Introduction to Communication Theory

Defining Communication

To begin our study of communication theories in contemporary contexts, we need to first come up with an operational definition for the term communication and develop a basic understanding of the recent history of communications theory and theorists. If you look in a dictionary, (Webster's New World Dictionary, for example), you'll find a definition such as the following:

*The act of transmitting, giving, or exchanging of information, signals, or messages as by talk, gestures, or writing ... the art of expressing ideas, especially in speech and writing ... Designs of transmitting information especially in symbols.*

Em Griffin, the author/editor of one of the texts selected for this course, has offered the following basic definition of communication:

*Communication is the management of messages for the purpose of creating meaning.*

In 1928, English author I.A. Richards proposed what still remains a very functional definition of communication:

*Communication takes place when one mind so acts upon its environment that another mind is influenced, and in that other mind an experience occurs which is like the experience in the first mind, and is caused in part by that experience.*

These approaches might be operationalized as:

*The exchange of information and meanings between individuals and/or groups via a common system of language or symbols on or along a platform or conduit (medium) that is equally accessible by all parties in the exchange.*

In this definition, the platform or conduit for this exchange of information and meaning refers to everything from a simple real-time environment where two or more individuals are communicating through verbal language or speech, through the entire gambit of technology-based communication mediums from the telephone through the advanced technologies of the Internet. Theorists such as Marshall McLuhan view these conduits, which are most often referred to as mediums, as being both the vehicle of communication and simultaneously a vital component of communication. We will explore these ideas in some detail in Module 2.

When applying our basic definition of communication, keep in mind that communication can be active or passive. Active communication refers to communication where there is an exchange of information between two or more parties. Passive communication refers to the one-way flow of information from sender to receiver, as in radio, television, books, and magazines. When these mediums offer the receiver the ability to respond, such as Internet Web sites and chat rooms associated with broadcast news and entertainment programs, these otherwise passive communication mediums move in the direction of becoming active. (See "convergence" later in this commentary and throughout the course.)

People have been looking at and attempting to study the forms and processes of communicating back to early Western philosophers such as Socrates and Aristotle, and
early Eastern philosophers such as Confucius and Lao Tse. The full history of human attempts to understand the process of communication and the flow of ideas and information makes for fascinating study. All students exploring the field of communication are encouraged to at least probe a bit through some of the various philosophies from early Western and Eastern civilizations, and eighteenth- and nineteenth-century philosophers writing on this topic. That said, a detailed history of communication theories is beyond the scope of this course.

We do need to mention an important evolution and direction change in the study of communication that occurred from the early- to the mid-twentieth-century. In the early part of the twentieth century, the study of communication, in particular the academic study of communication and the development of communication theories, lived in the realm of college and university speech departments. These departments focused on developing theories of communication in the context of studying rhetoric and how rhetoric impacts public speaking, interpretation of literature, drama, debate, and verbal interaction within small groups.

Starting in the 1940s and moving toward the 1960s, researchers in university psychology, sociology, and journalism departments started to focus their interest on scientific exploration of the emerging electronic media and its potential impact on micro through macro levels of human communication, information delivery, and information access.

By the 1970s the convergence of interpersonal and mass communication was becoming the hot topic for research and course offerings on major university campuses, with many establishing Schools of Communication, which included print and electronic journalism as well as interdisciplinary representation from psychology, sociology, political science, international affairs, and even history. Throughout the late twentieth century, communication studies became widespread throughout academia, supported in part by the demand for communication professionals as well as funding from large multinational media companies.

The trend to watch in the early years of the twenty-first century is the marriage of these schools and departments of communication with departments focused on research and innovation in information technologies. At many universities even library science is being folded into the mix. This inevitable marriage of communication and information technology research and course offerings will rapidly become a dominant force in academia parallel to the equally rapid converging of communication environments and mediums.

With this snapshot of the history of communication study in mind, this course is designed to focus primarily on the communications, information, and mass media side of communication theory, while still including some valuable material and concepts about interpersonal and small group communication that is drawn from the "more traditional" speech and rhetoric field. The readings from one of our two course texts, A First Look at Communication Theory, while grounded in the more traditional speech and rhetoric field, has been selected because it does a good job of introducing many of these traditional communication theories in a context of real-world scenarios.

Regardless of the roots of the various theoretical approaches to communication, the study of communication has become a component of the study of virtually every field and major offered by colleges and universities in the United States and worldwide, and is the lifeblood of our organizations, businesses, communities, and interpersonal relationships. More specifically, the study of communication theory is a foundational gateway to the study of all of the communication "arts and sciences" subjects in today's universities.
Exponential advances in science and technology have reinforced our understanding of humans as highly evolved and evolving beings quite basically because we are communicating beings. Innovation and advances in communication technology are responsible for an ever-increasing ability and desire—some would say need—for people to communicate with each other. Today our desire and ability to communicate with others easily crosses geographical and cultural barriers. As artificial intelligence and expert systems converge more with computer capabilities and the continued exponential growth of the World Wide Web, we will soon see even linguistic barriers to global and intercultural communication disappearing. Communication and the efficient and effective exchange of information have clearly evolved to become the most central component to the survival and prosperity of individuals and societies.

**Scientific Versus Humanistic Approaches**

**Scientific Approach**

A few years after the end of World War II, a senior executive with the Rockefeller Foundation by the name of Warren Weaver wrote a series of essays attempting to apply the communications research under way at some of the leading communications technology research centers of the time, particularly at Bell Labs, to form a universal "scientific" model of human communication. Some might say that Weaver was attempting to translate an emerging scientific field to the humanistic and behavioral social sciences also evolving at the time. Weaver focused on translating the mathematical models of human communication being developed by Claude Shannon at Bell Labs into a constructive model of human communication in the context of mass media theories. A brief outline of the Weaver/Shannon approach to information and communications theory of the exchange of human messages is very helpful in developing our initial understanding of communication theory.

**Linear Model of Communication:** In a linear model of communication, the individual is seen as a message source. He or she creates or constructs the message and transmits it as a meaningful "signal" over some communication conduit or "channel," addressed either to an individual or a group of individual "receivers," or to a universe of potential receivers. Along the way the message picks up static or noise. The noise picked up along the way alters the signal by the time it gets to the receiver(s). This inevitably results in a certain level of information loss which changes the message in some way, perhaps only in a slight way but a change nevertheless. In the complexity of today's world of busy work and living environments and multiple sources of information and communication constantly placing demands on our attention, this message-deteriorating noise can be viewed as a combination of anything and everything in the life and environment of both the sender and receiver of a message, combining to diminish the quality of the message as it moves from sender to receiver. The universal aim of improving communication, at both interpersonal and technological levels, is an ongoing effort to maximize the amount of information a conduit or channel of communication can carry, as well as the quality of the information carried, while minimizing the amount of message degradation from noise.

**Entropy and Redundancy:** the principles of entropy in communication are derived from the concept of entropy in the field of physics. Entropy in communication is seen as a "noise source" analogous to static in audio or video communications mediums. These are outside influences on the message and/or the communication conduit that diminish or distort the message by the time it reaches the receiver(s). Sometimes this message interference is at such a level that incomplete or blurred messages become incomprehensible to the receiver. At other times, even though the "noise" level is high, the message can still be reconstructed on the receiving end. Despite distortion, the message intended comes
through to the receiver in a recognizable form. This is called "negative entropy."
"Redundancy" is the repetition of certain elements within a message that help prevent a
failure of communication. Shannon and Weaver see redundancy as the "greatest antidote
to entropy." Most spoken and written languages have been shown to be roughly 50 percent
redundant. In fact, it is the inherent redundancy in language that makes much of the
process of decoding encrypted information possible in the world of intelligence and
espionage. Redundancy also assures that much of the core message in media broadcasts
can be understood even across cultural and linguistic barriers. Therefore, it is easy to see
that redundancy in communication is indispensable.

All communication and messages are therefore highly susceptible to a considerable amount
of change and mediation. The heart of the study of communication is to look at various
processes that either enhance or disrupt the communication process, which is to say the
ability of any given message to be received and understood correctly. This process of
balancing between the quantity and quality of information being communicated is
showcased when we look at computer-mediated communication, which we will cover in
detail in module 6.

**Feedback:** "Feedback" is another important issue in communication, and some recent
theorists have pointed out, ironically, that it is an area of deficiency in the Shannon/Weaver
model. The concept of feedback comes to us from looking at direct interpersonal
communication. A large part of what makes direct interpersonal communication between
individuals highly reliable is the ongoing component of direct feedback. When we talk
directly to another individual or within a small group, our communication—especially our
ability to send and receive messages with their meaning intact—is aided by the ongoing
verbal and nonverbal feedback that we receive. We will explore the basic theories of
interpersonal communication in module 2. The amount of feedback required to ensure
intact message communication relates to the form and relative complexity of the message.
Obviously, as we add more and more levels of technological complexity between the
message sender and the message receiver, the mechanisms and quality of feedback
become an important issue to overcome.

To summarize this brief outline of the scientific model of communication, all communication,
from the direct interpersonal to the highly complex technologically based, can be viewed
and studied using the same scientific and mathematical models. Proponents and defenders
of this scientific view believe that this conception also makes it easier to identify,
understand, and mitigate the barriers to communication and message flow even within
highly complex systems and environments. We will be referring to the Shannon/Weaver
model of communication throughout this course. (Graphic presentation of the
Shannon/Weaver model can be found in module 2.)

**Humanistic Approach**

The humanistic approach to the study and understanding of human communication is
exemplified by the writings of philosopher-psychologists such as Abraham Maslow and Carl
Rogers. Maslow based his work on the study of the lives of individuals he termed highly
"self-actualized." Rogers based his theories on both his work as a psychotherapist and later
work in international conflict resolution. The writings of both of these renowned theorists
are good representations of the humanists' reaction to what they view as the pessimistic
and coldly scientific determinism of the scientific approaches. (Refer to chapter 19 in our
Griffin text, and *On Becoming a Person*, by Carl Rodgers from the course Resources
Section).

Maslow views the core of all human communication centering around a hierarchy of human
needs. This basic hierarchy of human needs, which begins with the physiological and moves through safety, love, and esteem to self-actualization is common in all cultures and is the basis of human communication. As individuals move through the process of satisfying this hierarchy of needs, higher and more complex communication becomes possible. In Maslow's theoretical model, the human being's basic needs at the lower levels of this hierarchy must be fulfilled before higher-level human interaction is possible—a "one step at a time" approach to interpersonal communication.

Today, Maslow's hierarchy of human needs is being more dynamically interpreted to allow for the fact that most individuals work on various need levels simultaneously. Maslow's theories of human function and motivation are a highly optimistic and positive view of human potential and social interaction that emphasizes freedom of choice. His philosophy on why and how human beings communicate, when applied to today's technologically sophisticated and rapidly changing information society, either helps us to realize the potential of the Information Age, or is an overly simplified, overly optimistic view of human beings and human societies, of little value in understanding the complexities of human communication.

Rogers theorizes three conditions of "Relational Health," which we will interpret to include the health of communication between individuals and groups. He called the first condition "congruence," which is described as the balance between an individual's inner feelings and his or her outward display, which is to say communication with others. Rogers views the relative level of dissonance with our "real selves" and the person we perceive ourselves to be when communicating with others as an important dynamic in the success of communication between individuals. This is an interesting concept if we attempt to apply it to the anonymity and false or misleading representations of who we are on the Internet.

Rogers' second condition is "Unconditional Positive Regard," the gist of which is that to be able to receive clear and uncolored communication from others, one must have a positive attitude toward the sender. To have a positive image and attitude toward a message sender requires us to have a positive self-image and attitude about our life—a positive worldview. By implication, all communication that does not come from a grounding in positive attitude and orientation is by its very nature flawed. We can surmise that these inherent flaws become accentuated as the complexity of both the message and the medium intensifies.

Rogers' third condition is called "Empathetic Understanding." The gist of this concept is "when in doubt, listen." Empathetic understanding is the ability to put aside one's views and values in the service of attempting to more fully understand who the other person is and the message that the person is trying to communicate. Rogers believed that it is impossible to really understand the meaning of what people are communicating, therefore we should accept all communicated meaning at face value. We must all strive to become skillful and capable receivers (listeners, readers, etc.). Rogers questions how necessary critical receiving is in human communication. He argues, persuasively, that critical listening interrupts the listener's ability to receive the entire unfiltered message because the listener often makes premature judgments and evaluations of the message, thus altering its original content.

Although considered a pillar of the humanistic approach, many experts outside the humanistic movement question the validity of Rogers' research and results. It is interesting to note, however, that most of Rogers' efforts to apply these theories to conflict mediation, among highly volatile groups in locations such as Northern Ireland and the Middle East, had extraordinarily positive results, albeit within small groups. Whether or not his theories have any value in looking at communication in larger group-to-group and mass levels is an
interesting question to ponder.

Communication and Social Science

Starting in the early 1960s, leading research and study programs in the social sciences—sociology, psychology, political science, cultural anthropology, and journalism—have included in their communication research the study of how communication mediums, particularly mass communication mediums, impact on the functioning and evolution of society. One of the outstanding theorists and writers on the subject of the impact of communication medium and media on society is Marshall McLuhan. Many see McLuhan as one of the founding fathers of mass communication theory. His analysis of modern communication and the link between "medium and message" has had a profound impact on our awareness and understanding of the role of communication in the shaping of society through the twentieth century and into the dawning of the twenty-first. (Refer to Understanding Media: The Extensions of Man, by McLuhan, in the course Resources Section).

McLuhan's writings focus on the practical and operational reality that all personal and social communication is inseparable from the medium within which the message is communicated. As the mediums of human communication have evolved with the introduction of each new technology, from the printing press through the telephone, radio, television and now the Internet and the immediacy of satellite enabled global communication, the very nature of the way humans associate with one another changes. In McLuhan's view, the technological mechanisms that enable human communication today and in the future are inseparable from the dynamics of the communication, and therefore the content, of the messages being exchanged. The implications of this theoretical viewpoint are manifest. We will explore McLuhan's theories of medium, meaning, and message, and the many theories that have been built upon it, in detail throughout the modules of this course.

Communication is by its very nature interdisciplinary. We gain significant perspective on it by drawing on the contributions from a variety of fields, both from the social sciences, such as psychology, sociology, anthropology, library science, etc., and the "hard" sciences, such as physics, engineering, computer science, even biology.

Convergence: Communication Theory and Appropriate Technology

While exploring the topics presented in the six modules of this course, we will also explore the concept of "convergence." Convergence is the melding of communication mechanisms for the delivery of messages, sometimes referred to as "content." Convergence is driven by the rapid growth of technology, bringing with it an exponential increase in the speed and capacity of our networked world to expand communication and deliver access to more and more information to more and more people. The trend in convergence is having a profound impact on how we communicate with others and how we access and interact with information. We will discuss issues of convergence in detail within the various topics of this course.

Throughout the commentaries in this course, we will try to point out the ever-present issue of "appropriate technologies." Just because technological innovation enables individuals, communities, and societies to communicate through very advanced and complex systems, that does not mean that these advanced systems are the best platforms for certain forms
of communicating. No matter how "wired" our world becomes, people will still want to meet and exchange messages face to face. It is very often more costly, and perhaps more time consuming, but human beings will always need and desire direct contact with other humans. This is the nature of our species and it is highly unlikely that we will ever evolve out of this need.

We would be amiss in closing this introductory module without a quick mention of Moore's Law. Throughout module 1, we have repeatedly used the terms "exponential growth" and "exponential change." The concept of our inescapable relationship to a world that is changing at ever-faster rates in the "Information Age" comes from Moore's Law. Gordon Moore was the inventor of the integrated circuit and became chairman of Intel. Moore's Law, which we will discuss in more detail in module 4, looks at the exponential growth and resultant impact of digital technology.

The gist of Moore's Law is that every two years the size of transistors decreases by 50 percent and therefore the number of transistors that we are able to build onto an integrated circuit doubles and will continue doubling every two years until around 2020, or possibly sooner. At the same time, the speed at which these circuits can function is also doubling every two years while the costs of this advancing technology continue to decrease. A basic understanding of the impact of Moore's Law on how we live and how we communicate today, through the twenty-first century, is crucial to the study of communication. (Moore's Law will be discussed in more detail in modules 4 and 6.)

Finally, all of the instructors who will teach this course, and all of the students who will take the course, are participants in the dynamic world of information and communication. Each of us therefore has our own experiences and perspectives to draw upon, thus creating an ongoing applications laboratory aspect of the course. Every student is encouraged to actively join and contribute to this dialogue as we explore the fascinating field of communication.

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