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WILLIAM HARRISON RIKER
1920–1993

A Biographical Memoir by
BRUCE BUENO DE MESQUITA AND
KENNETH SHEPSLE

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William H. Riker

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BY BRUCE BUENO DE MESQUITA AND
KENNETH SHEPSLE

WILLIAM RIKER WAS A VISIONARY scholar, institution builder, and intellect who developed methods for applying mathematical reasoning to the study of politics. By introducing the precepts of game theory and social choice theory to political science he constructed a theoretical base for political analysis. This theoretical foundation, which he called “positive political theory,” proved crucial in the development of political theories based on axiomatic logic and amenable to predictive tests and experimental, historical, and statistical verification. Through his research, writing, and teaching he transformed important parts of political studies from civics and wisdom to science. Positive political theory now is a mainstream approach to political science. In no small measure this is because of Riker’s research. It is also a consequence of his superb teaching—he trained and influenced many students and colleagues who, in turn, helped spread the approach to universities beyond his intellectual home at the University of Rochester.

THE EARLY YEARS

Bill, as he was known to his friends, was born in Des Moines, Iowa, on September 22, 1920. He was the much-

cherished only son of Ben and Alice Riker. Ben, after whom Bill would later name one of his own sons, owned a bookstore in Des Moines. The father's love of books was shared with his son, who was taught to read at the age of three. Bill's ability to learn, precociously revealed, continued with him until his last breath.

In a pre-Depression depression in Iowa the Riker family bookstore failed in 1925. Facing hard times, the family moved to Battle Creek, Michigan, and then on to Detroit. Bill's favorite recollection from his Michigan years was that he was given an air rifle for perfect attendance at Baptist Sunday School. The family's fortunes improved following a move to Indianapolis, Indiana, in 1932. There Ben Riker established a fine bookstore at L. S. Ayres, the well-known and innovative Indianapolis department store. Presaging his son's later prominence and intellectual rigor, Ben Riker himself became a highly influential book dealer. When John Bartlow Martin, a well-known journalist, later speechwriter for Adlai Stevenson, John Kennedy, Lyndon Johnson, Robert Kennedy, Hubert Humphrey, and George McGovern, and ambassador to the Dominican Republic, wrote a personal history of Indiana, Alfred Knopf, Sr., consulted Ben Riker for advice on the book's merits. Bill's father disliked the manuscript, noting that Martin allowed his judgment to be influenced by his "political, social, and economic prejudices." He went on to note that "Most literate Hoosiers—who are the only ones who buy books and in whom I am chiefly interested—will not accept the book as a true picture of Indiana. . . ." (<http://www.indianahistory.org/pub/traces/jbmart.html>). The father's passion for even-handed objectivity seems to have been inherited by his son. Just such dispassionate even-handedness and analytic objectivity were the driving passions of Bill Riker's intellectual life.

Following graduation from Shortridge High School in

1938, Bill went to DePauw University, from which he graduated in 1942. Bill worked for RCA following his graduation. There he learned to understand something about how complex organizations function, a subject that continued to fascinate him during his years as a Ph.D. student at Harvard (1944-48), where he wrote a dissertation on the Congress of Industrial Organizations.

Bill married Mary Elizabeth Lewis (M. E.) in 1943, a loving union that lasted for 50 years until Bill's death. M. E. and Bill had four children: two daughters and two sons. One son, Ben, died tragically in an automobile accident in the summer of 1973 while returning with friends from a vacation in Hudson's Bay. This tragedy made even stronger the deep ties of affection that made and make the Riker family such a wonderful group of people. Bill's merits in no small part are due to the support and encouragement he had at home. That encouragement was tempered as well by M. E.'s ability to keep Bill's feet firmly rooted to the ground. On one occasion, for instance, one of us (B.B.dM.) vividly recalls sitting in the Riker living room as Bill explained that he had kept track of his score in over 250,000 games of Solitaire because he was interested in whether randomness really existed. M. E. quickly pointed out that Bill was too cheap to replace the deck of cards (this was before computer Solitaire), so that the cards stuck together when he shuffled, facilitating patterns across games. Alas, he had to admit it was true.

During his years at Harvard, Bill established himself as an independent-minded, innovative intellect. Richard L. Park, a classmate at Harvard, recalled that the other graduate students thought Bill both brilliant and extremely odd. Indeed, he was odd. At a time when other political scientists were absorbed with descriptive case studies Bill was struggling with how to study politics more analytically. He

was searching for a method that would serve as the platform upon which to build a science of politics. That method was to begin to take shape in his mind a few years later.

Following completion of his doctorate in 1948 Bill became an assistant professor at Lawrence University (then Lawrence College) in Appleton, Wisconsin. He remained at Lawrence until 1962, having risen to the rank of professor. Bill maintained close ties with friends at Lawrence and sustained a deep affection for the opportunity Lawrence gave him to explore his ideas about politics. Lawrence University returned the admiration and affection, awarding Riker an honorary doctorate in 1975.

While at Lawrence, Bill studied a 1954 paper by L. S. Shapely and Martin Shubik in which they developed a mathematical argument for what they called a "power index." The power index offered a mathematical formula expressing a legislator's power as a function of his ability to swing decisions by turning a losing coalition into a winning coalition. It exemplified a new vein of literature that addressed political processes in the language of mathematics, including the work of John von Neumann and Oskar Morgenstern, Duncan Black, Kenneth Arrow, and Anthony Downs. Riker rapidly introduced this work into his curriculum at Lawrence and used it as the basis for his new science of politics. He had the vision to see how these strands of research, derived mostly from economics but ironically with little impact in that discipline at the time, could be put to powerful use in building a science of politics. The remainder of his professional life was devoted to developing this science through research, teaching, and institution building.

BUILDING A POSITIVE THEORY OF POLITICS

In the mid-1950s Riker adopted and built upon a significant array of approaches to the study of political phenom-

ena, including methodological individualism, an emphasis on micro-foundations, game theory, spatial models, axiomatic set-theoretic treatments of rational action, and generalized Condorcet results, questioning the validity of processes for collective decision making. Between 1957 and 1959 Riker wrote three formal papers that indicated his initial steps toward his eventual theoretical synthesis. Two papers drew on Shapely and Shubik's formulation of the power index and a third paper set about determining whether Arrow's Possibility Theorem, which predicted that n -person voting procedures for more than two outcomes should demonstrate an inherent instability, pertained to actual voting practices (1957, 1958, 1959). Whereas these papers were mathematical and attempted to draw generalized conclusions by combining theoretical deduction with empirical tests, they did not as yet put together the pieces that would later characterize positive political theory. Notably, even though Riker was engaging in experiments in coalition formation using a game-theoretic structure, neither game theory nor an explicit "rational action" model was relevant to these early papers.

Riker also wrote two papers published in philosophy journals before the close of the decade. These papers discuss the importance of carefully circumscribing the events defining a scientific study and the need to base science on "descriptive generalizations" (1957, 1958). In these articles Riker challenged the standard view in political science that promoted the study of the idiosyncratic details of rare and influential events. This challenge to the case study method and to so-called thick description remains at the core of methodological debates today.

By 1959, when he was selected as a fellow at the Center for Advanced Study in the Behavioral Sciences, Riker had a clear and explicit vision of the theoretical approach he was

to pioneer. In his application to the Center he wrote, "I describe the field in which I expect to be working at the Center as 'formal, positive, political theory.'" He elaborates, "By Formal, I mean the expression of the theory in algebraic rather than verbal symbols. By positive, I mean the expression of descriptive rather than normative propositions." This document is telling of Riker's own sense of intellectual development, and his reflective and unabashed program for political science. He states,

I visualize the growth in political science of a body of theory somewhat similar to . . . the neo-classical theory of value in economics. It seems to be that a number of propositions from the mathematical theory of games can perhaps be woven into a theory of politics. Hence, my main interest at present is attempting to use game theory for the construction of political theory.

Riker spent the 1960-61 academic year at the Center. In this fertile year away from the responsibilities of teaching he wrote *The Theory of Political Coalitions* (1962), which served as a transforming study in political science. In *The Theory of Political Coalitions*, Riker deduced the size principle, introducing the idea of *minimal* winning coalitions in the study of electoral and legislative politics as an alternative to the view of vote maximization expressed in Downs (1957). The size principle states that in n-person, zero-sum games, where side-payments are permitted, where players are rational, and where they have perfect information, only minimum winning coalitions occur.

Downs argued that politicians are primarily office seekers rather than policy makers or allocators of resources. As such, they maximize electoral support and, therefore, forge coalitions as large as possible. Riker's decision makers make authoritative allocation decisions and so seek to minimize the number of claimants on the distribution of resources. A

vast literature on coalition formation and government stability has grown out of the debate between Riker and Downs.

The Downsian model indicates that on unidimensional issues and in winner-take-all elections, politicians adopt (usually centrist) policy positions in order to maximize their vote share. Downs's politicians care only about winning office. They do not concern themselves with the policy or private goods concessions they must make to others in order to win.

Riker, in contrast, argued that maximizing votes is costly. Voters are attracted to a candidate by promises about personal benefits. Candidates have preferences of their own about the distribution of scarce resources in the form of private goods to their backers and leftover resources for their own use. To attract votes, politicians must pay a cost by sacrificing some personal interests or granting private side-payments to prospective supporters in an effort to avoid alienating potential voters. Riker argued that rational politicians, motivated primarily by a desire to control resources, seek to attract just enough votes to win and no more, subject to variation above minimal winning size only because of uncertainty about the preferences of voters or their loyalty. By forming minimal winning coalitions politicians make as few concessions as possible, while still controlling sufficient support to maintain governmental authority and pass legislation.

Riker's theory of political behavior marked a sharp departure from standard political science views and an equally sharp departure from views standard in economics. Political scientists at the time frequently wrote normative treatises on governance or attributed political decisions to psychological forces and attitudinal factors. For economists concerned with exchange in the marketplace collective outcomes were seen as a fairly mechanical adding machine

equating supply and demand, with neither the marginal buyer nor marginal seller able to influence the market price. Riker drew a fundamental distinction between collective outcomes in economics and in politics. He saw collective outcomes in politics as the product of conscious strategic processes. This is a crucial distinction because the rational actor in political arenas intentionally calculates how to achieve aims in a strategic environment with other strategically acting agents, making game theory the central analytic tool for modeling political processes.

When *The Theory of Political Coalitions* was published, the book created a significant stir precisely because Riker not only exhorted the discipline to become more scientific, but because he showed how to do it. As one reviewer noted, “Although Riker’s particular approach is not the answer to all of the discipline’s woes, he has certainly succeeded in challenging us by example. Those who would accept the challenge had better come prepared with a well sharpened kit of tools. For, either to emulate or attack, nothing less will suffice” (Fagen 1963, pp. 446-47).

Riker was the first political scientist, and indeed the first non-RAND theoretician, to recognize the potential of game theory to understand political interactions. It was Riker who bestowed upon game theory the promise of a new life after RAND defense strategists concluded the theory was of little merit for studying warfare and after economists rejected the hopes and promises of von Neumann and Morgenstern. A later generation of economists grasped its promise for grounding a new mathematics of the market, launching the “non-cooperative revolution” in economics.

THE ROCHESTER TRANSFORMATION: INSTITUTION BUILDING

The year 1962 marked a major turning point in Bill’s life and in the future of political science. Not only was *The*

Theory of Political Coalitions published, but the Riker family moved to Rochester, New York, where Bill became chair of the Department of Political Science at the University of Rochester.

The University of Rochester hired Riker with the understanding that he would have the resources and freedom to build a program modeled after his intellectual vision. Rochester was true to its word, forging a loyalty to the university on Bill's part that was the stuff of legend. Whenever a colleague was tempted by an offer elsewhere, Bill, as department chair from 1962 to 1977, simply could not imagine how anyone could prefer to be anywhere else. Apparently he was right. Hardly anyone left. The cold, long winters of Rochester were no problem given the lively, intellectually stimulating, entertaining, and engaging informal daily exchanges between faculty and graduate students—all treated and feeling absolutely as equals—over bag lunches.

Immediately upon his arrival in Rochester, Riker set about outlining a strategy for building the Rochester political science department. His strategy emphasized both behavioral methods and positive theory. The result was 14 new courses and seminars, an entirely new curriculum unlike those found anywhere else at the time. The new Ph.D. requirements stressed quantification and formal analysis. He shifted the emphasis common in other programs from the literature to his focus on developing the tools necessary to do rigorous research into the theoretical properties and empirical laws of politics. The effort succeeded. One decade later, the unranked department Bill inherited was ranked fourteenth in the country, despite never having a faculty larger than 13 during those years (Roose and Andersen, 1970). Another decade later, the department, still small by comparison with its competitors, was ranked among the top 10 and placed its students at the most prestigious universities, in the mean-

time helping to build sister centers of positive political theory at such institutions as Caltech, Washington University, and Carnegie-Mellon.

Riker's efforts on behalf of positive political theory extended beyond the confines of his home department at the University of Rochester. He maintained an active publication record, contributing so many articles to the flagship journal of political science, the *American Political Science Review*, that its editor wrote to him, "There is some danger of turning this journal into the 'William H. Riker Review.'" Among the more distinguished was a paper on power (1964), several on experimental methods (1967, 1970)—the latter with his student William Zavoina—and his seminal and controversial theory of the calculus of voting with another of his students Peter Ordeshook (1968).

In addition to his major contributions of original research during this period Riker sought to further establish his method through co-authorship with Peter Ordeshook of a textbook that elucidated the parameters of positive political theory. This text, entitled *An Introduction to Positive Political Theory* (1973), was aimed at advanced undergraduates and beginning graduate students, and was an important step in defining positive political theory for a widespread audience. It introduced the assumption of rationality and the formal account of preference orderings, and it demonstrated the positive approach to political science through its application to such political problems as political participation, voting and majority rule, public goods, public policy, and electoral competition. The text also contained discussions on formal theory and deductive results from formal theory including n-person and two-person game theory, the power index, and the size principle.

Riker did not limit his efforts to the development of positive political theory at Rochester or to the impact of his

own research. Together with other like-minded scholars, Bill formed a community that fostered the rise of rational choice theory as a cross-disciplinary phenomenon. In the early 1960s a meeting of minds occurred, resulting in the founding of the Public Choice Society. Researchers active in these early meetings included subsequent Nobelists Herbert Simon (economics and public administration), John Harsanyi (game theory), and James Buchanan (public finance), as well as Gordon Tullock (public finance), Mancur Olson (economics), John Rawls (philosophy), James Coleman (sociology), and of course, William Riker. The Public Choice Society is noteworthy for helping to generate the critical mass required to establish the rational choice approach as an academy-wide method of inquiry. In founding the society, members ensured that their newly wrought discipline would benefit from an active network of similar-minded intellects. To further this end, the society held annual meetings and initiated an enduring journal, *Public Choice*.

RECOGNITION

Riker personally met with career successes and external honors that established his intellectual legacy and served as community recognition of the significant role he played in remaking political science. In 1974 Riker was elected to the National Academy of Sciences and thus was among the first political scientists to be inducted into this community. Soon other Rochesterians were in his midst, including Fenno, Shepsle, McKelvey, and Fiorina, as well as “fellow travelers” like John Ferejohn.

Riker was elected to the American Academy of the Arts and Sciences in 1975 and in 1983 was chosen to serve as president of the American Political Science Association. Additionally, he was honored, as mentioned earlier, by Lawrence University with an honorary degree. DePauw Uni-

versity, his undergraduate school, likewise honored him in 1979, as did the State University of New York, Stony Brook, in 1986. In 1977 Upsala University in Sweden chose Bill for an honorary doctorate as part of the university's five-hundredth-anniversary celebration. Bill also was the recipient of numerous distinguished fellowships and awards, including a Guggenheim Fellowship in 1983, National Science Foundation grants from 1967 to 1973 and again for 1985-87. He was the Fairchild fellow at Caltech in 1973-74, a visiting professor at Washington University in 1983-84, and the recipient of three teaching awards: one at Lawrence (in 1962) and two at Rochester (in 1988 for undergraduate teaching and in 1991 for graduate teaching). After leaving the department chairmanship, Bill went on to serve as dean of graduate studies at Rochester from 1978 to 1983 and continued to teach an overload even after becoming professor emeritus.

RESEARCH IN THE LATER YEARS

At the time Bill became president of the American Political Science Association, his research interests were drawn to the role political institutions and political campaigns play in shaping outcomes. His seminal work, *Liberalism Against Populism* (1982), laid out a fresh and controversial theory of democracy. In it Bill used strategic logic to challenge the idea that democracy leads to especially good and representative public policy, suggesting instead that it had little advantage over other forms of governance on that dimension. Democracy's great advantage lay in the ease with which one could throw the rascals out. This naturally led him to inquire into what politicians do to avoid such a result. A series of papers followed exploring democracy, two-party competition, and the nature of representative government. In 1984 he focused the attention of the discipline on these

issues in his article “The Heresthetics of Constitution Making.” Here, coining the term “heresthetics” to refer to the manipulation of the structure of issues for political advantage, Bill undertook research that occupied the remainder of his life.

He built a theory of how politicians use issues and linkages across issues for strategic advantage. This led him to inquire into how and why campaigns matter. An easily accessible first approximation of an answer was provided in his book *The Art of Political Manipulation* (1986). His final treatments of issue formation and the rhetoric of campaigning were the centerpieces of his last two books. The first, an edited volume entitled *Agenda Formation* (1993), was published only days before Riker died. The collection of essays examined how agenda control, political institutions, and political structure induce equilibria to avert chaos in public policy.

In his last book, the posthumously published *The Strategy of Rhetoric* (1996), Riker brought together his concern for heresthetic maneuvering with his concern for political persuasion. He examined the campaign to ratify the U.S. Constitution, using innovative statistical techniques to test his new theory of political persuasion. Most rational choice scholarship takes the institutional structure in which preferences are aggregated as a given in the model. Riker, however, drew attention to the significance of the proactive role of politicians in structuring the environment in which preferences are coordinated into a collective outcome. Thus, Riker contrasted heresthetics with rhetoric. Whereas rhetoric involves persuasion, heresthetics involves strategic manipulation of the setting in which political outcomes are reached; it is in essence a strategy of rhetoric. *The Strategy of Rhetoric* is a monumental work. It provides an entirely new way to think about strategic uses of rhetoric and campaigning that

is defining the research agendas of scholars across the various sub-specialties of political science.

THE MAN

William Riker's intellectual accomplishments were prodigious. He served as an academic exemplar for anyone who knew him. He was a brilliant and highly productive scholar. He was a dedicated and committed teacher of undergraduates and graduate students. He was a remarkable administrator and institution builder. But above all, he was an astounding human being. We cannot end without speaking of the man beyond the scholar.

We have mentioned Bill's loyalty to Rochester and his abiding affection for Lawrence. Bill remained in touch with virtually every Ph.D. student with whom he had worked. He regularly purchased stock through a former student who became a broker. He traveled the world to assist his students in building programs wherever they were. On his seventieth birthday, the political science department at Rochester threw a party and two-thirds of the students who had ever received a Ph.D. from the department came to participate in the celebration. They came at their own expense from places as far away as India, Korea, and Europe. Bill Riker inspired such devotion because he himself was so devoted.

As an individual his multidimensional creativity was apparent and permeated well beyond his specialization in the social sciences. He had a photographic memory, recalling precise details from newspaper articles from his childhood or specific paragraphs in books he had read 50 years earlier. His creativity, however, extended beyond this remarkable ability. A simple example illustrates the point. Everyone is familiar with the song, "The Twelve Days of Christmas." Bill, bored with hearing the song on his car radio (he eventually decided he didn't need a radio in his car), but never

one to turn away from an analytical or interpretive puzzle, thought about the song, solved the gift-giving algorithm, and discovered that 364 gifts are given, one for each day of the year, except Christmas day, which presumably already had the gift of Christ. An easy enough problem, but only someone of distinct creativity in everything would think to question the meaning of this seemingly trivial song.

Consider this second illustration, developed more fully in Riker's *The Art of Political Manipulation*. Bill had always regarded C. P. Snow's *The Masters* as one of the great political novels (ranking it second only to Robert Graves's *I, Claudius*). Nominally, it is a story about the campaign and election of an Oxbridge college master, a contest pitting a humanist against a scientist and thus a vehicle freighted with that very same symbolism and ideological clash found in any national campaign between Tory and Labour or Democrat and Republican. Most readers assume that Eliot, a relatively junior tutor in the college—as much observer as participant in the unfolding political drama and the disinterested narrator of the tale—is the voice of Snow himself. One of the more senior residents of the college, Chrystal (all are identified only by surnames), is the personification of the political insider and most important of all is *pivotal* to the outcome; he will make the next master according to how he ultimately decides. In the final scene each elector in the college rises, first announcing his own full name and then declaring for whom he supports with his vote. Chrystal rises and declares himself Charles Percy Chrystal. Or, as Riker notes, C. P. Chrystal—a small play on the author's own name, C. P. Snow. It is Chrystal, not Eliot, who is the voice of the author! Snow, whether consciously or not, fancies himself the insider, the pivot, the maker and breaker of leaders, not the mere observer and narrator. The novel is a truly exciting story of political intrigue; that in itself is

sufficient unto the day for most of us interested in politics. Bill Riker went deeper than most of us with the insight that behind the drama of politics is introspection, calculation, personal ambition, even hubris. This may not be powerful literary criticism, but it is first-rate political intuition. It is the product of an uncommon mind.

Bill's skills as an administrator included the great subtlety with which he managed his department. Bill often dropped into the offices of his colleagues to chat, frequently taking them for walks in parkland owned by the University of Rochester (the trustees' garden). Naturally, assistant professors were especially flattered by the attention, even more so when, as it happened with one of us (B.B.dM.), it resulted in a jointly written article. Years later, when that former assistant professor became department chair, he asked Bill what the chair does. Bill replied that the chair drops in causally on junior faculty, chats with them, takes them out occasionally, and that way knows whether they are on a good path toward tenure. The chair helps steer junior colleagues so that they do the best they can. That is, even in the most informal moments part of him was thinking about how to help others succeed.

On his deathbed, Bill Riker continued his devotion to helping others. Hospitalized, knowing that his death was imminent, he asked a colleague to let a student know that he had read her paper and thought it was excellent. Remarkably, he apologized that he was unable to give her written comments. At 10 p.m. on the night he died in a hospice, Bill, extremely weak and barely audible, reminded one of us (B.B.dM.) of advancements and honors he desired for a former student and long-time colleague at Rochester. He died a few hours later. His last three days, when he knew he would not survive the weekend, were lived with as much

grace and generosity of spirit as any of us could hope for in a lifetime.

Bill Riker was a once-in-a-century man. He was a superb and truly beloved colleague, friend, and teacher. Future generations may well mark him as the founder of modern political science. Those of us privileged to have known him will never forget him. All future generations of political scientists will be shaped by his vision.

M. E. RIKER GENEROUSLY provided insights into Bill's early years. We benefited as well from the study by Amadae and Bueno de Mesquita (1999).

REFERENCES

- Amadae, S. M., and B. Bueno de Mesquita. 1999. The Rochester School: The origins of positive political theory. *Annu. Rev. Polit. Sci.* 2:269-96.
- Downs, A. 1957. *An Economic Theory of Democracy*. New York: Harper & Row.
- Roose, K. D., and C. Andersen. 1970. *A Rating of Graduate Programs*. Washington, D. C.: American Council on Education.
- Shapley, L. S., and M. Shubik. 1954. A method for evaluating the distribution of power in a committee system. *Am. Polit. Sci. Rev.* 48:787-92.

BIOGRAPHICAL MEMOIRS
SELECTED BIBLIOGRAPHY

1953

Democracy in the United States. New York: Macmillan.

1955

The senate and American federalism. *Am. Polit. Sci. Rev.* 49:452-59.

1957

Events and situations. *J. Philos.* 54:57-70.

With R. Schaps. Disharmony in federal government. *Behav. Sci.* 2:276-90.

1958

The paradox of voting and congressional rules for voting on amendments. *Am. Polit. Sci. Rev.* 52:349-66.

Causes of events. *J. Philos.* 56:281-92.

1959

A method for determining the significance of roll calls in voting bodies. In *Legislative Behavior*, eds. J. Wahlke and H. Eulau, pp. 337-83. Glencoe, Ill.: Free Press.

A test of the adequacy of the power index. *Behav. Sci.* 4:120-31.

1961

Voting and the summation of preferences. *Am. Polit. Sci. Rev.* 55:900-11.

1962

The Theory of Political Coalitions. New Haven: Yale University Press.

1964

Federalism: Origin, Operation, Maintenance. Boston: Little-Brown.

Some ambiguities in the notion of power. *Am. Polit. Sci. Rev.* 58:341-49.

1965

Arrow's theorem and some examples of the paradox of voting. In *Mathematical Applications in Political Science*, ed. J. M. Claunch, vol. I, pp. 41-60. Dallas: Southern Methodist University Press.

1967

Bargaining in three-person games. *Am. Polit. Sci. Rev.* 61:342-56.

1968

With P. Ordeshook. A theory of the calculus of voting. *Am. Polit. Sci. Rev.* 62:25-42.

1970

With W. Zavoina. Rational behavior in politics. *Am. Polit. Sci. Rev.* 64:48-60.

1973

With P. Ordeshook. *Introduction to Positive Political Theory*. Englewood Cliffs, N.J.: Prentice-Hall.

1976

With Richard Niemi. The choice of voting systems. *Sci. Am.* 234(June):21-27.

1980

Implications from the disequilibrium of majority rule for the study of institutions. *Am. Polit. Sci. Rev.* 74:432-46.

1982

The two-party system and Duverger's Law: An essay on the history of political science. *Am. Polit. Sci. Rev.* 76:753-66.
Liberalism Against Populism: A Confrontation Between the Theory of Democracy and the Theory of Social Choice. San Francisco: Freeman.

1984

The heresthetics of constitution making: The presidency in 1787, with comments on determinism and rational choice. *Am. Polit. Sci. Rev.* 78:1-16.

1986

The Art of Political Manipulation. New Haven, Conn.: Yale University Press.

1993

Agenda Formation. Ann Arbor: University of Michigan Press.

1996

The Strategy of Rhetoric (published posthumously with the assistance of R. Calvert, J. Mueller, and R. Wilson). New Haven, Conn.: Yale University Press.