concerning the danger of new technology, redressing the technology itself in the style of these ancient myths and legends. For a technology in which a grand majority of the population remains ignorant of its true workings (like computers), Negro Ponte invokes the simplicity of the sea to assuage their insecurities. Just as sailors do not for the most part understand oceanology but can use the sea to support themselves, so too can the modern technology user get by without having to truly understand the technology being used. To use Burkean terms, this metaphor serves as a terministic screen to hide the parts of the technology that are not comforting, and emphasize the parts that are. The comforting aspects of the technology are reflected using the metaphor, while the discomfoting aspects are deflected. To invoke Black, the metaphor only shows the sea-like parts

of the technology, and leaves the rest cloaked in shadow. The scarier aspects of the technology are left behind the smoked glass, outside of the audience's focus.

Use of the Divine as Ontological Truth

At its core, religion is an attempt to explain the essence and/or beginnings of the world and humanity. As Pojman (1999) writes, "If God exists, the world is not accidental, a product of mere chance and necessity, but a home which has been designed for rational and sentient beings" (p. 40). Whether or not religious truth claims or not is beyond the scope of this (and perhaps any) study. What is at issue is the recognition of Negroponete's use of metaphor in order to create a cosmology (a creation myth) of technology. At the root of the argument is the statement that people in general fear what they do not understand. If they fear what they do not understand, then to alleviate fear is create understanding. Since Negroponete believes that the basics of modern technology are beyond most lay readers, he uses divine metaphors to create a kind of understanding. In Negroponete's construct, new technology comes from God, and we must tell others about it for no other reason than their divine origin.

The first line of the Tao Te Ching reads, "The Tao that can be spoken is not the eternal Tao." This idea suggests that while it is beyond the capacity of human language to express certain concepts, it is necessary to approximate divine experience using language during communication. After all, the Tao is spoken of using language in a quote that discourages divine discourse. In the same way, Negroponte bridges the gap between the understood and that which is beyond comprehension by using metaphor as a kind of approximation of a divine experience. One of Gineste, Indurkha, and Scart's (2000) attributes of metaphors are that they cannot be given a literal paraphrase without losing part of their meaning. Divine metaphors attempt to describe something inexpressible (like human invention) in a way that literal language could not.

Humans as the Rulers of Technology

The third way that Negroponte uses metaphors to create functional realities of technology for his readers is by describing humans as the rulers of this new technological world. For the last hundred years, ever since the creation of the literary genre of "science fiction", its authors have been fascinated with the notion of technology

inevitably taking over the role of masters of the Earth (see for example Cameron's 1984 film, *The Terminator*, or the Wachowski brothers' 1999 film, *The Matrix*, for examples that had huge popular appeal). Oliver (1997) writes that,

The most distinctive feature of knowledge in the modern world was its search for universal and fixed answers to the great questions of human existence: who am I?, what can I know?, what ought I to do? These questions were answered through scientific rationality and political ideology in terms that left little room for exception to the universal rules they provided (p. 182).

A great distinction between the modern and the postmodern is the role of technology (Lyotard, 1993). In the modernist world, science and technology were seen as saviors, allowing humanity to save itself from social problems through careful empirical analysis. The postmodern world on the other hand believes that science is one way of approaching truth, and that by itself empiricism can not solve humanity's problems. In fact, as we have seen, the postmodern world shuns science, and has even

recast the main characters, putting science in the role of villain. Negroponete seeks to assuage these fears through his metaphors of humanity as "driver," "captain," and as someone playing with a simple "toy." In fact, Negroponete paints technology as the key to an anarchic future without any kind of domination, technology or human based.

While Negroponete certainly does present technology as enslaving, enslavement is always the fault of users not embracing the inherently anarchic nature of the Internet, such as when he writes, "I'll pass whenever I can on becoming a data sample every time I visit a Web site, thank you very much" (Negroponete, October 1998, para. 8). As a rhetorical device then, Negroponete paints a world in which humans are in complete control of technology. Letting that control fall into the hands of the few politicians who want to keep to world from changing into an anarchic state will cause the Internet to fall victim to such problems. Burke's concept of the terministic screen explains how Negroponete is able to accomplish this goal. By using metaphors that portray humanity as empowered in the face of technology, contrary ideas are deflected from view.

Research Question Two

The second research question was, "What rhetorical clusters can be located in Negroponste's work, and how do these clusters form a cohesive whole?" The question asks what sort of world is Negroponste forming for the reader to live in through his work. From my analysis, three attributes of the Negropontian world are suggested.

A World of Jeffersonian Anarchy

In the largest sense, the world that Negroponste's rhetoric asserts is one governed by a kind of Jeffersonian anarchy. The world is one reflected in the thoughts of former American president Thomas Jefferson, in that it recognizes and celebrates a minimal government, as opposed to no government at all. Nozick argues for a kind of Jeffersonian anarchy when he writes, "The minimal state is the most extensive state that can be justified. Any state more extensive violates people's rights" (1974, p. 149). This exactly reflects the world created by Negroponste's rhetoric.

Negroponste envisions a world in which the free market thrives, pictured by his metaphors suggesting that the Internet is an open-air marketplace where anyone can freely

share their goods. At the same time, he argues for a minimal government that protects the marketplace attended by preventing fraud and the violation of human rights. As Negroponete writes,

My gripe with the nation-state is that it is just the wrong size - it does not mesh with the digital form of the future. Most nations are too big to be local, and all nations are too small to be global (Negroponte, October 1997, para. 7).

His vision is a government that is locally operated, but with grand connections to the global community. In other words, Negroponete conceptualizes the modern nation as an outdated artifact of modernism.

A World of Natural Beauty

The world embedded within the rhetoric of Nicholas Negroponete is one of great natural beauty. From his descriptions of the oceans of communication, the fish ponds of knowledge, and the beauty of binary programs, a cohesive picture of pristine excellence can be formed. This discursive construct has become known in environmental studies as the "sublime." Oravec (1996) writes that,

"sublime discourse...is an integral part of the way we perceive nature, act with reference to it, and construct its relationship to ourselves" (p. 58). She argues that "sublime," as an element of environmental discourse acts as a screen to block out elements of the environment that authors do not want their audience to focus on. As a consequence, she explains that many visitors to famous environmental landmarks are disappointed when their experience fails to live to up their "sublime" expectations. In this way, Negroponete does not paint an accurate or realistic picture of digital technology, but through another use of a Burkean terministic screen paints a distorted and optimistic view that increases the persuasive power of his rhetoric.

A World of Baudrillardian Simulation

Metaphors as symbols create images for their users and listeners, images that can become a reality for their audience. This distinction between the real and the simulated is broken down in Negroponete's rhetoric. As Negroponete explains,

Today, marketers reverse-engineer a consumer's choice to infer why a decision was made.

Advertisers cluster such demographics to further guess whether I might be inclined to purchase one soap flake versus another. Tomorrow, this will change. We can opt to tell a computer agent what we want, when we want it, and, therefore, how to build a model of us - the collective reasoning of the past, present, and future (as far as we know it). Such agents could screen and filter information and anonymously let the digital marketplace know that we are looking for something (Negroponte, March 1995, para. 6).

Baudrillard's (1981) symbolic exchange analysis of the postmodern world builds upon the argument that the simulation and the thing which it simulates have ceased to be separated. In other words, postmodern society no longer cares about celebrities, but the images of celebrity. The postmodern world cares nothing for substance in what they purchase, but only brand name recognition. In Baudrillard's vision, what appears on "reality television" is more real to the viewer than what they see in their own lives.

It should be pointed out that a Baudrillardian vision of symbolic exchange need not be the nightmare that *The Matrix* makes it out to be. In Negroponste's view, the world digital technology simply ceases to see a difference between a person, and the combined demographic research of concerning a person, when the purpose is improving sales and marketing. Of course, the vision of Negroponste also includes the breakdown of distinctions between humanity and machine as well. Negroponste writes, "If a Martian were to turn an ear toward our planet, conversations around the world would sound like modems unable to communicate with each other" (Negroponste, November 1997, para. 11). In his rhetoric, the distinction between and human and machine, between symbol and referent may exist, but they distinction will not be an important one.

Research Question Three

The third question guiding this research was, "What are the possible impacts of these metaphors on the world beyond Negroponste's immediate context?" Given the popularity of these columns and their continued appreciation by the public, our analysis reveals several statements about effective rhetoric concerning technology.

Power Role of Audience

Due to the infusion of postmodern thought with the metanarrative of science as the evil enslavement of humankind, effective digital technology rhetoric must place the audience in a role of power. This not only combats such a metanarrative, but lessens fear over new technologies on the part of the audience. An effective way to accomplish this is to choose vehicles that reflect a technology that the audience already feels safe to describe a technology that the audience fears. For example, describing a national anti-ballistic missile system as a "shield" is simple to understand and obvious in its purpose. Such a description is meant to disarm fear concerning the functioning of a defensive missile system.

Use of the Divine

Use of divine imagery and metaphor to cloak confusing or misunderstood natures of technology is a powerful tool for overcoming audience fear. These metaphors add a mystical and aesthetic element to technology that helps disarm the prevailing notions of digital technology as cold and calculating. As Lakoff and Johnson (1980) argue, metaphors reflect and create conceptual systems. By

metaphorically describing the mysteries of technology in spiritual language, the audience will become more willing to become passive in the face of incomprehensible information.

Evoking Terministic Screens

Due to the power of metaphor to filter the view of an audience, careful use must be made of such metaphors to aim the audience toward the elements of technology that are positive to the author's intent, and away from those that are negative. This need not only be an imitation of Negroponete's outlook. An equally powerful metaphor could argue against Negroponete's position. For example, an author could connect a computer to a metallic killer, a ticking time bomb waiting to explode, or any number of other vehicles. Such a statement would deflect the audience from the attributes Negroponete was emphasizing, but the effect could be just as powerful.

Limitations and Future Research

This study is limited in scope to only one recurring column in a single publication, thereby severely hampering its ability to make claims about technology rhetoric as a whole. Future research should, however, be able to build

upon this work to examine how technological metaphors differ from author to author, from publication to publication, and from culture to culture. Beyond textual analysis, ethnography and other qualitative research methods (including perhaps discourse analysis) should be used in order to accurately describe the "real world" and conversational use of technology metaphors. In addition, historical research should be done in the evolution of technological rhetoric over time in specific cultures. Such research could help rhetoricians understand how metaphoric analysis connects to historical research that has already been done. Also building upon the current study, quantitative researchers could examine the popular communication phenomenon currently being studied, but substitute technology metaphors as antecedents.

This study should serve as a foundation for future research in technology metaphor analysis, as well as providing additional support for studies of postmodernism. It is hoped that through an analysis of distinctly postmodern artifacts like the one studied here, a fuller understanding of the various perspectives of postmodernism can be found. Additionally, the study should also

demonstrate another example of how communication studies research can intersect philosophical research in the area of postmodernism.

Conclusion

This study shows that technology metaphors make use of terministic screens and more basic symbolic exchange to create realities for their audience. The metaphors of Internet identified in Chapter two are incomplete, and are themselves subject to individual interpretation. What the analysis shows most clearly, is that a culture's view of unknown technology can have at least as much impact as its view of metaphysical and spiritual questions.

APPENDIX
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