

The Digital Difference

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Prologue



*“The Information Revolution is causing a scientific
revolution in communication research”*

Everett Rogers (1986)

*“Rather than waiting for media companies to deliver relevant content at appropriate
times, customers are increasingly reaching out to pull content to them when they want.”*

John Hagel and John Seely Brown (2005)

“The business of biology is survival and procreation not truth or accuracy.”

David Huron (2006)

This is a study of a revolution in human communication, the digital difference. It examines how the diffusion of computer-based media technologies is gradually but fundamentally transforming the relationship between the audience member and the media and relationships among social networking individuals. In the media world it is a shift from ‘push’ to ‘pull.’ Where once audience members could only pick from a few headlines or channels, they are now free to pose virtually any query imaginable in a search engine and in turn peruse a virtually unlimited global collection of articles, books and videos. It is also a shift from one-way to two-way mass communication – that is, from broadcasting and publishing to social networking. Interpersonal and mass communication are increasingly intertwined.

Scholars have studied how the revolutions of speech and of written language, printing and broadcasting have each dramatically influenced the character of human existence in the domains of economics, politics, culture and social life. We will review their insights in the pages ahead as we try to make sense of the revolution in ubiquitous electronic communication which swirls around us today.

Further, there is a particular thesis about this revolution that motivates this manuscript. Simply put, the revolution in communication technology, in my view, makes possible a paradigm shift in how human communication is studied. I argue that the digital difference offers the opportunity for a fundamental rethinking of the foundational concept of a “communication effects” and for the techniques for systematically measuring its increasingly complex dynamics. I am well aware that this may be, as they say, a tough sell. There are five fundamental reasons for a skeptical view of my thesis. First, systematic scholarly research at the individual and structural levels and in the social science and humanistic traditions on the dynamics of human communication has been underway for many decades and central theories and the traditional methodologies are generally well received and not frequently viewed as in need of major revision. Second, drawing on the importance of digital technologies smacks of “technological determinism,” a crude insensitivity to human agency and the human role in the design and use of technology. Third, and related to the second point, is the observation that although communication technologies may have changed abruptly, the evolved human cognitive system has not, and we are still subject to a variety of systematic distortions in perception whatever technology is used. Fourth, many of the suggestions I will make in the pages ahead will be seen by some as not entirely new as other researchers have been pursuing these new lines of inquiry already. Fifth and finally, many scholars take a dubious view of the notion of a paradigm and paradigm shifts in the tradition of Thomas Kuhn which strikes them as simplistic and inappropriately imported into the social sciences and humanities from the physical sciences.

So, all together, there would appear to be a very reasonable case for skepticism and I welcome it and will respond to it in detail. I will attempt to make my case as strongly as possible

and hope that a little controversy might help draw attention to these issues. One might characterize my project here as a recipe for irritating friends and colleagues in the field by, in effect, presumptively arguing that they are testing the wrong theories and are using the wrong methods. Let me be clear. I have a very deep respect for the progress in communication scholarship over the last half century which should be evident from the abundant citations and recitations of this literature. But I think these theories and their associated methods at this critical juncture offer great promise of reformulation and rejuvenation. Not at all an abandonment of old theories and methods but rather something of a pivot in response to the new issues and opportunities associated with the digital difference.

A Revolution in Communication Science?

Over the last century communication scholarship has focused on the power of one-way mass communication to persuade and inform. The received history of this literature posits an initial period focusing on propaganda and strong hypodermic-needle like effects, followed by a middle period, a reconsideration based on some accumulated findings of so-called ‘minimal effects’, and the current period – a return to a conception of strong social and psychological effects of the mass media (Neuman & Guggenheim 2011). In an important article published in 2008 by W. Lance Bennett and Shanto Iyengar, these distinguished scholars identified a pressing need to reassess the big-effects—minimal-effects debate in light of the new media revolution and the increased capacity of the audience member to filter and select from a dramatically expanded media environment. They titled the piece: “A New Era of Minimal Effects? The Changing Foundations of Political Communication.” They are on solid ground in urging a reexamination of the communication research paradigm, and they are in good company (Rogers 1986; Bryant 1993; Newhagen & Rafaeli 1996; Chaffee & Metzger 2001; Napoli 2010). The article raises the prospect of what might be characterized as a paradigm shift or at least an evolving paradigm in the way we have come to understand the dynamics of the public sphere.

I am an enthusiastic supporter of their call for foundational reassessment but with a twist. Bennett and Iyengar’s argument is largely based on a binary conception of big effects versus minimal effects. I think we need to move beyond that paradigmatic and historically grounded notion of communication effects in terms of effect size. *It is not that media effects are either characteristically strong or characteristically minimal – they are characteristically highly variable.* And the source of that variation is deeply and subtly intertwined in the enduring structure of communication, a primary focus in this book – the routine practices, established institutions and evolved cultural norms of mass communication. So to posit that the increased opportunity for choice in the digital information cornucopia will lead to more selective attention and thus “minimal effects” misses the opportunity to move away from a notion of a mechanical/persuasive notion of communication effects to one of highly variable resonance

between a speaker's message and a listener's interpretation. The dramatic and variable effects of selective attention do not represent a new or newly resurgent phenomenon in the digital age. They are part and parcel of the fundamentally polysemic character of human communication and the abundance of symbolic streams which typically bombard us. Most American adults have heard the Star Spangled Banner many hundreds or even thousands of times. Yet only a third of them can recall the words (Corso 2008). (Among younger Americans it is only one in seven.) Only half of American adults can identify the name of a Senator or the Representative from their district, again despite many hundreds, sometimes thousands of media references and numerous billboards, yard signs and bumper stickers (Delli Carpini & Keeter 1996). At the same time the details of a celebrity divorce, a political scandal or a dramatic crime may be well known (and frequently discussed) among all but a culturally isolated few. Selective attention was abundantly evident in the industrial age of print and broadcast mass communication.

Accordingly, I propose a strategy of moving away from the alternative celebration and vilification of the potential power of the media to what I believe is a more scientifically focused inquiry into the conditions under which media effects both large and small are or are not in evidence. As a discipline of communication science evolves it will almost certainly focus on the structural conditions that enhance and inhibit communication effects rather than a defensive posture against those who claim that typical media effects strike them as somehow surprisingly small. Science studies variation and there is no shortage of that in, for example, the impact of media campaigns – billions are spent each year in promoting products, political candidates and public service campaigns sometimes with dramatic effect, sometimes with no effect at all, and surprisingly often with demonstrable effects the opposite of those intended (Yzer, et al. 2003). The variability and as yet only partially understood conditionality of communication effects will be a central theme ahead.

I argue that the key to understanding how the new media will be used and how the media institutions will evolve is to better understand the attentional dynamics of the human mind. *What do individuals want to know? To what do they pay attention? And why?* This paradigmatic notion of communication effects starts with the audience member and listener rather than the source. This perspective is evident in the “uses and gratifications” tradition of research which is widely acknowledged but has lost inertia in recent decades for a combination of theoretical and methodological issues.

Focusing on attentional rather than persuasive dynamics is relatively new to communication scholarship and is an extremely important development. One element of this shift is a growing literature on agenda-setting which is just now beginning to examine how the public agenda is negotiated in the digital age.

Communication scholarship is prone to pronouncements. Numerous books and articles from both the social scientific and cultural studies traditions routinely beseech media executives and regulators to change their evil ways and heed the latest research. Media executives and regulators in turn simply ignore these complaints, utterly ignore them. The economic and political pressures on media business practices and public policy are unambiguous and strong. Most academics have not developed the skills necessary to communicate with media professionals in a way that might resonate with their paradigm of professional practice. In fact the disconnect between communication scholarship and media industry practice is often celebrated in the academy as the exercise of an independent critical voice unencumbered by an ‘administrative’ perspective. Perhaps so, but it is a voice seldom heard outside of the academy.

What makes the current historical stage of media evolution particularly intriguing is a rare opportunity for communication scholarship to be both critical and relevant. Traditional media practices based on push advertising and common denominator cultural fare are in economic jeopardy. When the usual way of doing things in broadcasting and publishing does not work, executives are not only motivated to listen carefully, they may ask some probing and useful questions. At the conclusion of a 600-page examination of the effects of television on human behavior concluded in 1978, the lead author George Comstock readily admitted that policy recommendations they had derived were not likely to stir up much attention because the audience was not dissatisfied with what they were getting and the broadcasting industry was economically and politically powerful. Such caveats are no longer warranted.

Perhaps that is the fundamental challenge to commercial research and especially independent scholarship in communications – not just to figure out what audiences will pay for but to understand how public communication can be designed to serve public goals. Collective goals are delicate and fragile to derive in the first place and then, in turn, to sustain in the face of historical developments and institutional frustrations. If the structure of the public sphere is not carefully designed and sustained, polarization and paralysis are likely to arise.

The last century of psychological research has powerfully demonstrated a long list of “hard-wired” and systematic biases in the human cognitive system. We tend interpret information in a way that confirms our preconceptions. We give more weight to negative experiences than positive ones. We attend more to the potential loss of an object than that the prospect of gaining an object. We prefer the familiar. We pay a lot of attention to sex and to violence. These and related cognitive biases will be addressed in more detail in the pages ahead, particularly chapters four and five.

Such systematic patterns of cognitive preference and distortion may make sense in terms of the evolutionary survival of individuals in small tribes of hunters and gatherers. However,

these systematic cognitive misconceptions now represent a significant threat to our collective survival in an era of instant global communication, airborne terrorism and missile-based nuclear warheads. So, unsurprisingly, it is not the case that scientific pursuits are independent of and isolated from normative concerns. There is a clear and perhaps even urgent normative challenge to communication science at the dawn of the third millennium – help to design technical systems, institutions and norms of mass communication to counterbalance our bad institutional habits and inevitable cognitive biases as best we can. The quotation from psychological researcher David Huron at the beginning this chapter captures the issue at hand succinctly – “The business of biology is survival and procreation not truth and accuracy.” If our evolving systems of news and entertainment are to sustain a collective movement toward something like truth and accuracy, we cannot expect it to happen ‘naturally’ although clearly we would like it to.

From deep in the soul of 2500 years of western culture we would like to believe that a fair minded jury of our peers will seek justice and that the electorate will deliberate thoughtfully and choose the best candidate. We would like to think that the public would not be persuaded by a trumped up cause to initiate war. We would like to assert that we are not subject to pressures of groupthink and wishful thinking. But such premises, if not simply naïve, are obviously incomplete. The challenge to those who would take up the systematic study of individual and collective communication should be clear. It is a classic Kuhnian paradigm with the requisite puzzle – *how do we design norms and institutions for the public sphere that take into account our individual and collective cognitive patterns that distort our ability to match up means and ends*. The Kuhnian model of what he calls normal science posits that the requisite puzzle is matched to a series of research methodologies designed to “solve” the puzzle. In the case of communication research, the methods are not well matched to the puzzles at hand. In fact, it could be argued that they are matched to the wrong puzzle – one focusing on the urge to demonstrate large media effects, and accordingly to justify the research enterprise. The resultant mismatch between puzzles and methods is the subject of chapter two.

In chapter one I review the historical roots of the dominating focus on large media effects and persuasion. Most modern communication researchers feel that we have moved well beyond the propaganda paradigm of research associated with Lasswell, Lazarsfeld and Hovland in the mid-twentieth century. I will try to make the argument that we have not yet moved far enough and that the notion of propaganda still subtly pervades our conception of communication effects.

Some readers will have made note of the repeated use of the phrase “communication science” in these pages and will react skeptically in part because their intellectual home is in a distinctly non-scientific humanistic tradition. I will argue, however, in the pages ahead that communications scholarship will benefit from a convergent and consilient contribution from

both traditions and that a science of human behavior can and should be humanistic in spirit and well as in purpose and method (Wilson 1998).

The Four P's

Scientific inquiry in a particular domain according to the widely cited Kuhnian model of scientific process tends to follow a paradigmatic path to resolve an acknowledged puzzle or paradox of some sort. Puzzles are matched with a method or set of methods as a community of researchers struggles to find a suitable resolution and then move on to the next question or as is often the case, the resultant puzzle. Sometimes the puzzle is formulated as a fundamental question – what is the nature of light -- is it a particle or a wave? Sometimes the puzzle is formulated with a more practical or functional goal associated – for example, we examine the

Four Paradoxes

1. **The Paradox of Information Profusion** – In an age of abundant information and increasingly complex social and technical information systems, individuals are by definition only able to attend to a shrinking portion of the surrounding information environment and increasingly dependent on others and technical systems for locating what they seek in the information abundance.
2. **The Paradox of Polysemy** – Human communication is fundamentally and inevitably ambiguous and polysemic. People tend to underestimate the ambiguity of the messages they send and that they receive. In most cases individuals overestimate the persuasive effectiveness of information to which they are averse and underestimate the persuasive effectiveness of information about which they are enthusiastic.
3. **The Polarization Paradox** – As with many other areas of human endeavor, symbol systems get bound up with various aspects of human identity and centrally held values, and accordingly their interpretation often becomes polarized and contested.
4. **Pluralism --The Paradox of the Public Sphere** – Given the paradoxical character of evolved human communication behavior and the self-interested and self-reproducing character of most public and private institutions of public communication, is it possible that such institutional systems could be structured to optimally protect an open marketplace of ideas and flexible and responsive public institutions?

dynamics of cancer so we might more successfully treat the disease. Alchemists struggled for centuries with the explicit goal of turning lead into gold by combining it with sulfur and quicksilver in a special oven called an Athanor. They did not succeed, of course, because it is not possible to transform an element with 82 protons into one with 79 protons by strictly chemical means; it would require modern particle accelerators and a rather difficult trick of molecular manipulation. But apparently working with an irresolvable paradigm and method did not discourage its practitioners. Active alchemic research thrived from its earliest days in Mesopotamia and Egypt through Greco-Roman times through Islamic culture to the 18th century in Europe where it ultimately evolved into modern chemistry. Turning lead into gold was not motivated by simple greed (although perhaps that helps a bit). It was widely felt that if a technique for purifying metals could be developed it could be applied to the perfection of the human soul, a noble incentive indeed (Eliade 1979; Lindberg 2007).

Likewise the evolution of our thinking from the geocentric to the heliocentric solar system was not simply a matter of a revised theory and more modern telescopes; our scientific inquiries were deeply intertwined with our understanding of our place in the universe. The scientific process and technical invention are imbedded with our normative concerns and historically grounded collective challenges. The next chapter will ground our argument in a detailed historical examination of how concern about the negative impacts of propaganda and brainwashing particularly growing out of the Second World War and the fascist efforts to control and manipulate public opinion in Europe became the basis for systematic social scientific research on media effects and attitude change. The following chapters will develop the argument that evolving historical conditions may nudge communication theorizing along. We need not completely abandon the concerns and the evolved research traditions of the last century, but rather expand and refine them in the light of new global conditions and particularly the changing technical infrastructure of interpersonal and mass communication. The allure of alliteration leads me to propose the Four P's – Profusion, Polysemy, Polarization and Pluralism. I will use the term “paradox” with each in the sense of a puzzle although they may not technically qualify as formal logical paradoxes.

Profusion --the first problematique, the explosive profusion of electronic communication is the relatively new phenomenon linked to the expanding capacities of our communication infrastructure. If individuals develop skills with spam filters, search engines, friend lists, voice mail and TiVos, the dramatically expanded flow of communication need not be problematic as individuals successfully tame the information tide. But the dynamics of informational supply and demand are likely to represent an ongoing issue worthy of attention. At a more clearly normative level, the question becomes will people be able to learn what they need to know -- will

the capacities for communication be structured for a better informed public? These questions are the focus of Chapter 3 – The Paradox of Profusion.

One element of this paradox is unambiguous and starkly true – it is a mathematical inevitability that as the amount of accumulated knowledge increases the ratio of what is potentially knowable to what an individual can reasonably know will increase. This is reflected, of course, in the technical complexity of our environment. When we made our own soap and pumped water at the well, we understood the environment we created and could fix things when they broke as we may have built them in the first place. Not true with GPS navigators and cell phones. We rely on technical specialists for survival in our environment and perhaps spend a reasonable amount of time on hold on a customer service line awaiting their enlightenment. In our professional lives all is specialization. For much of the eighteenth and nineteenth centuries every member of a college faculty were expected to be literate in classical Latin and Greek and each professor could teach virtually any of the math, history, language or literature classes. The basic elements of the liberal arts curriculum derived from Trivium and Quadrivium of the Middle Ages had changed little in last eight centuries. But as the sciences flourished, specialization and departmentalization took over and the curriculum was revolutionized and the remarkable new idea of the elective course became institutionalized (Veysey 1965; Rudolph 1993). I will review how issues of specialization and the fragmentation of expertise influence the dynamics of collective choice and the public sphere. We have moved from push to pull and from one-way to two-way communication. We have moved from the Encyclopedia Britannica where the anointed few experts would expound to Wikipedia where virtually anybody so inclined can expound. And miraculously it seems to work. Assessments of the technical accuracy of Britannica and Wikipedia reveal the level of inaccuracy is quite small and about the same in each (Giles 2005).

The Wikipedia case is telling, a hallmark of the new media environment. It may strike us as unlikely that an encyclopedia written by volunteer amateurs and hobbyists would result in a complete and accurate accounting. For a century we became accustomed to relying on the few anointed professionals, the CBS television networks' avuncular Walter Cronkite who explains with a comforting voice -- "That's the way it is" or Life Magazine's equally influential and iconic photographs. The fact that these spokespersons of the public sphere and arbiters of public taste were almost exclusively all commercial firms would strike most citizens as utterly natural although the occasional intellectual critic might see it otherwise (Habermas 1989; Williams 1974; Chomsky 2004). There were brief flirtations with two-way communication including citizens band radio and public access channels on cable television but none of these experiments seemed to be able to sustain itself with an enduring identity and audience. The industrial character of publishing and the limited spectrum for broadcasting seemed to dictate that the number of voices would be few and that they would be commercial. The vaguely acknowledged

notion that commercial entities just give audiences “what they want” because of the economics seemed to reinforce this natural order.

But the one-way commercial push media are not a natural order, they are a stage in technical evolution. A long stage, perhaps -- about one and a half centuries. But the Internet and new media revolution changes everything. The blogosphere is immense; it is overwhelmingly non-professional; it is growing; and it is self-sustaining. Estimates vary but have recently pegged the size of the blogosphere at between 150 and 200 million reasonably active blogs with over 100,000 new blogs introduced each day and several million essay-style posts per day (not including the many more millions of short 140-character Twitter postings) (Winn 2008). Importantly, if you have a particular issue of concern and want to find out what the bloggers are saying, you can – there are extensive blog-focused search engines and trend summaries available. The numbers are difficult to comprehend and the environment is very dynamic responding sometimes explosively to new information and issues. It is truly an open marketplace of ideas -- sometimes unruly and rude, sometimes deliberative and even poetic. How this vibrant domain of opinion, information and misinformation has and may continue to interact with the mainstream media and the shared public agenda is a critical question we will address in the pages ahead.

Polysemy -- the fact that a string of words or images can engender more than a single meaning is hardly a new concept or one that requires a new media revolution to make its significance evident. But polysemy is at the core of the process of communication and evolved traditions of communication scholarship continue to struggle with it. The humanist tradition in communication research takes polysemy very seriously indeed which is a good start. But unfortunately taking polysemy seriously seems to result in a skepticism about systematic scientific assessment of communication. Perhaps this results from disappointment at how simplistic most experimental and survey designs tend to be. They routinely ignore the polysemic character of personal and mass communication behaviors. The empirical research traditions characteristically treat persuasive messages (vote for candidate X, buy product Y) or entertainment programming (perhaps modeling violent behavior, or consuming behavior) as having a singular message and semantic interpretations outside of the officially identified ‘message-as sent’ is simply treated as random error and ignored. For example, in measuring political campaign effects, analysts routinely contrast campaign advertising expenditures and corresponding proportions of election voting even though it is widely acknowledged that some political ad campaigns are profoundly effective, others worthless and many, ironically, counter-productive (West 1997; Kaid 2004). It is an understandable strategy for conducting research. Polysemy is inconvenient. It makes systematic assessment troublingly complex. We will

address this issue in the second chapter on methodological strategies and in the fourth chapter on the dynamics of polysemy itself.

Working polysemy explicitly back into scientific modeling of communication processes is central to the issue of communication conditionality – it is an acknowledgement that a potential resonance in meaning between message as sent and as received is a variable rather than a constant, a variable, I argue, at the theoretical core of communicative practice. As I will note in passing throughout this manuscript, Claude Shannon’s elementary mathematical model of communication formally models the level of errors in transmission between senders and receivers (Shannon & Weaver 1949). And for a decade and a half, social scientific communication researchers toyed with the idea of building from Shannon’s starting point but eventually abandoned the enterprise (Smith 1966; Rogers 1994). The likely reason for this is that Shannon had developed a very specific and technically limited definition of noise as interference, one that made perfect sense for a Bell Labs engineer – random noise, electronic static. But human interaction and institutionalized communication systems display a much more interesting pattern of interference which causes miscommunication and non-communication. The noise and interference in human communication is seldom random; it is primarily systematically structured interference. It is culturally reinforced bias and prejudice. The challenge of communication in the public sphere is not that the listener cannot hear the speaker above arbitrary noise in the environment, but that listeners systematically interpret, reinterpret, ignore and reframe the speaker’s utterance.

To make matters more complex, there is deeply ingrained human propensity to presume an absence of misperception. I label this phenomenon the semantic fallacy. It will be reviewed in some detail in Chapter 4 on the dynamics of polysemy. The fallacy is well captured in Charles Ogden and Ivor Richards epigram: “Normally, whenever we hear anything said we spring spontaneously to an immediate conclusion, namely, that the speaker is referring to what we should be referring to were we speaking the words ourselves” (Ogden & Richards 1923 p 15).

Polysemy and ambiguity are central to the communication process. As Leeds-Hurwitz notes, “Codes are by their very nature full of gaps, inconsistencies and are subject to constant change.” (1993 p. 66) Human beings appear to be hardwired to pay close attention to miscommunication – it is at the core of what humans consider to be comedic. I will address this also in more detail later, but briefly – audience members relish being in on what is intended while characters in the narrative misunderstand. Some exaggerated misunderstanding is usually at the core of the situation comedy or theatrical farce, and the classic formulation of a joke – the punch line reveals that what the listener had assumed from the beginning is now turned on its head. (Zillmann 2000)

Polarization -- In 1957 three psychologists published a monograph entitled *The Measurement of Meaning* (Osgood, Suci & Tannenbaum). It attracted a fair amount of attention at the time as a very creative and novel approach to designing survey questions using pairs of polar adjectives, a technique they labeled the semantic differential. They discovered when they matched randomly selected paired adjectives up with randomly selected nouns and surveyed an English speaking population that an underlying and fundamental semantic structure emerged. They selected the word ‘father,’ for example, and asked respondents to identify the meaning of the word on a variety of randomly selected polar scales fast.....slow, hard....soft, large....small, and so on. As with this example, the pairing often did not make particular sense. Nonetheless, a clearly defined structure of three underlying dimensions emerged. Later they confirmed that the same structure evolved in other languages and cultures around the world – a fundamental structure of meaning in human communication. This was an important discovery. The first dimension is labeled *Evaluation*. Is the object or concept at hand good or bad, beneficial or harmful, safe or dangerous? It is the most frequently employed dimension of semantic evaluation. The second dimension is *Potency*. Is the object strong or weak, tenacious or yielding, large or small? The third dimension is *Activity*. Is the object active or passive, dynamic or static, vibrant or still?

The curious history of this little corner of communication scholarship is that the book was interpreted as a contribution to survey item design but not particularly relevant to communication and psychology. That may be in part a result of the detailed technical style in which the original manuscript was written. The survey technique after a brief period of experimentation is no longer frequently used and the fundamental findings on how the evolved human cognitive system structures the world it perceives is only infrequently noted. Apparently it was not immediately clear to Osgood and his associates and their early readers how dramatic these findings are and how they could contribute to a refined paradigm of communication science.

Returning to these findings from a perspective of evolutionary psychology, what dimensions of evaluation and attribution would one expect small tribes of hunting and gathering early humans to use as they invent and refine language for communication and for survival? It may seem rather crude, but the first question at hand in confronting a new object is – is this a potential resource or a threat? Can I eat it, or will it eat me? Friend or foe? Good or bad? Not an unreasonable starting point for sharing communication with your family and tribe. If the object is a threat, is it strong or weak, is it active or passive? All important strategic dimensions of meaning unambiguously connected to the prospects of survival. If the object is friendly and a potential sexual partner is it strong, healthy and active?

Humans continue to be fundamentally tribal in their way of viewing the world around them. The key concept here is identity -- ethnicity, religion, gender, age, regional or national

identity. The first question asked, in effect, is the evaluative dimension-- good or bad, on my team or on the other team, that is, the other tribe, or the other species. People polarize. Groups polarize. It is human nature, actually animal nature, as demonstrated, for example, by warring ant colonies whose territorial borders are characterized by dramatic and distinctly violent combat (Wilson 1975).

Tribal competition, academic competition, athletic competition, commercial competition – perhaps a reasonable practice for sustaining the capacity for survival. Global nuclear war, ethnic genocide, religiously inspired terrorism among competing theological sects -- perhaps not so good. The fundamental challenge to interpersonal and particularly to collective communication and the structure of public sphere itself is confronting the deeply ingrained propensity for polarization.

Pluralism – The previous paradox focuses on the interaction of identity and opinion and the resultant propensity for conflict. The next paradox, pluralism, is derived from this propensity for polarization and focuses at the collective level, the public sphere and posits the challenge – what institutional arrangements work best to promote an open marketplace of ideas, a healthy competition of alternative policy perspectives that is neither paralyzed by conflict nor offers the awkward stability resulting from the dominance of a particular ideology or dominant identity group. A truly pluralistic politics is difficult to maintain. When the system tips to one side the pressures often increase toward imbalance rather than self-correction. If a majority is to be tolerant and perhaps even supportive of the expressed views of a minority, it requires a great deal of structural discipline. As various groups within or among societies attain economic and military power and, in turn, political power, it would be naïve to expect that the dominant groups would not use their accumulated resources to bias the structure of the public sphere to their advantage and the advantage of their heirs. A century ago Max Weber’s student Robert Michels formalized this slippery slope problem of elite control of public institutions as the “iron law of oligarchy” (Michels 1911). Michels studied how union leaders in Europe initially elected from the membership to represent and execute the membership’s views would in time increasingly privilege their roles as institutional leaders. In the characteristic pattern the elites stressed the needs of institutional self-reproduction over membership’s direct interests. Ironically it was those direct interests that motivated the creation of the union in the first place. Michels’ iron law is a natural enough phenomenon in human history evident in virtually all domains of collective human behavior from religious to political, cultural and military institutions.

In chapter 6 I will review these issues in some detail. The key concept is an open marketplace of ideas as the ideal type of public sphere. Much like the field of economics from which the market metaphor is drawn, I will review the many complexities of how markets (in this case markets of ideas) may be biased, inefficient, and unable to maintain open competition

among participants. For example, there is no practical limitation to the number of physical products in an economic market. But just as the individual human mind has a practical limit to the number objects or ideas it can consider at a single time (it turns out the number is approximately seven things) there is a limit to the capacity of the public agenda. New issues push out old ones (Miller 1956; Neuman 1990). Publics tire of problems that resist solution (Downs 1972). Clearly the dynamics of public opinion in aggregate have different properties than the dynamics of an individual's thought and opinion about public issues, and I will review both the parallels and the disjunctures. Given the paradox of profusion and the explosive growth of specialized expertise, a centrally important question becomes the dynamics of 'issue publics' -- groups of concerned and informed members of the general public who are tracking issues that are otherwise 'below the radar' of public and media attention.

Partial to Paradox

This book represents something of an aggregation of five decades of professional work. I have been interviewing and experimenting, tracking history and technology, puzzling over policy and politics since the 1960s. My first book, based on my dissertation was entitled *The Paradox of Mass Politics* and attempted to understand how the democratic process works as well as it does given the celebrated inattentiveness of the average citizen who not unsurprisingly prefers the sports pages and gossip columns to details on the latest legislation proposing financial reform. *The Future of the Mass Audience* followed and with support from a half dozen media conglomerates, attempted to understand the new media environment from an institutional and policy perspective. *Common Knowledge* and *The Gordian Knot* (with colleagues) developed the themes of public opinion and news and further speculations on the changing policy environment. In the last decade (again with colleagues) the work on *Affective Intelligence* focuses on survey and experimental research to better understand the dynamics of public attention and politics with particular attention to how emotions steer attentiveness. The work spans psychology, sociology, history, economics, political science, policy science and communication, and accordingly may be appropriately characterized as undisciplined, but not, I would argue, as unfocused. In fact, my reason for raising this brief history now is to make the case that despite their distinct differences in methodology and in level of analysis, they are all about the same fundamental paradox, or set of intertwined paradoxes – how do individuals wrapped up in the very specific challenges of their personal lives take time to observe the world around them as history unfolds in the public sphere? What do they know? What should they know? How will this change in the evolving institutional and policy environment of the communication revolution?

Communication Research in the New Millennium

Scholars in the humanist tradition are sometimes frustrated with the obsessions of behavioral social science and are inclined to question the value of the assorted surveys and experiments that dominate the literature. Experiments in chemistry are fine, but the complexities of the human condition resist analysis by test tube and Bunsen burner. The problem, they might protest, is that this behavioral work is ahistorical, naively seeking some universal truths about human behavior while ignoring the pressing normative issues of our age.

They make an important point. But I challenge the premise. I will make the case in chapters one and four that, on the contrary, behavioral work on communications effects is as historically and normatively situated as the textual and critical work of the humanists. The focus here is on the study of human communication, a field of study, if perhaps not yet a discipline. It is interesting to note that the modern fields of economics, psychology, anthropology, political science and sociology were all institutionally formalized at the turn of the twentieth century. But this was not true of the academic study of communication. Departments, journals and associations of communication would begin to appear only in mid-century, in part in response to the growth of radio and television and the concern about propaganda stemming from World War II.

If we look at the origins of Sociology, for example, in the late 1800s, it was clear that urbanization, industrialization and migration to the big cities led to growing concern about social control. In the rural communities, citizens knew each other and the town meeting or the cracker barrel at the general store were viable venues for sustaining the public sphere. The challenge of the industrial city was social fragmentation, mass society and an absent institutional center of identity in church and community. Those are the founding concerns of the field at the turn of the century.

By the middle of the century the thematic has reversed itself and the concern is not too little but too much social control and influence from the media—propaganda, brain washing, hypercommercialization, influential depictions of violence, political agenda-setting by news media. It is at this point that the field of communication starts to establish its own identity, growing from but independent of psychology and sociology.

But now we have come full circle. At the end of the twentieth century with the explosion of the new media revolution the concern again turns to fragmentation, polarization and the loss of a cultural centerpoint.

My point is that although the historic grounding of these issues may have changed directions in the digital age, the underlying question, the central and paradigmatic question of research on human communication remains the same although sometimes obscured. It is not whether communications effects minimal or not so minimal. It is – *under what conditions do humans successfully communicate (especially among those with diverse perspectives) and how can practices, institutions and norms that develop to structure the flow of information in society promote an open marketplace of ideas and rather than one oriented to protect the status quo and the powerful?* Such a starting point sounds a bit wishful and perhaps naïve. Such a notion echos Jurgen Habermas highly idealistic concept of a universal pragmatic -- the necessary conditions for reaching an understanding through communication (Habermas 1979). But the question need not be reserved for philosophical speculation. It could secumb to systematic empirical inquiry. In an age of global communication and global violence, the motivation to move research inquiry in this direction should be strong, and well, pragmatic.

Communication science and the humanistic field of cultural studies both study the structure of human communication. Most researchers in each of these communities largely view the scholarship of the other vantage point as some sort of indecipherable gobbledygook and avoid it like the plague so there is little cross fertilization. It is unfortunate and, I suppose, just what you would expect from a field that bears the name communication.