

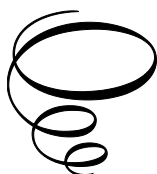
An Introduction to the Effects of Mass Media

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By

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To Michael and Patrick

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PREFACE

Communication study had a rich foundation in the social sciences before it became a discipline in its own right with the establishment of separate departments in the 1960s and 70s. Early researchers in the field of communication, people who today are considered the founders of the field, were from diverse social science departments. Harold Lasswell was a political scientist. Paul Lazarsfeld was a sociologist. Carl Hovland, Charles Osgood, Albert Bandura, and Leonard Berkowitz were social psychologists. This series of texts are an attempt to cover that rich development going back to the Payne Fund Studies conducted in the 1930s and continuing to the 21st century.

In 1959, Bernard Berelson declared the field of communication research dead (**Berelson**, 1959). Extensive research had found that effects of the media were limited and Berelson felt there was nothing more to study. A few years later, **Newcomb** (1993, p. 132) criticized the field for engaging in the pursuit of small matters. **McChesney** (2007, p. 6) later argued that little of the work commands much interest outside the narrow confines of the field. Research in the voting area in the 1940s had found that the mass media were not very persuasive in changing people's voting intentions. **Klapper** (1960) wrote a text summarizing the field to 1960 and concluded that the media only serve to reinforce the attitudes and behaviors that people already have.

Ironically, the field of mass communication research was about to experience explosive growth. As **Schramm** (1959) argued in the same issue of *Public Opinion Quarterly* as Berelson's article, the greatness of the -founders lay not in what they did, but in what they got started (p. 7). Because exposure to the mass media is constant, especially in the time of cell phones and the Internet, media influence is constant, whether intended or not, whether immediate or delayed, whether ephemeral or long-lasting, whether reinforcing or altering.

As to small matters, surely the areas of violence and sex (erotica) are not small matters. Nor can it be argued that voting behavior, bias in the media, persuasion, public health campaigns, etc. concern small matters or are of

little interest to society. Hopefully readers will agree as they peruse the content. The effects of the mass media are important and, hopefully, of interest to all of us living in these times.

In an International Communication Address (ICA), the then president Wolfgang Donsbach pointed out that there are now 30 to 40 journals devoted to the study of communication, such that for a scholar, every day is a day of bad conscience because of what one has not been able to read! As to the latter point, Donsbach argued that communication research has seen the greatest growth of probably all academic fields over the last 30 years (**Donsbach**, 2006). This, he argued, has been due to reliance on an empirical approach which assumes human communication behavior is predictable and explainable. Finally, he concluded that:

Communication has a very simple problem: The closeness of its object to everybody's reality and experience makes everybody a self-proclaimed 'expert'. People say, "Because I watch a lot of television (be it as a politician, a spokesperson, spin-doctor, or just a parent), I have at least as much to say as a researcher in this field. This problem does not apply to a physicist or a neurologist. But it happens to us, and it sometimes makes it hard to defend research against common wisdom are claims from interested parties (**Donsbach**, 2006, p. 445).

It is an investigation that has grown haphazardly. A wide variety of potential effects of media use has developed. During the past 50 years, populations, audiences, and the number of media have increased dramatically. The amount of research examining the content of the media, the characteristics of media audiences, and the effects of media content on audiences has also increased dramatically.

It is not possible to cover all the research that has taken place. In fact, counts find that there are thousands of mass media research articles in recent years alone (**Potter & Riddle**, 2007). Hundreds of separate books devoted to a single area of media effects have also been written. To make sense of this vast array, these texts lay the foundation of various areas of mass communication research and then bring the area up to date with more current research. An incredible body of research has developed since the 1960s on a wide variety of media effects. In fact, it is not possible to cover all the research now available in any of areas covered in the text. There are hundreds, sometimes thousands, of studies investigating each of the areas. One of the saving graces of social science, which after all is concerned with the most complex subject of study possible, is that people do behave in generalized ways. To make sense of this vast array, relevant theories

and studies are presented so the student can more fully understand how the research was done and the likely validity of that research.

To provide an historical overview, initial milestone or benchmark research is presented (**Lowery & DeFleur, 1995**). A great deal of pioneering research was done not only in the 1930s and 1940s but also through the 1980s. This work established the areas of study that we follow to this day. The research that tests and modifies the area is then presented in a generally chronological order. Researchers tend to focus on particular areas so that an attempt is also made to present their bodies of work in a unified fashion. Science proceeds like bricklayers building a house. Each brick adds to the construction. The difficulty in science is that the builders often don't know exactly where the construction is leading. And, most importantly, the construction is never finished. It is a daunting task to attempt to summarize the effects of the mass media to say the least.

It is easy for a student to ignore or be skeptical of a particular research finding when it doesn't match one's own experience. This is less feasible when a broader body of research is presented and the methodology used is more fully explained. Everyone has opinions about the effects of the mass media. But for opinions to be justified, they need to be based on facts.

Early research established the genre and set the methodology. Over time contingent factors are investigated so that a more precise theoretic framework is established and relevant boundary conditions are outlined. This leads to qualifications on relationships that can be frustrating to the student. Straightforward statements concerning mass media effects are seldom possible. All too often answers to questions concerning the effects of the mass media will say, *It depends*.

Schramm & Roberts (1971) argued that the general effects of the mass media are to inform, to instruct, to persuade, and to entertain. That is the general purpose of these texts as well. First, the emphasis is to inform the introductory student to the general areas of mass communication effects and to the research origins and current research in those areas. Second, it is felt, along with Kurt Lewin, that there is nothing as practical as a good theory. It is hoped that media practitioners can be more effective with the knowledge gained from mass communication theories and effects. Third, by including a more sufficient amount of research, the reader will be persuaded that the effects are generalizable to a large number of people. Supporting research is provided so the student can have confidence, with healthy scientific skepticism, in the state of knowledge claims in a

particular area. As the reader will see, the mass media do play a significant role in the processes of learning and socialization that affect our attitudes, beliefs, values, and behaviors.

Whenever negative effects of the media are presented, there is also an attempt to include research on how to avoid or negate those effects. If we understand how the media influence our beliefs, attitudes, and behavior, we can learn to use them wisely and protect ourselves from their unwanted effects. Hopefully the student will gain a fuller appreciation of the effects of the mass media, as complicated as the process might be.

This introductory text begins with a chapter on the nature of science and its advantages over other methods of knowing. Then a chapter is presented introducing learning theory and how we learn from the mass media, including a section on media literacy and critical thinking. Next is a chapter on the development and audiences of the various media. The text concludes with a chapter on how we are socialized by the media, including a section of the media's relationship to eating disorders.

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CHAPTER ONE

THE SCIENTIFIC ATTITUDE

But you spoke just now of observation and deduction. Surely the one to some extent implies the other.

For example, observation shows me that you have been to the Wigmore Street Post-Office this morning, but deduction lets me know that when there you dispatched a telegram.

How, then, did you deduce the telegram?

Why, hardly, he answered, leaning back luxuriously in his armchair and sending up thick blue wreaths from his pipe.

Right, said I. Right on both points! But I confess that I don't see how you arrived at it

It was a sudden impulse upon my part, and I have mentioned it to no one.

It is simplicity itself, he remarked, chuckling at my surprise--so absurdly simple that an explanation is superfluous; and yet it may serve to define the limits of observation and of deduction. Observation tells me that you have a little reddish mould adhering to your instep. Just opposite the Wigmore Street Office they have taken up the pavement and thrown up some earth, which lies in such a way that it is difficult to avoid treading in it in entering. The earth is of this particular reddish tint which is found, as far as I know, nowhere else in the neighbourhood. So much is observation. The rest is deduction. Why, of course I knew that you had not written a letter, since I sat opposite to you all morning. I see also in your open desk there that you have a sheet of stamps and a thick bundle of postcards. What could you go into the post-office for, then, but to send a wire? Eliminate all other factors, and the one which remains must be the truth. (Doyle, 1930, p. 91)

How do we know what we know? Certainly observation and deduction are important. But when we say that the violence on television affects some people, but not others, or doesn't affect anyone at all – people who commit violent acts are affected by other things – how do we know that? Or when we say that a particular ad is funny or creative but it doesn't get one to buy a product, how do we know that? Or when we say that campaign spending has to be regulated or else the richest candidates or

those beholden to special interests will be able to buy an election, how do we know that? How do we know anything we believe about the effects of the mass media?

The question is a complicated one not only because there is so much that we do not know, but also because there is much that we "know" that is simply not true. While this is more or less problematical in everyday life, it is always serious when we say things as general truths for all to believe. Yet that is the goal of science: to state things that are true, not only for ourselves at this particular time, but for all of us for all time. Needless to say it is a difficult goal impossible to achieve. While underlying truth may not change, our perceptions of it do. The advent of social science methods allowed the various hypotheses and theoretical orientations that had been developed to be measured and tested empirically. Sometimes these tests refuted beliefs that had been held **tenaciously** and sometimes they refuted beliefs that were part of the common **intuitions** of the community.

METHODS OF KNOWING

Charles Peirce, an American philosopher writing at the turn of the century, discussed four general ways of knowing, or, as he put it, *fixing beliefs* (**Peirce**, 1877, 1934). **Cohen & Nagel** (1934, pp. 193-196) labeled these methods: *The Method of Intuition*; *The Method of Tenacity*; *The Method of Authority* and *The Method of Science*.

THE METHOD OF INTUITION

Sometimes we believe certain things because it *stands to reason* that they are so. They are *self-evident*. Here we ask ourselves what is likely to be true and base responses on internal rather than external observations. We become our own source of validity based on what makes sense to us. It operates at a preconscious level and is outside the reconstruction process of others. Hence it is a difficult method to refute. Self-evident truth is in the *eye of the beholder* and subject to all the biases of *selective exposure, attention, perception, and retention*. We have watched televised violence all of our lives, for example, and *know* that it has not made anti-social psychopaths out of us. Saturday morning cartoons show violence in jest. No one could take it seriously. Yet, as we'll see, the research on violence finds that people who watch high amounts of televised violence do become more aggressive.

Lazarsfeld (1949), in a classic study of the American soldier during World War II, reported a number of beliefs commonly held at the time

(with their respective intuitive reasoning):

- Men from rural backgrounds were usually in better spirits during their army life than soldiers from city backgrounds. (After all, they are more accustomed to hardships.)
- Southern soldiers were better able to stand the climate in the hot South Sea Islands than Northern soldiers. (Of course, Southerners are more accustomed to hot weather.)
- White privates were more eager to become non-coms than African-Americans.
(The lack of ambition among African-Americans at the time was self-evident.)
- Southern African-Americans preferred Southern to Northern White officers. (Isn't it well known that Southern Whites have a more fatherly attitude toward their "darkies"?)
- Even though the fighting continued against the Japanese, men were more eager to be returned to the States than they were after the German surrender. (You cannot blame people for not wanting to be killed.)

In spite of the *obviousness* of the statements in the context of the times, they were not supported by the evidence. Soldiers from rural backgrounds or the South showed no greater ability than others to adjust to hardships. African-Americans were more eager for promotion and did not prefer Southern officers. Soldiers in the European theater were anxious to end the war against Japan and were willing to help do so.

Misconceptions concerning the effects of the mass media are still held today. Some effects that seem likely to the casual observer do not occur. Other effects which seem less likely sometimes do occur. We ourselves do not seem to become more aggressive when we watch violence on television, yet research finds that that often is the case. At other times the results of science seem only to verify the obvious. For the scientist, truth and knowledge depend on careful empirical observation, especially when supported by theoretical explanation, not what might or might not seem obvious.

As **Lazarsfeld** put it (p. 380):

Obviously something is wrong with the entire argument of obviousness. It should really be turned on its head. Since every kind of human reaction is conceivable, it is of great importance to know which reactions actually occur most frequently and under what conditions; only then will a more advanced social science develop.

THE METHOD OF TENACITY

Some statements are held to be true because we have always held them to be true. They are statements that tend not to be questioned because of that. What has worked in the past will work in the future and what was true in the past will be true in the future. *Frequent repetition* (as in the person who repeats a lie so often that he/she comes to believe it) and *reinforcement* from family and friends means that these beliefs are seldom challenged. *Stereotypes* and *prejudices* fall into this category. *Cultural truisms* also fall into this category. People often hold such beliefs even in the face of clearly conflicting evidence. *Birds of a feather flock together* but *opposites attract*. Evidence favors the former. *Spare the rod and spoil the child*. The evidence finds that while physical punishment may suppress misbehavior in the short run, over the long run it leads to more aggressive children who become more aggressive parents. *Familiarity breeds contempt*. While we are stimulated by the novel, we tend to like, and trust, those things most familiar to us. For 15 centuries, following the theory of Ptolemy, people believed that the sun revolved around the earth. One could even *see* the process on a daily basis. Only with the alternative theory of Copernicus, and the ability of Galileo to test the counter theory with a telescope, was the earlier theory empirically disconfirmed (**Bronowski**, 1973).

Milton Rokeach (1960) studied the inner, core beliefs people have and how difficult they are to change. In *The Three Christs of Ypsilanti* (1964), Rokeach brought together three individuals incarcerated in a mental institution who each thought he was Christ. Rokeach analyzed their behavior when they were confronted with evidence that their inner beliefs were not valid. They could not all be Christ, although at one point one of them said to another, *If I were you, and don't think I'm not....* Ultimately, the strongest personality convinced the others that they must be someone else. The process of change took three years, however. Many of the beliefs we have based on the method of tenacity are as difficult to change in spite of evidence to the contrary:

- The inverted pyramid style (facts ordered by decreasing importance) is the best news writing style. But people remember material best at the beginning or the end.
- The candidate who spends the most on the election will win. However there is considerable evidence to the contrary.
- Advertising is sufficient to sell a product. Yet research on attitude change finds that it is very difficult to persuade.

- People with positive attitudes toward a product, candidate, or idea will commit positive behaviors toward the product, or candidate, or idea.
- Research finds that the relationship between attitudes and behaviors is not always consistent.
- The mass media have a direct, powerful effect on the audience. But the mass audience consists of multiple *publics* each with their own interests and agendas so that different people have different reactions to the same message.

THE METHOD OF AUTHORITY

The method of authority is used when we need external support for our ideas. When we do not have an answer ourselves, as in the method of intuition, or there is not already general agreement, as in the method of tenacity, we often rely on the method of authority. It is the method of *established belief*. The statement is true because the Bible, or the *New York Times* or a parent, or a teacher, or some other trusted authority, says it is true. Peirce felt this is a superior method to tenacity or intuition because human progress can be attained. In fact, we are dependent on the method of authority for a great deal of what we know. We are dependent on teachers and other *experts* to know what has happened in the past and what is likely to happen in the future. We are dependent on the news media to survey the environment to know what is going on in the community and world around us. We are dependent on doctors, lawyers, and *public opinion leaders* to know how to stay healthy, how to resolve legal matters, who to vote for, what movies to see, what store to shop at and what products to buy. When the authority is an *expert* and *trustworthy* source, we can have confidence in this method of knowing, especially if *we reserve the right to others (also competent to judge), or to ourselves (finding the time to acquire competence), to modify the findings of the expert* (Cohen & Nagel, p. 194).

Another kind of authority is based on his or her *position* rather than her or his *competence*. This type of authority is based on “an *external force* that invests the source's decisions with infallibility and finality” (Tan, 1986, p. 11). It is the principle by which the Pope of the Catholic Church, as the *Vicar of Christ*, speaks *ex cathedra* or with infallibility as the substitute for God. Several Protestant leaders have also claimed to have talked to God and base their claims on a *higher authority* for their credibility, as when Rev. Oral Roberts said that God would “call him away” unless he was able to raise \$10 million dollars for his church and

university. Parents, teachers, and newscasters are often relied on as a source of knowledge based on their position rather than their competence in a particular area. It is a technique used with considerable frequency in advertising. An expert in one area (such as sports) is used as an authority in another (products).

THE METHOD OF SCIENCE

The scientific method differs from these other methods of knowing because it uses specific procedures for objectively gathering information and testing beliefs, independent of our prior beliefs, intuitions, or authorities. One formulates a question to be investigated and collects evidence in an objective fashion to answer the question. **Cohen & Nagel** (1934, p. 192) defined the scientific method as *the way in which we test impressions, opinions, or surmises by examining the best available evidence for and against them*. Examining evidence requires observation and research.

Wendell Johnson (1946, p. 49) summarized the scientific method as consisting of:

1. Asking clear answerable questions in order to direct one's
2. Observations, which are made in a calm and unprejudiced manner, which are then
3. Reported as accurately as possible and in such a way as to answer the questions that were asked to begin with, after which
4. Any pertinent beliefs or assumptions that were held before the observations were made are revised in the light of the observations made and the answers obtained.

According to **Charles Peirce** (**Buchler**, 1955, p. 18):

*To satisfy our doubts, ... therefore, it is necessary that a method should be found by which our beliefs may be determined by nothing human, but by some external permanency -- by something upon which our thinking has no effect... the method must be such that the ultimate conclusion of every man shall be the same. Such is the method of science. Its fundamental hypothesis ... is this: **There are real things, whose characters are entirely independent of our opinion about them** (emphasis added).*

Kerlinger (1973, p. 11) defined **scientific research** as *a systematic, controlled, empirical, and critical investigation of hypothetical propositions about the presumed relations among natural phenomena*. Specific procedures or methodologies are used which are independent of our own

beliefs (intuitions), cultural truisms (tenacity), or religious or secular sources (authority) to test propositions concerning the things around us. In the social sciences, *variables* affecting the cognitions (attitudes, beliefs, information, values, etc.) and behaviors of people are investigated to determine the *relationships* among them. This is done to both develop and test theories which in turn *describe*, *predict*, and *explain* those cognitions and behaviors. The scientific method has the advantage of basing its conclusions not only on a theoretical orientation, but also on carefully controlled observations.

DeFleur (1998, p. 93) summarized the *postulates* of science as:

1. There is an order or patterns in the phenomena under study;
2. Patterned relations between variables can best be detected through controlled empirical observation;
3. Relations of cause and effect between variables can be identified through such study;
4. Any conclusions reached are tentative and subject to modification, or even rejection, as a result of further observation.

In mass communication research, the focus is on the *content* of the mass media, the *uses* of that content by the audience, and the role the mass media play in affecting the *attitudes*, *cognitions*, *perceptions*, *values*, and *behaviors* of audience members.

How violent is mass media entertainment content, how sexually explicit? To what extent does the audience, especially children attend to that content? To what extent is the audience affected by that content? What role does violent programming on television play in the aggressive behavior of children and adults? What sorts of audience members are most affected? Are one-sided or two sided message strategies (as in traditional vs. comparative ads) more effective? Are we persuaded by the credibility of the source or the content of the message? Do people learn of news events primarily from the mass media or from other people? Do we decide to adopt a new innovation based on information and advertising from the mass media or because of the influence of peers? Does television cultivate a world view that is more *mean and scary* than reality justifies? Are we more likely to regard certain issues as more important when the media covers them more frequently? Do negative political ads affect voting decisions?

To investigate these questions and others like them, many additional questions will also have to be investigated along the way. How much time do people spend watching television ... or reading newspapers? What

content is presented in the media? To what extent are various types of people exposed to various types of content? What factors affect persuasion and other types of social influence? Do people learn content presented in the media? Why do some people adopt a new product early and others late? Are voting decisions based on political advertising or peer influence? Do some people simply tend to vote the way their parents voted? How much violent content is there on television? Are some individuals more likely to watch it than others? Do the media have a powerful effect on people, affecting their cognitions and behaviors according to whatever content is presented? Or are there minimal media effects in a complex matrix of hereditary, socialization, and situational processes?

The general, sometimes frustrating, answer to these questions will often be that *it depends*. It depends on a complex interplay of personality and demographic characteristics, message content, socialization, reinforcement patterns, and individual experiences. Providing evidence in support of proposed answers to these and similar questions is the subject matter of the following chapters.

ADVANTAGES OF THE SCIENTIFIC METHOD

Science is a painstakingly slow, plodding, often expensive method to confirm what often seems to be the obvious after the fact. Yet no other method of knowing has led to as much progress in such a short time. The findings of science are exploding all around us. While it can be argued that philosophy is still the best way to gain wisdom (the evaluation of knowledge), when it comes to knowledge, the scientific method wins hands down. Even in the study of human behavior, the youngest of the sciences, more has been learned in the past 80 years about what people do and why they do it than during any other time in history.

All of the methods of knowing have two things in common, asking and observation. Each can have some credence as a result depending on how these common characteristics have been utilized. However only one, the scientific method, makes explicit how these characteristics have been used and only one recognizes that *error* has to be taken into account. That is the basis for the advantage of the scientific method over other methods of knowing.

Intuition is based on *asking ourselves*. The other methods are based on asking others. When we ask ourselves, we are subject to our own biases and we are not generally aware of them. Our asking tends to be implicit. Our observations are often haphazard. We often answer ourselves based on our feelings about what we want (values) or what we expect rather than

on what is. Hence, the method of intuition is subject to *error without awareness*.

When we *ask others*, we are subject to our own biases (by the questions we ask) and those of others. In the method of **tenacity**, we are dependent on past experience and observation that is *common*. But no tests are offered as to what is common. As **Whitehead** (1951, p. 157) stated the difficulty, *Its sole criterion for judgment is that the new ideas shall look like the old ones*. People are expected to have the beliefs, attitudes, perceptions, and values that they have always had. They are to behave like they have always behaved. Whether that is how people think and act is not the primary consideration. It is how they are expected to think and act that is paramount. Social science is interested in how people actually think and act. Mass communication social science is interested in how people think and act in consideration of their use of the mass media.

The method of **authority** has considerable merit when the expert asked is *trustworthy* (unbiased) and has *expertise* (competence) in the subject matter. We often find ourselves relying on authorities for what we know, whether they are reporters who have observed the environment for us, religious leaders who can help us interpret religious truths, or scientists themselves who have devoted their careers in the investigation of particular phenomena. The difficulty is that authorities often go beyond their area of expertise. Doctors might not know anything about toothpastes. Celebrities and athletes might not know anything about cars. Religious leaders might not know anything about the solar system. Network executives might not know anything about the effects of violent programming, other than such programs attract a large audience. Political leaders might not know anything about climate change. The key is on the methods used to gain the information rather than the source of the information. Truth is independent of our opinions, or anyone else's opinions, about it.

Only when we ask and observe in a controlled, systematic way can we control for the potential biases of others and ourselves. **Kerlinger** (1973, pp. 3-5) points out three major ways in which science and other ways of knowing differ, arguing that the scientific method is far more *systematic* and *controlled*. First, the use of **theory** in science is considerably more refined and developed than in ordinary usage where it consists of vague, often unarticulated, ad hoc applications to haphazard observations. Second, the scientist tests his theories in a very precise, controlled fashion, building on her observations in a systematic manner, constantly trying to test potential conclusions, or laws, against reality. Third, the scientist has an explicit understanding of cause and effect. Relationships are investigated in a variety of circumstances under carefully controlled conditions before

they are accepted.

Human behavior is quite difficult to quantify, is very complex, and is often goal oriented. **Baran & Davis** (2006, pp. 26-28) point out four major difficulties with the study of human behavior using the scientific method:

1. Most of the significant and interesting forms of human behavior are quite difficult to measure;
2. Human behavior is exceedingly complex;
3. Humans have goals and are self reflexive. *We do not always behave in response to something that has happened, but very often react in response to something we hope or expect will happen* (p.27);
4. The simple notion of causality is sometimes troubling when it is applied to ourselves.

It should also be pointed out that since science depends of empirical *verification*, it is impossible to *know* anything about matters that cannot be verified. Such matters include issues of sometimes extreme importance to the human condition. Questions concerning values, the best behavioral decision in a particular situation, and whether God exists cannot be settled through a verification process. Instead, **Zarefsky** (2008) argued that what we know or believe about such matters is dependent on a fifth method of knowing, namely, *argumentation*. While argumentation is relevant to the scientific method, it has its own place in the field of knowledge, including the area of *Rhetorical Criticism*.

CHARACTERISTICS OF THE SCIENTIFIC METHOD

Fundamentally, *research* is the process of gathering information. It can be used to answer questions through personal observation, asking others, or checking archival resources such as the library or the Internet. The purpose of the research might be to satisfy one's own curiosity by doing a Google search. Or it might be to provide guidelines for practical issues of professionals, such as how to increase readership or design advertising and public relations campaigns. Or it might be to increase understanding of how people process information or how the mass media affect our perceptions, beliefs, attitudes, values, and behaviors. The research conducted might be formal or informal, practical or theoretical, shared or proprietary. Most importantly, it might be valid or invalid.

Wimmer & Dominick (2006, pp. 11-14) present **Five Basic Tenets** which distinguish the scientific method from other methods of knowing and less formal forms of research. All of the tenets are necessary, which is

to say that if any one characteristic is missing, then the method is not scientific. Science is characterized as *public, objective, empirical, systematic and cumulative, and predictive.*

SCIENCE IS PUBLIC

Scientific knowledge depends on sharing. This is required so that it can grow but also so that others can independently test the conclusions reached by any particular investigator. There must be an openness of procedures as well as an openness of results. **Rogers** (1962) describes six research traditions: Anthropology, sociology, rural sociology, medical sociology, education, and industrial *diffusion* that were independently studying the process by which *innovations* – advances in farming practices and products, medicines, ideas, and technology – are spread throughout a community over time. It was because of awareness of the similarity of results from each of these areas that conclusions were able to be generalized into sound, consistent principles concerning how innovations are adopted.

Making the methods public allows the possibility of *replication*. We can have confidence in the findings of science because we can test scientific conclusions, if properly trained, for ourselves. As different studies with comparable methods find similar results, we can formulate scientific laws that account for behavior in general and come closer to the ultimate goal of science: knowledge. While science cannot *prove* things in a universal sense (there is always the possibility of future exception), we can gain *confidence* in our knowledge statements as results are replicated in a variety of ways and a variety of circumstances. If earlier results are not duplicated, we can question them or try to determine what critical differences in the replication might have made a difference. As **Lamal** (1991, p. 31) stated, replication is *necessary because our knowledge is corrigible.*

SCIENCE IS OBJECTIVE

Kaplan (1964, p. 3) called this the *autonomy of inquiry*. *It is the principle that the pursuit of truth is accountable to nothing and to no one not part of that pursuit itself.* In other words, science is *authority free*. Science is not dependent on *who* says it but depends on the method in determining *what* is said. A set of explicit procedures for objectively making observations is indicated by the investigator so that anyone can follow those same procedures in an attempt to reach the same conclusions. What separates the scientist from the casual observer is the systematic nature of their

observations. They're like detectives illuminating alternative possibilities as they gather evidence for the hypotheses they're testing. Knowledge statements are dependent on the methods used, not the observer. Sometimes a *double-blind* procedure is used so that not even the observer can influence the results. This is often done in medical research so that the researcher cannot bias the results by knowing which group got a particular medicine being tested and which group got the placebo.

SCIENCE IS EMPIRICAL

Social science looks at people in general, not specific individuals per se. To do that, however, specific individuals are asked questions, in our case, questions about themselves and their use of the mass media. Or they are observed directly. Individual responses and observations are then aggregated and analyzed in terms of overall, or group, responses. This data is then submitted to statistical tests to determine if there are significant differences in how the group as a whole uses and reacts to media messages.

Empirical refers to the Greek notion that all knowledge is based on experience. In science, experience is based on carefully controlled systematic observation, not anecdotal or personal experience. Science first assumes that there is an underlying reality that is both predictable and explainable. While all statements can be said to have truth value – they are all true or false; not all statements can be investigated by the scientific method. Some statements are not verifiable through observation. The statement *God exists* is not subject to objective verification through systematic, controlled observation. Its validity must be taken as a judgment of faith. Such statements are said to be *empirically meaningless*. Policy questions, such as whether a nuclear device should be used against an enemy, or whether the media should regulate the amount and type of violence that occurs in media depictions, are further examples of questions that require other than scientific methods to resolve. Scientific research can develop an atomic weapon but cannot determine when to use it. Social science research can determine how much violence occurs in the media and the effects of exposure to such content but cannot determine what to do about it.

Empirical observations need to be *verified*. Singular observations are subject to our biases of selectivity. We tend to *overgeneralize* from what we purport to know. Scientific knowledge is gained by systematically testing theoretically derived hypotheses under a variety of situations and populations. Because the methods of scientific observations are public, they can be replicated and thereby verified and reexamined under changing conditions.

Because of the knowledge that can be gained through use of the scientific method, there has been a significant shift toward empirical research in psychological and sociological journals since the 1950s (**Christie**, 1965; **Brown & Gilmartin**, 1969; **Higo & Wells**, 1972). **Schramm** (1957) found that quantitative research increased in *Public Opinion Quarterly* from almost none in the early 1930s to half of all the articles published in the 1950s. **Webb & Salancik** (1965) and **Perloff** (1976) examined *Journalism Quarterly* from 1955 and found an increase in quantitative articles from 47% to 60% during the period examined. This is especially significant since *Journalism Quarterly* also publishes historical and legal articles. In a review of the *Journal of Broadcasting* from 1970 to 1976 (**Wimmer & Haynes**, 1978) and from 1970 to 1985 (**Moffett and Dominick**, 1987), it was found that surveys were used most often, followed by content analyses and experimental research. Similar results were found by **Trumbo** (2004).

Potter & Riddle (2007) content analyzed 962 articles dealing with effects in 16 communication journals published from 1993 to 2005. They found that 41% of the articles examined the effects of television, twice that of those dealing with the print media. Research on the Internet took third place at 12.5%. The most frequently covered theories were *cultivation* (8%), *the third-person effect* (7.4%), *agenda-setting* (7.1%), and *uses and gratifications* (5.7%). While 144 different theories were covered, only 336 of the 962 articles featured a theory prominently (35%). This represented a significant increase from earlier years however. Each of these areas will be covered in the following chapters.

SCIENCE IS SYSTEMATIC AND CUMULATIVE

The scientist, as a scientist, is interested in statements, called *factual statements* that are empirically verifiable through observation. The goal is to accumulate a sufficient body of evidence, gathered under varying conditions, to explain (and predict) relationships that make a difference in the field of interest. When factual statements have been confirmed a sufficient number of times, they are termed *laws*. In the area of mass communication, one wants to explain (and predict) the effects of mass media use. In order to do this, one must know:

1. The *content* of the mass media,
2. The *use* of that content, and then
3. The *effect* of that use on the receiver.

Each of these questions can be investigated independently and it is useful to have knowledge about each of these areas separately. Different researchers are often interested in one of the questions over others at particular stages of their careers. Most importantly, findings in one of the areas don't predetermine findings in other areas. People might not make any use of the particular content available to them. Whatever their use of the content, there might or might not be any effect. Hence it can take several years, and even decades, of research to establish confidence in one's findings concerning the mass media.

SCIENCE IS PREDICTIVE

This is to say that science is *theory* oriented. *They are explanations and predictions of social phenomena relating to the subject of interest ... to some other phenomena* (Bailey, 1982, p. 39). Most individuals have developed theories, or hypothetical explanations of their experiences, from explanations of the common cold and its cure, to the causes and prevention of violence in society. Theory has a specific meaning in science, however. Facts do not speak for themselves. Statistics by themselves can be used to *deceive, mislead, and lie* (Huff, 1954). Scientists pursue research questions that direct attention toward some phenomena and away from others. Theory is needed to not only interpret the results but also to help direct the investigation. As Turner (1998, p. 1) put it:

Theories are stories about how and why events occur Scientific theories begin with the assumption that the universe, including the social universe created by acting human beings, reveals certain basic and fundamental properties and processes that explain the ebb and flow of events in specific processes.

Kerlinger (1973, p. 9) argued that theory is the *goal* of science. He formally defined theory as *a set of interrelated concepts, definitions, and propositions that present a systematic view of phenomena by specifying relationships among variables, with the purpose of explaining and predicting the phenomena*. This compares to Rudner's (1966, p. 10) definition that theory is *a systematically related set of statements, including some lawlike generalizations, that is empirically testable*.

Theories seek to answer questions about how things are related to one other. Science not only wants to describe *what* happens but wants to determine *when* and *why* it happens. In order to do this, theories have to be developed to allow the scientist to be able to predict what will happen and provide an explanation of why it happened. Scientists pursue research questions that direct attention toward some phenomena and away from

others. As **Graber** (2004, p. 498) put it, *Guided development, even if it turns out to be flawed, is preferable to aimless drift.*

Among other things, theories can

- Define what to observe and how to observe it,
- Coordinate research and organize and summarize knowledge,
- Focus attention on certain relationships,
- Heuristically lead to non-obvious predictions,
- Aid in explaining apparently diverse findings,
- Increase generalizability and aid in formulating general laws,
- Make predictions, and
- Generate new ideas and theories (**Littlejohn**, 1999, pp. 30-31).

Most importantly, theories can explain *why* expected results occur. This is a primary advantage of science over other methods of knowing. Science not only determines what happens, the facts, but provides reasons confirmed through investigation as to why those facts occur given the relevant situation. Theories are then evaluated in terms of their ability to explain and predict the extent of their confirmations and their parsimony. As **Popper** points out, they also have to be falsifiable (testable) to be scientifically useful.

Scientists frame questions in the form of *hypotheses*. They then make careful observations to test whether those hypotheses are valid or not. They also ask whether the observations are true over time or only true when the observations were made. They then try to determine the circumstances when the observations are true and when they are not. All the while they are asking if there are other hypotheses or theoretical orientations that can also explain the observation or explain it more succinctly.

Hypotheses are formal expectations of empirical results based on theoretical orientations. When there are no theoretic assumptions upon which to base an expectation, the investigation is termed a *research question*. Many studies will investigate hypotheses, designated by the symbol H: and research questions, designated as RQ:, in the same study. All hypotheses and research questions will investigate whether one variable, or series of variables, is related in some way to another variable, or series of variables.

THEORY IN MASS COMMUNICATION

McQuail (1994) divided the history of research on the effects of the mass media into four stages. The first stage lasted from the turn of the 20th century through the 1930s. It included the study of propaganda during WWI and the effects of sex and violence in film with the *Payne Fund Studies*. As a result of this research a *powerful effects model* became the operating paradigm and included the fear of harmful media effects by audience members that is common to this day. The second stage included the voting studies of Lazarsfeld and colleagues in the 1940s. This research led to recognition of the importance of interpersonal influence and a more *limited model of media effects*. The third stage began in the 1950s and the 1960s with an emphasis on the effects of violence in the media populated by the research of Bandura and Berkowitz. This led to a retrieval of the powerful effects model, tempered by the personal influence research of Katz and Lazarsfeld and persuasion research of Hovland and colleagues. The current stage started in the 1980s and is characterized by *social constructivism*. Effects can be either direct or powerful depending on the area and the impact of intervening variables that influence the relationship. Throughout the areas of mass communication effects research there has been an emphasis on the development and testing of theories to predict and explain the effects.

TYPES OF THEORIES

McQuail (1994, pp. 4-6) described four kinds of mass communication theory:

1. Social scientific theory – These are derived from and guide empirical research.
2. Normative theory – This type of theory postulates how media ought to operate within a specific system of social values.
3. Operational or working theory – These are practical theories indicating how media messages are produced or ought to be produced.
4. Everyday or commonsense theory – These are the theories that the public has in general to explain everyday occurrences.

Mass communication social scientific theory is really a set of theories, some would say a hodgepodge. Each is concerned with its own domain, its own set of boundary conditions within which it is said to operate. Each is

intended to explain or account for a particular set of phenomena or behavior. Each has its own history of success and development. Each has its own set of researchers. Hopefully, it does not have its own set of conditions narrowing the findings to a particular medium, a particular audience, a particular set of messages, a particular time. But that is possible too. No wonder students of communication effects sometimes say, *That is not the approach for me. That is not useful for me. That is not the way I behave or the way people I know behave.* The approach of this book will be on social scientific theory, examining how the audience actually uses and is influenced by mass media messages. It is recognized that other approaches are possible.

Baran & Davis (2006) argue that media theory has gone through four distinct eras (pp. 9-17):

1. The era of mass society theory;
2. The emergence of a scientific perspective on mass communication;
3. The era of limited effects;
4. The era of cultural criticism;
5. The emergence of a belief in moderate effects.

Each of these eras has specific research development built around what **Merton** (1967) termed *middle-range theories*. These *consist of limited sets of assumptions from which specific hypotheses are logically derived and confirmed by empirical investigation.... They transcend sheer description or empirical generalization* (p. 45). This follows the approach of *logical positivism* which argues that knowledge has two sources: logical reasoning and empirical experience, the latter of which is necessary for validation of scientific theories (**Cirera**, 1994; **Friedman**, 1999). That is also the general approach taken in this text.

Each of the following chapters concern what can be called a *program of research* (**Lakatos**, 1974), or what **Kuhn** (1962) referred to as a *research paradigm*, although he was explicitly referring to the natural sciences and not the social sciences. Research programs and paradigms are generally characterized by a single theory, around which definitions of core concepts, theoretical relationships among those concepts, including hypotheses and research questions, and the research methods utilized to investigate those relationships. Although not all the chapters necessarily contain a theory or theories in the Kuhnian sense, they do include theoretical orientations and the explicit concern with theory-development and theory-testing.

MODELS OF MEDIA EFFECTS

The entire study of mass communication is based on the premise that the media have significant effects. (McQuail, 1994, p. 327)

POWERFUL EFFECTS: THE LEGACY OF FEAR

With the advent of mass communication, it was assumed that the media had a uniform, powerful effect on the audience that affected their attitudes, cognitions, and behaviors. This notion was termed the ***Magic Bullet Theory*** or ***Hypodermic Needle Model*** of mass communication effects. The underlying premise is that mass media messages are *shot* or *injected* directly into a receiver. The receiver will then wholly accept the message and respond in a predictable pattern. The Magic Bullet or Hypodermic Needle Model theories were supported by many early studies on propaganda and other persuasive films produced in the years between World War I and World War II. The ***Payne Fund Studies*** discussed in the chapter on violence, the Nazi propaganda film *Triumph of the Will*, and the 1938 broadcast of the *War of the Worlds* all led to support for the model.

People were considered passive, isolated users, not capable of resisting propaganda or advertising or any other information in the mass media. Hence, the media had *powerful effects* and at times were to be feared. This was regarded as due to people living:

1. socially isolated lives with limited social controls, values, or norms,
2. with a uniform set of instincts that guide methods of responding,
3. such that individuals attend and react to (mass media) events in similar ways,
4. receive and interpret messages in uniform ways,
5. so that media messages are like symbolic bullets or injected like a medicine with a *hypodermic needle*, leading to behaviors that are direct, immediate, uniform, and powerful.

Developments in technology and increases in fear concerning those developments seem to go hand-in-hand. This seems true whether a labor-saving device and the subsequent fear over losses of jobs, or a new development in media technology, and the subsequent fear that there will be a negative impact in society.

People have been concerned about the potential powerful and often negative effects of the media since the time of Plato's *Republic*. He suggested banning storytellers from the ultimate society in his famous *Allegory of the Cave*. Media critics, the public in general, and sometimes