Leadership: What It Means, What It Does, and What We Want to Know About It

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Abstract

Leaders are part of virtually all organized political life. There have been important recent advances in modeling "leaders" as well as clever and innovative empirical studies. We review recent contributions from the political science, economics, and management literatures. We discuss the extent to which these new works represent advances over the major classic works on leadership and organization from the twentieth century. We identify important gaps, chief among them (*a*) theorizing a role for coercion, (*b*) modeling the endogenous emergence of leaders, and (*c*) empirically disentangling the effect of an individual leader from her office, especially when leaders emerge endogenously.

INTRODUCTION

Heads of organizations—be they popes, presidents, generals, CEOs, or general secretaries—must coordinate their followers to produce desired actions and outcomes. Their tools include coercion, incentives, and persuasion, but in what combination and to what effect leaders rely on these tools are variable.

We also observe substantial variation in the behavior of members and the outputs of organizations. Some leaders appear able to elicit greater effort or sacrifice from their followers than others. Within the same industry, workers in some firms are demonstrably more productive and committed than in others. Some governments can raise armies and taxes with a minimum of coercion while others require considerable force and policing to gain compliance. Political parties and voluntary organizations vary greatly in the level of activism and membership loyalty. Some social movements succeed while others fail miserably.

Observers often lay credit or blame at the feet of organizational leaders for marked shifts in aggregate behavior within polities and organizations. The role of leadership in effecting or blocking change is a major emphasis in current research on development, reform, and the solution of common pool resource problems. Certainly history is often presented as a series of stories about certain individuals cast as "architects of political change" (Schofield 2006) able to transform beliefs about what is possible and consequently alter behavior of large proportions of a society. Illustrations include black leadership in the United States (Marable 1998), social movement leadership worldwide (McAdam et al. 2001, Tarrow 1994), and business management (Heifetz et al. 2009).

But how much of the variation in group behavior is attributable to specific leaders? Is there an analytical distinction to be made between a leader and someone who occupies an official position? Should we be focusing our attention on the office holder or the office? How do we even determine who possesses leadership power? Is it possible to make systematic statements about the factors that make leaders more or less effective at achieving organizational goals? Can there be authoritative accounts of when the role of leaders is minimal relative to structural factors or political opportunities? If indeed the nature of leadership helps account for variation in aggregate behavior, what then are the determinative qualities of leaders in those instances where leaders persuade followers to change their course of action or their positions on political issues, or to make contributions beyond what other leaders seem able to evoke? Can we formalize any of this? Is leadership success a consequence of how leaders treat followers, the information and coordination they provide, their capacity to inspire, or something else altogether?

Leadership as an object of study in political science and political economy tends to be cyclical (Jones 1989). It has again come into fashion. Building on a long and multidisciplinary research program on leadership, a substantial body of work worthy of review has emerged over the past two decades. Some of the most significant recent advances derive from political economic discussions of agenda control, coalitions, the formation of beliefs and preferences, and information flows. Whether the focus is on the qualities of judgment and communication essential for effective leadership (Dewan & Myatt 2008, Humphreys et al. 2006) or on the role of leadership in building governments and effecting institutional change (Levi 2006, Schofield 2006), the recent literature draws on old and new models and methods to address critical questions.

At one level, much of political science is about how people select, remove, and hold accountable those empowered to make important decisions (e.g., Bueno de Mesquita et al. 2003, Przeworski et al. 1999). Here we are less concerned with the rules affecting selection of and constraints on elected leaders and bureaucrats than with the role of specific individuals in directing and coordinating followers in a wide array of formal and typically hierarchical organizations. We explore how individuals come to be recognized as leaders (whether

in official positions or not), when they are likely to use coercion, and what they can get followers to do. Our focus is more general than political officialdom but not as broad as the forms of leadership addressed in the large and primarily ethnographic literature originating in anthropology, history, and sociology.

Innovative empirical strategies increasingly confirm the causal relevance of a leader, but the theoretical understanding of the causal importance of leadership is still fairly impoverished. The concept remains vague or contested, which means the literature is incoherent; scholars often use the same term to mean distinct actors or processes. A divide continues between researchers who take the leaders as given and are interested in the differences across them and those more interested in how leaders emerge. We discuss these issues, identify promising new theoretical work and clever empirical strategies, and outline gaps in the existing literature and opportunities for future research.

TAKE ME TO YOUR LEADER?

Classical research on leadership emphasized power and legitimacy (Burns 1978, Machiavelli 1950 [1532], Weber 1968); the "functions of the executive" (Barnard 1938), that is, appropriate goals and how best to achieve them; the interactions of leaders with staff and followers (Blau 1955, Burns 1978, Selznick 1957, Weber 1968); or the pathologies associated with leaders' exercise of power (Michels 1962 [1919], Merton 1968 [1957]). Much of this work is on administrative leadership, and the best of it details more than staffing hierarchy or the formal responsibilities of various members of the firm or agency. The authors also describe the political, economic, and regulatory context (Blau 1955, Simon 1947, Weber 1968). That context matters is a truism; leaders are certainly constrained by their position in history, as so many political and corporate memoirs emphasize. The trick is to clarify the relationship between context and the particular attributes and tasks of leaders.

This vast literature offers some definitional and analytic guidelines and even some findings.

The capacity to direct the actions of others defines and is a necessary condition of leadership, but it is only one of several characteristics leaders may possess and even require. Leaders have power over others as a consequence of office, personal influence, persuasive capacity, charisma, or coercion, but all exercise power in interaction with followers. Without followers who act on leadership directives, the title of leader is hollow. It is followers who grant authority and legitimacy, the sine qua non of those who can evoke, not simply coerce, desired behaviors (Coleman 1980, Levi 1997). Some leaders tightly delimit the behavior of followers; others expect compliance with a very limited set of dictates. But in all instances, leadership implies the existence of an organization in which a population responds to the leader's guidance.

The emphasis on followers as key to a model of leadership dates back at least to Machiavelli. Whether it is better for a leader to be loved or feared (but definitely not hated) (Machiavelli 1950 [1532], Ch. 7) continues to punctuate the debate (Majumdar & Mukand 2010). Weber's typology of legitimacy is simultaneously a typology of the grounds on which leaders have authority, exercise influence, and can demand deference (Coleman 1963, 1980; Dahl 1957; Parsons 1963a,b; Tilly 2005; Weber 1968). Fear and love may be a consequence of dominance, but they subside in importance relative to the bases for dominance provided by the social structure and political processes. Among the tools of dominance, as both Machiavelli and Weber insist, is coercion; it is not always used but is nearly always available to those with leadership power.

Yet another perspective comes from Michels (1962 [1919]), who offers a psychology of followers; they are easily led and manipulated, which gives the leaders power to transform the very goals and ends of the organization itself. Michels' view certainly resonates in some of the influential post–World War II work on leadership, in which researchers sought explanations for why so many collaborated with the Nazis and other brutal regimes. The important

Milgram experiments on obedience (Milgram 1974) and the research program on the authoritarian personality (Adorno 1950) exemplify this preoccupation.

A third perspective emphasizes the exchanges that take place between hierarchical superiors and subordinates and, indeed, among virtually all members of the relevant group (Blau 1964, Emerson 1976, Homans 1958, Thibaut & Kelley 1959), a view that resonates more with Machiavelli and Weber than with Michels. The emphasis on social networks among members of an organization and the requirement that the leaders instill norms and commitments within the group (Barnard 1938, Selznick 1957) continue to inform contemporary research on strategic interactions between leaders and followers. A long tradition of studies of industrial organization (see summaries in Miller 1992; Cook et al. 2005, Ch. 7) and a more recent experimental literature (Fehr & Falk 1999, Fehr et al. 1998) suggest that when subordinates are treated with respect, they respond with loyalty and greater productivity. Another outgrowth of this tradition is the work on brokerage, in which key actors facilitate relationships among the participants in a work site (Brehm & Gates 2008) or in a collective action (McAdam et al. 2001).

Recent research in political science and economics builds on this earlier work, often by formalizing ideas found in Machiavelli, Michels, and Barnard. However, the emphasis on principal–agent and social-exchange models has contributed to a neglect of the role of coercion, an issue to which we return below.

Scholars in other traditions also continue to wrestle with the subject of leadership. Among them are political theorists (Keohane 2010, Walzer 1973, Williams 1981), scholars of the executive head of state (for a review, see Goethals 2005), and management theorists (for a review, see Dirks & Skarlicki 2004). Psychologists have been particularly active in the field of leadership studies (Messick & Kramer 2004, Avolio et al. 2009), illuminating cognitive limits and the nature of the interactions between followership and leadership.

In addition, the popular business press generates thousands of titles on the topic of leadership. Many have the form of self-improvement manuals, offering advice on how to motivate others. A more likely source of insights on leadership is memoirs, biographies and, sometimes, hagiographies. The best of this work distils from these stories the qualities and attributes that make leaders effective in coordinating, delimiting, and inspiring action.

More closely related to the social science enterprise are the papers and cases produced by business and public policy school faculty in their role as management consultants. Some focus on business enterprises and others on political and economic development and reform efforts throughout the world. The goal of the World Bank's Global Leadership Initiative is "publication of a set of case studies on past and present capacity development interventions targeting high-level strategic leadership" (Capacity.org 2010). Cases can prove very useful as grist for developing or testing theory. Unfortunately, most of this work tends to be descriptive and taxonomic. It offers "just so" stories that are at best no more than a statement of intelligent or common-sense intuitions. The worst of the work in these traditions is simply ad hoc and glib.

A review of the social science literature reveals an equal dissensus on the characterization of leaders or leadership. For certain authors, a leader is a pivotal individual who embodies and articulates a model of the world (Henrich & Gil-White 2001). Some emphasize the charisma of leaders (Brown & Treviño 2009, Rowold & Laukamp 2009, Tucker 1968) or their transformational capacities (Avolio et al. 2009). Others describe leaders as those who communicate clearly (Dewan & Myatt 2008), manage interpersonal relationships, and set up incentive systems to solve coordination problems of a group. Leaders may be those who have secured a position of power and influence but who make difficult or unpopular decisions (Canes-Wrone et al. 2001). Finally, "leader" might simply be a synonym for the titular head of some hierarchical structure.

Suffice to say that if the little green men used this literature to prepare themselves for Earth landing, they would not have a clue about whom they would meet upon demanding, "Take me to your leader."

TOWARD A MORE INTEGRATIVE APPROACH

The seeming discordance in the literature may be misleading, however. Scholars will continue to attempt to appropriate the term "leadership" for their own particular purposes, maintaining a sterile debate over the meaning of the word. However, a reading of the research reveals five necessary conditions for leadership on which all the authors reviewed here appear to agree, though usually implicitly. Leadership is relational, asymmetric, salient, domain specific, and instrumental. For the kinds of leaders that concern us here, it also has two other characteristics: It occurs within durable organizations, and the leader has enforcement as well as persuasive powers.

Leadership is relational; one cannot be a leader without followers. The dyadic (or multilateral) nature of leadership implies that we cannot understand the role of the leader unless we also have some ideas about the objectives and resources of the (potential) followers.

The leader–follower relationship is asymmetric. The leader enjoys attention, and possibly loyalty and obedience, from the membership, but the relationship need not work the other way around. Even if we consider a leader to be the "agent" of the membership (Fiorina & Shepsle 1989), the leader still possesses a position distinct from those on whose behalf she is acting. She may be the hub for information flows, the person to whom people turn for direction, the one able to coordinate action, or all of the above. This asymmetry is reinforced if the leader also has the power to compel.

One form of this asymmetry can be made more specific: A leader is salient—that is, a leader commands her followers' attention. But salience means more than that. Part of the attraction of a leader is that the followers believe that other followers are paying attention to the same leader. Thus, generalized salience or common knowledge (see Chwe 2001) is a necessary condition for being a leader of some population.

Leadership is domain specific. An individual who commands the attention and respect of followers on certain matters may be a follower in others. We can think of a CEO in relation to the principal at her children's school. The CEO may be the leader of a firm, but it is the principal who has the power to direct and coordinate the children's education as long as they attend that school; the principal also has the last word on who advances and who is expelled. This may draw too bright a line, however. As we will see below, high-salience individuals may find ways to expand the domains over which they attract attention. Prospective followers may attribute generalized knowledge or skill to a particular leader extending outside the domain of initial relevance. Empirically, experimental subjects appear to attach status to individuals based on their superior performance on tasks irrelevant to the question at hand.

Fifth, a leader is instrumental—she is attempting to get the followers to do something. This common notion of instrumentality can obscure important differences in how authors conceive of leadership. There are at least three different ways leaders act instrumentally. The first, and most common, builds on the foundation of coordination dilemmas. Agents are assumed to have the same objectives, know the structure of the game, and understand how their actions map directly onto their individual and collective welfare. They just need some help acting in concert. To the extent there are multiple equilibria, leaders can tilt the group decision toward their preferred outcome. A second way in which leaders can act instrumentally occurs when potential followers may not fully understand the strategic situation in which they are embedded. For example, certain people may not even realize that it is in their interests to coordinate. They may fail to recognize that there is a common purpose or agenda. Here the leader does even more: She provides a model of the world that enables

followers to then impose some structure on their situation. Third, a leader may possess special characteristics—oratorical skill, a genuinely new idea, or perhaps "charisma"—such that the leader is able to transform the beliefs and possibly the preferences of the followers.

Asymmetric relationships, salience, domain specificity, and instrumentality—jointly or individually—capture only part of what is of interest about political and economic leadership. Pop stars and sports icons can have these features, but few are considered leaders, notwithstanding parental hand-wringing about the quality of role models. We note two additional important considerations in developing a political economy of leadership: Leaders operate within durable organizations and, therefore, possess a capacity to enforce. Our interest is in the discernable effects of leaders on observable group behavior, particularly within the context of defined organizations (as opposed to a loose collection of people at a ball game or in a city plaza). We restrict our examination of leadership to the context of relatively durable organizational relationships and exclude moments of ephemeral group instigation.

This emphasis on individuals who operate within the context of an organization has additional implications. Once a salient individual moves from being simply salient to occupying a specific office, that person commands more than attention. The individual also gains coercive powers to a greater or lesser degree. High-level managers can dismiss workers. Religious leaders can condemn the actions of followers, possibly excommunicate them, and certainly have them ostracized. Leaders in some organizations have recourse to physical force. As we will emphasize below, the processes through which these organizational leaders try to garner consent and effort from the membership—and to what end—necessarily occur with some degree of coercion in the background. In the language of Henrich & Gil-White (2001), leaders can be "forceful" or "persuasive." Leaders have a repertoire of tactics and resources on which to draw, but thus far, theory and empirics tend to shy away from discussing coercion as one of them.[1]

STRUCTURAL AND INFORMATIONAL THEORIES OF LEADERSHIP

The political economy of leadership has emerged from two distinct modeling traditions: the spatial voting model, with its corresponding "chaos" theorems, and the economics of information, particularly models of the firm. In order to better organize current theoretical work, we refer to the former as structural theories of leadership and the latter as informational theories of leadership. In structural theories, the leader is someone who occupies a particularly important position in some predefined institutional structure. By virtue of her position, the leader is by definition salient. She can then use her position to influence the organization in ways she prefers. In informational theories of leadership, the pressing problem is typically one of coordination. The leader provides a common focal point around which the group may coordinate.

It is worth noting that this distinction between information and structure, while useful for our purposes, breaks down rapidly once taken to the real world. Leaders generally occupy offices in predefined organizational structures and acquire and disseminate information by virtue of holding that office.

Structural Theories of Leadership

The role of leaders in the social choice tradition derives from the well-known instability in social choice (Arrow 1951) and "chaos" theorems of voting games more specifically. McKelvey (1976, 1979) shows that when policy is multidimensional, you can reach (almost)

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[1]Chwe (1990) is one exception. Although theorists of the state necessarily consider coercion, much of the political economic literature concerns itself with bargaining among well-defined parties, neglecting those who are outside the bargaining process and are simply compelled to go along with the deals elites make among themselves (Moe 2005).

any point in the policy space through some sequence of votes. We also know that important institutional arrangements, specifically agenda control, can induce stable equilibrium voting outcomes (Shepsle 1979, Shepsle & Weingast 1981). Taken together, these results seem to imply that if you can control the agenda, you can get from any status quo to (almost) any desired outcome. Leaders who know how to manipulate the institutional situation can mold outcomes to their own benefit or can tweak institutional design to suit their goals (Arrow 1951, Plott & Levine 1978).

Riker (Austen-Smith & Riker 1987, 1989; Riker 1982, 1984, 1986, 1996) builds on these results in developing his notion of "heresthetics." Rikerian leaders occupy a specific office in a predefined structure, enabling them to manipulate the levers of choice (e.g., agenda control). But more interestingly, some leaders can also affect the dimensionality of the policy space and in so doing radically alter the outcomes.

Two recent, important works build directly on this foundation, albeit in quite different ways. Canes-Wrone's work on the American presidency (Canes-Wrone 2006, Canes-Wrone et al. 2001) can be understood through the lens of Rikerian heresthetics. She seeks to explain why and when presidents take their policy appeals directly to mass publics and when they advocate policies not immediately popular with the electorate. She first models the strategic logic of public appeals and then turns her attention to presidential "pandering," defined as a president's advocacy of a popular policy even when he believes the policy is not in the country's best interests.

For Canes-Wrone and coauthors, presidential leadership means pursuing a policy the president believes to be in the country's best interests despite a dearth of popular support at the time the policy is chosen. Voters can come to understand the wisdom of such leadership, but this is not certain (Stokes 2001a,b). To model the presidential choice, Canes-Wrone proposes a game between the president, a challenger, and voters. There is a policy issue about which the president has private information. Politicians also vary in their competence or inclination to implement a particular policy. Thus, there are two points of asymmetric information between voters and the president: the president's competence and the state of the world. After receiving his information, the president chooses to exercise policy leadership if he implements the policy; by failing to implement, the president panders to public opinion. If the president exercises policy leadership, voters either learn the policy outcome or become aware that they will not know the outcome until after the election. Voters then choose the incumbent or challenger and the game—save for the election—is repeated for the second term.

The model predicts that a president will exercise policy leadership when (a) the president is highly popular, highly unpopular, or in his second term; and (b) the president believes the public misapprehends the optimal policy. A president has incentives to pander to public opinion when he is running for election, he is marginally popular, and policy consequences will not be known for some time. According to Canes-Wrone (2006), any variation in the congruence between the policy positions of the president and those of the electorate must be due to pandering. She provides both case study and statistical evidence consistent with the model's predictions.

Her work has several important implications. First, she shows that even if a particular individual has arisen to a position of high salience—in her application, the U.S. presidency—the way in which the president chooses to deploy informational resources follows a predictable strategic logic. Understanding the office and the strategic situation is perhaps more important than the occupant of the office at a particular moment (also see Saiegh 2009). Maybe our world is not so chaotic after all. Second, Canes-Wrone shows sensitivity to the empirical challenge of disentangling the office from the individual. Specifically, to test the implications about pandering and leadership, she needs to present

convincing evidence that the president has beliefs about the appropriate policy. This alone requires detailed historical knowledge. But to make the case more persuasively, she shows instances of the same individual initially taking actions opposite public opinion but then subsequently pandering.

Schofield (2006), though working out of a similar tradition, takes a radically different tack in exploring "architects of change" at critical moments in time. He argues that any set of institutional arrangements relies on "core beliefs." These beliefs take on a number of interpretations, but a critical property is that somehow the relevant population has come to hold them in preponderance. What's more, core beliefs constitute a commonly shared model of how others formulate their beliefs, preferences, and, ultimately, choices. In a world of uncertainty, core beliefs are Schofield's glue holding a dynamical system together. For Schofield, pivotal moments in history—what he calls "constitutional quandaries"—occur when core beliefs no longer conform to reality or, slightly more formally, when there is extreme variation in individual assessments of the appropriate action relative to the common, shared understanding. When these moments occur, small shifts in the beliefs of a few may trigger a cascade that results in an entirely different configuration of beliefs.

A leader is the agent most likely to trigger such a cascade. According to Schofield, "architects of change" must do two things: (*a*) communicate a model of the world in which there are specific outcomes associated with differing courses of action and (*b*) convincingly advocate a specific outcome. We can make an analogy to Hans Christian Andersen's story of the emperor's new clothes: Although the child who identified the emperor's nudity precipitated a "quandary," the child himself was not an architect of change. An architect of change must also articulate a story of what the emperor's nudity means and what should be done as a result.

Schofield gives several examples of "architects" from the past 250 years, but he readily acknowledges that where these architects come from, how they garner the attention of large numbers of people, what makes their arguments more compelling than others, and how "belief cascades" function are all outside the scope of his analysis. Majumdar & Mukand (2010), however, show that marginal changes in a leader's judgment can have discontinuous effects on the probability of successful group mobilization.

Given their common inspiration in the social choice and spatial modeling traditions, the Canes-Wrone and Schofield conceptions of leadership could not be more different. For Canes-Wrone, the leader is an office holder seeking to navigate a well-defined policy space in the context of robust and exogenous institutions. Schofield discusses leadership in the absence of virtually all these elements, save perhaps the defined policy space. From the perspective of other social scientific works on leadership, Canes-Wrone and Schofield are examining different types of leadership (Burns 1978, Hargrove 1989). Canes-Wrone's project explores the day-to-day functioning of the U.S. government and considers the president as a "transactional" (Hargrove 1989) leader who manages and attempts to implement policy in the context of a larger political and social equilibrium, an equilibrium that includes the dimensions of the policy space and the beliefs held by legislators and voters. Leaders and followers all know the game; the leader simply helps manage the process of dealing with uncertainty. Schofield, on the other hand, is interested in "transformative" (Hargrove 1989) leaders who induce discontinuous change at pivotal moments. His architects of change redefine the game that the followers believe themselves to be playing.

Informational Theories of Leadership

A common political economic approach to leadership is in the context of a pure coordination game in which players have symmetric preferences but need help coordinating on the same action or strategy. In such a setup, agents can use commonly observed cheap-talk signals to coordinate on one equilibrium or another

(Frohlich et al. 1971). Relabeling this signal as "leader" then follows naturally. From this simple beginning, several intriguing models have emerged in recent years. Some consider the structure of the game and payoffs to be common knowledge, focusing instead on credibility. Others assume fully aligned preferences and examine the role of leaders in affecting the direction of an organization and even the endogenous emergence of leaders.

One of the earlier models explicitly allowing for both a leader and learning is by Bala & Goyal (1998). They model a large-scale coordination problem in which agents are uncertain about which of two actions is optimal. In formulating their beliefs, agents learn from their immediate neighbors but also observe a "royal family." These widely observed agents turn out to have a strong influence on equilibrium selection simply by virtue of their commonly known salience.

Other work emerges from the contractarian tradition (Coase 1937), building on a specialized version of the collective action/public goods problem generally referred to as "moral hazard in teams." These models derive from principal–agent questions focusing on how to elicit optimal levels of effort (from the principal's perspective) from agents under different information structures, levels of risk aversion, and more or less complicated organizational structures.

In the most basic setup, there is some well-defined group of individuals. Each individual can contribute costly effort to the group project, deciding noncooperatively how much effort to expend. Each individual's effort is unobservable and unverifiable. It is also generally assumed that agents cannot be coerced into supplying effort. There is some function that turns cumulative effort into output, but productivity varies stochastically. Although team output is observable and can be contracted upon, the agents must choose their level of effort before they learn the value of the random productivity component. It is effectively impossible to write an enforceable contract stipulating each person's effort level.

If, as is generally assumed, the total output must be completely divided up, i.e., the sum of the payments to the team members cannot be more or less than total output, there is the additional condition referred to as the budget-balancing constraint. Holmstrom (1982) shows that, where there is a team production problem, there is no Nash equilibrium incentive contract that is both budget balancing and Pareto efficient. The intuition behind this result is that individuals will only contribute to the group project up to the point at which their individual marginal gain is equal to their individual marginal cost, even if their marginal cost of effort is far lower than the marginal team-level output.

Hermalin (1998, 2007) and Komai and colleagues (2007, Komai & Stegeman 2010) look at the role of a leader in the context of moral hazard in teams. Incomplete information is the fundamental rationale for leadership, but it is not immediately clear that it is sufficient. If all the team members have exactly the same objective function and access to private information of similar quality, then, according to the "Jury Theorem" (Condorcet 1785), simply taking votes should yield the optimal decision. But a simple voting solution misses two important pieces of the puzzle: uncertainty about the beliefs of others and the possibility of some competing interests (i.e., a strategic situation). Hermalin incorporates both these issues by modeling leaders as agents with privileged and valuable information and the undivided attention of the other team members. The leader is salient and this salience is common knowledge.

Leaders in Hermalin's world know the value of the group's productivity parameter. Although this information is valuable to everyone, a problem arises because the leader has an incentive to lie: The leader always wants to claim that the group is in the "high-productivity" state to induce all the other team members to put in their maximum effort, even if she puts in less. The other team members, anticipating this, disregard the leader's statement. Hermalin considers two possible ways the leader can credibly

transmit her valuable knowledge: "sacrifice" and "leadership by example." In the first, the leader makes a gift to the members out of her pocket. In the second, the leader exerts (costly) effort in order to influence others to follow suit.

The sacrifice solution is really just a mechanism design problem. Is there a contract that induces the leader to tell the truth and that makes the leader better off than in the situation in which the team fails to use her knowledge? Hermalin proves that there is; in the high-productivity state, the leader distributes some fixed amount to the other team members. This amount is just big enough that a leader in the low-productivity state has no incentive to copy. Note that this solution relies on the enforceability of this contract and only allows the team to take advantage of the leader's superior knowledge. It does not overcome the team production problem. The other team members still only contribute their individually rational levels of effort. The sacrifice option is still second best.

In the leadership-by-example solution, Hermalin relaxes two assumptions in the standard team production game, one explicitly and one implicitly. First, he explicitly allows the leader to expend her effort before the rest of the team decides how much effort to contribute. Second, he implicitly assumes that team members' effort levels are observable but unverifiable, i.e., all other members of the team can observe the leader's effort at no cost, but still no enforceable contract can be written on the basis of effort levels. In leading by example, the leader can signal to the team whether they are in a high- or low-productivity state simply by her effort levels. Because this action is costly, it is credible. The lead-by-example outcome is superior to the sacrifice option, since the leader's action directly contributes resources to the team project, increasing the surplus to be shared by all in addition to inducing effort from the followers.

Hermalin (2007) extends his initial model to allow for repeat interactions between the (infinitely-lived) leader and (short-lived) mem-

bers, thus allowing leaders to build reputations. The value of such a reputation is in its ability to economize on signaling costs. The more frequently a leader would otherwise have to signal, especially using the sacrifice strategy, the more valuable the reputation.

Recent extensions of Hermalin's model (Komai et al. 2007, Komai & Stegeman 2010) consider situations in which the choice of effort is binary (participate or not) as opposed to continuous. In this restricted action space, the leader's choice of effort now fails to fully reveal the state of the world; followers can be induced to contribute in situations where they would not if they knew the state perfectly. "Because there can be a *benefit* to keeping information from the followers, a group may have a motive to create a leadership position and limit how much information the leader can credibly communicate to the group" (Komai et al. 2007, p. 947, emphasis in original).

But even with a Hermalin-style leader in place, outcomes still fail to achieve first-best levels of effort. Miller (1992) summarizes the implications of a long line of research into the optimal incentive contract with the dictum: "Information asymmetries . . . and production externalities make it impossible for managers to realize the full efficiency potential of team production processes through the manipulation of short-term economic incentives alone" (p. 198).

These firm-oriented models are about optimal ways to divide up a surplus to elicit effort and compliance. Mapping theories of firm-based production onto other organizations such as unions, political parties, or churches requires reconsideration of the nature of the "good" produced. Unlike the continuously divisible output assumed in models of firms, the fundamental "good" produced by voluntary organizations is a club good, i.e., it is nonrival. The political levers in different organizations available to leaders vary, often in accordance with the group's objectives. For example, labor unions collectively bargain for an employment contract; the benefits of a union contract cannot be allocated across individual members to create

any system of incentives for member contribution to the union.

Furthermore, the relationship between rank-and-file union members and the union leaders differs from the manager-employee relationship. It is more similar to that between legislators and chief executives as analyzed by Fiorina & Shepsle (1989), who emphasize the conundrum of whether it is better to consider a leader as a principal or as the agent of her nominal followers. The union leader cannot allocate wages directly to union members conditional on the quality of the union contract. Rather the leader is, in some ways, the agent of the membership and must convince members to contribute through dues and, when necessary, picketing and striking. But once the union's organizational rules are in place, the leader will possess the power to enforce them. Although she may not easily exclude or expel someone from the union, as the holder of the leadership office, she will nonetheless have other means of enforcement, ranging from social pressure and public humiliation to fines.

Additionally, many scholars of the firm presuppose that the task, production function, and objectives of all the team members are well-defined and common knowledge. The Hermalin model and extensions are silent on how the leader and followers coordinate on what the organizational objectives are in the first place, leaving little room for the inspirational role leaders seem to play in the real world, where organizational goals, tactics, and the beliefs of others are frequently uncertain or even contested.

Dewan & Myatt (2007) offer a model more relevant to politics: There are common interests among group members and the leader but uncertainty about both the exogenous state of the world and the beliefs of others. The fundamental problem is coordinating a large group on one of two actions without the optimal action being known. The Dewan & Myatt model also makes an additional Michelsian assumption: The followers, "activists" in this vocabulary, want to be told what to do.

In their model, each activist receives a noisy private signal as to the preferable course of action, and the precision of this signal constitutes that individual's "sense of direction." Activists evaluate the information they receive and, in a manner similar to that in Feddersen & Pesendorfer (1998), calculate the relative likelihood of being pivotal for one course of action. Ultimately, each activist decides which course of action to advocate. If a sufficient number supports a particular policy, the entire group gets the payoff associated with that action. If the group fails to generate a critical mass for either option, the group fails at its task. Dewan & Myatt formulate a novel solution concept akin to Bayesian perfection and show that, without a leader, the equilibrium threshold is biased toward the option with higher coordination barriers.

Dewan & Myatt (2007) then introduce the possibility of a leader. Similar to Hermalin, "[i]n our world, the emergence of a leader corresponds to the introduction of public information" (p. 829). More concretely, a leader offers up a "speech" in which she attempts to communicate the information she possesses. They analyze the conditions under which a leader wants to dictate a specific action, which removes the risk of coordination failure; or advocate for some threshold that would bias the group threshold in a particular direction but takes advantage of the information distributed across the group. They then consider the conditions under which the members will "follow the leader." Dewan & Myatt derive what they label the "Michels' ratio," in which the "need for direction" parameter governs the extent to which it matters which option the group coordinates on:

$$R \equiv \frac{\text{barriers to coordination} \times \text{sense of direction}}{\text{need for direction}}.$$

They show that leaders will prefer to dictate whenever $R > 1$ and will advocate a particular threshold whenever $R < 1$. Similarly, when $R < 1$, group members will all adopt the common threshold that the leader advocated. This is so because when "she announces her signal, other activists know what she knows. As they all have the same information at the leader's

disposal and share her preferences, they act in the way she would like them to" (Dewan & Myatt 2007, p. 837). When $R > 1$, the leader will advocate for a particular course of action, and followers will ignore their private information to adopt her recommendation.

The Dewan-Myatt model formalizes several of Michels' insights while providing (*a*) a technical vocabulary for discussing the concept of leadership in a group and (*b*) a way to understand when a leader (or leadership cadre/oligarchy) will emerge.

Dickson (2011) develops another cheap-talk model in which there are competing interests between the leader and the two followers, a coordination problem, and uncertainty on the part of the followers about the state of the world and the interests of the leader. The leader, again, possesses valuable information and holds a salient position; the identity of the leader is taken as given. In the model, there are three states of the world. In two of the states ("agreement states") the leader and both followers have preferences that are aligned perfectly. In the third state ("disagreement state"), the followers are involved in a battle-of-the-sexes game in which both want to coordinate on the same action but differ as to which action they want to coordinate on. The leader has a preference for one of the two actions as well, but this preference is unknown to the followers. The leader sends a signal as to the state of the world and then the two followers pick their actions. In the equilibrium considered, a self-interested leader will never announce the disagreement state, and rational followers will update beliefs about the state based on priors about the leadership type and the probability that a particular state obtains. Followers will coordinate on the leader's announcement in every state of the world, allowing the leader to get her most preferred outcome in the disagreement state. What makes this situation particularly interesting is that the leader can affect followers' behavior to her benefit even if the followers do not believe the leader's announcement to be credible as a statement of fact. In the language of Dewan & Myatt, the need for coordination coupled with

uncertainty can provide a salient leader with the space to manipulate outcomes.

Not surprisingly, the critical component underlying these models is the transmission of information within the group. The leader offers a signal, which members must be able to observe at low cost. The importance of information for group production harkens back to Barnard (1938) and is congruent with Arrow's (1974) argument that the manner of information aggregation uniquely defines an organization. Information transmission affects the formation and modification of individual beliefs and the willingness of individuals to comply with leaders' demands (Arrow 1974, Levi 1997). Effective communication between the leader and the rank-and-file about both the leader's preferences and information is critical for persuasion (Lupia & McCubbins 1998).

Bolton et al. (2008), in examining the organizational challenge of effectively coordinating group action when adapting to changing conditions,[2] reveal conditions in which information flows from followers to leader as well as vice versa. In their model, information about the state of the world trickles in gradually in the form of private signals to the (exogenously identified) leader and set of followers. Specifically, the leader relies on her prior beliefs to articulate a "mission statement," i.e., her best guess as to the state. Next the followers observe their signals and take actions. The leader then observes more information about the state and takes her action that determines the payoffs for all. Note that a leader in the Bolton et al. model is more than simply a salient source of information—the leader here takes a binding action that determines the outcome for the entire group.

A tension arises because followers must decide how much to incorporate their private signals into their choice of actions, which in turn depend on how they expect the leader to react to new information. If the leader is not

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[2]Dessein & Santos (2006) and Ferreira & Rezende (2007) address similar problems but without incorporating a role for leadership.

expected to deviate from her announced mission, then followers are better off ignoring their own information. Bolton et al. build on previous work (Blanes i Vidal & Moeller 2007; Gervais & Goldstein 2007; Van den Steen 2004, 2005) by allowing the leader to be "resolute," i.e., she overestimates the precision of her prior beliefs and is therefore slow to change her mind as more information becomes available. They show that the coordination benefits emerging from a resolute leader (relative to a fully rational leader) generally outweigh the risk of organizational maladaptation. The benefit derives from the assumption that followers know the true variances of all signals. The implication is that followers follow even when they know that the leader is overconfident in her own judgment.

The Bolton et al. model also opens up a role for something like corporate culture (Hermalin 2001, Kreps 1990, Levi 2005, Miller 1992), that is, a statement of principles delineating the manner in which decisions will be taken and the rights of the membership and leadership vis-à-vis one another. Suppose the leader's signal is simply an aggregation of the actions taken by the followers. If the leader is very resolute, the followers know any information conveyed by their actions will be ignored and that they are better off following the mission statement. A less resolute leader allows for weaker coordination but learns from the actions of the followers, enabling better organizational adaptation to changing circumstances. Both are equilibria. If a prospective follower is unsure which equilibrium the leader (and other followers) have selected or cannot reasonably predict how his organization will respond to changing events, he is unlikely to be willing to join or commit resources to the organization.

Endogenous Leadership

The models discussed thus far take the leader to be exogenously identified. A few recent papers have begun to consider endogenously emerging leaders. One set of papers (Huck & Rey-Biel 2006, Kobayashi & Suehiro 2005, Komai & Stegeman 2010) extends the Hermalin (1998) model of leadership in the team production problem. Although the details differ across models, each essentially shows that, under certain conditions, leadership is welfare improving (or even first best) and that a leader–follower situation can constitute an equilibrium. Nevertheless, the political process by which this "optimal" individual is identified is nowhere specified; these papers make references to leaders either being "appointed" by some unidentified appointer-in-chief (Komai & Stegeman 2010) or they simply "emerge" probabilistically when one player or another decides to move first (Huck & Rey-Biel 2006, Kobayashi & Suehiro 2005).

Dewan & Myatt (2008, 2009) take a more nuanced step toward endogenizing the emergence of a leader (also see Majumdar & Mukand 2010). Again the fundamental social dilemma they build upon is a coordination problem. Agents advocate a particular policy in a one-dimensional policy space. They care about the appropriateness of the policy for the (imperfectly known) situation as well as unity with others in the group. A key assumption in the model is that agents are ex ante symmetric and that this property is common knowledge among all agents.

Leaders are again modeled as "information sources" (Dewan & Myatt 2008, p. 356) or "informative signals" (p. 354) whose preferences are aligned perfectly with those of the membership. Potential leaders observe private, independent signals as to the state of the world; the signal is correct in expectation but may be imperfectly received by the leader. The precision of a leader's understanding is her "sense of direction." Each (potential) leader can then address the membership by sending a message. The message the leader sends to the membership, however, is noisy; its precision is referred to as the leader's "clarity of communication."

Agents must decide how to map the messages they receive (i.e., including any distortion due to a leader's misapprehension or miscommunication) into an advocated policy that takes into account both the agent's updated beliefs

about the state of the world and the updated beliefs about others' beliefs. In the unique perfect Bayesian equilibrium, the weight a follower assigns to a leader is increasing in both the leader's sense of direction and her clarity of communication. As the group's concern for cohesion increases, the clarity of communication becomes more important than correct apprehension of the environment.

Dewan & Myatt's key advance is extending the model to allow agents to endogenously allocate attention to particular leaders. Fixing the clarity of the leader's message, the agent's understanding of that message improves as he devotes more attention to that leader. In equilibrium, agents only listen to the clearest communicators, and among that elite group of clear communicators, those with a stronger sense of direction receive proportionately more attention. Furthermore, if the clearest communicator is sufficiently better than the second best, she can become a de facto "dictator" in the sense of enjoying exclusive attention from the membership.[3]

The equilibrium in the strategic clarity game has a couple of interesting comparative static properties. First, an increase in any leader's sense of direction weakly increases the clarity of communication of all leaders. The intuition behind this result stems from the idea that an increase in a leader's sense of direction forces the others to compete harder to retain the attention of the members. Second, as the weight that agents place on group unity relative to policy increases, both the clarity of communication and the average appropriateness of the agents' advocated policy increase. When members "desire unity, they seek out a common party line and so leaders respond by speaking clearly. Clearer communication allows activists to develop a better understanding of their environment" by shifting attention to the leaders with the strongest sense of direction (Dewan & Myatt 2008, p. 363).

Although Dewan & Myatt make an important advance in allowing "followers" to endogenously choose their leaders, they also expose important gaps. First, in the Dewan-Myatt world, the set of candidates for leadership positions is exogenous. An obvious area for future modeling work is allowing individuals to invest in acquiring information, oratorical skills, or both and then letting them declare their desire to "lead." Second, the attention-maximization motive surely drives some (potential) leaders, but it seems reasonable to assume that most individuals who desire the attention of a group desire it for some end that may or may not coincide with what the membership wants ex ante, an issue Dewan & Mayatt only begin to address.

Returning to our economics-of-information framework, these recent modeling exercises explore the two important issues of competing interests and coordination, but at the cost of treating them separately. Hermalin (1998, 2001, 2007) uses uncertainty about the state of the world to generate a role for a leader and explores the conflict of interest between the leader and the group, but he ignores coordination problems. Bolton et al. (2008) and Dewan & Myatt (2007, 2008, 2009) introduce uncertainty about both the exogenous state of the world and the beliefs of others, but they consider only common interests. Dickson (2006, 2011) incorporates some measure of divergent preferences and coordination but requires the leader to be fixed and exogenous. No model so far encapsulates noninformational tools available to leaders, such as coercion, excommunication, and demotion; nor is there sufficient attention to competing interests, coordination, and endogenous leadership.

Leadership and the Formation of Beliefs and Preferences

How followers develop expectations about the likely future behavior of both the leader and their fellow members lies at the heart of both the Dewan & Myatt (2007, 2008) and Schofield

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[3] If the best leaders are so talented that they can get their point across quickly they may even have an incentive to "obfuscate," i.e., speak less clearly than they are capable of doing so as to maximize the attention they receive from the followers.

(2006) pieces. The Dewan-Myatt world, populated by the standard game-theoretic Bayesian maximizers, lacks a role for leaders in affecting the scope of the organization and some conception of how leaders might act to inspire and transform members' behavior. Schofield takes a more complicated and less well-defined tack to identifying core beliefs and belief cascades. Although he presents a promising schematic for understanding discontinuous change (at least ex post), he still nominally retains the assumption of Bayesian agents while readily admitting that he has no way of explaining where a leader comes from, what makes one more convincing than another, or how information transmission may or may not result in a belief cascade.

Dickson (2006) makes an important contribution here by explicitly relaxing the assumption of Bayesian agents. He shows that, from an evolutionary perspective, non-Bayesian learning can be evolutionarily stable in a coordination game not dissimilar to the strategic situation described by Dewan & Myatt. Simulation work (Siegel 2009) and models of network interaction and network games (Chwe 1999, 2000; Jackson 2008) have shown that the structure of network connections among agents has strong effects on the distribution of beliefs and, ultimately, choices across that group, providing some foundation for modeling how leaders can influence others and whether and how belief cascades might occur. The fully connected yet locally independent network structure of Bala & Goyal (1998) is but one of many possible structures. This work reinforces the importance of context and the details of the situation in order to link general theories with organizational reality.

Exploring how organizations and leaders affect the members' beliefs and behavior is a promising and well-defined avenue for research (Levi 2005). As Dickson (2006, pp. 10–11) points out, "the best way to learn (or update beliefs) depends on what it is exactly that others do—and how it is exactly that others are learning" and "group membership can affect individual cognition in equilibrium because individual belief updating behavior is itself determined in equilibrium." Dickson's argument comports with Henrich & Gil-White's (2001) notion of prestige, in which agents willingly defer to select others.

EMPIRICAL WORK

Much of the recent wave of research on leadership has been theoretical. Nevertheless, empirical regularities, though harder to come by, are beginning to emerge.

A basic question is whether there is any evidence that the identity of the leader makes a discernable difference for policy or organizational performance. The key methodological problem is breaking the obvious endogeneity between who gets to lead and the leader's performance; elected leaders who perform poorly are likely to be voted out. A few studies have begun the process of resolving this thorny issue, but there is still considerable work to be done.

Jones & Olken (2005) exploit instances in which heads of state die in office from natural and accidental causes to examine the effect of exogenous leadership changes on rates of economic growth and other policy outcomes. Even with only 57 cases and a dependent variable as complex as economic growth, they find consistent evidence that changes in growth rates are associated with changes in the identity of the national leader. Furthermore, these effects are most pronounced in autocracies. We can interpret the Jones & Olken findings as evidence for an important structural role for leaders and leadership: the individual occupying a position of peak power and authority in government can affect macro-level outcomes independent of the forces that installed that individual in the first place.

Humphreys et al. (2006) look at a more micro-level setting with findings relevant for both the structural and informational theories of leadership. Their solution to the methodological problem of endogenous leadership is a field experiment in which they randomly assigned discussion leaders to a series of community meetings from which the government of São Tomé and Príncipe sought to infer some

sort of consensus on how to approach the country's recently discovered oil wealth. Humphreys et al. seek to determine whether there is a "leadership effect" in a deliberative democratic setting, i.e., does the identity of the discussion leader affect the group's expressed preferences? Group leaders presented information and then led discussion on a variety of preselected topics. The leader then recorded the group's preferences on a series of questions as well as the degree of consensus achieved. Using a leader fixed effects model, Humphreys et al. find that between one-fifth and one-third of the cross-group variation in expressed preferences can be attributed to the identity of the leader. When considering consensus, "two-thirds of the variation in the reported level of consensus achieved during the discussions can be accounted for on the basis of leader-specific fixed effects alone" (Humphreys et al. 2006, p. 608). They present suggestive evidence that the leaders shifted the expressed group preferences toward the outcomes the leaders preferred.

Because the groups made decisions through consensus, appeals to heresthetics or even simple agenda control cannot explain the outcome. Furthermore, it appears that leader characteristics such as gender and age had effects that are not obviously subject to immediate manipulation by the leader herself (also see Chattopadhyay & Duflo 2004).

The Humphreys et al. findings seem to pose a challenge for the economics-of-information school. They offer no evidence of learning, persuasion, or leadership communication of information. Humphreys et al. conclude that participant self-censorship or leader misreporting are the most likely explanations for the consistent leadership effects they find. However, further study in different settings and with different treatments is surely needed to illuminate the mechanisms at work and to assess the robustness of the findings.

A second body of empirical research draws directly on informational theory. It focuses not on who holds the position of leader but on whether there is a leader and the mechanisms by which a leader can improve group outcomes. The simple coordination game poses the question of whether a salient individual can help groups overcome coordination problems. It turns out the answer is "yes," with some interesting subsidiary findings.

Wilson & Rhodes (1997) constructed an experiment in which groups played a simple coordination game and one player at random was selected to be the leader. The leader sent a private signal to each follower. Put in the terms of the discussion thus far, the leader was salient and the salience was common knowledge, but the signals could vary across followers. Wilson & Rhodes found that having a leader does increase coordination significantly but fails to result in full coordination. They also manipulated the extent to which the leader's and followers' interests were aligned. Only when the "good" leader was very likely did followers obey the leader's recommendation. Their findings "indicate that uncertainty about a leader's type can markedly affect the impact of leadership. Subjects are neither capable of making fine distinctions across levels of probability nor do they precisely recognize the thresholds at which leader signals remain credible" (Wilson & Rhodes 1997, p. 787).

Eckel & Wilson (2000, 2007, 2009) conducted a series of experimental coordination and public goods games in which the "leader" (again simply a player observed as salient by all the other players) was either "high status" or "low status," with status determined by the player's performance on a trivia quiz. In general, higher-status individuals were mimicked more regularly than lower-status individuals and were also more successful at moving the group to superior equilibria. The status effect translates prowess in one area to unrelated strategic situations, underscoring the permeability of leadership's domain specificity. However, the finding has limited importance, given that the conditions affecting the generalization of influence are not well understood outside the experimental setting.

Several papers have sought to explore different predictions of the Hermalin (1998) model in an experimental setting, generally focusing on

leadership by example. Recall that the strategic situation is a voluntary contribution game with divisible output and a stochastic productivity factor. The leader is the player who knows the value of the productivity variable and can move before the follower(s); the leader's move is observed by the follower(s).

Of those using experiments to explore the leader–follower game, all except Komai & Grossman (2009) use full-information versions in which both the leader and follower(s) know the value of the state variable but the leader still gets to move first (and have her move observed by all). In the full-information game, subjects are more likely to contribute after having observed the leader's contribution than in situations where everyone must move simultaneously. For example, Moxnes & van der Heijden (2003) document leadership-by-example effects in sequential, full-information, public-bad games, although the effect degrades over experimental iterations. It appears leaders can set an example even where they do not need to transmit information. A common finding across these papers is evidence of "reciprocity" or "emulation," with followers typically doing better than leaders.

The experiments pose the question of whether signaling or reciprocity explains how adding a leader improves cooperation. On this there is some dispute. Certain carefully executed designs reveal a strong signaling role for leaders, but in more complicated and, arguably, more realistic settings involving repeat play, other considerations become relevant. In the experimental setup of Potters et al. (2007), (*a*) each value of the productivity factor implies a specific equilibrium prediction, and (*b*) followers and leaders are shuffled randomly between rounds of play. They find that in the incomplete-information setting, leading by example increases total contributions by 50% and follower contributions by 73% compared to a simultaneous-move (no leadership) benchmark. Furthermore, this increase in follower contribution rates is much larger under incomplete information than under complete information, implying a strong and

possibly dominant role for signaling compared to reciprocity. On the other hand, Meidinger & Villeval (2002) find evidence for reputation and reciprocity. They use an experimental design in which leaders and followers are paired together for the duration of the experiment with this fact known to the participants.

Güth et al. (2007) extend the complete-information model in two interesting directions: They endow leaders with the power to mete out punishment in the form of exclusion from subsequent rounds of play, and they allow for different leadership-selection mechanisms including rotating leadership and endogenous leadership selection. They find that groups with leaders capable of punishing followers have significantly higher contribution rates than groups with no leader or "weak" leaders. When leaders are exogenous, it does not matter whether the leader holds her position for the entire experimental episode or whether leadership rotates. Once leadership is endogenous, only 40% of groups are able to successfully appoint a leader even though groups with leaders perform much better than those without. This finding of Güth et al. must be taken with a few grains of salt, however, because their leader-selection process required groups to achieve consensus on whom they would be willing to accept as a leader without engaging in any communication. Intriguingly, leaders who benefit from exclusion power generally want to remain leaders but the followers often demur, whereas leaders without the ability to sanction followers generally refuse to take another term as leader even though their followers want them to do so. Followers appear reluctant to "take their medicine" in the form of allowing another to punish them for free riding, even if this punishment is in the followers' best interests.

A recent pair of papers reveals that the earlier findings may not be robust in more interesting group settings. Komai & Grossman (2009) use a standard sequential contribution game under incomplete information, manipulating the size of the group. They find that the effectiveness of leadership by example degrades significantly as the group size increases from four

to nine. Levati et al. (2007) use a setup nearly identical to that of Güth et al. (2007) but allow players to have different initial endowments from which to contribute. Although groups with leaders showed significantly higher contribution rates than those without, heterogeneity reduces the influence of a leader in inducing contributions. More interestingly, heterogeneity eliminates any benefit from endowing the leader with exclusion power, and, in situations where the degree of group heterogeneity is unknown to followers, leadership has almost no effect on contribution rates. It appears that when the leader sets an example but there is notable inequality in the group, the leader's example is insufficient to improve contribution rates.

Dickson's (2011) experimental findings also pose a challenge for the economics-of-information perspective. Followers in his experiments were overly credulous of the leaders' statements, failing to take into account the leaders' incentives to misrepresent the state of the world. Recall that in the Dickson model/experiment there are three states of the world; the leader and followers perfectly agree on the correct course of action in two states but disagree in the third. In all three states, the followers want to coordinate on an action, but in the disagreement state, their preferences diverge. Leaders, too, have preferences over which action to take in the disagreement state. A leader knows the true state and her preferences perfectly whereas the followers are uncertain about both pieces of information. Dickson expects that leaders' announcements as to the state of the world will prove focal for the followers as they choose actions, and in his laboratory experiments, he finds consistent evidence that followers use the leader's announcement as a focal point. Followers coordinate at very high rates whenever the leader announces an agreement state but at a lower rate when the leader announces a disagreement state.

Dickson, unlike the other experimenters reviewed, makes a small bow toward external validity. He solicits followers' posterior beliefs about the true state and turns up some interesting findings. He finds that, first, followers coordinate at slightly lower rates when the leader's announcement is not credible; this should not occur if agents are fully rational Bayesians. Second, followers are systematically failing to account for the leader's incentives to misrepresent the state. Even when the leader's announcement of an agreement state could not be credible given the priors for leadership type and states of the world, followers guessed that the leader was telling the truth about 40% of the time. Furthermore, Dickson finds that experimental subjects do not improve in this regard as they gain experience playing the game, nor do they seem to be reacting to the possibility that some leaders may place a value on being "honest." He concludes that followers' "beliefs about the state of the world are systematically biased away from Bayesian judgments, towards messages about the world that they receive from Leaders" (Dickson 2011, p. 29).

This initial wave of rigorous empirical work has undoubtedly posed many interesting questions that will keep researchers busy for many years. But two key shortcomings are worth noting. First, the artificiality of the settings and the relative inattention to external validity pose serious limits to what these experiments tell us about how the world actually works (McDermott 2002). Second, in all but two of the pieces reviewed here (Levati et al. 2007, Güth et al. 2007), the emergence of the leader is completely exogenous. Even in these two exceptions, the process for leader selection employs a very particular voting mechanism that sets a high bar. In general, the experimental manipulation fundamentally involves comparing different "types" of leaders, leaving aside how a leader comes to possess the valued information or how potential followers come to know (or believe) that a person may possess valuable data.

How does a group choose a leader? The Dewan & Myatt (2008) model and other stories about leader choice pose what we call the "*Life of Brian* problem," recalling a scene in the 1979 Monty Python film in which several potential messiahs address a skeptical crowd that is trying to decide which (if any) of these prophets is

the true messiah and worth following. Although this may occur, our conjecture is that the most common way in which a leader emerges is not by addressing a crowd ab initio but rather by occupying an office; the holder of this position is expected to have better information. Thus, leadership implies organization and some regularization of social interaction. This conjecture also implies that a key area for more empirical scrutiny is those moments when organizations and the rules and "culture" that they embody are defined. These rules determine what knowledge the membership can rationally attribute to the leader.

Systematic consideration of leadership in concrete organizational contexts is therefore a necessity that will likely bound the availability of experimental opportunities needed to rigorously establish causal effects. As the empirical work from Canes-Wrone demonstrated, it is quite difficult to disentangle the causal effect of a specific individual from that of the office. Empirical strategies to determine the effect of a leader (distinct from that of leadership) are still in their infancy. The rich case-study literature in history, political science, anthropology, management, and other disciplines is full of data about what leaders do and how they interact with followers, but—as far as we can tell—a methodical mining of this literature is still a pipe dream.

OPEN QUESTIONS AND FUTURE DIRECTIONS

Recent contributions from political science and political economy to the literature on leadership reveal that studying pivotal and important individuals implicates virtually all of the thorniest issues confronting social scientists today, from instability and chaos in multidimensional voting situations to the origins of preferences and human cognition. It is therefore hardly surprising that we have a rich but incomplete set of theoretical arguments as well as a paucity of empirical generalizations. Nevertheless, in the past two decades, a more refined and formalized discussion of what it means to

be a leader is emerging. Much of this work depends on the characterization of the leader as a public and commonly observed source of information. The recent experimental work demonstrates that someone occupying this position of leadership can affect the beliefs and behavior of group members.

We have also mentioned shortcomings and challenges in the literature, among them difficulty in designing empirical studies that account for the endogeneity of leaders. We conclude by identifying two additional holes in the literature.

The first is the role of force and coercion. Historically, social scientific studies of leadership have emerged out of the study of "voluntary organizations," e.g., firms, labor unions, churches, and social movements embedded in democratic societies. Followers are free to withhold contributions or leave the organization entirely. Little mention is made of the leaders' abilities to coerce membership participation. Indeed, Hermalin (1998, p. 1188) claims leadership is noncoercive: "Leadership is distinct from authority because following a leader is a voluntary, rather than coerced, activity of the followers." Clearly, however, enforced participation is part of much of political life whether we choose to acknowledge it or not. Some form of coercion often lurks in the background of current thinking. For example, the threat of being fired from one's job can be very powerful motivation indeed, eliminating the need for inspirational leadership in some circumstances. Levi's notion of "quasi-voluntary compliance" (1988, 2006) relies on the backstop of coercion. But Hermalin's distinction is an interesting one. It seems to imply that someone occupying the position of salience or authority—call her an "administrator" for now—has a *choice* over how to gain compliance from a population: either use the available tools of coercion or act as a "leader" by, e.g., leading by example. Current theory gives us little guidance as to when we might see an administrator relying on one or the other.

It also seems reasonable to imagine that followers will react to coercion in different ways

depending on the larger situation at hand. Will followers find coercion objectionable and try to flee the organization, or will they support the leader's use of such tools? Finally, we can imagine that the availability of coercive tools for an administrator is ultimately endogenous. When is it in the interests of followers to provide the administrator with the tools to coerce them down the road?

The second shortcoming is more normative. How can we assess the outcomes of leadership and the processes by which leaders achieve their objectives? We know that leaders can manipulate outcomes, even—or perhaps especially—in democratic settings. However, we have yet to fully explore actual political contexts in which manipulation is more likely and with what consequences. There is, of course, important work on this subject. Particularly telling is the analysis offered by Bates et al. (1998), who combine formal theory and interpretive data to explain the fundamental shift in Serbian politics that helped contributed to the breakup of Yugoslavia. Slobodan Milošević, faced with

an election he could not win, transformed the dimensions of politics. He did this by making fear of Croat attacks on Serbs both salient and credible. Milošević conveyed information but also effected a structural change. The result was a winning coalition, which ultimately set him and his backers on the path to ethnic violence and war. Leadership, as this case demonstrates, does not always improve aggregate welfare, and we need to know more about the conditions under which it does and does not.

The use of coercion and the consequences of manipulation are important political phenomena that the literature on leadership has still to address. Even so, the current and growing research program has improved our understanding of coordination of group outcomes, the quality of leadership, and leaders' capacity to affect choices, beliefs, and policy. With further advances in theory and, particularly, theoretically informed empirical work, we expect even greater illumination of what leadership means, what it does, and what we still need to learn about it.

DISCLOSURE STATEMENT

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