The DEMOCRATIC

DILEMMA

Can Citizens Learn
What They Need To Know?

?

Political Economy

tion from the oral or written testimony of others. Learning from others is no trivial task, especially when both the decision maker and the person supplying the testimony are goal-oriented, strategic, and possibly at cross-purposes. As in this chapter, we examine the relationship between information and choice and draw some unusual conclusions.

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How People Learn from Others

Reasoned choice requires knowledge – that is, people must be able to predict the consequences of their actions. To obtain this knowledge, people have two options. First, they can draw knowledge from personal experience. Second, they can draw knowledge from what other people say, write, or do.

In many political settings, only the second option is available. This is true because politics generates problems that are unfamiliar to peoples' "own experience and uncorrected by trial and error" (Lane 1995: 117). In these settings, personal experience does not provide sufficient knowledge for reasoned choice. Therefore, in many political settings, a person who wants to make a reasoned choice must have the opportunity and the ability to learn from others.[1]

In this chapter and the next, we explain how people make choices in settings where personal experience is insufficient for reasoned choice *and* where people have opportunities to learn from one another. We focus on these settings because we believe that they best describe the situations that confront many voters, jurors, and legislators.

Can people gain knowledge from others? We take two steps to answer this question. In this chapter, we take the first step by offering a unique explanation of *how* people learn from others. This explanation answers

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[1]Political settings vary in the number of opportunities they offer. At one extreme, voters in major elections have opportunities to learn from newspaper articles, news broadcasts, television advertisements, direct mail, speeches, rallies, interest group endorsements, voter information pamphlets, workplace conversations, and family debates. Members of Congress have opportunities to learn from party leaders, the votes cast in committee, lobbyists, staff, colleagues, and experts in the executive branch. Jurors have opportunities to learn from eyewitnesses, expert witnesses, attorneys, and the presiding judge. At the other extreme, some political settings offer no opportunities to learn. For people in these settings, only personal experience can generate reasoned choice.

questions such as "Who can learn from whom?" and "How do people decide whose advice to follow and whose advice to ignore?" In Chapter 4, we take the second step and explain *what* people learn from others. This explanation answers the question "When is learning from others a sufficient substitute for personal experience as the basis of reasoned choice?"

Returning to the focus of this chapter, *how* people learn from others, we begin by noting that many answers to this question already exist. It is widely believed, for example, that people learn from others only if these others possess characteristics such as a particular racial identity, gender, age, or education. Social scientists offer other explanations. Some scholars argue that people rely on factors such as party identification (Downs 1957), known issue biases (Calvert 1985), likability (Brady and Sniderman 1985), certain histories of observed behaviors (Sobel 1985), being in a competitive situation (Milgrom and Roberts 1986), shared policy interests (Krehbiel 1991), or elite status (Zaller 1992). Other scholars argue that people learn from the aggregate actions of others such as are contained in history (Downs 1957, Fiorina 1981, Key 1966), polls (McKelvey and Ordeshook 1986), the media (Iyengar and Kinder 1987; Page, Shapiro, and Dempsey 1987), levels of campaign expenditure (Lupia 1992), the size of public protests (Lohmann 1993), certain campaign events (Lodge, Steenbergen, and Brau 1995; Popkin 1991), and public mood (Rahn, Kroeger, and Kite 1996).

Individually, each of these explanations of how we learn from others is valuable and enlightening. Each reveals a judgmental shortcut that people undoubtedly use as a substitute for the personal experience that they lack. We agree with Sniderman, Brody, and Tetlock (1991: 70), however, who argue, "The most serious risk is that . . . every correlation between independent and dependent variables [is] taken as evidence of a new judgmental shortcut." No person can use all shortcuts all the time. Each person must choose what and whom to believe.

The study of how people choose whom to believe is often referred to as the study of persuasion. In what follows, we first review existing explanations of persuasion. Then, we offer an explanation of our own.

THE ARISTOTELIAN THEORIES OF PERSUASION

Learning from others requires *persuasion*. We define persuasion as *one person's successful attempt to change the beliefs of another*. In settings where reasoned choice requires learning from others, *persuasion is a necessary condition for reasoned choice*.[2]

[2]For example, suppose that person A's ability to make a reasoned choice depends on what he or she can learn from person B. If B can persuade A, then reasoned choice is possible. By contrast, if B cannot persuade A, then A cannot make a reasoned choice.

The question "How do people choose whom to believe?" is equivalent to the question "Who can persuade whom?" An early answer to these questions is found in Book I of Aristotle's *Rhetoric*:

Of the modes of persuasion furnished by the spoken word there are three kinds. The first kind depends on the personal character of the speaker; the second on putting the audience into a certain frame of mind; the third on proof, or apparent proof, provided by the words of the speech itself. Persuasion is achieved by the speaker's personal character when the speech is so spoken as to make us think him credible. We believe good men more fully and more readily than others: this is true generally whatever the question is, and absolutely true where exact certainty is impossible and opinions are divided. This kind of persuasion, like the others, should be achieved by what the speaker says, not by what people think of his character before he begins to speak. It is not true, as some writers assume in their treatises in rhetoric, that the personal goodness revealed by the speaker contributes nothing to his power of persuasion; on the contrary, his character may almost be called the most effective means of persuasion he possesses. (translation from Barnes 1984: 2155)

For many modern political issues, "exact certainty" is impossible and "opinions are divided." Therefore, most modern political interaction clearly falls into the category where Aristotle expects people to base their decisions about whom to believe on their assessments of a speaker's *personal character*. In Book II of *Rhetoric*, Aristotle reveals what he means by personal character:

There are three things that inspire confidence in the orator's own character – the three, namely, that induce us to believe a thing apart from a proof of it: good sense, excellence, and good will. False statements and bad advice are due to one or more of three causes. Men either form a false opinion through want of good sense; or they form a true opinion, but because of their moral badness do not say what they really think; or finally, they are both sensible and upright, but not well disposed to their hearers, and may fail in consequence to recommend what they know to be the best course. These are the only possible cases. It follows that anyone who is thought to have all these good qualities will inspire trust in his audience. (translation from Barnes 1984: 2194)[3]

Aristotle concludes that a speaker's personal character, along with the content of his statement, determines who can persuade whom. By contrast, we argue that persuasion need not depend on assessments of personal character.

[3]The foremost virtues a speaker can exhibit are wanting what is good for the person to whom he is speaking (good will), the internal moral fortitude required to act on the basis of what is good for the other person (excellence), and germane knowledge that makes statements from a speaker who has good will and excellence convincing (good sense). We thank Mark Turner for advice on translating Aristotle. However, he bears no responsibility for whatever errors may underlie our use of the Aristotelian passages.

Two premises drive the wedge between Aristotle's conclusion and our own. First, Aristotle bases his conclusion on the assumption that all situations are identical to the Athenian situation. To Aristotle, society is a small city-state where *citizens know one another well*. In this society, people know who has good sense, good will, and excellence, and they know who lacks these characteristics. In our society, however, we do not always know one another well. We are often uncertain about what other people know and are leery of their underlying motives. Therefore, it may be impossible for us to know much about another person's character. Aristotle concludes that persuasion requires such knowledge. We disagree. For example, many people are influenced by what they read in the *New York Times* or see on CNN while knowing little about the character of those who write or speak for these organizations. By contrast to Aristotle, we base our explanation of persuasion on the premise that *people need not know one another well*.

We also differ from Aristotle in concluding that persuasion does not require positive or affective character assessments of any kind. Instead, we argue that *incentive-altering external forces offer alternate means for assessing credibility*. These forces are present in culture, norms, markets, political institutions, and legal institutions. They affect what people *choose* to say and what people *choose* to believe. How these forces work should be familiar to any member of an advanced industrial economy. For example, every day, millions of people buy goods from, and sell goods to, people about whom they know little or nothing. Each of these transactions requires some degree of trust (e.g., that the currency offered as payment is legitimate and that a good has its advertised characteristics). Because buyers and sellers do not know each other well, they must have an alternate and effective means for evaluating credibility. One such means is an external force that substitutes for unobservable personal characteristics. For example, laws and customs realign strangers' incentives, giving people a basis for trust in billions of situations where it would not otherwise exist. These external forces are the substitutes that make advanced economies possible. We argue that analogous substitutes make advanced democracies possible because they allow people to learn from others.[4]

We recall the Aristotelian view because it pervades contemporary studies of social, economic, and political communication. Contemporary so-

[4]This type of argument has a well-established lineage in certain subfields of political science and economics. For example, economists in the industrial organization (e.g., Williamson 1975) and mechanism design (e.g., Baron 1989; Myerson 1979, 1983, 1989) subfields have demonstrated an important set of relationships between external forces, individual incentives, and collective outcomes. In addition, political scientists such as McKelvey and Ordeshook (1986) show how voters can substitute simple poll results for more complex information.

cial scientists commonly assume that people know one another well, ignore the role of incentive-altering external forces, and conclude that personal character is the key to persuasion. For example, widely cited game theoretic treatments of communication assume that actors *know* one another's ideal points (a game theoretic analogy to Aristotle's personal character) and conclude that listeners believe speakers only if speakers and listeners have ideal points that are close to one another.[5] Psychologists use subject responses to speaker attribute questions (a social psychological analogy to Aristotle's personal character) to conclude that persuasion requires characteristics such as "honesty" and "fairness."[6] In addition, many of the answers suggested by political scientists to the question "How do people learn from others?" are also Aristotelian – ideology, likability, partisanship, known biases, and elite status are all based on personal characteristics.[7]

By contrast, we offer a theory of persuasion based on the premise "people may not know one another well" and the premise "incentives matter." We use the theory to derive necessary and sufficient conditions for persuasion in a simple setting. These conditions explain how peoples' interests, their cognitive limitations, and external forces affect how they choose whom to believe. Our theory reveals the conditions under which people can and cannot gain from others the knowledge that reasoned choice requires.

OUR THEORY OF PERSUASION

Our theory is unique in that it consists of a novel combination of assumptions, results in a novel set of findings, and produces important and *testable* implications about the political consequences of limited information. Like all theories, ours builds from scholarship of the past. Its lineage is most directly traced to economic games of incomplete information

[5]In fact, the explicit claim of models such as Crawford and Sobel (1982), Gilligan and Krehbiel (1987), and Gilligan and Krehbiel (1989) is that proximate interests are both necessary and sufficient for persuasion and for communication to lead to an increase in knowledge.
[6]Classic psychological treatises on persuasion include Eagly and Chaiken (1993), McGuire (1969), Petty and Cacioppo (1986), and Sherif, Sherif, and Nebergall (1965). The incorporation of these insights into political science is a recent growth industry. Examples of this research, broadly construed, are described in Iyengar (1991), Iyengar and McGuire (1993), Lodge and McGraw (1995), Mutz, Sniderman, and Brody (1995), Popkin (1991), Sniderman, Brody, and Tetlock (1991), and Zaller (1992).
[7]Similarly, scholars who argue that people learn from interest group endorsements (Grofman and Norrander 1990, Lupia 1994), the opinions of "fire alarms" – extralegislative actors who "go off" when they see a problem (McCubbins and Schwartz 1984) – and the actions of large groups (Lohmann 1993) are also Aristotelian as they all assume that people know important things about other peoples' character.

(e.g., Harsanyi 1967, 1968a,b), signaling models (e.g., Banks 1991, Spence 1973, McKelvey and Ordeshook, 1986), and strategic communication models (e.g., Calvert 1986, Crawford and Sobel 1982, Farrell and Gibbons 1989).[8] Our theory also contains premises that are common to studies of communication and learning in cognitive science (Churchland and Sejnowski 1992; Holland et al. 1986; Lakoff 1987; Simon 1979, 1985) and psychology (Hovland, Janis, and Kelley 1953; Eagly and Chaiken 1993; Petty and Cacioppo 1986).[9] To enhance the readability of the text, we relegate technical arguments and proofs of our conclusions to the Appendix to Chapter 3.

We build our explanation of how people choose whom to believe from a central theme of Chapter 2 – learning is active. Moreover, whether a

[8]To the extent that our theory represents a quarrel with existing formal models of communication, it is not a quarrel with efforts such as Crawford and Sobel (1982) or Spence (1973). These scholars studied bargaining situations where it was reasonable to assume that communicants knew a great deal about one another. Our quarrel is with the importation of these models into political science debates where people do not know one another well. In fact, our efforts closely follow Crawford and Sobel's (1982: 1450) final admonition:

> Some worthwhile extensions of the model are suggested by the fact that the structure of our model interacts with the rational-expectations character of our solution concept in such a way that concepts like lying, credibility, and credulity – all essential features of strategic communication – do not have fully satisfactory operational meanings within the model. Generalizations that would test the robustness of our results and to help remedy this defect include allowing lying to have costs for [the speaker], uncertain to [the principal], in addition to those inherent in its effect on [the principal's] choice of action; allowing [the principal] to be uncertain about [the speaker's] preferences, and therefore about his incentives to communicate truthfully, and allowing [the speaker] to be uncertain about [the principal's] ability to check the accuracy of what he is told.

[9]We have not compared our explanation of persuasion with that of the dual process models of persuasion offered by Petty and Cacioppo (1986) and Eagly and Chaiken (1993). That is because they are, in our view, quite difficult to compare. The main thrust of the dual process theories is the identification of two routes to persuasion: the central/systematic route and the peripheral/heuristic route. These scholars claim, and demonstrate empirically, that people use the central/systematic route (i.e., they put great effort into incorporating the new information into their current set of beliefs) when the receiver faces a very important and complex decision. They claim that people use the peripheral/heuristic route (i.e., they put little effort into incorporating new information) when the receiver faces a less important or complex decision. The source of the incomparability between the dual process thesis and our Chapter 3 theory is that the dual theories focus on the amount of *attention* that a person will give to a stimulus. The dual process theories do not focus on how people choose among potential heuristics. Our theory of persuasion does focus on how people make these choices.

We regard the decision to pay attention as a *prerequisite* for filtering good advice from bad. The dual process theories and our Chapter 2 model of attention are, therefore, comparable. In the cases where these explanations of attention overlap, they are consistent.

thousand people are offering advice to one person, or one person is offering advice to thousands, persuasion depends on *individual* decisions about whom to believe. Therefore, our theory of persuasion focuses on individual decisions about what to say and whom to believe.

We examine a situation where an otherwise badly informed person who wants to make a reasoned choice is offered another person's advice. As we are interested in politics, we focus on the case where the person seeking advice lacks information about the intentions and expertise of the advice giver. Thus, the decision maker lacks not one but two relevant types of information.

In what follows, we first introduce a basic model of communication. Our basic model modifies Crawford and Sobel's seminal cheap talk model. Our modification allows us to answer the question "Who can persuade whom when people do not know one another well?" Then, we extend our basic model to answer the question "How do external forces affect who can persuade whom when people do not know one another well?" The basic model and the extensions, together, make up our theory of persuasion.

The Basic Model: Communication When People Do Not Know One Another Well

We model communication as an interaction between two players, a *principal* and a *speaker*. At the conclusion of this interaction, the *principal* chooses one of two alternatives, called x and y. You can think of the principal as someone who must decide which candidate to vote for, which applicant to select for a post in the bureaucracy, whether to vote for or against a bill, or whether to conclude that a defendant is guilty or not guilty.[10] Before the principal makes this choice, the *speaker* provides information about the relative attributes of x and y. Speakers common to political contexts include friends, relatives, co-workers, media organizations, interest groups, political candidates, political parties, bureau-

[10]We focus on the case where the principal chooses one of two alternatives because it is simple and common to politics. To see how common this case is, consider the following facts. All legislative agendas are binary choice agendas. Most jury decisions are a choice between one of two litigants or one of two legal points of view. Regulatory decisions often entail simple acceptance or rejection of a single proposal to changes in the regulatory status quo (for surveys, see Joskow and Noll 1981, Kahn 1988). Moreover, presidents either accept or veto bills. Many candidate-centered elections are explicitly, or implicitly, two-candidate affairs. Of course, voters sometimes choose from three or more alternatives. However, even here binary choice is a good analogy as even in these situations voters could characterize their choice as that between "candidate A" and "the other candidates," or "the incumbent" and "any alternative" (see Simon 1955, March and Simon 1958).

crats, prosecuting attorneys, defense attorneys, and witnesses. Unless otherwise stated, and we will state otherwise, we assume that all elements of this interaction are common knowledge. For clarity, we refer to the principal as a "she" and to the agent as a "he."

The basic model we present modifies the standard cheap talk model (Crawford and Sobel 1982) by adding three substantively relevant types of uncertainty. We depict the basic model's sequence of events in Figure 3.1. The bold portions of Figure 3.1 indicate differences between our basic model and the standard cheap talk model.

The sequence of events begins with the potential for uncertainty. We follow game theoretic custom and model this potential uncertainty as three probabilistic moves by nature.[11] The order of these moves is irrelevant to our results.

One of nature's three moves determines whether x is *better* or *worse* than y for the principal. If nature chooses *better* and the principal chooses x, then she earns positive utility $(U \geq 0)$. If nature chooses *worse* and the principal chooses x, then she earns negative utility $(\underline{U} \leq 0)$. We assume, without a loss of generality, that if the principal chooses y, then she earns utility 0.[12]

Nature chooses *better* with probability $b \in [0, 1]$ and chooses *worse* with probability $1-b$.[13] The most important assumption in the model is that the principal is uncertain about whether x or y is better for her. The probability b represents the principal's prior beliefs about which alternative is better for her.

Another of nature's moves determines whether or not the speaker has the knowledge that the principal desires. Nature chooses "speaker knows whether x is better or worse than y" with probability $k \in [0, 1]$ and

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[11]In games of incomplete information, a player's "type" is a summary of the personal attributes about which other players are uncertain (e.g., Harsanyi 1968a,b). For our purposes, the conventional use of the term "type" is insufficient. We are interested in the distinct effects of experimentally separable attributes about which political actors are often uncertain. For example, we gain considerable insight by treating as separable the principal's uncertainty about the speaker's interests and the principal's uncertainty about the speaker's knowledge. So, while the conventional use of "type" collapses these attributes into a single measure (as the extensive form reveals, the speaker in the basic model can be one of six types), we do not. Therefore, to avoid confusion with that usage, we do not use the term "type."

[12]Note that U need not equal $-\underline{U}$.

[13]This assumption is without a loss of generality to the case where x and y are points in finite-dimensional space; where both the speaker and the principal have ideal points and quasi-concave utility functions over this space; and where a player's prior beliefs about the origins of x, y, and the speaker's ideal point are representable as independent distributions over the space. The representation in the text is offered for its simplicity.
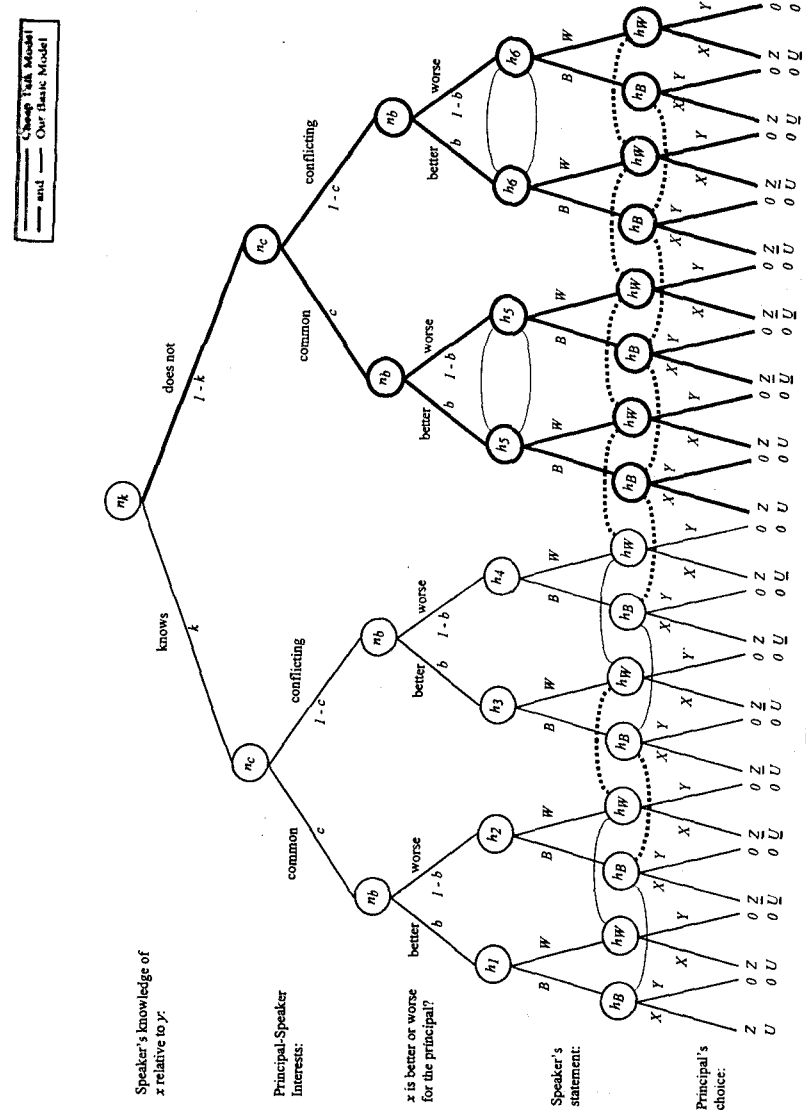
Figure 3.1. Our basic model of persuasion.

"speaker does not know whether x is better or worse than y" with probability $1-k$. This assumption allows us to represent the principal as uncertain about how much the speaker knows. We represent this uncertainty as follows: The principal knows the probability k, but not how much the speaker actually knows.[14] In the standard cheap talk model, by contrast, it is common knowledge that $k = 1$.

Another of nature's moves determines the relationship between the speaker's and the principal's interests. If nature chooses *common* interests, then the speaker benefits when the principal makes a utility-maximizing decision – the speaker receives utility $Z \geq 0$ when the principal receives utility $U \geq 0$ and receives utility $\underline{Z} \leq 0$ when the principal receives utility $\underline{U} \leq 0$. If nature chooses *conflicting* interests, then the speaker benefits when the principal *does not* make a utility-maximizing choice – the speaker receives utility $\underline{Z} \leq 0$ when the principal receives utility $U \geq 0$ and receives utility $Z \geq 0$ when the principal receives utility $\underline{U} \leq 0$. The speaker earns utility 0 when the principal chooses y.

Nature chooses *common* interests with probability $c \in [0, 1]$ and *conflicting* interests with probability $1-c$.[15] We assume that the principal is uncertain about the speaker's interests. We represent her prior beliefs about these interests as the probability c. Aristotelian theories assume that the principal knows the speaker's interests. However, the complexity and uncertainty that politics engenders makes it likely that political principals lack such knowledge.

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[14]This assumption differs from the classic economic signaling and strategic communication theories in two ways. First, the classic models assume that the speaker is knowledgeable (i.e., they assume $k = 1$). We assume that the speaker does not necessarily know what he is talking about. Second, the classic models assume that the principal knows how much the speaker knows. We assume that the principal may be uncertain about this because it represents one common way in which modern decision makers do not know one another well.

Austen-Smith (1994) offers an alternative conception of speaker knowledge as a variable, rather than a constant, within models of strategic communication. The Austen-Smith model differs from Crawford-Sobel in that the sender has an opportunity to acquire knowledge that the receiver cannot observe. Moreover, when the sender chooses to be knowledgeable, he can prove as much to the principal. The difference between our basic model and Austen-Smith 1994 is that in our model the *sender and receiver need not know each other's ideal points, and the sender cannot prove to the principal that he is knowledgeable.*

[15]It is the possibility of conflicting interests that transforms our analysis into a study of what Goffman (1967: 10) defined as *strategic communication:*

There will be situations where an observer is dependent on what he can learn from a subject, there being no sufficient alternate sources of information, and the subject will be oriented to frustrate this assessment or facilitate it under difficult circumstances. Under these conditions gamelike considerations develop even though very serious matters may be at stake. A contest over assessment occurs. Information becomes strategic.

After nature's three moves, the *game* begins. First, the speaker sends a signal of "better" or "worse" to the principal. The signal "better" means: "I assert that x is better than y for the principal." The signal "worse" means: "I assert that x is worse than y for the principal."[16] The speaker selects which signal to send and *need not tell the truth.* Second, the principal chooses x or y. After she does so, the game ends and both players receive a utility payoff.

We now explain persuasion in the basic model. We find two equilibrium sets of behaviors.[17] In one, the principal bases her choice on what the speaker says, and the speaker tells the truth only if he knows or believes himself to have common interests with the principal. Otherwise, the speaker lies.

In the standard cheap talk model, people cannot deceive one another *in equilibrium.* This result follows from their assumption that people know one another well enough to see lies coming in advance. Deception occurs in the first equilibrium of our model because people do not know one another well. We will have more to say about this later in the chapter.

In the second equilibrium, the principal ignores the speaker, and persuasion does not take place. The principal's prior beliefs about the speaker's interests and knowledge determine which of these two equilibria occur. When the principal's prior beliefs lead her to assess a high probability that she and the speaker have common interests and the speaker is knowledgeable, then the persuasive equilibrium can occur. Otherwise, the nonpersuasive equilibrium occurs.

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[16]We make this assumption for simplicity. However, both statements contain knowledge sufficient for reasoned choice in the game. More precise statements, if true, would not cause the principal to choose differently. Ongoing research in linguistics and the cognitive sciences also motivates this assumption (see Lakoff 1987, Holland et al. 1986). These scholars argue that there are many more ideas than ways to express them. Rather than provide a full description of an idea, language merely "prompts" a mental image or mental space. This is referred to as the access principle (Fauconnier 1985). Also see Turner (1991) for a discussion of mental images and the use of metaphors and conceptual blends in conveying images. However, not any metaphors will do; people who want to be understood need to use metaphors that are easy to understand. These metaphors must be simple and direct. Again, Simon's research informs our own:

The oil gauge on the dashboard of an automobile is an example of the use of classification in program-evoking. For most drivers, the oil pressure is either "all right" or "low." In the first case, no action is taken; in the second case a remedial program is initiated (e.g., taking the automobile to a repair shop). Some auto manufacturers have substituted a red light, which turns on when the oil pressure is not in the proper range, for the traditional gauge. This example also illustrates how substituting standards of satisfactory performance for criteria of optimization simplifies communication. (March and Simon 1958: 163)

[17]See Proposition 3.1 in the Appendix to Chapter 3.

We state this relationship with the following theorem:

Theorem 3.1: Absent external forces, perceived common interests are a necessary condition for persuasion. Perceived common interests, however, are not sufficient for persuasion.

In Chapter 2, we argued that people *ignore* stimuli that they do not expect to facilitate reasoned choices. Here too, persuasion requires the principal to believe that the speaker's statement will help her avoid costly mistakes. That is, persuasion does not occur if the principal believes that the speaker is likely to have conflicting interests. If, however, the principal believes that common interests are more likely, then persuasion is possible. Theorem 3.2 tells us why having perceived common interests is not sufficient for persuasion in our model.

Theorem 3.2: Absent external forces, perceived speaker knowledge (k > 0) is a necessary condition for persuasion. Perceived speaker knowledge, however, is not sufficient for persuasion.

So, if the principal is *certain* that the speaker does not have the knowledge she desires, then persuasion will not occur. By contrast, if the principal believes that the speaker might possess the knowledge she requires, then persuasion is possible. So, even in the case where the principal is certain that the speaker has common interests, her belief that the speaker lacks knowledge leads her to ignore the speaker's statement.

The necessity of perceived speaker knowledge highlights an important limitation of scholarly and popular explanations of persuasion. For example, some people hold the view that conservatives are necessarily more persuasive to other conservatives, that African-Americans are necessarily more persuasive to other African-Americans, and so on. We find that the reliability of these explanations is conditional. Regardless of which personal attributes a speaker has, if he is perceived to lack knowledge, then he cannot persuade.[18]

[18] As noted earlier, the seminal model on strategic information transmission makes a similar argument. Crawford and Sobel (1982, 1431) claim that "equilibrium signaling is more informative when agents' preferences are more similar." In their model, all equilibria are partition equilibria, which means that all equilibria can be stated in terms that describe how accurate the speaker's statements are (i.e., the message space is partitioned and the more segments a message space contains, the more persuasive and enlightening the speaker's statement is). They later (1441) conclude that "the more nearly [the speaker's and receiver's] interests coincide – the finer partition there can be. . . . As [the distance in their interests goes to infinity], [the number of partitions] eventually falls to unity and only the completely uninformative equilibrium remains." In fact, however, they prove in Corollary 1 that this number goes to unity (the speaker's statement is totally uninformative) for even relatively small interest conflicts (i.e., the result is "cheap talk"). Similar conclusions are drawn in Gilligan and Krehbiel (1987, 1989) and in Austen-Smith (1990a,b, 1993). Note that a similar result is achieved in our model by restricting c to equal 0 or 1.

Perceived speaker knowledge, although necessary, is not a sufficient condition for persuasion, for even a seemingly knowledgeable speaker can persuade only when trusted. For example, many people believed that Richard Nixon knew about the Watergate break-in and that Bill Clinton was knowledgeable about the extent of his marijuana use, but a lack of trust diminished the persuasiveness of their statements about these topics.

While we have pointed out limits to the relationship among knowledge, interests, and persuasion, we have revealed only the tip of the iceberg. Two corollaries reveal more cold realities about persuasion in our model.

Corollary to Theorem 3.1: Actual common interests are neither necessary nor sufficient for persuasion.

Corollary to Theorem 3.2: Actual speaker knowledge is neither necessary nor sufficient for persuasion.

When people do not know one another well, it is *perceived* speaker knowledge and interests, not *actual* speaker knowledge or interests, that drive persuasion. Therefore, a speaker who has common interests and the knowledge that the principal desires can fail to persuade. Moreover, a speaker can persuade even if he knows nothing and his interests conflict with those of the principal.

Numerical Examples

To highlight the implications of our basic model, we provide two numerical examples. In each of the examples, we present an initial case where persuasion occurs in equilibrium. Then, we show how a change in one of three factors affects persuasion. Table 3.1 contains the examples. For simplicity, we set $U = |U| = |Z| = 1$ and $Z = 2$. So, in each of the examples, the speaker earns more when he and the principal have common interests than he loses when they have conflicting interests.

In example 1: case 1, the principal believes that the speaker is more likely to be knowledgeable than not and more likely to share common interests with her than not. In addition, her prior belief about the probability that x is better is .35. Absent a persuasive statement from the speaker, the principal's expected utility from choosing x is −.3. Because this is less than the utility of 0 that she will earn for choosing y, she chooses y. In equilibrium, however, the speaker's statement, better, changes the principal's beliefs about which alternative is better for her. Her posterior belief about the probability that x is better grows to approximately .51.[19]

[19] We calculated this belief from the equilibrium stated in Proposition 3-1 (see Appendix). In the cases described in the numerical example, the posterior beliefs are calculated as follows: $(b \times (ck + ((1-k)(1-c)) + c(1-k))/[(b \times (ck + ((1-k)(1-c)) + c(1-k)) + ((1-b) \times ((1-c)(1-k) + c(1-k)))].$

Table 3.1. *Numerical examples.*

Example	c = prior probability of common interests	k = prior probability that the speaker is knowledgeable	b = prior probability that x is better	Persuasion if the speaker says better, in equilibrium
Example 1				
case 1	.8	.7	.35	Yes
case 2	.49	.7	.35	No
case 3	.8	0	.35	No
case 4	.8	.7	.35	No
Example 2				
case 1	1	.5	.4	Yes
case 2	.49	.5	.4	No
case 3	1	0	.4	No
case 4	1	.5	.1	No

After the principal hears the statement, her expected utility from choosing x is approximately .03, which is greater than the utility of 0 she would get for choosing y.[20] Therefore, the speaker persuades the principal to choose x.

The same is not true of the remaining cases in example 1, each of which differs from case 1 in only one way. In case 2, the principal's prior belief about the probability of common interests drops. In this case, her posterior belief about the probability that x is better remains virtually unchanged. In case 3, the principal's beliefs about the speaker's knowledge are less optimistic. In this case, her posterior beliefs about x are identical to her prior beliefs. In case 4, the principal's prior beliefs make her more certain about which alternative is better (i.e., b is closer to 0 or 1 and further from .5). *In all three cases, the speaker is no longer sufficiently credible to change the principal's beliefs in equilibrium.* Therefore, the principal ignores the speaker, and persuasion does not occur.

The structure of example 2 is similar to that of example 1. The difference is that in the initial case of example 2, the principal is now certain that she and the speaker have common interests, and persuasion occurs. In addition, her prior belief about the probability that x is better is .4. Absent a persuasive statement from the speaker, the principal's expected

[20]In this example, the numerator of the expected utility of choosing x conditional on having heard better is $kcbU + k(1-c)(1-b)\underline{U} + (1-k)(1-c)bU + (1-k)(1-c)(1-b)\underline{U} + (1-k)cbU + (1-k)c(1-b)\underline{U}$.

utility from choosing x is $-.2$. Because this is less than the utility of 0 that she will earn for choosing y, she chooses y. In equilibrium, however, the speaker's statement, better, changes the principal's beliefs about which alternative is better for her. Her posterior belief about the probability that x is better grows to approximately .57. After the principal hears this statement, her expected utility from choosing x is approximately .14, which is greater than the utility of 0 she would get for choosing y. Therefore, the speaker persuades the principal to choose x in case 1. In cases 2 and 3, the principal's decreased confidence in the speaker's interests or knowledge renders her no longer willing to base her choice on the speaker's advice. In case 4, the principal is relatively certain about which alternative is better. As a result, the speaker can no longer persuade.

Note also that of all the cases provided in Table 3.1, deception is possible only in the initial case of example 1. Deception is possible here because the speaker is persuasive and because we did not specify the speaker's *actual* interests. So, while the probability of common interests in this case is high (.8), if nature draws the low probability event (conflicting interests) then the outcome of the game is that the speaker lies to and successfully deceives the principal. If, by contrast, nature draws the high probability event (common interests), then the speaker tells the truth and the principal chooses the alternative that is better for her.

Three Extensions: The Effects of External Forces

We now turn our attention to how people do (and do not) learn from one another in the presence of external forces. These forces dramatically change what persuasion requires and, by providing substitutes for knowledge and interest, weaken further the validity of the Aristotelian view. Each of the three forces we examine is common to politics and represents a broad class of forces that can affect speaker and principal incentives.

The first force is *verification*. We represent verification as follows – after the speaker speaks but before the principal chooses, nature reveals to the principal whether x is better or worse for her. Verification occurs with probability $0 < v < 1$.[21] In words, we examine the case where speaker statements can be verified as true or false before the principal makes a choice.

The second force is *penalties for lying*. We represent these penalties as a cost, *pen* ≥ 0, that the speaker must pay when sending a false signal. This penalty directly affects the speaker's utility. If the principal and the speaker have *common* interests and if the speaker *lies*, then the speaker

[21]Note that the case where $v = 0$ is the basic model and that the case where $v = 1$ is trivial.

receives utility Z-*pen* when the principal receives utility $U \geq 0$ and receives utility $\underline{Z}$-*pen* ≤ 0 when the principal receives utility $\underline{U} \leq 0$. If the principal and the speaker have *conflicting* interests and if the speaker *lies*, then the speaker receives utility $\underline{Z}$-*pen* ≤ 0 when the principal receives utility $U \geq 0$ and receives utility Z-*pen* when the principal receives utility $\underline{U} \leq 0$. If the speaker tells the truth, then the speaker's utility is the same as in the basic model. Penalties for lying are a common example of statement-specific costs.[22] Our motivation for focusing on penalties for lying are the explicit fines levied on people who lie (e.g., in cases of perjury) and the losses in valued reputations for honesty that result from being caught making false statements.[23]

We call the third force *observable costly effort*. We represent costly effort as a cost, *cost* ≥ 0, that the speaker must pay to send any signal. If he does not pay, then the principal does not receive a signal. Intuitively, there is a cost for almost any cognitive task, and speaking is no exception.[24]

Verification, penalties for lying, and costly effort cover the range of effects that external forces can have on communication. Verification affects the manner in which the principal receives the speaker's statement. It is independent of any costs associated with making statements. Both penalties for lying and costly effort affect the speaker's costs and are independent of the manner in which the signal is received. Penalties for lying are a simple example of *statement-specific costs*. Costly effort is an example of communication costs that are independent of what is said.

We now present our main conclusion.

Theorem 3.3 (The Conditions for Persuasion): The following conditions are individually necessary and collectively sufficient for per-

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[22]We focus on penalties for lying because of the role that fear of deception plays in critiques of the democracy. Another example of statement-specific costs was illuminated during the O.J. Simpson criminal trial. Late in the trial it was revealed that detective Mark Fuhrman, in a series of taped interviews, had used the "N-word" to describe African-Americans. In the contemporary idiom, the "N-word" is but one of many words, most of them less offensive, available to describe African-Americans. It is singular, however, in the malicious intent associated with its use. It is fair to say that words like this bring about statement-specific costs. Given the availability of other relatively "costless" descriptions of African-Americans, our model would predict that these words would be used by either a speaker who believed that the cost would never be assessed or a speaker who believed that it would be assessed with some non-zero probability but felt so strongly about the value of associating his views with the "N-word" that it justified the cost's payment.

[23]Although we focus on the case where these costs are common knowledge, our results are robust to the assumption that the principal is uncertain about them. Note also that other statement-specific costs, such as rewards or penalties for telling the truth, have similar dynamics.

[24]In watching politics or a faculty meeting at a university, it is easy to forget that although talk may be cheap, it is not free.

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suasion: The principal must perceive the speaker to be trustworthy and the principal must perceive the speaker to have the knowledge she desires.

Absent external forces, persuasion requires perceived common interests and perceived speaker knowledge. In the presence of external forces, these requirements can be reduced. As the likelihood of verification, the magnitude of the penalty for lying, or the magnitude of costly effort increases, the extent to which perceived common interests are required decreases. In other words, with respect to persuasion, external forces can be substitutes for common interests (and for each other).

So, persuasion occurs *only if* the principal is initially uncertain about which alternative is better for her, believes that the speaker may have the knowledge she desires, and believes that the speaker has an incentive to reveal what he knows. If even one of these three conditions is unsatisfied, then persuasion cannot occur.

In the parlance of psychology, Theorem 3.3 implies that the principal's perceptions of the speaker's incentives and knowledge are *the fundamental source effects* – they determine whether or not a speaker can persuade a principal. From this theorem it follows that other well-known source effects (such as those based on the speaker's party, ideology, or reputation) work when they do *because* they influence an audience's perceptions of a speaker's knowledge or incentives.

Unlike Aristotelian theories of persuasion, Theorem 3.3 implies that persuasion may be independent of the principal's perception of the speaker's interests. So, when incentive-altering external forces are present, speaker attributes (such as ideology, partisanship, reputation, actual level of knowledge, or affective relationship to the principal) may have no bearing whatsoever on his ability to persuade the principal. Theorem 3.3, thus, amends explanations of persuasion based exclusively on personal character. This point is summarized in the corollary to Theorem 3.3:

Corollary to Theorem 3.3: Perceived common interests are not necessary for persuasion.

For example, it is widely taken for granted that an elite conservative speaker can more effectively persuade a conservative than a liberal, or a Democrat should find another Democrat's opinion to be more credible, or an African-American should readily believe another African-American. By contrast, we conclude that when external forces substitute for a speaker's character, no particular characteristic is a necessary condition for trust. To see such a substitution in action, consider that some contexts affect a speaker's incentives in ways that make clear to speakers and

principals alike that certain statements are more costly than others (e.g., a court of law where the threat of perjury and cross-examination are implemented to affect witnesses' incentives). As a result, if we put a speaker with conflicting interests (i.e., who absent external forces would want the alternative that is worse for the principal) in a context where certain false statements are extremely costly, then the *context* supplies the principal with a rationale for believing the speaker. Alternatively, Theorem 3.3 implies that a principal may regard a speaker as perfectly disgusting and as having interests that conflict with her own, but if external forces induce the speaker to tell the truth (e.g., the speaker is subject to a penalty for lying) and if the principal perceives the speaker to be knowledgeable, then the principal has a basis for believing the speaker. So while it is true that the principal does require a basis for believing that the speaker will reveal the knowledge he has, such a basis need not come from speaker attributes; it can come just as effectively from the external forces in whose presence the speaker and principal interact. In Chapters 4, 5, and 10, we will use this knowledge to describe how political institutions affect persuasion and reasoned choice. In what follows, we briefly describe how each of the external forces affects persuasion.

Verification. When we add verification to the basic model, we achieve the same two equilibria as in the basic model.[25] In one equilibrium, the principal bases her choice on what the speaker says. The speaker tells the truth in this equilibrium only if he knows or believes himself to have common interests with the principal. Otherwise, the speaker lies. In the other equilibrium, the principal ignores the speaker, and persuasion does not take place.

Verification works by posing the threat that the principal can discern true signals from false ones.[26] This threat changes the speaker's incentives in the following way: As the probability of verification increases, the probability that the speaker can benefit from sending a false signal decreases.[27] Because only a speaker with conflicting interests could ever gain by sending false signals, verification has a direct effect on the speaker only if he and the principal have conflicting interests. By contrast, when the speaker and principal have common interests, verification is not much of a threat. In this case, the speaker wants the principal to make a reasoned choice and is indifferent as to whether the principal learns what she needs to know directly from the speaker or through a verification.

[25]See Proposition 3.2.
[26]See Corollary 1 to Proposition 3.2.
[27]See Corollary 2 to Proposition 3.2.

The limit of verification, when introduced on its own, is that it cannot induce the speaker to tell the truth when he would otherwise lie. Verification merely induces the principal to ignore the speaker's signal if it is false; it does not penalize the speaker for lying. So, on its own, verification's threat to the speaker is that his signal will be ineffective. Therefore, *verification decreases the expected value of communication for speakers who can gain from making false statements.* By contrast, verification does not have the same effect on a speaker who has common interests.

When contemplating the relationship between verification and persuasion, it is important to be cautious about confounding verification and competition. By contrast, we conclude that competition is neither necessary nor sufficient for persuasion. Competition is not necessary because it is not the only way to induce trust. Moreover, competition is not sufficient for persuasion, because "added competitors" need not be knowledgeable and trustworthy. Therefore, adding a competitor would be like attempting to change a speaker's incentives by threatening that he will be verified with probability 0. Competition in our model induces persuasion only if the added competitor induces one of the conditions we describe in Theorem 3.3.

Penalties for Lying. To foreshadow the effect of penalties for lying, we first describe how lying occurs in the equilibrium of the basic model. In equilibrium, the principal does not follow the advice of a speaker who she knows will lie in equilibrium. However, the speaker lies in equilibrium when he expects the principal to mistake him for a truth teller.

Our result lies in contrast to the standard cheap talk model, where people *cannot deceive one another in equilibrium.* Underlying this result is the assumption in the standard cheap talk model that people know one another well enough to see lies coming in advance (i.e., all players have rational expectations about the truth value of signals). The reason that deception occurs in reality and in our model is that people do not always see lies coming.

Returning to penalties for lying, note that they facilitate persuasion when they give the principal, who otherwise expects lies, a reason to believe that she can distinguish truth tellers from liars.[28] If penalties are small, then the game's equilibrium is as before – if the principal perceives the speaker to be knowledgeable and to have common interests, then the principal bases a choice on what the speaker says, and the speaker tells the truth only if he knows or believes himself to have common interests with the principal – otherwise, the speaker deceives. If the principal

[28]See Proposition 3.3.

does not have these priors, then the principal ignores the speaker, and persuasion does not take place.

With larger penalties, however, the speaker lies only if the expected benefit of lying is greater than the penalty. If penalties for lying are large enough, then the speaker never deceives, and the principal can trust the speaker. However, penalties for lying do not have to be so large to induce persuasion. To see why, consider the following example.

Suppose that the speaker knows, but the principal is uncertain about, whether *x* is *better* or *worse* than *y* for the principal. Suppose further that the principal and the speaker have conflicting interests. Specifically, if *x* is *better* for the principal, then the speaker loses $20 when the principal chooses *x*; if *x* is *worse* for the principal, then the speaker earns $75 when the principal chooses *x*. Suppose further that if the principal chooses *y*, then the speaker earns nothing, and that the penalty for lying is $50. In this situation, the penalty is big enough to dissuade the speaker from lying when *x* is *better* for the principal – that is, the speaker has to pay $50 to avoid losing $20. It is not big enough to do so when *x* is *worse* for the principal – that is, the speaker can pay $50 to earn $75. So if *x* is *better,* then the speaker will say *better,* and if *x* is *worse,* then the speaker may say *better* or *worse.* Therefore, if the principal hears the statement *worse,* then the penalty for lying allows her to infer that the statement must be true.

In general, a principal who believes that the speaker faces a penalty for lying can make one of the following two inferences upon hearing a statement from the speaker: (1) the statement is true; or (2) the statement is false and the value to the speaker of lying is greater than the expected penalty. When penalties for lying have this effect, they provide a new window from the principal's perceptions to the speaker's incentives and can provide a basis for trust.[29]

Observable and Costly Effort. The logic underlying this effect closely follows the adage "actions speak louder than words."[30] Someone who takes a costly action (i.e., exerts effort) reveals something to others about how much a particular outcome is worth to him or her. For example, if a knowledgeable speaker pays $100 for the opportunity to persuade us, then we can infer that the difference in expected value to the speaker between what the speaker expects us to do after hearing his statement and what the speaker expects us to do if we do not hear the statement is at least $100. Therefore, even if the speaker ultimately delivers his

[29]See Corollary 1 to Proposition 3.3.
[30]See Proposition 3.4. The logic underlying this external force is equivalent to the logic of Spence (1973), the seminal paper on costly signaling in economics. For simplicity, we describe the case where the cost of effort is known. It is trivial, however, to extend our results to the case where the principal does not know, but can form beliefs about, both the magnitude of the effort required for the speaker's speech and the exact shape of the speaker's utility function.
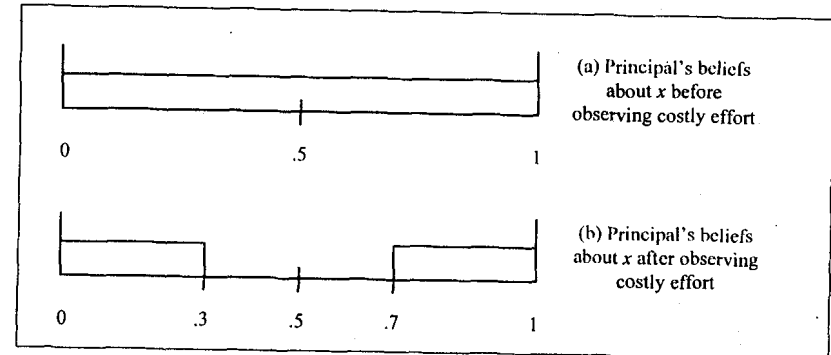
Figure 3.2. The effect of costly action.

statement in a language that we do not understand, the speaker's payment informs us that our choice is important to him.

Observable costly effort can allow the principal to make a new inference about the speaker's interests. Specifically, the principal can infer how much the speaker's preferred alternative differs from the one that she would have chosen otherwise. In Figure 3.2, we depict a spatial example of how a speaker's costly and observable effort can affect a principal's beliefs. At the top of Figure 3.2, we display a set of prior beliefs that the principal could hold about the location of *x*. Now, let *y* = .5 and let *C* be the cost to the speaker of having an opportunity to say "better" or "worse" to the principal. Suppose further that the speaker knows the location of *x* when he decides to pay *C*, that the principal knows that the speaker knows this, and that only a policy change of distance .2 or greater makes an expenditure of *C* worthwhile. Then, upon observing payment of *C,* and before the speaker says a word, the principal can correctly infer that *x* is not within distance .2 of *y*. As we depict in the bottom of Figure 3.2, the principal learns from the speaker's payment of *C* that *x* is not between .3 and .7. This new information alone can provide the principal with a clearer window to the speaker's incentives and greater knowledge about the location of *x*.

DYNAMIC IMPLICATIONS

In addition to being substitutes for common interests, external forces are also substitutes for one another. In the same way that the threat of verification lowers the degree of perceived common interests and perceived knowledge necessary for persuasion, it also lowers the magnitude

of the penalty for lying or costly effort required for persuasion. This substitutability is possible because each external force has a similar effect on the speaker and the principal – they give the speaker an incentive to take certain actions and they give the principal a window to the speaker's incentives. As a result, external forces, if present together, work in complementary ways to induce persuasion where it would not otherwise exist.

Theorems 3.1, 3.2, and 3.3 specify the *minimum* levels of perceived common interests and perceived knowledge that persuasion requires. In some cases, the requirements are more stringent. For example, suppose that, before a speaker speaks, the principal is quite certain that she knows that *x* is *better* for her (e.g., $b = .98$). Then, the principal cannot be talked out of her belief unless she is also quite certain that the speaker is knowledgeable *and* trustworthy (i.e., c and k must be very high).

There is a similar relationship between the requirements of persuasion and the effect of external forces. All else constant, as b approaches 0 or 1, the magnitude of verification, costly effort, or penalties for lying required to make a speaker persuasive is nondecreasing. That is, an external force will be more effective at generating persuasion when the principal lacks strong prior beliefs about which alternative is better for her. At the extreme, if the principal believes that she is very unlikely to make a costly mistake, then only the strongest external force will be sufficient to make the principal believe the speaker.

What Happens When There Is More Than One Principal? (or, How to Be Persuaded by People with Whom You Disagree)

In our model, a principal who perceives a speaker to have conflicting interests with her own can be persuaded by the speaker only if external forces are present. However, this claim seems to contradict an experience that all of us have had. Specifically, sometimes we *seem* to be persuaded by other people *because* they have conflicting interests. For example, suppose that Mr. Colin ardently opposes any sort of environmental regulation. We can imagine a case where Mr. Colin can be persuaded by the endorsement of a pro-environmental group. He may, for example, take what they say and do the opposite.

In our basic model, where there are no external forces, this type of persuasion cannot occur. The same is true for the Aristotelian theories. For when a principal either knows or believes a speaker to have conflicting interests, the principal has an incentive to *ignore* the speaker and has no incentive to do the opposite of what the speaker says. The reason these conclusions do not square with Mr. Colin's behavior is that, in reality, Mr. Colin is in a situation where another premise is true. To explain Mr. Colin's behavior, we now extend our model to account for that premise.

The extension consists of adding further principals to the basic model. We call these players *observers* and refer to each observer as a "she." The only difference between observers and the principal is that the observers cannot directly affect the speaker's utility. Examples of observers include individuals at a mass rally, or people watching a nationally televised political speech.

Our theory implies that persuasion requires an observer to perceive a basis for trusting what the speaker says. In this extension of our model, the following factors can provide sufficient bases for trust: "the observer believes that the speaker has an incentive to make truthful statements to her," "the observer believes that her interests conflict with both the principal's and the speaker's, and that the speaker has an incentive to make truthful statements to the principal."

So, a speaker's statements can persuade an observer when the observer believes the speaker to be knowledgeable and truthful in what he says to the principal. So, if some observer perceives a common interest with *both* a speaker and a principal whose interaction she observes, then the observer can be persuaded by the speaker, as a spillover from the original communication. If, by contrast, an observer believes herself to have conflicting interests with both the speaker and the principal, then the speaker will again be persuasive, but in a different direction. In this case, observers should take the speaker's advice and do the opposite. For example, suppose that you are a Democrat who observes Newt Gingrich addressing an important group of Republican supporters. If you believe that Gingrich is knowledgeable, that he is attempting to win the favor of the group he is addressing, that he and the group perceive themselves to have common interests, and that your interests conflict with both, then you ought to take Newt's advice but do the opposite of what he recommends. In sum, *observers* can be persuaded by speakers who are perceived to have conflicting interests only if either the speakers are subject to the external forces described previously or the speakers have common interests with the principal they are addressing.[31]

What Happens When There Is More Than One Speaker?

Extending our model by increasing the number of speakers can affect persuasion in one of two ways. First, additional speakers may be different from the original speaker. For example, additional speakers may have personal characteristics that the original speaker did not. Moreover, additional

[31]Calvert (1985) and Farrell and Gibbons (1989) describe instances of this type of persuasion. Our modification to this scholarship lies in our definition of when this type of persuasion can occur.

speakers may be subject to external forces that the original speaker did not face. So, while the original speaker may not have been persuasive, additional speakers might be. In this way, additional speakers would affect when persuasion occurs. Second, additional speakers can affect persuasion if their presence generates external forces that alter the incentives of the original speaker. For example, if an additional speaker makes the original speaker easier to "verify," easier to penalize for lying, or easier to impose observable costly effort requirements upon, then the additional speaker can give a principal a reason to trust the original speaker.

PERSUASIVE IMPLICATIONS

Our conditions for persuasion clarify how people choose whom to believe. These conditions have the following implications about who can persuade whom: All statements are not equally informative, all speakers are not equally persuasive, and you do not necessarily learn more from people who are like you.

All statements are not equally informative. The obvious reason for this inequality is that statements vary in content. A second reason that should now be apparent is that statements also vary in *context.* For example, the same person making the same statement to the same *audience under different sets of external forces* need not be equally persuasive in each.

All speakers are not equally persuasive. A person's ability to persuade depends on how he or she is perceived by others. Some recent theories of economic and political decisions, such as the many variations of the Condorcet Jury Theorem, include the assumption that people believe everything they hear (Feddersen and Pesendorfer 1995, Grofman and Feld 1988). These theories' main conclusion is that when group decisions are made by some form of majority rule, the groups can make a reasoned choice even if many members of the group lack seemingly crucial information. Although the theme of this conclusion resembles our conclusions, the arguments underlying these conclusions are potentially at odds. In the political contexts that most people care about – elections, legislatures, and courtrooms – it is unreasonable to assume that people believe everything they hear. In fact, Theorem 3.3 implies that people should believe everything they hear only under extraordinary circumstances. Therefore, the relevance of jury theorem results to the political contexts that most people care about is tenuous at best.[32] Our claim that all speakers are

[32]Ladha's variations on the jury theorem are an exception. Ladha (1992, 1993) evaluates the robustness of the jury theorem in cases where individuals makes errors. Our preference is for such models to go further in this direction, showing the robustness of the jury theorems when people do not know one another well, have potentially conflicting interests, and, as a result, may attempt to deceive one another.

not equally persuasive also contradicts the belief that knowledge is power. Knowledge cannot be power unless the knowledgeable person can persuade the person over whom he or she would have power.[33]

You do not necessarily learn more from people who are like you, nor do you necessarily learn more from people you like. This is why you feed your children what a pediatrician recommends instead of what they want. Conversely, if the penalties for lying are high enough, people can be persuaded by speakers whom they know to have conflicting interests.

Our explanation of how people choose whom to believe can be used to amend popular Aristotelian theories. That is, it is easy to demonstrate that explanations of who can persuade based on the concepts of reputation, credibility, trust, honesty, affect, ideology, or partisanship are conditional. Consider, for example, the claim that reputation is a prerequisite for persuasion, as is sometimes done in institutional economics. In our model, *reputation is neither a necessary nor a sufficient condition for persuasion.* Were reputation a sufficient condition for persuasion, then two interactions between the same principal and speaker would necessarily make the speaker trustworthy (a simple extension of our model shows this to be false). Were reputation a necessary condition for persuasion, then the principal in the model we present would never believe the speaker.[34] We conclude that reputation generates persuasiveness only if it generates the conditions for persuasion. Therefore, although it is true that certain reputations can help a speaker persuade, not all can.

Explanations of persuasion based on *ideology, affect,* and *partisanship* suffer the same fate as reputation. None of these factors is necessary or sufficient for persuasion in our model. To see why, consider the following example. You might really *like* Mr. A or know him to be a conservative like yourself but believe that he knows nothing whatsoever about policy B. In this case, you should not follow Mr. A's advice. Alternatively, you might believe Mr. A to be a knowledgeable, nonconservative, and unlikable person who nevertheless faces a strong incentive to reveal what he knows. In this case, you should follow his advice.

[33]If it seems counter-intuitive or wrong that the speaker's actual knowledge has nothing to do with his persuasive power, consider your own experience. You do not know much about the people from whom you receive most of your political information. (How much do you know about the people who speak on CNN or write for the *New York Times*?) You do not have access to detailed information about the extent of most other people's knowledge. Therefore, you must base your choice of whom to believe on your subjective beliefs. If you believe that a speaker knows nothing, then you have no grounds for following his advice. This is true even if (unknown to you) the speaker actually possesses the knowledge you desire.

[34]The same logic exposes the flawed logic of the methodological critique that a repeated play format is required to construct a model of learning. Even if the folk theorem did not call into question the robustness of all of these analyses, the preceding argument makes clear that learning from others does not require repeated interactions.

Theorem 3.3 implies that persuasion based on personal character is possible in the following case.

When an analyst encounters a persuasive attempt and is considering the hypothesis "Factor F causes the listener to change her mind about topic T," she should ask herself the following questions: "Is it reasonable to assume that the listener perceives factor F to be correlated with the speaker's knowledge of T?" and "Is it reasonable to assume that the listener perceives factor F to be correlated with either the speaker's interests or his incentives to reveal what he knows about T?" If the answer to both questions is "No," then factor F cannot be a cause of persuasion, in the sense of our model, and the hypothesis should be discarded. If the answer to either question is "Yes," then she has a basis for continuing the analysis. If the answer to both questions is "Yes" then she has an even stronger reason to continue.

The conditions for persuasion reveal when personal attributes (e.g., partisan cues, ideology, affective relationships, and the like) are most useful for understanding persuasion. To see this, consider ideology. In cases where there is a high correlation between ideology and the factors underlying the conditions for persuasion (such as common interests or penalties for telling certain lies), then knowing a speaker's ideology can be a good indicator of whether he should be trusted. In cases where there is no clear correlation, concepts such as ideology and party are useless cues. To put it another way: *Concepts like reputation, party, or ideology are useful heuristics only if they convey information about knowledge and trust. The converse of this statement is not true.*

CONCLUSION

The political consequences of limited information can be very serious. However, our theorems suggest that people do not suffer these consequences nearly as often as many scholars and pundits proclaim. Politics often forces people to learn what they need to know from the oral and written testimony of other people. In these cases, limited information precludes a principal from making a reasoned choice if the conditions for persuasion do not apply. Therefore, if a principal has access to the testimony of at least one speaker whom she perceives as knowledgeable and trustworthy, then limited information need not preclude reasoned choice. However, and unlike prior explanations of persuasion, we conclude that trust need not be derived from a principal's assessment of a speaker's personal character. Instead, we argue that external forces that alter and clarify a speaker's incentives can serve as the basis for trust. When people can learn from others, reasoned choice requires neither encyclopedic information nor relevant personal experience.

Other critics look at how most modern citizens obtain information and conclude that people are regularly and easily deceived. What many of these critics fail to realize, however, is that learning is active. If learning were passive, as is often assumed, then every heavily advertised product or program would garner much attention and universally rave reviews. Of course this does not happen. People have incentives to be, and in fact are, quite selective about whom they choose to believe.

Food for Thought

We argue that persuasion is a function of perception, context, and choice. We also assert that the explanation of persuasion that we offer can help clarify many questions about political interaction. In Parts II and III of this book, we describe a wide variety of experiments and case studies that support our assertion. Because some readers may not want to wait that long, we end this chapter with two simple parables.

Gritz. Because government deals with scarcity and requires collective action to get anything done, the product of government is often a product of compromise. Compromise can be easy or hard to obtain. When it is hard to obtain, it requires negotiation.

In recent years, the U.S. government has had to engage in negotiations with a new set of actors. We follow convention and refer to these actors as *militias* – domestic paramilitary groups whose basis for existence is a claim of government illegitimacy. In the early and mid-1990s, standoffs between militias and government law-enforcement agencies became increasingly common. For example, prolonged negotiations at Ruby Ridge, Waco, and with the Montana Freemen lasted for weeks. Each conflict also gained wide national attention.

The government had a great deal at stake in these negotiations. In addition to the lives of those involved in the standoff, the government's handling of these situations would send a powerful signal to other existing or nascent militias about how future conflicts would be settled.

The U.S. government is arguably the most powerful organization in the country, if not the world. One reason for its power is its access to capital. Given the importance of the negotiations just mentioned, it is reasonable to believe that the government had an interest in hiring the most skilled negotiator it could find. The government's ability to access resources suggests that it could have brought in just about anyone.

At Ruby Ridge and in Montana, the U.S. government brought in retired Colonel Bo Gritz. Was Col. Gritz the best negotiator that the United States could find? A couple of facts about Gritz might persuade you that

he was not.[35] Bo Gritz is a former Green Beret, a highly decorated Vietnam veteran, and former Special Forces agent. In 1988, he was, for a time, former Ku Klux Klansman David Duke's running mate on the Populist Party's presidential ticket. In 1992, he was the Populist Party's presidential candidate. He won about 100,000 votes on a platform that called for an end to income taxes, foreign aid, and the Federal Reserve. He conducted a program called SPIKE (Specially Prepared Individuals for Key Events) that trained ordinary citizens in weapons use and survival skills. He also wrote a book entitled *Called to Serve* that the Anti-Defamation League characterized as peddling "the anti-Semitic myth that Jewish families control the Federal Reserve System."

Many prominent people were available to be the government's negotiator. Why did the government choose government-hostile Bo Gritz over someone more like retired generals Norman Schwarzkopf or Colin Powell? Our theory offers a suggestion. Compromise requires negotiation, and negotiation requires persuasion. As we have argued, persuasion requires knowledge and trust. Therefore, a necessary condition for effective negotiations with militias was the introduction of negotiators whom the militias would perceive as both knowledgeable and trustworthy. Because the militia's fundamental operating premise is the illegitimacy of government, government-friendly negotiators, such as Powell or Schwarzkopf, were less likely to be trusted. By contrast, the government could reasonably expect Gritz to be persuasive to militia members. Moreover, it is not at all clear that the government could get another person whom they could trust who had Gritz's "militia credentials."

The Ruby Ridge and Montana standoffs ended with the government achieving results it desired. In both cases, Gritz was widely credited with playing a role. Quoting the Associated Press, "Gritz helped end a 1992 standoff in Ruby Ridge, Idaho, between the FBI and white separatist Randy Weaver, whom he persuaded to surrender."[36] To many people, Gritz was a dangerous extremist, but, for a government that needed to establish credibility in order to achieve a settlement, he was an "effective extremist." At some level, the government understood that militia members would make choices about whom to believe. This understanding was essential for the success it had.

[35]See "Freemen Make Their Case on Paper, in Video" by the Associated Press and located at the *Salt Lake Tribune*'s internet archives at http://205.218.36.7:80/96/APR/29/TWR/00281116.htm; "Gritz Says Feds Must Move Rapidly" by the Associated Press and also located at the *Salt Lake Tribune*'s internet archives; and "ADL Report: Armed & Dangerous: Idaho" by the Anti-Defamation League and located at www.adl.org.

[36]See "Freemen Make Their Case on Paper, in Video."

Tamales. Another example where understanding the conditions for persuasion that we derive is beneficial comes from the presidential election of 1976. Samuel Popkin began his 1991 book *The Reasoning Voter* with a parable from that election (1).

Predictably enough, the San Antonio rally for President Ford featured Mexican food, and so the President of the United States was served his first tamale, a food not common in Grand Rapids, Michigan, or even in Washington, D.C. While reporters and television cameras recorded the scene, Ford proceeded with gusto to bite into the tamale, corn husk and all.

At this point in Popkin's book, there are two types of readers. One group of readers recognizes Ford's "gastronomic gaffe" because they themselves have had the similar experience of eating a hot tamale. The other type of reader waits for something interesting to happen in this anecdote. Such a reader waits until page 2 and learns that "The snack was interrupted after the first bite so that his hosts could remove the corn shucks which serve as a wrapper and are not supposed to be consumed."

Popkin's anecdote is a clever way to demonstrate how simple pieces of information can convey knowledge. However, the likely existence of readers who do and do not initially get the point of the story again points to the limits of persuasion. For people familiar with Mexican food, Ford's gaffe suggests ignorance. To the extent that ignorance of tamale shucking is connected to ignorance on more important issues, the news footage may lead viewers to think differently about Ford's issue positions. However, for many people, the shucking–issue connection does not exist. So viewers watching this event could recognize Ford's gaffe and not consider him any less credible about any issue. Moreover, for the many people untrained in the art of tamale shucking, our Chapter 2 argument suggests that they would likely ignore this story altogether, as they would not recognize Ford's gustatory gambit as a gaffe.

The lesson we draw from our use of Popkin's tamale parable is that it is unwise to discuss the effect of simple cues like party, ideology, or reputation as affecting a populace in a uniform way. As Popkin himself points out as he concludes his book (page 236), "Ask not for more sobriety and piety from citizens, for they are voters, not judges; offer them instead cues and signals which connect their world with the world of politics." Persuasion is a function of perception, context, and choice. Understanding this can help us better describe how people use the information they are offered.