



THE  
SELECTED  
WORKS OF  
GORDON  
TULLOCK  
VOLUME I

*Virginia Political Economy*

THE SELECTED WORKS OF GORDON TULLOCK

VOLUME 1 *Virginia Political Economy*

VOLUME 2 *The Calculus of Consent: Logical Foundations of  
Constitutional Democracy* (with James M. Buchanan)

VOLUME 3 *The Organization of Inquiry*

VOLUME 4 *The Economics of Politics*

VOLUME 5 *The Rent-Seeking Society*

VOLUME 6 *Bureaucracy*

VOLUME 7 *The Economics and Politics of Wealth Redistribution*

VOLUME 8 *The Social Dilemma: Of Autocracy, Revolution,  
Coup d'Etat, and War*

VOLUME 9 *Law and Economics*

VOLUME 10 *Economics without Frontiers* (includes a cumulative  
index for the series)



*Gordon Tullock*

THE SELECTED WORKS  
OF GORDON TULLOCK

VOLUME I

*Virginia Political Economy*

GORDON TULLOCK

*Edited and with an Introduction by*

CHARLES K. ROWLEY



Liberty Fund

Indianapolis

This book is published by Liberty Fund, Inc., a foundation established to encourage study of the ideal of a society of free and responsible individuals.



The cuneiform inscription that serves as our logo and as the design motif for our endpapers is the earliest-known written appearance of the word “freedom” (*amagi*), or “liberty.” It is taken from a clay document written about 2300 B.C. in the Sumerian city-state of Lagash.

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## INTRODUCTION

### *Scope and Method for the Series*

*Virginia Political Economy* is the first volume in a series comprising the Selected Works of Gordon Tullock.<sup>1</sup> The series consists of ten volumes of selections from the major monographs and scholarly papers published by Gordon Tullock between 1954 and 2002. Volumes 2 and 3 were originally published as monographs and are here republished in their entirety, including the original prefaces, introductions, forewords, and any appendixes. Volumes 6 and 9 include works originally published as stand-alone monographs. The remainder of the series consists of collections of chapters in books, papers, and essays by Tullock arranged by theme.

In selecting the papers for this initial volume, I was guided by a few important principles. First, the volume should reflect the full range of Tullock's scholarship. Second, I have favored the early classic statements by Tullock over later restatements. Third, I have favored the more general essays and papers over narrower and more technical contributions.

The series does not purport to be the entire collected works of Gordon Tullock. I have omitted a number of his papers and essays as well as portions of some monographs, in part to avoid an unnecessary degree of overlap, in part to satisfy space constraints. I believe, however, that the intellectual coverage of the series is complete in all essential respects. Only material published before December 31, 2002, was considered for inclusion.

In general I have restricted my editing to ensuring homogeneity of style and reference conventions, and to the correction of typographical errors, conspicuous grammatical errors, and errors of fact. As editor, I have attempted to highlight links between specific contributions and other themes in Tullock's work, to discuss the significance of the relevant monograph or group of papers in Tullock's thought, and to place Tullock's work in the context of other literature. To this end I have written a separate introduction for each volume. An index has been prepared for each volume, and a cumulative index for the series is included in volume 10.

Gordon Tullock has provided relevant materials whenever asked, but oth-

1. Hereafter referred to as the Selected Works or the series.

erwise has played no role in the editorial process. I bear the full responsibility over all matters of inclusion and exclusion, over the titles of each volume, and over the location of books, essays, and papers through the series.

### *Content for Volume 1*

Gordon Tullock is a founding father of the Virginia School of Political Economy. *Virginia Political Economy*, the first volume of the Selected Works of Gordon Tullock, comprises a selection from Tullock's published academic papers and essays designed to introduce the series and to offer a representative picture of his work. Every paper published here reflects an aspect of the traditions of that school both in its normative and positive dimensions.

The volume begins with the only two pieces in the Selected Works that are not written by Tullock himself. The first is the brief assessment of Tullock's contributions Mark Blaug made in 1985 when explaining why he had included Tullock in his list of the one hundred great economists since John Maynard Keynes.<sup>2</sup> The second is the short statement published in the *American Economic Review* in September 1998, recognizing Tullock as a distinguished fellow of the American Economic Association.<sup>3</sup>

Gordon Tullock is an economist by nature rather than by training.<sup>4</sup> He attended a one-semester course in economics for law students given by Henry Simons at the University of Chicago, but is otherwise self-taught. For most budding economists, such a background would be a handicap. In Tullock's case, arguably it has proved to be an enormous advantage, enabling him to deploy his formidable intellect in a truly entrepreneurial manner.<sup>5</sup> The papers included in "Genesis," the introductory part of this volume, reflect various aspects of this facility.

"Economic Imperialism," the first paper, deals with the issue of economic

2. Mark Blaug, "Gordon Tullock," in *Great Economists since Keynes: An Introduction to the Lives and Works of One Hundred Modern Economists*, ed. Mark Blaug (Brighton: Wheatsheaf, 1985), 252–53.

3. "Gordon Tullock, Distinguished Fellow, 1998," *American Economic Review* 88 (September 1998): ii.

4. James M. Buchanan, "The Qualities of a Natural Economist," in *Democracy and Public Choice: Essays in Honor of Gordon Tullock*, ed. Charles K. Rowley (Oxford and New York: Basil Blackwell Publishing, 1987), 9–19.

5. Charles K. Rowley, "Gordon Tullock: Entrepreneur of Public Choice," *Public Choice* 71 (September 1991): 149–70.

imperialism<sup>6</sup> and highlights three important aspects of Tullock's scholarship, namely the importance that he attaches to the rational choice approach as the scientific basis of economic analysis, his resistance to conforming to rigid disciplinary boundaries, and his ingenuity in locating creative solutions to apparently insurmountable obstacles.

The second paper reprints "Public Choice," Tullock's definitional article on public choice,<sup>7</sup> a field he helped to create and develop. In "Public Choice—What I Hope for the Next Twenty-five Years," Tullock outlines a range of topics in public choice that he believes need more attention by scholars if they are to extend their influence over public policy.<sup>8</sup> His suggestions bore fruit as public choice scholars pursued such policy-relevant research in light of his paper.

"Casual Recollections of an Editor," the fourth paper, chronicles Tullock's career as editor of *Public Choice*, which began as an attempt to provide a publishing outlet for papers that would otherwise be spurned by the conventional mainstream journals in economics and political science.<sup>9</sup> His tenure as editor was twenty-five years, a quarter century that carried public choice from its early beginnings to its ultimate recognition as a significant field of study.

Part 2 of this volume brings together seven papers by Tullock that deal with a variety of potential problems of majority voting.

The first, "Problems of Majority Voting,"<sup>10</sup> deals with problems of majority voting as a basis for allocating scarce resources and paves the way for *The Calculus of Consent*.<sup>11</sup> In 1959, most economists and almost all political scientists were strong supporters of the majority vote principle, not because

6. Gordon Tullock, "Economic Imperialism," in *Theory of Public Choice: Political Applications of Economics*, ed. James M. Buchanan and Robert D. Tollison (Ann Arbor: University of Michigan Press, 1972), 317–29.

7. Gordon Tullock, "Public Choice," in *The New Palgrave: A Dictionary of Economics*, vol. 3, ed. John Eatwell, Murray Milgate, and Peter Newman (London: Macmillan, 1987), 1040–44.

8. Gordon Tullock, "Public Choice—What I Hope for the Next Twenty-five Years," *Public Choice* 77 (January 1993): 9–16.

9. Gordon Tullock, "Casual Recollections of an Editor," *Public Choice* 71 (September 1991): 121–39.

10. Gordon Tullock, "Problems of Majority Voting," *Journal of Political Economy* 67 (December 1959): 571–79.

11. James M. Buchanan and Gordon Tullock, *The Calculus of Consent: Logical Foundations of Constitutional Democracy* (Ann Arbor: University of Michigan Press, 1962).

they were acquainted with the median voter theorem, but because they believed that democratic elections enabled simple majorities to dominate policy over an electoral cycle. Tullock challenged the validity of this judgment by noting that democratic voting through the secret ballot failed to allow minorities with strong preferences to enter into welfare-improving bargains with majorities endowed with less intense preferences. If logrolling is feasible, as is always the case in open voting within a representative assembly, the minority voters will strike bargains with the majority as a means of safeguarding their most highly valued programs. If one assumes that all individuals are rational self-seekers, Tullock demonstrates that majority voting may lead to an overallocation of resources through the political process.

The next paper, "The Irrationality of Intransitivity," addresses a concern among certain welfare economists in the 1950s that individuals might be endowed with intransitive preferences when confronted with pair-wise comparisons, preferring, for example, A over B, B over C, and C over A.<sup>12</sup> Tullock points out that such a preference function would imply that the individual would be incoherent when asked to choose among the three alternatives, something that does not happen in reality. This short paper clearly signals the emphasis that Tullock consistently attaches to the rational choice model.

In "Entry Barriers in Politics," Tullock's point of departure is that government possesses a natural monopoly of the use of force, with its scale determined by the majority vote principle.<sup>13</sup> However, the ability to abuse this discretionary power is limited by the constraint of periodic elections when the apparatus of government is put up for auction. It is further limited by the ability of new political parties or party coalitions to form and to enter the political marketplace. Tullock's focus on the importance of entry and exit costs in political markets preceded by many years the application of similar ideas with respect to the importance of contestable markets for regulating the behavior of private natural monopolies.

"Federalism: Problems of Scale" focuses attention on issues concerning the appropriate scale and degree of federalism of government.<sup>14</sup> The conven-

12. Gordon Tullock, "The Irrationality of Intransitivity," *Oxford Economic Papers* 16 (October 1964): 401–6.

13. Gordon Tullock, "Entry Barriers in Politics," *American Economic Review* 55 (May 1965): 458–66.

14. Gordon Tullock, "Federalism: Problems of Scale," *Public Choice* 6 (Spring 1969): 19–29.

tional economic view during the late 1960s was that the existence of externalities (third-party effects not taken into account by private markets) was a major justification for collective action. As Tullock notes, however, collective action never completely eliminates external effects, and indeed creates external effects of its own. In such circumstances, why should government not be encouraged to grow without limit? The explanation is that the ability of individual voters to control government declines as the scale of government increases. In such circumstances, a case can be made for the coexistence of multiple governments, for example, one for defense and another for domestic policy.

There then follow three papers addressing issues of perceived instability in majority vote systems of government. The first of these is “The General Irrelevance of the General Impossibility Theorem,” which attempts to show the insubstantiability of “Arrow’s General Impossibility Theorem.”<sup>15</sup> In 1951, Kenneth Arrow posited the logical impossibility of rationally aggregating preferences.<sup>16</sup> The majority vote rule appeared to be vulnerable to endless cycles. Yet, in reality, democracies tend to be highly stable. Tullock’s resolution of this paradox relies, once again, on the importance of institutions. Rules of voting preclude endless pair-wise voting and limit the probability that outcomes will depart significantly from the center of the vote distribution.

The next two papers, “Why So Much Stability” and “Is There a Paradox of Voting?” return to the Arrow paradox.<sup>17</sup> Tullock argues that the Arrow paradox does not arise when either logrolling or strategic voting occurs. Because these are evident in all representative assemblies, the Arrow problem is insignificant, even when procedural voting rules do not impose stability.

Part 3 of this volume brings together three papers that discuss the demand-revealing process, an ingenious mechanism designed to motivate individuals to reveal their true preferences for public goods.

The first paper, “A New and Superior Process for Making Social Choices” (coauthored with Nicolaus Tideman), draws upon a discovery by Edward H.

15. Gordon Tullock, “The General Irrelevance of the General Impossibility Theorem,” *Quarterly Journal of Economics* 81 (May 1967): 256–70.

16. Kenneth J. Arrow, *Social Choice and Individual Behavior* (New York and London: John Wiley and Sons, 1951).

17. Gordon Tullock, “Why So Much Stability,” *Public Choice* 37 (1981): 189–202; “Is There a Paradox of Voting?” *Journal of Theoretical Politics* 4 (1992): 225–30.

Clarke that a carefully designed tax (the authors label it the Clarke tax) is immune to strategic maneuvering on the part of individual voters (though not in the case of coalitions of voters).<sup>18</sup> The essence of the process is that each individual is offered a chance to change a public good outcome that would occur without his vote, in exchange for paying a special charge equal to the net cost to others that arises from including his vote in the decision. “The Demand-Revealing Process as a Welfare Indicator” and “Demand-Revealing Process, Coalitions, and Public Goods” elaborate on the nature of the process, its relative efficiency in comparison with alternative processes for dealing with the problem of public goods, and its limited vulnerability to voter coalitions.<sup>19</sup>

Part 4 of this volume assembles a set of pathbreaking papers on rent seeking.

The first paper, “The Welfare Costs of Tariffs, Monopolies, and Theft,” focuses attention on the welfare costs of tariffs, monopolies, and theft, and suggests that such costs are significantly understated in the conventional economics literature.<sup>20</sup> The standard view during the late 1970s, pioneered by Arnold Harberger, was that the welfare costs involved were insignificant, captured by the deadweight loss triangles first identified by Alfred Marshall, but now referred to as Harberger triangles.<sup>21</sup>

Tullock challenges Harberger’s view by asserting the likelihood that the welfare costs are much greater than those identified and measured by Harberger. Government typically imposes a tariff or dispenses a monopoly privilege to designated beneficiaries. It does so in response to lobbying pressures and campaign contributions. The rent seekers (a term coined by Anne Krueger in 1974<sup>22</sup>) competing for such favors will outlay resources in direct relationship to the magnitude of the rents. Much of these outlays constitutes social waste.

18. T. Nicolaus Tideman and Gordon Tullock, “A New and Superior Process for Making Social Choices,” *Journal of Political Economy* 84 (October 1976): 1145–59.

19. Gordon Tullock, “The Demand-Revealing Process as a Welfare Indicator,” *Public Choice* 29 (Special Supplement to Spring 1977): 51–63; “Demand-Revealing Process, Coalitions, and Public Goods,” *Public Choice* 29 (Special Supplement to Spring 1977): 103–5.

20. Gordon Tullock, “The Welfare Costs of Tariffs, Monopolies, and Theft,” *Western Economic Journal* 5 (June 1967): 224–32.

21. Arnold Harberger, “Monopoly and Resource Allocation,” *American Economic Review* 44 (March 1954): 77–87.

22. Anne O. Krueger, “The Political Economy of the Rent-Seeking Society,” *American Economic Review* 64 (June 1974): 291–303.

In “The Cost of Transfers,” Tullock extends the rent-seeking theory to income redistribution.<sup>23</sup> Even with respect to charitable giving, Tullock suggests that rent seeking on the part of would-be beneficiaries wastes resources. With respect to transfers mediated through the welfare state, Tullock argues that rent seeking is endemic and that perhaps as much as 95 percent of all such transfers are involuntary, driven by middle-class lobbying.

“More on the Welfare Costs of Transfers” and “Competing for Aid” demonstrate the applicability of rent seeking to the behavior of lower-level governments competing for aid from a higher-level government.<sup>24</sup> Tullock explains that the grants from a higher-level government are always worth less to the local community than is their cost to the central government.

“The Transitional Gains Trap” describes why many government programs do not seem to benefit their targeted beneficiaries.<sup>25</sup> According to Tullock, although the initial beneficiaries frequently do benefit from the provided special privilege, the benefits are quickly capitalized. Subsequent entrants must pay the capitalized value to access the resources and thereafter earn only a normal return on their investments. If the privilege should ever be withdrawn, such later entrants would suffer a capital loss.

The sixth paper, “Efficient Rent Seeking,” utilizes game theory to define the circumstances under which competing rent seekers exactly dissipate the rent available (efficient rent seeking), the circumstances in which they underdissipate, and the circumstances in which they overdissipate.<sup>26</sup> The seventh paper provides a summary for *The New Palgrave* of the status of rent-seeking scholarship in 1987.<sup>27</sup>

Part 5 of this volume brings together four of Tullock’s best-known papers on redistributive politics.

The first two papers, “Inheritance Justified” and “Inheritance Rejustified,” attempt, by dismantling ideologically based arguments, to justify laws that al-

23. Gordon Tullock, “The Cost of Transfers,” *Kyklos* 24, fasc. 4 (1971): 629–43.

24. Gordon Tullock, “More on the Welfare Costs of Transfers,” *Kyklos* 27, fasc. 2 (1974): 378–81; “Competing for Aid,” *Public Choice* 21 (Spring 1975): 41–51.

25. Gordon Tullock, “The Transitional Gains Trap,” *Bell Journal of Economics* 6 (Autumn 1975): 671–78.

26. Gordon Tullock, “Efficient Rent Seeking,” in *Toward a Theory of the Rent-Seeking Society*, ed. James M. Buchanan, Robert D. Tollison, and Gordon Tullock (College Station: Texas A&M University Press, 1980), 97–112.

27. Gordon Tullock, “Rent Seeking,” in *The New Palgrave: A Dictionary of Economics*, vol. 4, ed. John Eatwell, Murray Milgate, and Peter Newman (London: Macmillan, 1987), 147–49.

low testators to bequeath wealth to designated beneficiaries.<sup>28</sup> Opponents of unrestricted inheritance rely in part on envy, as a negative externality, and in part on supposed ideological preferences for an egalitarian distribution of wealth as justifications for placing major restrictions on inheritance.

“The Charity of the Uncharitable” advances the hypothesis that the poor would receive larger transfers from a system of purely private charity than they receive through redistributive politics.<sup>29</sup> Tullock uses the logrolling model deployed in *The Calculus of Consent* to suggest that the dominant political coalition is located among middle-class groups, who disproportionately tax the rich in order to finance government programs that benefit themselves.<sup>30</sup> Although they justify such taxes on grounds of equalizing incomes, the decisive middle-class coalition has no intention of allowing significant redistribution to the poor.

“The Rhetoric and Reality of Redistribution” is Tullock’s 1980 presidential address to the Southern Economic Association.<sup>31</sup> In this address, Tullock likens both U.S. policies toward illegal Mexican immigrants and Swedish and Swiss policies toward legal Turkish immigrants to the policies administered by white South Africans to blacks under apartheid. What is the logic, he asks, in restricting redistribution to a nation’s citizens? Those Americans who genuinely believe in equality should be willing to sacrifice very large portions of their personal wealth to raise living standards in the Third World.

Part 6 of this volume assembles two papers on bureaucracy, a topic that is taken up in much greater detail in volume 6 in this series.

The first paper, “Dynamic Hypothesis on Bureaucracy,” makes the point that, as the size of the government’s bureaucracy expands, so does the voting power of its bureaucrats.<sup>32</sup> This increased voting strength may be used either to expand the size of the bureaucracy, or to increase the rents of existing bureaucrats, or some mixture of both. Tullock hints that the only remedy for

28. Gordon Tullock, “Inheritance Justified,” *Journal of Law and Economics* 14 (October 1971): 465–74; “Inheritance Rejustified,” *Journal of Law and Economics* 16 (October 1973): 425–28.

29. Gordon Tullock, “The Charity of the Uncharitable,” *Western Economic Journal* 9 (December 1971): 379–92.

30. Buchanan and Tullock, *The Calculus of Consent*.

31. Gordon Tullock, “The Rhetoric and Reality of Redistribution,” *Southern Economic Journal* 47 (April 1981): 895–907.

32. Gordon Tullock, “Dynamic Hypothesis on Bureaucracy,” *Public Choice* 19 (Fall 1974): 127–31.



this dynamic tendency for bureaucracy to overexpand is to disenfranchise all government bureaucrats.

The second paper, “The Expanding Public Sector: Wagner Squared” (co-authored with James M. Buchanan), continues the hypothesis of the previous paper, presenting evidence that the real growth of bureaucracy in the United States as a percentage of gross domestic product over the period 1952 to 1972 was significantly less than the official statistics indicated.<sup>33</sup> The discrepancy reflected rents extracted by politically influential bureaucrats in the form of salaries and perquisites well in excess of opportunity cost. The authors categorize this phenomenon as “Wagner squared.”

Part 7 of this volume brings together four classic papers by Tullock that deal with the social dilemma posed by anarchy, corruption, and revolution. These issues are taken up in more detail in volume 8 of this series.

“The Edge of the Jungle” demonstrates Tullock’s belief that society is built on Hobbesian foundations and that Hobbesian anarchy still beckons to any established society from the edge of the jungle.<sup>34</sup> Tullock explains, in terms of prides of lions, why a weaker member of the pride may irrationally threaten to attack a stronger member when the food supply is insufficient, even though the attack, if implemented, would result in serious injury to the weaker member and the failure to secure food. Such behavior has a basis in rationality since, without it, the weaker lion (together with its genes) would surely die. These arguments are extended to human beings, with the major distinction that man’s capacity to reason enables bargaining to take place, something that lions cannot achieve.

“Corruption and Anarchy” uses the Coase theorem to argue an economic case for certain kinds of governmental corruption.<sup>35</sup> However, as Tullock demonstrates, the Coase theorem cannot apply to the situation in which all laws are corrupted, since this would negate the property rights basis on which the Coase theorem is grounded.

“The Paradox of Revolution” and “Rationality and Revolution” identify the nature of the paradox of revolution, namely the reality that the removal of unpopular dictators is rarely achieved through popular uprising and much

33. James M. Buchanan and Gordon Tullock, “The Expanding Public Sector: Wagner Squared,” *Public Choice* 31 (Fall 1977): 147–50.

34. Gordon Tullock, “The Edge of the Jungle,” in *Explorations in the Theory of Anarchy*, ed. Gordon Tullock (Blacksburg, Va.: Center for Study of Public Choice, 1972), 65–75.

35. Gordon Tullock, “Corruption and Anarchy,” in *Further Explorations in the Theory of Anarchy*, ed. Gordon Tullock (Blacksburg, Va.: Center for Study of Public Choice, 1974), 65–70.

more frequently is achieved through the coup d'état.<sup>36</sup> Tullock evaluates, from the rational choice perspective, the rare cases historically where popular dissent has culminated in successful revolution.

Part 8 of this volume consists of seven papers dealing with a range of policy issues that are affected by the presence of Pareto-relevant externalities and by publicness characteristics.

“Public and Private Interaction under Reciprocal Externality” (coauthored with James M. Buchanan) and “Social Cost and Government Action” focus attention on the appropriate role and scale of collective action regarding programs beset by reciprocal externalities (i.e., externalities that differentially affect private markets and government actions).<sup>37</sup> These contributions follow up and further elaborate on the fundamental insights outlined initially in *The Calculus of Consent*.<sup>38</sup> They are important because they reflect the leveling of the intellectual playing field in the ongoing welfare economics debate concerning the appropriate balance between market and state. “Public Decisions as Public Goods” extends this discussion yet further by analyzing public decisions themselves as public goods.<sup>39</sup>

The fourth paper, “Information without Profit,” shifts attention from government to the relationship between original donors and the nonprofit charitable organizations that dispense their donations.<sup>40</sup> Tullock argues that donors will be alert to any fraudulent misuse of their donations because such behavior by a charity will adversely affect their reputations. However, donors will choose to be relatively uninformed about the efficiency of the charity, since there is no direct return to investing in such information. This was the first paper to subject the relationship between donors and charitable nonprofit organizations to a rational choice critique.

36. Gordon Tullock, “The Paradox of Revolution,” *Public Choice* 11 (Fall 1971): 89–99; “Rationality and Revolution,” *Rationality and Society* 7 (January 1995): 116–28.

37. James M. Buchanan and Gordon Tullock, “Public and Private Interaction under Reciprocal Externality,” in *The Public Economy of Urban Communities*, ed. Julius Margolis (Washington, D.C.: Resources for the Future, 1965), 52–73; Gordon Tullock, “Social Cost and Government Action,” *American Economic Review* 59 (May 1969): 189–97.

38. Buchanan and Tullock, *The Calculus of Consent*.

39. Gordon Tullock, “Public Decisions as Public Goods,” *Journal of Political Economy* 79 (July/August 1971): 913–18.

40. Gordon Tullock, “Information without Profit,” *Papers on Non-Market Decision Making* 1 (1966): 141–59.

“Polluters’ Profits and Political Response: Direct Controls versus Taxes” and the reply to various comments on this paper (both coauthored with James M. Buchanan) address an important paradox in high transaction-cost environmental externalities, namely the clash between economic theory (almost universally in favor of tax solutions) and governmental behavior (almost universally in favor of direct controls).<sup>41</sup> The papers demonstrate that the paradox is reconciled once the interests of the polluters as well as those of the victims are figured into the public choice equation.

“Hawks, Doves, and Free Riders” approaches the problem of free-riding behavior in economic and political markets from the perspective of biology.<sup>42</sup> The hawk-dove equilibrium is one in which the doves benefit when hawks attack, kill, and injure each other. In such circumstances, the doves are able to free ride on the hawks. Tullock applies this theory to individual behavior in both financial markets and corporate bureaucracies.

Part 9 of this volume brings together eight important papers each offering a rational choice approach to law and economics.<sup>43</sup>

The first paper, “An Economic Approach to Crime,” is an early contribution to the literature on the economics of crime and punishment.<sup>44</sup> Tullock develops a simple set of computational tools capable of defining an optimal law for two everyday crimes, namely illegal parking and tax evasion.

“The Costs of a Legal System” (coauthored with Warren F. Schwartz) outlines the complexity of assessing the costs of a legal system designed to enhance efficiency with respect both to various assignments of rights and to various enforcement mechanisms.<sup>45</sup> “On the Efficient Organization of Trials” and “On the Efficient Organization of Trials: A Reply to McChesney, and Ordovery and Weitzman” focus attention on the relative efficiency of two different trial procedures, one emanating from Roman law and utilized by most

41. James M. Buchanan and Gordon Tullock, “Polluters’ Profits and Political Response: Direct Controls versus Taxes,” *American Economic Review* 65 (March 1975): 139–47; “Polluters’ Profits and Political Response: Direct Controls versus Taxes: Reply,” *American Economic Review* 66 (December 1976): 983–84.

42. Gordon Tullock, “Hawks, Doves, and Free Riders,” *Kyklos* 45, fasc. 1 (1992): 25–36.

43. Gordon Tullock, *The Logic of the Law* (New York and London: Basic Books, 1971).

44. Gordon Tullock, “An Economic Approach to Crime,” *Social Science Quarterly* 50 (June 1969): 59–71.

45. Warren F. Schwartz and Gordon Tullock, “The Costs of a Legal System,” *Journal of Legal Studies* 4 (January 1975): 75–82.

countries in continental Europe, the other emanating from various medieval precedents and utilized by Anglo-Saxon countries.<sup>46</sup>

“Judicial Errors and a Proposal for Reform” (coauthored with I. J. Good) develops a measure of judicial error for U.S. Supreme Court decisions, based on the majority-minority split.<sup>47</sup> The authors argue that Supreme Court decisions based on 5 to 4 or 6 to 3 splits should not stand as precedents for lower courts to follow.

“Court Errors” further explores the implications of court errors in criminal and civil cases both for the selection of disputes and for the behavior of the litigants.<sup>48</sup> “Legal Heresy” (Tullock’s presidential address to the Western Economic Association) uses experimental evidence on the relative magnitude of common law and civil code court errors to augment his case for shifting the U.S. legal system away from the common law in favor of the civil code procedures.<sup>49</sup> “Juries” critically evaluates the role of juries both in civil and in criminal cases in the U.S. legal system.<sup>50</sup>

Part 10 of this volume is a collection of four papers on bioeconomics.

“The Coal Tit as a Careful Shopper” is Tullock’s analysis of the coal tit as a careful shopper.<sup>51</sup> Tullock utilizes data, provided by biologists, on the consumption of the eucosmid moth by coal tits to demonstrate that coal tits maximize the return on their efforts in searching out food supplies.

“Biological Externalities” applies the concepts of Pareto optimality and externalities to ecological problems.<sup>52</sup> If two or more species adversely affect each other in a given geographical area, these effects are classical negative externalities that, if unchecked, lead to suboptimal outcomes. By appropriate

46. Gordon Tullock, “On the Efficient Organization of Trials,” *Kyklos* 28, fasc. 4 (1975): 745–62; “On the Efficient Organization of Trials: Reply to McChesney, and Ordovery and Weitzman,” *Kyklos* 30, fasc. 3 (1977): 517–19.

47. I. J. Good and Gordon Tullock, “Judicial Errors and a Proposal for Reform,” *Journal of Legal Studies* 13 (June 1984): 289–98.

48. Gordon Tullock, “Court Errors,” *European Journal of Law and Economics* 1 (1992): 9–21.

49. Gordon Tullock, “Legal Heresy,” Presidential Address to the Western Economic Association Annual Meeting—1995, *Economic Inquiry* 34 (January 1996): 1–9.

50. Gordon Tullock, “Juries,” in *The New Palgrave Dictionary of Economics and the Law*, vol. 2, ed. Peter Newman (London: Macmillan, 1998), 395–400.

51. Gordon Tullock, “The Coal Tit as a Careful Shopper,” *American Naturalist* 105 (January–February 1971): 77–80.

52. Gordon Tullock, “Biological Externalities,” *Journal of Theoretical Biology* 33 (December 1971): 565–76.