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# Theory Development and Evaluation

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## Chapter 2: Theory Development and Evaluation



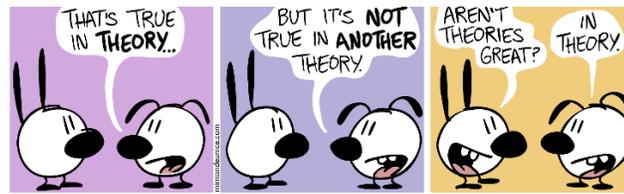
For many sports, coaches develop a game plan. Game plans are essentially theories developed to predict a win. That game plan/theory gets tested when players take the field or court. If the team loses, the game play/theory gets examined for why it failed, and perhaps tweaked for the next time. Businesses create marketing plans that are essentially theories that predict a certain set of actions will lead to success. For example, a theory that providing great customer service leads to repeat customers might result in increased training of the sales staff to be friendly and responsive. Again, the success of that theory gets tested and, in this instance, can actually be measured by increases in sales. Game plans and marketing plans are formally developed strategies for accomplishing a goal, but underlying them is some belief and acceptance of a particular theory. Such theories vary on several qualities such as their ability to accurately predict what will happen or the ability to actually test them. Within the sciences and social sciences, theories are evaluated for how well they explain or predict the world around us.

### THEORY DEVELOPMENT

The effort of humans to create theories is formalized in the sciences and social sciences as scholars seek to understand and predict human behavior. Scholars have debated for centuries over the best manner to develop theories and what the qualities of a strong theory should be. Despite a lack of consensus, theories are still developed and adopted by others when those theories demonstrate value in explaining and/or predicting the world around us.

Theories coalesce in the mind and are created to fulfill a need. The mind muddles around with what the theorist has observed and learned from other people, and in so doing, produces a theory that explains or predicts the target of the theorist's attention. In a similar manner you create personal theories. Theorists often they rely heavily on the published observations of others (the research literature), which they review, decipher, critique, integrate, and meld with their own thoughts and reflections. If you read the original presentations of a theory you will find that the theorists usually provide extensive reviews of research and indicate how such research supports the concepts and relationships that constitute their theories. Theorists can also use previous theories as the foundation for new or revised theories, perhaps integrating new discoveries, additional concepts, or different applications in the revised theory.

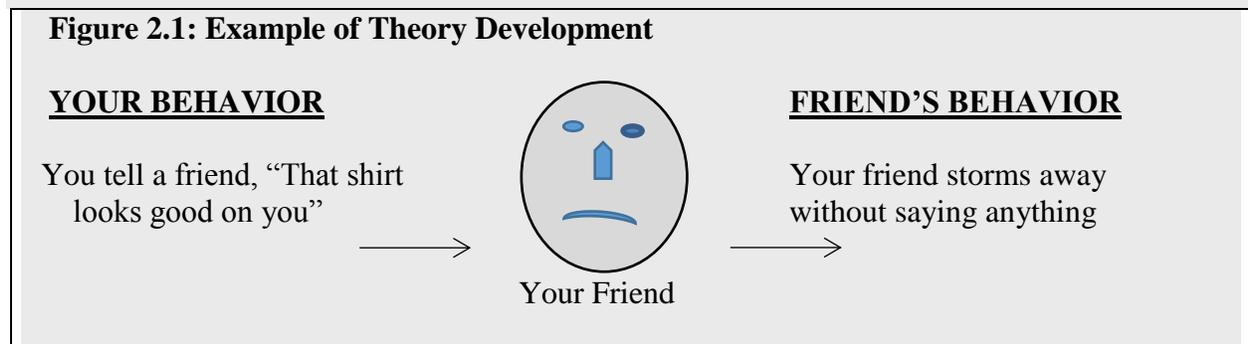
When researchers' findings fail to confirm some aspect of a theory, they might modify the theory by adding new variables and/or dropping others to better fit the findings. In his book, *Theory Construction*, sociologist Hubert Blalock (1969) contends that theory can be developed by starting simple and adding new variables a few at a time.



<http://mimiandeunice.com/2011/05/04/theory/>

**2-A** Suppose you tell a friend that you like the shirt he or she is wearing and your friend silently storms away. You might develop a theory to answer the question “Why did my friend react that way?” (Figure 2.1). There are two observable behaviors: 1) what you said and 2) how your friend reacted. The oval represents the unobservable cognitive process of your friend about which you can only conjecture—that is theorize.

**Figure 2.1: Example of Theory Development**



One theory you might develop is that your friend is in a bad mood; another theory might be that what you said was misunderstood, and another theory could be that you did something earlier to upset your friend. Your process of theory building and selection involves considering what you have observed and creating a logical, reasonable, and acceptable explanation of what is going on in your friend’s head (the oval)—your friend’s thoughts and feelings.

For the most part, theories provide us with explanations for the unobservable. Everyone can observe an apple falling from a tree, but no one can actually observe gravity (though George Clooney and Sandra Bullock might disagree). Gravity was created as a theory to explain why apples fall from trees. Theories, however, can also explain or predict observable qualities or variables. For example, the Functional Theory of Group Decision Making (Gouran & Hirokawa, 1983) identifies a variety of functions that a group must perform if it is to produce a quality decision. These functions include generating alternatives, establishing criteria for analyzing alternatives, recognizing and accessing needed resources, and effectively managing the interactions. Each function reflects specific observable behaviors and tangible outcomes.

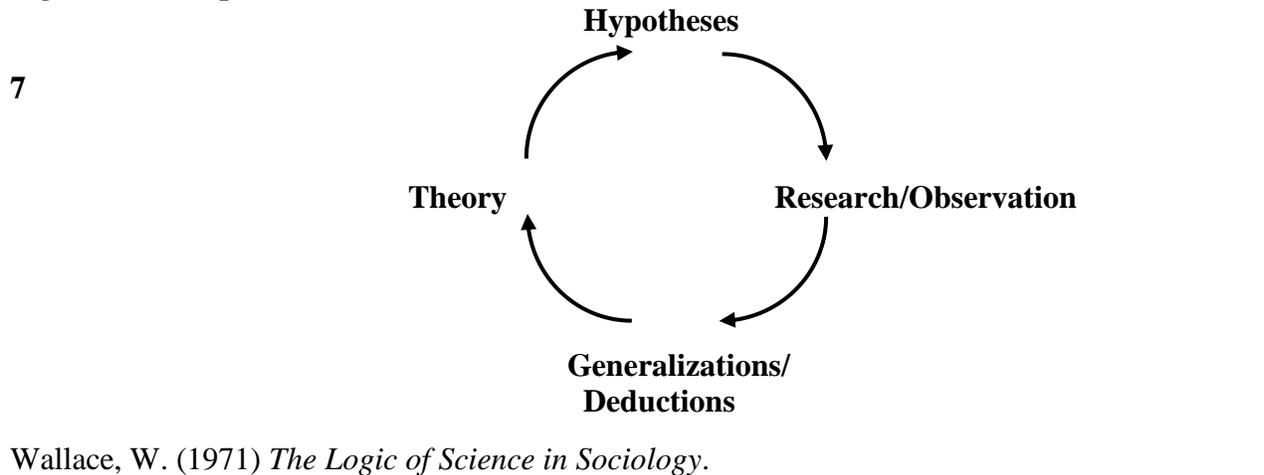
Sometimes developing the theory requires additional research to find the answer to a question, and subsequent results allow for additions to the theory. For example, suppose you have a theory that friends wink at each other to signal that what they’ve said is just a joke; however, you aren’t sure what it means when a stranger winks at someone. So, you decide to pay particular attention to strangers winking at other people and conclude that for strangers, winks

communicate interest or attraction. Your observations and research let you add the following principle to your original theory: The nature of a relationship affects the interpretation of a wink.

## RELATIONSHIP BETWEEN THEORY AND RESEARCH

The relationship between theory and research may be presented graphically in a model called the Wheel of Science; Figure 2.2 shows a simplified version reflecting the major components.

**Figure 2.2: Simplified Wheel of Science:**



The Wheel of Science is meant to reflect the process by which we seek, develop, and find truth or knowledge. Since it's a wheel, you can start the process at any of four places: hypotheses, research/observation, generalizations/deductions, or theory. For example, suppose as you've gotten older you have noticed cynical behaviors in more and more people (research and observation). As a result, you conclude "people are cynical" (generalization). That generalization becomes part of your beliefs about the nature of humans (theory). Now when you meet a new person, you predict that person will be cynical (hypothesis). While this completes one rotation of the wheel, it doesn't stop there—wheels keep on turning. As you interact with that person and others you continue making observations that support or contradict your hypothesis and theory.

Or you might start with an established theory and tests its applicability to some other concepts or situation, thus move on in the wheel toward developing research questions and/or hypotheses. After that, the rest of the wheel is followed-- collect data and make observations, produce generalizations, and finally either validate/reject the theory or offer a revision. When research results fail to support a theoretic claim, it might lead to modification of the theory in such a way as to account for the new research findings/generalizations. However, sometimes theories are simply unfalsifiable because there's no way to measure or observe its application—it's untestable. Theories of ghosts or space aliens fall into this limitation, though some claim observing such beings but not in any controlled or consistent way.

While the process of discovery can begin anywhere on the wheel, ideally it starts with a theory with the resulting research leading to the expansion and growth of the theory. Theories provide a unifying framework from which to conduct research. Without theories as guides,

research in a given discipline risks creating a hodge-podge collection of studies that lack connection and ultimately fail in developing an integrated understanding of a discipline such as human communication.

## QUALITIES AND CRITERIA FOR UNDERSTANDING AND EVALUATING THEORIES

While theories vary in terms of the phenomena on which they focus, they also vary in terms of other qualities that are intrinsic to the very nature of theory. Some of these qualities are used as criteria for judging the value or validity of the theory.

**QUALITIES** Think again about your own personal theories about people. In what ways do your theories differ from each other? Some of your theories are probably based on observations of certain people, and some are probably based more on your own preferences. Like theories in general, your theories vary in how many facts you have to back them up as well as which of your personal values you incorporate in them. As you read about the qualities of theories in the sections that follow (summarized in Table 2.1), think about one of your own personal theories and decide to what degree it has each of the three qualities.

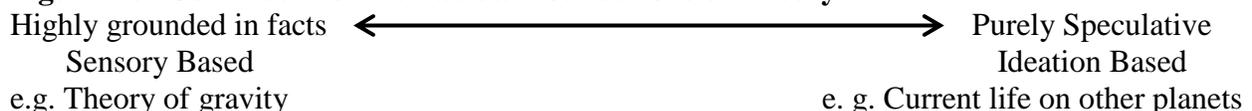
**Table 2.1: Three Qualities On Which Theories Vary**

Dependence on Facts  
Dependence on Values  
Dependence on Other Theories

### Dependence on Facts

One reason it's hard to understand what is meant by theory is because theories vary in the degree to which they build upon pre-existing facts—on evidentiary support. Theories can be placed on a continuum from having every facet of the theory supported by evidence and accepted by almost everyone as valid, to those theories that are entirely speculative, have little or no evidentiary support, and are disputed by many (Figure 2.3). So at one end we have facts—information primarily obtained through our senses—that which we can observe: see, hear, smell, touch, or taste. However, we might also accept as fact that which comes from a reliable source but which isn't observed first hand. A lot of what you know comes from other sources and thus is second hand, third hand, fourth hand, and on and on.

**Figure 2.3: Continuum of the Factual Foundations of Theory**



**2-B** When you read a news article on the Internet, do you accept what you read as fact? Should you accept it as fact? What criteria could you use to determine whether the article is reputable? Believable? To what degree would you be more or less likely to accept the article if it was in a printed newspaper or magazine? Why? How about reported on TV cable news? Why? Which source would you trust the most? Why?

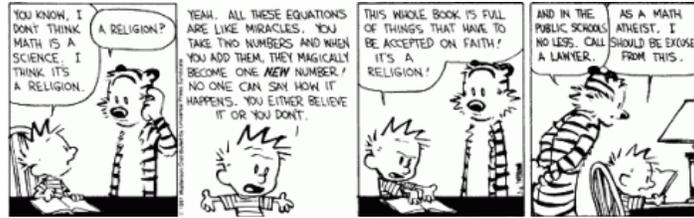
Accepting other people's accounts as fact requires evaluation of the credibility and reliability of both the person and the account. Many theories are built upon the "facts" presented in research reports, which also need to be evaluated for credibility and reliability. Theorists often incorporate the observations and results of other researchers' studies in support of the theories they are developing. Unfortunately, there are times where the research lacks reliability and validity, which means that theories built on those results will also be in error.

At the other end of the factual continuum we have information that is primarily created by our minds—our ideas, values, and beliefs. The big bang theory of the formation of the universe is based upon an extensive foundation of facts that continue to be gathered, and thus you might readily accept it as true. On the other hand, do you accept the theory that proposes aliens from other planets have visited earth? That theory has little observational evidence to support it; nonetheless, there are people who strongly believe this theory. Reported sightings or pictures of extraterrestrials are often debunked and found to be hoaxes or errors in perceptions (photos of weather balloons mistaken for UFOs). Of course, there might actually be extraterrestrials despite the lack of observable and verifiable facts. People have even generated theories to explain why we haven't seen them.

The question as to why dinosaurs went extinct has led to all kinds of theories based on a limited number of facts. These speculative theories often seek support by cobbling together facts, such as paleontologists who piece together facts collected from dinosaur fossils in an effort to support the theory that a meteor strike changed earth's climate and led to the dinosaurs' extinction. There are also theories to explain how humans first came to develop spoken language, but there is little evidence to support those theories (one problem in finding such evidence is that most of the human vocal mechanism is all soft tissue, which does not survive in skeletal fossils). Theorizing with friends about how humans first came to speak can make for interesting discussions. Ask your friends, "What was the first word spoken by humans? Some parents of small children might suggest, "No."

Most of the theories related to communication fall somewhere in the middle of the continuum between factual and speculative. Communication scholars don't have the luxury of a table of chemical elements on which to base theories, and thus they are limited to more speculative theorizing. Communication researchers often begin the reports of their studies with a review of the "facts" that have been established in previous research. It is through this review and interweaving of previous research findings that communication theories are developed and promoted.

**2-C** Can you think of a "fact" that you can claim about human interactions? It's not easy. Is it really a fact? Try evaluating your fact following this example. Would you consider it a fact that if a person smiles at another person the other person will form a positive impression of the smiler? Your first reaction might be to say "Sure," but is it true 100% of the time? So, if it's only true part of the time, is it still a fact? In addition, can you state that you actually observed a smile? What makes something a smile? We generally label an upturning of the ends of the mouth to be a smile, but does it matter if it is genuine or faked? Is a fake smile the same as a genuine smile? Does the smiler have to be happy? So, is your fact really a fact?



## Dependence on Values

A key element of the scientific method is a commitment to objectivity. By **objectivity** we mean that the facts, measurements, and conclusions created around a theory are devoid of values—they are neither good nor bad, neither appropriate nor inappropriate. Most important is the notion that a fact exists regardless of who observes it, when it's observed, or where it's observed. For example, a cold virus is a cold virus regardless of who looks through the microscope, or when, or where.

While objectivity is important, it is often an illusion. As humans, our perceptions are prone to error, and our biases also color our perceptions. For example, some people have a theory that charter schools provide a higher quality of education for students resulting in higher test scores than found in non-charter schools. Those supporting charter schools have collected data on comparative exam scores to support their theory.<sup>1</sup> But was it objective data? Some studies examining charter versus public schools find various inequities that skew comparisons such as charter schools setting admission standards that favor higher motivated students, more quickly expelling problem students, or requiring hours of parental volunteering (more difficult for low income families to get time off from work)<sup>2</sup>. So, this lack of objective data raises questions about the validity of the charter school theory.

At the other end of this value continuum is **subjectivity**—our perspectives are influenced by personal preferences and values. Rather than seeking objectivity, some who embrace the subjective perspective actually create theories that are extensions of or advocacy for values. Critical and interpretive theories tend to be found at this end of the continuum. For example, some communication scholars criticize the United States treatment of women as a result of the US being an inherently masculine culture (for example, Cheris Kramarare's Muted Group Theory). They theorize that the predominance of masculine terms in our language perpetuates this masculine value. Their theories blend both objective observations about language with the value of establishing equality between the sexes, and thus they are critical of the current culture. Advocacy for such theories actually led to the replacement of many sex-differentiating labels with gender neutral ones—police officer instead of policeman, mail carrier instead of mailman (“male-man” always sounded redundant anyway), and flight attendant for stewardess. If you were to peruse textbooks from the 1950's, 60's, or 70's you would discover that most are written using only male pronouns.

## Dependence on Other Theories

Theories often emerge in concert with other theories rather than being totally independent. Established theories affect the development of other theories in at least four ways.

- First, established theories often serve as support for a new theory. In making a case for a theory, scholars often use previous theories as evidence and support. The logic being that if the other theory is true, than my theory should be as well.
- Second, theories can be combined, or their key elements appropriated in creating a new theory.
- Third, theories can be applied in a unique or new way. For example, the economic social exchange theory posits that we favor choices with more rewards than costs. Psychologists, Irwin Altman and Dalmás Taylor applied social exchange theory to explain the development of intimate relationships in their social penetration theory.
- Fourth, a critical analysis of an existing theory’s shortcomings can also serve as the basis for amending the theory or proposing an alternative theory. For example, uncertainty reduction theory claims people seek information to eliminate their uncertainties, but others contend there are times we prefer uncertainty over certainty—like holding on to hope when faced with the outcome of a cancer diagnosis.

Theories can be judged good or bad, strong or weak, or valid or invalid regardless of which if any of the three qualities they possess. These three qualities are simply ways in which theories differ. But criteria exist by which theories we can evaluate the merits of a given theory.

**CRITERIA** Scholars have expectations about what makes a good theory. Those expectations represent a set of criteria that we apply to each theory to evaluate its “goodness” or validity. Unfortunately, very few theories met all the criteria thus leading to ambiguity about one theory’s superiority over another. For example, perhaps theory X provides more accurate predictions of what will happen (predict rain) than theory Y, but theory Y provides a better explanation for why it happens than X. Which is the better theory?

**Table 2.4: Criteria by Which Theories Are Evaluated.**

Ability to Falsify (Testability)
Accuracy and Power of Explanation
Accuracy and Power of Prediction
Scope
Parsimony (Simplicity)
Internal and External Consistency
Heuristic (Utility)
Test of Time

### **Ability to Falsify (Testability)**

Sir Karl Popper (1962, 1968), an eminent philosopher of science, argued that falsification or testability was the primary criterion for judging a theory. Popper argued that theories must be testable, that the testing must vary in severity, and that the result of that testing is either the refutation or corroboration of a theory. The use of the term “corroborate” emphasizes that *testing*

*can support a theory but cannot prove it.* Theories can be disproven and found to be false, but they cannot be proven. One reason theories can't be proven is because it would take an infinite number of repetitions of a test to prove a theory. Other factors that prohibit proving a theory include questions about the severity or validity of the tests, the measures, and identification of all the variables. We accept that there is gravity because we experience it and people have observed objects falling for thousands of years. However, it still doesn't rule out the possibility that a ball might fall up when you let it go! So the focus on theory based research is to test the falsifiability.

Theories that provide testable predictions, which are then corroborated by research, usually are valued more highly than theories that do not. Rather than arguing for falsifiability, noted philosopher of science, Thomas Kuhn (2012), contends theory verification can be achieved by comparing two competing theories and selecting the one that better fits the facts.

While falsification might lead to the rejection of a theory, the theory might also be amended to fit the findings better. The process of developing, testing, and amending theories is prominent in communication. Think about your experiences where you made an inaccurate prediction based on a personal theory that lead you to modify the theory based on new information. For example, predicting that just showing up for class will get you a good grade is later modified to include also taking notes.



### **Accuracy and Power of Explanation**

An explanatory theory has the goal of explaining some phenomenon. One way to decide if such a theory has merit is the accuracy of the explanation or what is also referred to as its *power* (to explain). Such accuracy is determined by the acceptance of the arguments and supportive evidence provided by the theorist, as well as the results of subsequent testing. Hypotheses can be developed on the basis of an explanatory theory and tested to corroborate the theory. Among the tools available to researchers are statistical methods, which identify how much variation in the measurement (variance) of one variable is “explained” by other variables. In this way, a given explanatory theory or model can be tested to identify which variables from the theory actually relate to the phenomenon and how strong that relationship is.

Claims within explanatory theories must be in agreement with known data and with subsequently generated valid new data. Charles Darwin created his theory of evolution to *explain* the unusual species he found in the Galapagos Islands, and the explanatory power of the theory continues to be supported by the uncovering of transitional fossils (links between other fossils). Explanatory theories are often compared to one another, with a new theory presented as a replacement for an older theory on the basis of providing a more accurate explanation—of fitting the evidence at hand (Kuhn, 2012). Proof usually rests in showing the ability of the new theory to more accurately explain some aspect of the phenomenon. For example, the theory that the

earth was the center of the universe was replaced with a theory that the sun was the center of the universe because that theory fit the facts better (position and orbits of the planets).

**2-D** Consider someone you have known for a long time such as your mother, father, a sibling, or other relative or friend. Think about an explanation you developed when you were younger for why the person acted in a certain way that you have now replaced with another explanation. For example, perhaps a father seemed distant, and your early explanation might have been that he didn't love you. However, after learning about his upbringing you developed a more accurate explanation that he was taught to hold back his feelings. Or, perhaps your mother always wanted to know where you were, and your early explanation was that she was a control freak. But, as you matured, you developed an alternative explanation that your mother loved you and just wanted to protect you. What led to the change in your explanations? Why is your current explanation better or more accurate than the first? Your analysis here parallels the process scholars use in examining formal theories.

### **Accuracy and Precision of Prediction**

Theories vary in terms of how well they predict phenomena such as people's reaction to a specific communication behavior; this is called the *precision* of the theory. Because of the nature of human behavior, research, and statistics, determination of accuracy is discussed in terms of percentages and probabilities of accuracy.

Suppose you're walking with a friend in a shopping mall and you tell your friend that you predict that if you say "Hello" to a stranger that that person will return your greeting. Your friend doesn't agree and wants to bet that you're wrong. Would you bet? If you believed your prediction was accurate over 50% of the time it would be a good bet, but is your "theory" accurate? If research results found that 75% of the time people return greetings from strangers would you call this theory accurate? What if the results show that 25% of the time people returned the greeting? Both results provide evidence of a "degree" of accuracy of the theory—strangers did return a greeting, just not all of the time. Given that neither study was 100% accurate, there must be other factors that affect a stranger's behavior, and the theory is missing some pieces of the puzzle.

When a theory is correct 75% of the time, it means that the theorist has done a pretty good job of identifying the major factor(s) such as simply saying "Hello" produces an impact (returned greeting). When a theory is 25% accurate, this means that 75% of the reasons for not returning the greeting are left unaccounted. This is where a researcher or theorist might add additional variables or elements to the theory to increase the accuracy of the prediction. Perhaps the theory is revised such that saying "Hello" in a friendly tone, while offering a smile to a stranger of a similar age will result in a returned greeting. Subsequent research results would find whether such additions improved the predictions. In this way, research plays a significant role in supporting and enhancing theories that predict. Given the complexity of human communication, we are unlikely to ever have a theory with the ability to predict accurately 100% of the time, but knowing even a small percentage contributes to a better understanding of a phenomenon. Knowing a lot of small pieces can add up to a more complete theory with increased precision or predictability.

### **Scope**

**Scope** represents the breadth of phenomena or contexts that are explained or predicted by a theory. The broader the scope of the theory, the more valuable it is seen. The more the theory explains or predicts, the stronger the theory. A theory that is only valid for one person for only one moment, is not as valuable as a theory that applies to everyone in a variety of contexts and endures.

In communication, a theory that only explains winking behavior between teenage girls in Ames, Iowa has very narrow scope and limited value. While a theory that explains winking behavior between single adults over 18, throughout the United States has broader scope and greater value. A theory of human communication that covers...well, everything about the way humans affect one another is a very broad theory with the greatest value. As a result, theories with larger scope tend to last longer (Hage, 1972; Kuhn, 2012?).

*Theories whose scope crosses an entire discipline or a large segment of that discipline are called **grand theories**.* A grand theory of communication would apply to and explain communication in all the various contexts, intrapersonal, interpersonal, group, organizational, public, electronic, etc. While a grand theory is the ultimate goal in developing human communication theories, there are few theories that have such scope. You might think grand theories would be extremely complex but, in actuality, they generally tend toward simplicity and usually consist of just a few critical principles that fit all contexts. For example, a grand theory such as symbolic interaction that essentially asserts “symbols connect humans” applies to all human communication contexts.

The vast majority of communication theories fall into a category called “theories of the middle range” (Merton, 1957) or “partial theories” (Zetterberg, 1966). **Partial theory** means the theory only applies to part of the given context (not that it is just part of a theory). Partial theories themselves vary in terms of how inclusive they are, ranging from very narrow contexts (cultivation theory--a theory on how watching a lot of TV violence affects people) to broader contexts (uses and gratification theory--a theory on how we use various media to manage our lives and relationships). Sometimes partial theories offer alternative and contradictory explanations or predictions, and research is often conducted to determine which theory has greater merit.

### **Parsimony (Simplicity)**

Earlier, we noted that grand theories are often simple rather than complex. Theorists are charged with making their theories as succinct, compact, and simple as they can—that is to be parsimonious. Einstein’s  $E=mc^2$  is a parsimonious theory—brief and to the point, yet highly significant with a far reaching impact. Why do you suppose parsimony is a desirable quality in a theory? You might be inclined to respond, because it’s less to read!!! But from a more academic perspective, to achieve parsimony theorists must focus on the essential elements and relationships that genuinely contribute to the theory and to keep their focus on finding the simplest explanation versus an overly contrived one. Keeping a theory simple also increases its usefulness in offering explanations for what happens and for making accurate predictions or effective plans.

**2-E** Suppose you have two theories that predict a manager’s effectiveness in using communication to create a productive staff. Theory A has fourteen different variables that when

combined are 80% accurate in predicting effectiveness. Theory B has two variables that when combined are 75% accurate in predicting effectiveness. Which is the better theory? The more parsimonious theory is Theory B. While Theory B isn't quite as accurate as Theory A, the fact that you only have to assess, teach, improve, or manipulate two variables makes it more appealing than fourteen.

Unfortunately, while parsimonious grand theories are possible in human communication, they do not lend themselves very well to producing specific predictions. The study of human communication is more similar to the science of meteorology than the science of physics. Despite having enormous amounts of data about weather all over the world, applying well-grounded meteorological theories and sophisticated computer modeling, meteorologists still can't predict the weather that well. Communication scholars would be hard pressed to collect and analyze all the data needed to forecast the conversations, interactions, and outcomes you will experience tomorrow. Such a challenge leads most communication theorists to narrow the scope and the number of factors they include, thereby increasing the accuracy of their theories.

### **Internal and External Consistency**

Internal consistency is the degree to which the theory is self-consistent—that is, its claims logically connect with one another. Determining internal consistency relies primarily on examining the validity of the logic used to connect variables and concepts that constitute the theory's claims and propositions. Do the claims in the theory follow the dictates of logic, are they tautological (circular or redundant, such as, "I communicate well because I speak and listen well"), and does the connection claimed between the concepts even make sense? Here are two fairly reasonable statements that appear inconsistent with one another:

1. The more empathic people are, the more effective they are in their relationships.
2. People can be empathic with other people and also alienate them.

How can a person be effective in relationships by using empathy if empathy alienates people?

Consistency can also be attributed to the language used in the theory. Different theories might use different terms to reference the same concept, use the same terms but with different meanings, use terms that are ambiguous, or use terms that have multiple meanings. In the example statements above, what does it mean to say someone is "effective" in a relationship? If effective means that empathic people are able to gain what they want from a relationship, and one goal a person has is to alienate others, then empathy could help to achieve that goal. The responsibility falls on the theorist to provide clarification of apparent internal inconsistencies, but some inconsistencies may be inherent in the theory thus represent flaws.

External consistency is the degree to which a theory fits with other existing theories (Kuhn, 1970). This is one of the harder qualities for you to observe in the theories you read because it requires in-depth examination the theory in question and a working knowledge of other theories. Once a new theory is proposed, particularly if it challenges an existing theory, scholars often critique its consistencies with other established theories. But demanding consistency isn't always wise. Noted sociology theorist, Robert Merton (1957) cautioned that trying to demand consistency too early in theory development discourages exploring significant problems and leads to sterile, highly abstract theories that can't be empirically tested.

**Heuristic (Utility)**

Being heuristic is how useful or applicable a theory is. Generally it reflects the degree to which other scholars are able to put the theory to use. In this way the theory has utility—it is useful. You probably figured out for yourself that if theories fail to meet the criteria for being heuristic, they are generally weaker theories. However, there are times where a theory might appear to have little utility but over time, perhaps because of the development of some new observational tools, becomes useful. Should we only be interested in theories with immediate practical applications? Discarding theories because they lack heuristic value can prove shortsighted.

The utility of a theory is directly related to its scope and ability to predict and/or explain. Utility adds a qualitative dimension to these qualities by asking whether what is predicted or explained is noteworthy. For example, you might be able to accurately predict the likelihood that people will say “Bless you” or “Gesundheit” after you sneeze, but such a prediction has limited utility.

**Test of Time**

Theories vary in terms of how long they have been around. This quality is intriguing because it is really a reflection of the popularity of a theory. Most theories don’t last that long—they fail to generate interest or to be seen as useful. To gain traction, other scholars need to find a theory intriguing enough to research or find merit in it as an explanation for a phenomenon they are investigating. Of course, just because a theory lasts a long time, doesn’t necessarily validate its worth (it was believed that the earth was the center of the universe and the earth was flat for a long time). Remember, if a theory isn’t testable, then it might survive because of its intrigue but have little utility. A theory can generate interest but fail the test of time if it is disproved by subsequent research.

**2-F** Take a moment to think about your own personal theories. Which can you remember having had for a long time? Why have you hung on to them? If you can’t think of any theories, then why haven’t your theories stood the test of time? Think about your most recent theory (maybe one about college life). How confident are you in this recent theory compared to a theory you’ve had for a long time? Having a theory that continues over time to be effective in helping you understand or predict the world around you validates the worth of such theories.

As you read about theories, the publication date of the primary theorist will give you a sense of how long the theory has endured. As you read about a theory that has endured, think about what qualities it possesses that you readily accept that might explain its longevity.

<b>Recap: Criteria for Evaluating Theories</b>	
<b>QUALITY</b>	<b>RANGE</b>
Dependence on Facts	Fact Based (Observations)-----Imagined (Rational)
Dependence on Values	Explicitly Value Laden-----Objective/Neutral
DEPENDENCE on Other Theories	Constructed from Other Theories----Challenges Other Theories
Accuracy and Power of Explanation	Explains the known facts-----Leaves facts unexplained
Accuracy and Power of Prediction	Reliable predictions-----Inaccurate predictions

Scope	Narrow (single event)-----Broad (universal application)
Parsimony (Simplicity)	Concise, simple, succinct-----Complex, cumbersome
Internal and External Consistency	Logically sound/fits other theories--Inconsistent/contradicts other theories
Test of Time	Has been in use a long time-----Relatively new

## Chapter Summary

### Theory Development

- Theories essentially emerge from personal observation of the world or by the studying the observations of others.

### Relationship between Theory and Research

- Theory development might also rely on research to explore issues, which results in modification of the theory.
- Wallace's Wheel of Science shows the process of science involving four sequenced activities: theory to hypothesis to research/observations to generalizations/deductions. This process can begin with any of the four activities.

### Qualities and Criteria for Understanding and Evaluating Theories

- There are three qualities on which theories vary and eight criteria by which the strength or validity of theories are evaluated.
- Which qualities a theory should possess or criteria meet, is a matter of debate and usually reflects a person's inclination toward rationalism or empiricism.
- Some qualities deal with the degree to which the theory is built on facts, values, or other theories.
- Measurable outcomes represent another set of theory qualities, including the ability to test the theory itself (falsifiability) and the theory's ability to predict or explain.
- The composition of the theory is reflected in the qualities of a theory's scope (breadth), parsimony (simplicity), and internal and external consistency.
- Finally, a theory's ability to provide heuristic value and stand the test of time provides another indication of its strength and value.

### Inclusion Criteria for Theories in this Book

- We chose to include theories with strong utility, broad scope, and/or those that have stood the test of time.

### Key Terms and Concepts

Theory development

Dependence on facts

Scope

Partial or middle range theory

Ability to falsify (testability)

Accuracy of explanation (power)

Wheel of Science

Dependence on values

Grand Theory

Dependence on other theories

Parsimony (simplicity)

Accuracy prediction (precision)

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Internal and external consistency  
Test of time.

Heuristic/Utility

## References

- Blalock, H. (1969). *Theory Construction*. Englewood Cliffs, NJ: Prentice-Hall.
- Gouran, D. S. & Hirokawa, R. Y. (1983), The role of communication in decision-making groups: A functional perspective. In M. S. Mander (Ed.), *Communications in transition* (pp. 168-185). New York: Praeger.
- Hage, J. (1972). *Techniques and Problems of Theory Construction in Sociology*. NY, NY: John Wiley & Sons.
- Kuhn, T. S. (1970). *The Structure of Scientific Revolutions*. Chicago, IL: The University of Chicago Press.
- Kuhn, T. S. (1977). *The essential tension: Selected studies in scientific tradition and change*. Chicago, IL: The University of Chicago Press.
- Kuhn, T. S. & Hacking, I. (2012). *The structures of scientific revolutions, (4<sup>th</sup> ed.)*. Chicago, IL: University of Chicago Press.
- Merton, R. (1957). The role set: Problems in sociological theory. *The British Journal of Sociology*, 8, 106-120.
- Popper, K. R. (1962). *Conjectures and Refutations*. NY, NY: Basic Books.
- Popper, K. R. (1968). *The Logic of Scientific Discovery*. London, England: Hutchinson & Co.
- Wallace, W. (1971). *The Logic of Science in Sociology*. Chicago, IL: Aldine-Atherton, INC.
- Zetterberg, (1966). *On Theory and Verification in Sociology*. Totowa, NJ: The Bedminster Press.

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<sup>1</sup> Source for information on charter schools. <http://www.reuters.com/article/2013/02/16/us-usa-charters-admissions-idUSBRE91E0HF20130216>

<sup>2</sup> <http://www.reuters.com/article/2013/02/16/us-usa-charters-admissions-idUSBRE91E0HF20130216>