Chapter 8
Gordon Tullock (1922-)[1]

Charles K. Rowley[2]

Biographical Details

Gordon Tullock was born in Rockford, Illinois on February 16, 1922. His father, George was a hardy Midwesterner of Scottish ancestry, his mother, Helen, was of equally hardy Pennsylvania Dutch stock. He obtained his basic education in the public schools of that city, displaying from early childhood a superior intellectual ability that clearly distinguished him from his peers. In 1940, Tullock departed for the School of Law at the University of Chicago to combine a two-year program of undergraduate courses with a four-year formal law program. In fact, he completed the initial two-year program in a single year.

His law school program was interrupted by his being drafted into military service as an infantry rifleman in 1943, but not before he had all but completed a one-semester course in economics taught by Henry Simons. This course was to be Tullock's only formal exposure to economics, a fact that no doubt enhanced rather than hindered his future success in contributing highly original ideas to that discipline.

Tullock served in the U.S. military until shortly after the end of hostilities, returning to civilian life in December 1945. He took part in the Normandy landings on D-Day + 7 as a member of the Ninth Infantry. His life almost certainly was spared by the good fortune of his being left behind at division headquarters to defend three anti-tank guns. The original members of the Ninth Infantry were decimated on their hard-fought route across France and into Germany.

Following behind, Tullock eventually would cross the Rhine, he claims, while still asleep. Ultimately, he would end up in the Russian sector. Although Tullock modestly dismisses his wartime service as uneventful, this can only be with the

---

[1] This chapter is a revised and updated version of an essay that first appeared in *The Encyclopedia of Public Choice* edited by Charles K. Rowley and Friedrich Schneider and published in 2004 by Kluwer Academic Publishers, Volume I, pp. 105–117.

[2] Duncan Black, Professor of Economics at George Mason University and General Director of the Locke Institute. Address: The Locke Institute, 5188 Dungannon Road, Fairfax, Virginia, 22030. e-mail: crowley@gmu.edu

C.K. Rowley and F.G. Schneider (eds.), *Readings in Public Choice and Constitutional Political Economy.*

advantage of hindsight and considerable modesty. Participation in a major land war as part of "the poor bloody infantry" is never without the gravest of risks.

Following this three-year wartime interruption, Tullock returned to Chicago and obtained a *Juris Doctor* degree from the Chicago Law School in 1947. He failed to remit the $5 payment required by the University and therefore never received a baccalaureate degree.

His initial career, as an attorney with a small but prestigious downtown Chicago law firm, was controversial and, perhaps, mercifully brief. During his five-month tenure, Tullock handled two cases. The first case he won when he was expected to lose, and only after one of the partners in his firm had advised his client not to pursue the matter. The second case he lost when he should have won and he was admonished by the court for his poor performance (Brady and Tollison 1991, 1994, p. 2). Fortunately for the world of ideas, these events persuaded him to seek out an alternative career.

Prior to graduation, Tullock had passed the notoriously difficult Foreign Service Examination. He joined the Foreign Service in fall 1947 and received an assignment as vice consul in Tientsin, China. This two-year assignment included the Communist takeover in 1948. Following Tullock's return to the United States, the Department of State dispatched him to Yale University (1949–1951) and then to Cornell University (1951–1952) for advanced study of the Chinese language.

In late 1952, he joined the "Mainland China" section of the Consulate General in Hong Kong. Some nine months later he was reassigned to the political section of the U.S. Embassy in Korea, where, once again, he would briefly be overrun by communist insurgents. Tullock returned to the United States in January 1955, where he was assigned to the State Department's Office of Intelligence and Research in Washington. He resigned from the Foreign Service in fall 1956.

Over the next two years, Tullock held several positions, including most notably that of Research Director of the Princeton Panel, a small subsidiary of the Gallup organization in Princeton. Essentially, he was in transition, marking time until he was ready to make a bid for entry into academia.

Unusually, Tullock had already published in leading economics journals articles on hyperinflation and monetary cycles in China and on the Korean monetary and fiscal system even during his diplomatic service, thereby whetting his own appetite for an academic career and signaling an unusual facility for observing his environment as the basis for creative thinking. Furthermore, he had read and had been intellectually excited by the writings of such scholars as Joseph Schumpeter (1942), Duncan Black (1948) and Anthony Downs (1957), scholarship that provided the basis for reintegrating economics with political science within a strictly rational choice framework. In short, Tullock was ready to play a significant role in extending the empire of economics into the territory of contiguous disciplines.

In fall 1958, at age 36, he accepted a one-year postdoctoral fellowship at the Thomas Jefferson Center for Political Economy at the University of Virginia. Still a relatively unknown quantity at that time, Tullock nevertheless brought with him to the Center two indispensable assets, namely a brilliant and inquiring, if still-unfocused, intellect and an unbounded enthusiasm for his adopted discipline of political economy. Quickly he forged a bond with the Director of the Center, James M. Buchanan, a bond that would result in some of the most original and important political-economic scholarship of the mid-twentieth century.

His fellowship year at the Center was productive, resulting in a pathbreaking publication on the problem of majority voting (Tullock 1959). In fall 1959, Tullock was appointed as Assistant Professor in the Department of International Studies at the University of South Carolina. Publications continued to flow (Tullock 1961a, b) while Tullock crafted a seminal draft paper entitled "An Economic Theory of Constitutions" (Tullock 1959) that would become the fulcrum for *The Calculus of Consent* (Buchanan and Tullock 1962).

On this basis, Tullock quickly advanced to the rank of Associate Professor before returning to the University of Virginia, and renewing his relationship with James Buchanan, in February 1962, just as the University of Michigan Press was publishing their seminal book, *The Calculus of Consent*. In 1966, Tullock edited and published the first issue of *Papers on Non-Market Decision Making*, the precursor to the journal, *Public Choice*. Between 1962 and 1967, Tullock published innovative books on bureaucracy (Tullock 1965), on method (Tullock 1966), and on public choice (Tullock 1967a) as well as a rising volume of scholarly papers that earned him international recognition as a major scholar.

Despite this distinguished resumé, Tullock would be denied promotion to Full Professor of Economics on three consecutive occasions by a politically hostile and fundamentally unscholarly University administration. In fall 1967, Buchanan protested these negative decisions by resigning to take up a position at the University of California at Los Angeles. Tullock also resigned to become Professor of Economics and Political Science at Rice University. With Ronald Coase having resigned for similar reasons in 1964 to take up a position at the University of Chicago, it appeared that the nascent Virginia School of Political Economy might have been deliberately nipped in the bud by the left-leaning administration of the University of Virginia.

As a result of a successful initiative by Charles J. Goetz, the University of Virginia plot failed. Goetz succeeded in attracting Tullock to Virginia Polytechnic Institute (VPI) and State University (SU) in Blacksburg as Professor of Economics and Public Choice in fall 1968. Goetz and Tullock immediately established the Center for Studies in Public Choice in 1968, as the basis for promoting scholarship in the field and as a means of attracting James Buchanan to join them at VPI. This initiative bore fruit in 1969, when James Buchanan joined the VPI faculty and assumed the General Directorship of the Center, which was immediately renamed as the Center for Study of Public Choice. Simultaneously, Tullock renamed his journal *Public Choice* and the new subdiscipline set down fruitful roots in the foothills of the Appalachian Mountains.

Henceforth, Tullock would never again look back. Over the next one-third of a century he forged for himself a reputation as a brilliant entrepreneurial scholar and a formidable debater. To this day he refuses to rest on well-earned laurels as a Founding Father of three subdisciplines of economics, namely public choice, law and economics, and bio-economics.

Universities have recognized his contributions by appointing him to a sequence of Distinguished Chairs (VPI and SU 1972–1983, George Mason University 1983–1987 and 1999–, and the University of Arizona 1987–1999). Professional associations have honored him by electing him to their presidencies (Public Choice, the Southern Economic Association, the Western Economic Association, the International Bio-Economics Society, the Atlantic Economic Society, and the Association for Free Enterprise Education). In 1992, an Honorary Doctorate of Laws was conferred on him by the University of Chicago; in 1996 he was elected to the American Political Science Review Hall of Fame; and in 1998 he was recognized as a Distinguished Fellow of the American Economic Association. These awards and honors reflect his powerful entrepreneurial contributions across three major scholarly disciplines.

A Natural Economist?

James Buchanan has described Gordon Tullock as a *natural economist*, where natural is defined as having “intrinsic talents that emerge independently of professional training, education, and experience” (Buchanan, 1987, p. 9). A natural economist, therefore, “is someone who more or less consciously thinks like an economist” (*ibid*., p. 9). In Buchanan’s judgment, there are very few such natural economists and most of those who claim competence in economics as a discipline are not themselves natural. Buchanan identifies Gary Becker and Armen Alchian, along with Gordon Tullock, as prominent members of the rare natural economist species.

Buchanan correctly recognizes that all economists of repute rely upon the rational choice model as the basis for analyzing the market interactions of human beings. Human beings are depicted as self-interested, utility maximizing agents for whom social interchange is initiated and exists simply as a preferred alternative to isolated action. Even though many economists do not fully endorse this model as an accurate depiction of individuals in society, they utilize it in market analysis on an “as-if” basis.

Yet, many of them waver or object when confronted with extending the rational choice model to the analysis of nonmarket behavior especially, one might conjecture, prior to Tullock’s successful contributions in the 1960s. The behavior of such agents as politicians, voters, bureaucrats, judges, preachers, research scholars, family members, criminals, revolutionaries, terrorists, and media anchors, they argue, cannot be effectively captured in terms of the rational self-interest model. The natural economist has no such inhibitions.

In this perspective of Tullock’s work, individuals exist as isolated islands in an ocean of exchange, solipsist in vision and poised irreversibly on the edge of the jungle (Rowley 1987a, p. 20). Because the natural economist is imbued comprehensively with a Hobbesian vision of the world, he cannot comprehend the consentaneous promise expounded by Hume, Locke and, the young John Stuart Mill. He cannot model man as rising above his narrow self-seeking instincts.

George Stigler once suggested that a major difference between his own scholarship and that of Milton Friedman was that whereas Friedman sought to change the world, he (Stigler) sought merely to understand it. This distinction holds with equal force with respect to the scholarship of Buchanan and Tullock. Precisely because Tullock seeks to understand—even when what he learns is sometimes unappetizing—he adopts no subterfuge in his analytical approach.

If consent exists, Tullock notes and explores its rationale. If conflict is manifest, Tullock investigates the social dilemma to the extent possible with the tools of neoclassical economics. No judgment is passed; no policy recommendations are advanced. Tullock chronicles observed events as part of the pattern of a diverse universe that he is ever eager to explore. In this sense, Buchanan's insight, as I shall demonstrate, is accurate with respect to much of Tullock's scholarship, but inaccurate in important respects.

I should close this section by noting, however, that a natural economist need not manifest extreme solipsism in his own behavior. There is no reason why those who utilize self-seeking assumptions in scientific analysis should be seduced by the assumptions that they deploy into adopting an entirely solipsist mode of personal behavior.

Certainly, Tullock does not live the life of *homo economicus*, as the many faculty visitors and graduate students who have diverted him from his writings to share his intellectual curiosity, his ideas, and his wit will readily testify. If Tullock is generous with respect to his time, he is equally generous with respect to his modest wealth, as those who have dined—and dined well—at his table and those whom he has supported financially will also testify. He may well raise *homo economicus* as his indomitable standard on the field of intellectual battle. This standard is by no means the appropriate measure for evaluating his life (Rowley 1987a, p. 22).

The Calculus of Consent

The two most widely cited of Gordon Tullock's many contributions are *The Calculus of Consent* (coauthored with James Buchanan) published in 1962, and *The Welfare Costs of Tariffs, Monopolies and Theft* published in 1967. Let us focus briefly on Tullock's contributions to *The Calculus* as a means both of assessing his insights and of teasing out the limits of the natural economist hypothesis.

The Calculus is a momentous work of scholarship, the first major foray by Buchanan and Tullock into the terrain of political science, and the cornerstone of the Virginia political economy program. The principal objective of the book was to rationalize the Madisonian enterprise in strictly economic terms and to provide a logical rational choice foundation for constitutional democracy.

Fundamentally, the book was an exercise in team production, yet with each author bringing distinctive qualities to the enterprise (Rowley 1987b, p. 45).

Buchanan brought to the task an emphasis on modeling politics-as-consentaneous-exchange under the influence of Knut Wicksell. Tullock focused on modeling all agents in the constitutional endeavor in strict self-interest terms. By resolving this tension the coauthors wrote a masterpiece. In Tullock's contributions on logrolling and its implications for the simple majority voting rule (Chapter 10) and in his contributions on the bicameral legislature and the separation of powers (Chapter 16), we see the natural economist in his most unrelenting guise.

However, Tullock's central contribution to *The Calculus* was the economic theory of constitutions (Chapter 6) written at the University of South Carolina in 1959. This economic theory provides the logical foundation for constitutional democracy and, indeed, it is the anvil on which *The Calculus of Consent* was forged. Ironically, it is a chapter in which Tullock suppresses the self-interest axiom in its most myopic form as a means of identifying the unanimity principle as a rational individual decision-making rule for effecting constitutional choices.

In Chapter 6 of the book, Tullock assumes that the domain of collective action has already been determined and that the specific institutions through which collective action occurs are already in place. On this basis, he analyzes the choice of optimal rules by any random individual in society as a function of minimizing expected costs. Tullock distinguishes between two categories of expected cost, namely the expected external costs imposed on them by collective action and the expected costs of making decisions through collective action.

By recognizing that individuals fear the imposition of external costs upon them by government, Tullock challenged head-on the Platonic model of beneficent government which then dominated the political science literature. Only a rule of unanimity can protect any random individual from the imposition of such costs. By recognizing that expected decision-making costs are a monotonically increasing function of the number of individuals who must agree in order to effect collective action, Tullock was able to check the unanimity instincts of James Buchanan and to demonstrate that only voting rules short of unanimity are capable of minimizing the combined expected external and decision-making costs of collective action.

The rational individual, at the stage of constitutional choice, thus confronts a calculus not unlike that which he must face in making everyday economic choices. By agreeing to more inclusive rules, he accepts the additional burdens of decision making in exchange for additional protection against adverse outcomes and vice versa (Buchanan and Tullock 1962, p. 72). Tullock recognizes that differences in the burden of these costs with respect to specific constitutional choices will result in the selection by rational individuals of more or less inclusive rules. This insight explains the choice of supra-majority rules for collective actions involving such fundamental collective choices as life, liberty, and property in combination with the choice of significantly less inclusive rules for collective choices involving lower perceived external costs.

At this point, however, Tullock retreats from the concept of *homo economicus* in its narrow myopic form in order to focus on the mechanism through which random individuals who have selected optimal constitutional rules for themselves translate these choices into universally endorsed constitutional rules for society. This is a significant issue. Individuals differ in many ways and, at any specific time, such differences will obstruct the achievement of universal consent.

Agreement, according to Tullock, is more likely regarding general rules for collective choice than for later choices to be made within the confines of certain agreed-on rules, because in the former case individuals are separated from their particular interests by a veil of uncertainty. Because general rules are expected to govern choices over lengthy time periods, individuals cannot predict with any degree of certainty whether they are likely to be in winning or losing coalitions on any specific issue. Their own self-interest in such circumstances will lead them to choose rules that maximize the expected utility of a randomly selected individual.

Consent will not occur without discussion. This is not the hypothetical world depicted by John Rawls in *A Theory of Justice* (1971). The discussion envisaged in *The Calculus of Consent* can be likened to that among players determining the rules of a card game before the cards are dealt. It is in the self-interest of each player at this stage to devise a set of rules that will constitute the most interesting game for the representative player. Once the cards are dealt, of course, no such agreement is likely, as *homo economicus* re-emerges to follow his self-serving instincts.

For universal consent over rules to be feasible, Tullock recognizes that participants must approach the constitutional convention as equals in the sense that differences are accepted without rancor and that there is no discernible dominant group that holds political power. For, such a group would not rationally divest itself of its authority. Therefore, *The Calculus of Consent* has little relevance for a society characterized by sharp distinctions between social classes, religious or ethnic groupings where one such grouping has a clearly advantageous position at the constitutional stage.

In 1787, this may not have appeared to be a problem for the United States because the limited suffrage went largely unchallenged. By 1860, it clearly was sufficiently important to destroy the Union. It is very surprising that Tullock completely failed to anticipate that this problem would re-emerge in the United States during the mid-1960s as long-term minorities began seriously to question the rules that had subjugated them to the whims of a dominant majority. The complete collapse of the U.S. Constitution in 1860, and its near collapse between 1968 and 1974, in any event, strongly conform to the predictions of the economic model.

Like all original insights, Buchanan and Tullock presented *The Calculus of Consent* to its intellectual audience in an embryonic form. Some forty years after its birth, significant and unresolved problems remain as is inevitable for any theory that purports to rationalize universal consent for less than unanimous decision-making rules in the real world.

Foremost among these problems is the silence of *The Calculus* with respect to the characteristics of the state of nature in the preconstitutional environment. Written as the book was, in the late 1950s, it is reasonable to infer that the authors envisaged a Lockeian state of nature governed by natural law that allowed individuals to protect inalienable rights to life and liberty and imprescriptible rights to private property.

In such an environment, individuals predictably will consent only to a set of rules that will require government to protect their natural rights (i.e., that limit the domain of collective action to government as a minimal state). Because government will be so constrained, individuals anticipate that decision rules will be fully enforced by government as a referee and that collective action within those rules will not be reneged upon in the postconstitutional environment.

Once collective action bursts out of this restricted domain, as occurred in the United States in 1937, in the Supreme Court judgment of *West Coast v. Parrish* that destroyed forever the primacy of liberty to contract, considerations of conflict rapidly overwhelm those of consent, and constitutional rules are reformulated in a much less promising, more Hobbesian environment. This environmental shift was recognized simultaneously in 1974 at the peak of the Watergate crisis, by both coauthors of *The Calculus of Consent*.

Tullock's response was to write *The Social Dilemma* (1974) and to focus forever after on positive public choice in a Hobbesian environment. Under pressure, Tullock's natural economist instincts have resurfaced with a vengeance as his intellectual focus has switched from the potential for "gains-from-trade" to the reality of "generalized prisoners' dilemmas" and intractable hold-out situations.

Buchanan's response, in contrast, was to write *The Limits of Liberty* (1975) striving to rationalize the survival of consentaneous decision making in a Hobbesian world. Thereafter, Buchanan has focused almost exclusively on constitutional political economy, frequently changing tack to protect limited government from the adverse consequences of the predatory state (Brennan and Buchanan 1980, 1985; Buchanan 1990; Buchanan and Congleton 1998). Under pressure, Buchanan has reached, perhaps dangerously, beyond *homo economicus* in his attempt to provide an intellectual platform through which concerned private citizens might forestall the re-emergence of Leviathan in the United States.

The Political Economy of Rent Seeking

If Tullock dips his standard in *The Calculus of Consent*, he resurrects it with a vengeance in his seminal contributions to the rent seeking literature. Here we see the natural economist in his favorite role as he analyzes narrow self-seeking by individuals in the unrelenting Hobbesian environment of the churning, wealth-redistributing state.

Economic rent is a familiar concept to economists. It is simply defined as any return to a resource owner in excess of the owner's opportunity cost. Economic analysis identifies various categories of such returns—monopoly rents, quasi-rents, infra-marginal rents—that arise in market economies as a consequence of the less-than-perfect supply elasticity of factor inputs. Within a competitive market, the search for rents is nothing more than the normal profit seeking incentive that shifts resources to their most highly valued uses and creates new products and values (Tollison 1987, p. 144). Positive temporary rents induce new entry and negative temporary rents compel exit, in both cases impacting beneficially on economic output.

Tullock's rent seeking insight focuses attention on a malignant rather than a benign phenomenon. The notion that individuals and groups dissipate wealth by utilizing scarce resources to seek rents created for them by government is a classic insight by Gordon Tullock (Tullock 1967b). The insight is of pivotal importance for Virginia political economy. Arguably, it is the single most important contribution to the public choice research program and it remains, some 35 years after its inception, a major engine motivating public choice scholarship.

Tullock's insight was first presented in 1967 in an article published by *The Western Economic Journal* following its rejection by the well-known editors of three leading economics journals. The term "rent seeking" was associated with Tullock's insight some seven years later by Anne Krueger (1974) in a paper that, by accident, failed to reference Tullock's several prior contributions to the literature.

Tullock's attention was energized by a growing tendency for 1960s' economists to dismiss the welfare costs of monopolies and tariffs as unimportant in view of the minute values associated with Marshallian deadweight loss triangles of consumers' surplus imposed by such instruments (one-tenth of one percent of U.S. gross domestic product according to one measure devised by Arnold Harberger (1954, 1959)). Instinctively, Tullock sensed that such complacency was ill founded, and noted that "the classical economists were not concerning themselves with trifles when they organized against tariffs, and the Department of Justice is not dealing with a miniscule problem in its attacks on monopoly" (Tullock 1967b).

Tullock identified the Harberger fallacy by introducing a shift of emphasis based on a classic public choice insight. Generally, governments do not impose tariffs and do not create monopolies in a political market vacuum. They must be lobbied or pressured into so doing by the expenditure of resources in political activity by those who stand to benefit from such market protections. According to Tullock, rational producers would invest resources in lobbying, say for a tariff, until the expected marginal return on the last dollar so spent was equal to its expected marginal cost. Those who opposed the transfer would expend resources similarly in the opposite direction. All such outlays dissipate the rents expected by those who lobby. In certain adverse circumstances, such dissipation constitutes a complete waste of society's resources.

Tullock went on to demonstrate that rent seeking is not limited to the lobbying of government by private interests. In his 1975 article "Competing for Aid" (Tullock 1975b), he demonstrated how rent seeking for fiscal aid from the federal or state governments occurred among lower levels of government. This insight came from Tullock's experience in China where he observed how individuals deliberately mutilated themselves to make themselves attractive as recipients of charity. Similarly, the City of Blacksburg deliberately under-maintained its own roads (may even have deliberately damaged them) in order to become eligible for road-fund support from the Commonwealth of Virginia.

One of the major activities of modern government is the granting of special privileges to various politically influential organizations. Tullock observed that, with notable exceptions, the profit record of such groups does not differ systematically from that of unprotected sections of the economy. In part, this may be because the rents either have been dissipated up front or eroded by new entrants. In part, however, the phenomenon is due to the capitalization of monopoly rents so that only the original beneficiaries of the privilege make abnormal gains. Market capitalization gives rise to a transitional gains trap where the revoking of a government privilege imposes capital losses on second-generation rent recipients (Tullock 1975a). It would seem, as David Friedman has put it, that "the government cannot even give anything away." It is also evident that rational individuals will lobby virulently to avoid the imposition of capital losses, making it extremely difficult for politicians to support the abolition of special privileges once they have been bestowed.

As with *The Calculus of Consent*, so it is the case with rent seeking, that Tullock's original insight was presented to public choice in embryonic form. Many of the gaps have now been closed (Tullock 1993). Two significant problems yet remain unresolved.

The first is the ad hoc nature of rent seeking theory that constrains the generality of its predictive power and that allows critics such as Stiglitz (1991) to contend that "while these theories share with stock market analysts the ability to provide ready interpretations of whatever occurs, their success in predicting these political forces is much more limited." This is a fair criticism. Following the collapse of the Soviet Empire in 1989 and the collapse of Enron in 2001, rent seeking rationalizations abound. However, no public choice scholar predicted either of these collapses in advance.

The second is the marked disparity between the magnitude of rents created by the U.S. federal government and the relatively small level of observed rent seeking outlays. Even if the efficient rent-seeking model (Tullock 1980a) is adjusted to take account of risk aversion and increasing returns in rent seeking, this gap by no means is reconcilable. In his 1989 book *The Economics of Special Privilege and Rent Seeking* Tullock ingeniously rescues the rational choice model by suggesting that rent seekers succeed in opaque rather than transparent markets and therefore are forced to utilize inefficient techniques in rent seeking in order to escape voter scrutiny. Such inefficient techniques are very costly and reduce the returns to rent seeking. Ironically, the very inefficiency of their methods reduces the total of rent seeking in society and ultimately mitigates the loss of wealth to society.

In this context, consider two types of worlds. In one, Tullock waste is exact and complete. Here the incentive to create monopoly is low because there are no excess returns from so doing. However, the social cost per instance of realized monopoly is high. In the other world, politicians succeed in converting rent-seeking costs into transfers. There are significant excess returns to monopoly creation. Hence, there will be many more realized monopolies and many more Marshallian triangles of deadweight loss imposed on society. It is not clear a priori which type of world is preferable from the viewpoint of wealth maximization.

Let me conclude this discussion with an accolade to Gordon Tullock from one of his former colleagues, Robert Tollison, much of whose career has been expended on researching the rent-seeking research program initiated by Tullock:

> The theory of rent-seeking is here to stay. As I have observed in another context the most interesting thing about Tullock's ingenious insight is how simply he put it. Like Coase, he communicated his vision in terms that every lay economist could follow. This is a criterion by which greatness in science is measured. In economics, the Tullocks of our profession are more indispensable than ever. To wit, the scarcest thing in any science is a good idea, clearly communicated. (Tollison, 1987, p. 156)

The Vote Motive

The truly original insights into the vote motive must be ascribed to Duncan Black, whose writings during the late 1940s on the median vote theorem and the problem of vote cycles make him the undisputed Founding Father of public choice, and to Anthony Downs, whose 1957 book introduced rational choice analysis to the study of democracy and representative government and defined the paradox of voting implicit in the rational abstention of voters when confronted with large-scale elections. Tullock, nevertheless, leaves firm footprints on the sand with respect to this area of public choice scholarship.

First, Tullock has focused attention on the relevance of logrolling and vote trading for majority voting in representative assemblies. In 1959, his paper "Problems of Majority Voting" demonstrated that majority voting mechanisms in the absence of logrolling and vote trading deny voters the opportunity to seek gains from trade available to them where varying minorities care more passionately than varying majorities over specific programs in the policy bundles potentially available through the political process.

However, utility-maximizing logrollers, in the absence of binding contracts among each other, typically induce excessive public provisions (in terms of median preferences) under majority rule. Only by requiring supra-majorities can this weakness be avoided. This insight provides powerful support for a constitutional requirement that legislatures should always operate under supra-majority vote-rule constraints.

In 1981, Tullock returned to his earlier work on logrolling to address a perceived paradox in legislative behavior, namely the perceived stability of policy outcomes in a spatial environment seemingly conducive to endless cycling. His innovative paper entitled "Why so much stability?" initiated a major research program on the topic now referred to as "structure-induced equilibrium". Although Tullock's contribution is generally referred to as logrolling, in truth it falls directly within the structure-induced paradigm.

Tullock's contribution is based on the recognition that most government actions have the characteristic of providing a relatively intense benefit to a small group at a small cost to each member of a large group. Such bills are passed by several small groups getting together to logroll across their separately preferred programs.

In line with his work in *The Calculus of Consent* (1962), Tullock distinguishes between two forms that logrolling can take, namely individual bargains and formal coalitions.

Individual bargains predictably involve everyone since anyone excluded can offer lower prices for his vote in order to get back in. Tullock claims that a stable equilibrium is likely in such circumstances, though it will not be a Pareto optimum. In my judgment he is incorrect. As Bernholz (1974) established, if there is a cycle in the voting, there is also a logrolling cycle, unless individuals somehow can commit themselves to a specific bargain.

Tullock recognizes the instability of formal coalitions, given that those excluded from the majority coalition can destabilize it through counter-offers, since there will be over-investment in projects favored by members of the coalition and under-investment in projects favored by the minority. Moreover, there is little evidence either of formal coalitions in legislative bodies, or of any systematic exploitation of specific minorities. Rather, as Tullock observes, the committee structure of Congress creates stability to protect itself from the chaos of endless cycles:

> One simple procedure is to have the relevant committee which will, of course, contain representatives from both parties, canvass the House and decide which particular rivers and harbors bills would, in fact, pass if implicit logrolling were used on votes on each individual bill. This collection of specific projects can then be put together in one very large bill and presented to Congress as a unit. (Tullock, 1981, pp. 199–200)

This was the first attempt to explain the observed stability of political equilibrium under conditions conducive to cycling within the framework of a strictly rational choice model.

Second, (in 1967a) Tullock re-focused the rational voter abstention model of Downs (1957) in order to take account of the phenomenon of rational voter ignorance. If information is costly and if voters rationally economize in obtaining it, then the original equation of Downs, where the expected payoff to the individual from voting in an election is:

$$R = BP - C + D$$

changes to:

$$R = BPA - C_v - C_i + D$$

where B refers to the net personal benefit expected from the victory of the voter's preferred party or candidate, P refers to the probability that the voter's vote is decisive, A refers to the voter's subjective estimate of the accuracy of his judgment, C_v refers to the cost of voting, C_i refers to the cost of obtaining additional information and D refers to the consumption benefit received from voting.

Suppose, in such latter circumstances, argues Tullock, that C_v is negative as a consequence of social pressures, in which case voting is always rational. The cost of becoming adequately informed is much more expensive. In such circumstances, it would rarely be rational for the individual voter to cast a well-informed vote. In essence, most voters will be rationally ignorant (Tullock 1967a, 114).

The fact that the average voter is rationally ignorant opens up incentives for highly motivated members of the mass media to attempt to influence others in their voting behavior. Tullock also addresses this issue (Tullock 1967a). The expected payoff associated with such behavior is:

$$R = BP_p - C_i - C_p$$

where P_p is the probability that persuasion is decisive and C_p is the cost of persuasion. For individuals working in the mass media, P_p is much larger than P and C_p is likely to be zero. Advocacy therefore is a highly predictable activity in political markets. Advocacy will be directed most heavily at rationally ignorant swing voters whose behavior typically determines the outcome of political elections.

So far Tullock discusses the provision and consumption of political information without specific reference to the important issue whether or not such information is deliberately deceptive, although he recognizes that there is a fine distinction between persuasion and lies. In a further essay, on the economics of lying, Tullock (1967a) focuses on the incentives for politicians to lie to rationally ignorant voters in the course of election campaigns.

The expected benefit associated with a political lie comes from its success in securing votes. This is the product of the probability that the lie will be believed and the probability that it will persuade individuals to switch their votes in favor of the liar. The expected cost of a political lie is the sum of any cost to conscience and the product of the probability that the lie will be detected and the loss of votes associated with such detection. According to Tullock (1967a), the rational vote-seeking politician will lie to the point where the marginal expected benefits are equated with the marginal expected cost. Predictably, politicians will lie more extensively to the rationally ignorant than to the well-informed voters.

Because competing politicians have clear incentives to expose each others' lies, explicit lies are less likely than lies by inference. Politicians are well versed in such nuances of expression. Negative campaigning, where the respective campaign staffs of competing politicians, rather than the candidates themselves, lie about each other's candidate and accuse each other of lying is an excellent example of such nuanced vote-seeking behavior.

Tullock's natural economist instincts dominate in his approach to the vote motive. The current faddish popularity of theories of expressive voting, for example, wherein rational voters are assumed to vote their conscience rather than their interest, leaves Tullock unmoved and unconvinced. If individuals go to the polls, they vote their interest, as such interest is perceived to be through the fog of rational ignorance, stupidity, persuasion, and lies.

One senses (and shares) Tullock's skepticism concerning public choice scholars who relinquish the rational choice model in this field in favor of sociological explanations of human action. If Tullock's understanding of the vote motive speaks little for the net benefits of democracy, this does not concern him, nor should it concern us. Tullock views the world as it is and not as it ideally might be. From this perspective, democracy is a very weak reed on which to rest the well-being of a nation, save when the domain of collective action is strictly and effectively curtailed by constitutional rules (Tullock 1989, 2000).

Bureaucracy

Tullock's 1965 book, *The Politics of Bureaucracy*, is the first application of the positive rational choice approach to a field that until then was dominated by "a normative mishmash of Max Weber's sociology and Woodrow Wilson's vision of public administration" (Niskanen 1987, p. 135). In this tradition, senior bureaucrats were viewed for the most part as impartial and well-informed servants of the prevailing public good as determined by each ruling government. The one prior book on bureaucracy by an economist (Ludwig von Mises 1944) was essentially devoid of analytic content. Tullock's (1965) contribution, therefore, inevitably was a voyage of discovery that opened up a fertile field for future research by challenging the fundamental premise that dominated the political science literature. Tullock is clearly influenced by Machiavelli's *The Prince* and by Parkinson's Law in modeling the behavior of senior bureaucrats and their subordinates.

Tullock models bureaucracy as a hierarchical system in which individuals advance by merit, as determined by senior bureaucrats. Ambitious self-interest motivates the behavior of all bureaucrats. The organizational system selects against moral rectitude. A man with no morals has a marked advantage over a more moral colleague who is willing to sacrifice career opportunities, at the margin, in pursuit of moral goals.

The moral quality of senior bureaucrats, therefore, with rare exceptions, is extremely low, not least because they must respond to the amoral behavior of ambitious underlings who seek to usurp their positions. There is no market check on the harmful organizational consequences of such unbridled personal ambition. It is also pointless to train bureaucrats in ethics, since self-interest dominates moral rectitude in this perverse non-market environment.

Because bureaus are hierarchical systems in which top-down decision making is the norm, Tullock identifies two major problems that lead to organizational inefficiency. First, instructions are unlikely to pass down the hierarchy without distortion even in the absence of malevolent design. Tullock refers to this as the problem of *whispering down the lane*. Second, senior bureaucrats cannot access fully the information available at lower levels of the hierarchy. If they delegate, they lose control. If they fail to delegate, their decisions will be ill-informed. Thus, Tullock shreds the central postulates of the political science research program and sets the scene for the economic analysis of bureaucracy.

Tullock (1965) focuses entirely on the internal organization of a bureau. Later work by Niskanen (1971) and by Weingast and Moran (1983) tightened the economic analysis and identified the link between bureaus and their sponsor organizations. This shift of emphasis opened up the path to important empirical analysis that strongly supports the rational choice approach. Tullock's insights, culled from his personal experience in the Department of State, were indispensable to establishing this research program.

The Law

Tullock, the natural economist, rarely strays from positive rational choice analysis to engage in normative discussion. His first book on the law, *The Logic of Law* (1971a), however, is an exception to this rule. Here Tullock adopts utilitarian philosophy as first outlined by Jeremy Bentham, but as modified by Lionel Robbins (1938), by Nicholas Kaldor (1939) and by Hicks (1939).

Bentham's brand of utilitarianism comprises a combination of three conditions (Sen, 1987, p. 39), namely:

1. *Welfarism*, which requires that the goodness of a state of affairs should be a function only of utility information regarding that state of affairs;
2. *Sum-ranking*, which requires that utility information regarding any state of affairs should be assessed in terms of the sum of all individuals' utilities concerning that state of affairs; and
3. *Consequentialism*, which requires that every choice in society should be determined by the goodness of the consequent state of affairs.

Tullock's only formal training in economics was the course provided in the Chicago Law School by Henry Simons, who is best known for *A Positive Program for Laissez Faire* (1934), a propagandist tract, more an essay in utilitarian political philosophy than in economics (Coase 1993, p. 240). It is not surprising, therefore, that Tullock followed in his master's footsteps, albeit modifying the utilitarian ethic to suppress the sum-ranking condition in favor of the Pareto principle.

In *The Logic of the Law*, the first book ever published in law-and-economics, Tullock explicitly refers to Bentham's failed reforms of the English legal system, and claims that: "[s]ince we now have a vast collection of tools that were unavailable to Bentham, it is possible for us to improve on his work" and "[h]opefully this discussion, together with empirical research, will lead to significant reforms" (Tullock 1971a, p. xiv). On this basis, Tullock launches a critical review of substantive law and legal procedure within the United States as they existed in the late 1960s.

Tullock recognizes the limitations posed by the ordinal nature of utility and the inability to make interpersonal comparisons of utility. To overcome these restrictions, he falls back on the approach first developed in *The Calculus of Consent* (1962), in which individuals are viewed as focusing on potential reforms from a long-term *ex ante* perspective behind a veil of uncertainty. In such circumstances, legal reforms that myopic individuals who suffer a short-term loss of utility might be expected to veto, nevertheless satisfy the unanimity requirement of the modified Pareto principle.

Tullock's critical eye takes in most areas of substantive law in the United States–contract, tort, theft, robbery, tax, and family—but focuses most savagely on legal procedures within the Anglo-Saxon legal system, a focus that he has sharpened even more with the passage of time as he has become yet more enamored with Napoleon (the civil code) and yet more skeptical of Wellington (the adversarial procedures of the common law).

The Logic of the Law (1971a), *Trials on Trial* (1980), and *The Case Against the Common Law* (1997) all utilize a writing style more appropriate for policy makers than for lawyers, rejecting the minutiae of legal footnotes for the straightforward prose and anecdotal evidence for which Tullock is renowned. Not surprisingly, Tullock has failed to achieve the same level of influence over the legal profession as he has, with respect to public choice, over economists and political scientists.

Most lawyers are rent seekers rather than scholars, slaves to the complex details of the law that provide them with their remuneration and profoundly mistrustful of ideas that appear to threaten their monopoly rents. It should come as no surprise that lawyers and legal scholars have responded much more favorably to the sophistry of Richard Posner, a fellow lawyer who advises them that their pursuit of private wealth through lucrative adversarial litigation indubitably contributes to the wealth of society (Posner, 1973).

Undeterred by this apparent failure to influence the American legal profession, Tullock continues to launch successive assaults upon Anglo-Saxon legal procedure. In so doing, he identifies the weak link of Chicago law-and-economics. For, if litigation leads to incorrect legal outcomes and legal errors are not automatically corrected by future litigation, the assertion that the common law is efficient is extremely difficult to sustain.

In his most recent, and arguably his best, book on this subject *The Case Against the Common Law* (1997) Tullock deploys the rational choice approach to powerful effect, demonstrating that a socialistic court system, with salaried bureaucrats (judges) and below-average intelligence jurors responding to the competing arguments of self-seeking lawyers, buttressed by the paid lies of their respective expert witnesses, within a system that is designed to restrict relevant evidence, is extremely unlikely to contribute positively to the efficiency of the law and to the aggregate wealth of society.

The fact that legal scholars of all brands, from Yale and Harvard to Chicago, choose to remain silent concerning the issues that Tullock raises, rather than to attempt to refute them, is suggestive that they know just how potentially devastating is his logic of the law for the continuation of the high incomes that they earn. Lawyers and legal scholars are sufficiently well trained in the Socratic technique to recognize the importance of voiding it when confronted with such a formidable debater, so better armed than they are in the logic of the law (Goetz 1987; Rose-Ackerman 1987; Schwartz 1987).

Bio-Economics

In 1957, shortly after leaving the Department of State and while working in Princeton, Gordon Tullock became interested in social insects and in other aspects of biology. He prepared a manuscript that would be published in a much revised form only one-third of a century later, dealing with issues of coordination without command in the organization of insect societies. In this early draft, he deployed economic tools to analyze the internal structure of ants, termites and a few other insect species. Tullock's monograph was well in advance of the pioneering work of Edward O. Wilson who is formally and correctly credited with founding the field of sociobiology.

Tullock's full bibliography contains a surprising number of publications in journals of biological science as well as a number of more popular publications in this field. One of these—his paper (Tullock 1971b) that applied economic principles to explain the behavior of the coal tit as a careful shopper—inspired a doctoral dissertation that provided a supportive empirical test of the avian feeding habits of the coal tit (Goetz 1998, p. 629).

Together with Janet Landa, Michael Ghiselin, and the late Jack Hirshleifer, Gordon Tullock ranks as one of the founding fathers of bio-economics. Most of his contributions were collected into his research monograph (Tullock 1994) entitled *The Economics of Non-Human Societies*. In this monograph, Tullock analyses the extraordinary feats of cooperation and adaptation to changes in their environments accomplished by ants, termites, bees, mole rats, sponges, and (his favorite) slime molds, species that have literally microscopic or non-existent brains.

Tullock assumes that animals, plants, ameboid single-cells of sponges, and the individual cells of slime molds all possess the functional equivalent of the preference function of human beings. This preference function is extremely primitive and is not necessarily mediated by way of a nervous system. A process of Darwinian selection and inheritance determines the success of such species in social coordination. He details the behavior patterns of such primitive species in terms of this rational choice model. It must be said that anyone who is prepared to argue the applicability of the rational choice model to the behavior of slime molds is indeed a natural economist!

The Editorial Initiative

Tullock's career as journal editor began inconspicuously in 1966 when he edited the first issue of *Papers in Non-Market Decision Making*, the precursor to the journal *Public Choice* that would become the spearhead of the public choice revolution and arguably one of the most influential policy-oriented journals of the last third of the twentieth century. From the outset, Tullock displayed enormous entrepreneurial talent in launching and directing this editorial initiative (Rowley 1991).

Historians of scientific revolution (Kuhn 1970) observe that textbooks and scholarly journals serve for the most part to consolidate rather than to initiate new research programs. The scholarly journals, in particular, tend to be conduits facilitating the preoccupation with "puzzle-solving" that normal science epitomizes. In this sense, journals are vehicles of normal science constrained by the vision of the past and, at most, are reluctant agents in the process of scientific revolution.

Tullock was well aware from the outset of the preoccupations of journal editorship; indeed, he had investigated the nature of the problem in his 1966 book entitled *The Organization of Inquiry* completed prior to embarking on his own editorial career (Rowley 1991). In that book, Tullock placed *homo economicus* center stage in the non-market decision-making environment of the typical scholarly journal and deduced on this basis an economic explanation of conventional editorial predilections for normal puzzle-solving science.

To understand the behavior of journal editors, Tullock argues, it is necessary to take account of the non-market environment of the academy, the institution central to the scholarly journal's success or failure. Universities, with few exceptions, are either publicly owned socialist institutions or are nonprofit organizations, in each case offering bureaucratic services in exchange for block appropriations and grants supplemented by fee income.

The senior bureaucrats responsible for their operations have few incentives to become acquainted with the details of their institutions' outputs, particularly with respect to the nature and quality of advanced research and scholarship. Yet, they have strong incentives to utilize low-cost filters for evaluating scholarly output as a basis for appointing, tenuring, promoting, and remunerating their academic work force. As a consequence, "[t]he whole responsibility for evaluating research, in essence, is left to the editors of the learned journals" (Tullock 1966, p. 37).

Unfortunately, most editors exercise only a subordinate role in the evaluation of scholarship, essentially providing a brokerage function between scholars on the supply and the demand side of the market for ideas. As Tullock observes, "the job of journal editor, although respectable, is not of sufficient attraction to get the very best personnel" (Tullock 1966, p. 141). In the typical case, where the editor is a respected but not a leading scholar in his discipline, truly important and innovative pieces of scholarship often will lie beyond his evaluation capacity.

In such circumstances, the use of anonymous readers becomes a lifeline for the intellectually overwhelmed editor. Recourse to this lifeline predictably fails to protect the path-breaking contribution. Leading scholars often either refuse to referee papers or provide only cursory evaluations. Hard-pressed editors thus submit manuscripts "to relatively junior scientists since such men are rather flattered at the honor and are unlikely to delay and delay" (Tullock 1966, p. 143). Under the shield of anonymity, the referee "is also not under any great pressure to reach the correct decision" (Tullock 1966, p. 143).

In such circumstances, Tullock argues, editors tend to discriminate against ground-breaking articles because of risk aversion in the face of augmented uncertainty:

> The probability of error on the part of the original investigator is greater, the possibility of error by the editor in misjudging the article is also great, and it is certain that the article, if published, will be very carefully examined by a large number of specialists. Under the circumstances, the possibility that the editor's own reputation will suffer from publication of such articles is a real one. It is not surprising, therefore, that these articles are sometimes hard to place. The problem is compounded by the fact that the prestige of a journal is affected by those it accepts; it is not affected by those it turns down. This probably leads the editors to some degree, at any rate, to play safe. (Tullock 1966, p. 147)

Yet, in his own lengthy editorial career (1966–1990), Tullock did not reflect his own logic, did not play safe, did not hide behind the anonymity of referees, did not slip from the cutting edge of public choice, and did not step down from the editorship of *Public Choice* even as his reputation became assured as one of the two leading scholars in the discipline. Instead, he deployed his journal as an active agent, seeking out contributions in areas where he detected important research deficiencies—vote models, logrolling, rent-seeking, the stability of political equilibrium, demand-revealing bureaucracy, and autocracy are noticeable examples.

He placed the journal firmly behind empirical research, recognizing the problem of obtaining good data, and allowing authors scope to experiment with respect both to the use of proxy variables and to method (Tullock 1991). Variable though the quality of published papers undoubtedly was, scholars of public choice were attracted like magnets to each issue of the journal for the gems that they might find—and might find only in *Public Choice*—because its editor was a genius and because rival editors both in economics and in political science, quite simply, were not. Once again, Tullock's behavior diverged from that of the natural economist in its public-spirited, self-effacing contribution to the development of an important discipline.

Tullock's World View

In many respects, Tullock does manifest the characteristics outlined by Buchanan (1987) as defining the natural economist. However, as this essay demonstrates, Tullock is much more than this. He is a warm-hearted and deeply concerned person with a powerful vision of the good society and a willingness to explore the reforms necessary to move mankind onto a better path.

In this regard, Tullock's philosophy is utilitarian in the modified sense of the Pareto principle, further adjusted to allow for individual decision making behind a veil of uncertainty. This philosophy, first spelled out in *The Calculus of Consent*, has been applied systematically by Tullock ever since wherever he has engaged in public policy discussion. Tullock is not an anarchist. He believes that there is a positive role for the state. No doubt, that role extends in his mind beyond that of the minimal or "night-watchman" state.

However, any such extension is extremely limited. Unlike many professed classical liberals, Tullock has not allowed himself to be diverted onto a normative Hobbesian path by the events of September 11, 2001. Rather, he has maintained a principled Lockeian position that a free society should never over-react to perceived violence and that basic constitutional rights should not be trampled on. He is a true friend of liberty, always watchful and vigilant in its defense. His good sense and common decency is much needed and highly valued in this increasingly troubled world.

References

Bernholz, P. (1974). "Logrolling, arrow-paradox and decision rules: A generalization." *Kyklos*, 27, 49–72.

Black, D. (1948). "On the rationale of group decision-making." *Journal of Political Economy*, 56, 23–34.

Brady, G.L. and Tollison, R.D. (1991). "Gordon Tullock: Creative maverick of public choice." *Public Choice*, 71(3), 141–148.

Brady, G.L. and Tollison, R.D. (1994). "Gordon Tullock: Creative maverick of public choice." in G.L. Brady and R.D. Tollison (eds.) *On the Trail of Homo Economicus*. Fairfax: George Mason University Press, pp. 1–6.

Brennan, H.G. and Buchanan, J.M. (1980). *The Power to Tax*. Cambridge: Cambridge University Press.

Brennan, H.G. and Buchanan, J.M. (1985). *The Reason of Rules*. Cambridge: Cambridge University Press.

Buchanan, J.M. (1975). *The Limits of Liberty: Between Anarchy and Leviathan*. Chicago: University of Chicago Press.

Buchanan, J.M. (1987). "The qualities of a natural economist." in C.K. Rowley (ed.) *Democracy and Public Choice: Essays in Honor of Gordon Tullock*. Oxford: Basil Blackwell.

Buchanan, J.M. (1990). "The domain of constitutional economics." *Constitutional Political Economy*, 1(1), 1–18.

Buchanan, J.M. and Congleton, R.D. (1998). *Politics by Principle, Not by Interest*. Cambridge: University of Cambridge Press.

Buchanan, J.M. and Tullock, G. (1962). *The Calculus of Consent*. Ann Arbor: University of Michigan Press.

Coase, R.H. (1993). "Law and economics at Chicago." *Journal of Law and Economics*, 36, 239–254.

Downs, A. (1957). *An Economic Theory of Democracy*. New York: Harper & Row.

Goetz, C.J. (1987). "Public choice and the law: the paradox of Tullock." in C.K. Rowley (ed.) *Democracy and Public Choice: Essays in Honor of Gordon Tullock*. Oxford: Basil Blackwell.

Goetz, C.J. (1998). "Tullock, Gordon (1922-)," in P. Newman (ed.) *The New Palgrave Dictionary of Economics and the Law*, Vol. 3. London: Macmillan, pp. 628–629.

Harberger, A.C. (1954). "Monopoly and resource allocation." *American Economic Review*, 44, 77–87.

Harberger, A.C. (1959). "Using the resources at hand more effectively." *American Economic Review*, 49, 134–146.

Hicks, J. (1939). *Value and Capital*. Oxford: Clarendon Press.

Kaldor, N. (1939). "Welfare propositions of economics and interpersonal comparisons of utility." *Economic Journal*, 49, 549–552.

Krueger, A. (1974). "The political economy of the rent-seeking society." *American Economic Review*, 64, 291–303.
Kuhn, T. (1970). *The Structure of Scientific Revolutions*, 2nd edn. Chicago: University of Chicago Press.
Mises, L. von. (1944). *Bureaucracy*. New Haven: Yale University Press.
Niskanen, W.A. (1971). *Bureaucracy and Representative Government*. Chicago: Aldine Press.
Niskanen, W.A. (1974). "Bureaucracy," in C.K. Rowley (ed.) *Democracy and Public Choice: Essays in Honor of Gordon Tullock*. Oxford: Basil Blackwell.
Niskanen, W.A. (1987). "Bureaucracy," in C.K. Rowley (ed.) *Democracy and Public Choice*. Oxford: Basil Blackwell, pp. 130–140.
Posner, R.A. (1973). *Economic Analysis of Law*. Boston: Little Brown
Rawls, J. (1971). *A Theory of Justice*. Cambridge: Belknap Press.
Robbins, L. (1938). "Interpersonal comparisons of utility: a comment." *Economic Journal*, 48, 635–641.
Rose-Ackerman, S. (1987). "Tullock and the inefficiency of the common law," in C.K. Rowley (ed.) *Democracy and Public Choice: Essays in Honor of Gordon Tullock*. Oxford: Basil Blackwell, pp. 181–185.
Rowley, C.K. (1987a). "Natural economist or popperian logician"? in C.K. Rowley (ed.) *Democracy and Public Choice: Essays in Honor of Gordon Tullock*. Oxford: Basil Blackwell, pp. 20–26.
Rowley, C.K. (1987b). "The calculus of consent." in C.K. Rowley (ed.) *Democracy and Public Choice: Essays in Honor of Gordon Tullock*. Oxford: Basil Blackwell.
Rowley, C.K. (1991). "Gordon Tullock: Entrepreneur of public choice." *Public Choice*, 71(3), 149–170.
Schumpeter, J.A. (1942). *Capitalism and Democracy*. New York: Harper & Row.
Schwartz, W.F. (1987). "The logic of the law revisited," in C.K. Rowley (ed.) *Democracy and Public Choice: Essays in Honor of Gordon Tullock*. Oxford: Basil Blackwell, pp. 186–190.
Sen, A. (1987). "Rational behavior," in J. Eatwell, M. Milgate, and P. Newman (eds.) *The New Palgrave: A Dictionary of Economics*, Vol. 4. London: Macmillan, pp. 68–76.
Simons, H. (1934). In H.D. Gideonse (ed.) *A Positive Program for Laisser-Faire: Some Proposals for Liberal Economic Policy*. Chicago: Chicago University Press.
Stiglitz, J.E. (1991). "Another century of economic science." *Economic Journal*, 101, 134–141.
Tollison, R.D. (1987). "Is the theory of rent-seeking here to stay"? in C.K. Rowley (ed.) *Democracy and Public Choice: Essays in Honor of Gordon Tullock*. Oxford: Basil Blackwell, pp. 143–157.
Tullock, G. (1959). "Problems of majority voting." *Journal of Political Economy*, 67, 571–579.
Tullock, G. (1961a). "An economic analysis of political choice." *Il Politico*, 16, 234–240.
Tullock, G. (1961b). "Utility, strategy and social decision rules: Comment." *Quarterly Journal of Economics*, 75, 493–497.
Tullock, G. (1965). *The Politics of Bureaucracy*. Washington DC: Public Affairs Press.
Tullock, G. (1966). *The Organization of Inquiry*. Durham: Duke University Press.
Tullock, G. (1967a). *Toward a Mathematics of Politics*. Ann Arbor: University of Michigan Press.
Tullock, G. (1967b). "The welfare costs of tariffs, monopolies and theft." *Western Economic Journal*, 5, 224–232.
Tullock, G. (1971a). *The Logic of the Law*. New York: Basic Books.
Tullock, G. (1971b). "The coal tit as a careful shopper." *The American Naturalist*, 105, 77–80.
Tullock, G. (1974). *The Social Dilemma: The Economics of War and Revolution*. Blacksburg, VA: Center for Study of Public Choice.
Tullock, G. (1975a). "The transitional gains trap." *The Bell Journal of Economics and Management Science*, 6, 671–678.
Tullock, G. (1975b). "Competing for aid." *Public Choice*, 2, 41–52.
Tullock, G. (1980a). "Efficient rent-seeking," in J.M. Buchanan, R.D. Tollison, and G. Tullock (eds.) *Towards a Theory of the Rent-Seeking Society*. College Station: Texas A & M. University Press.

Tullock, G. (1980b). *Trials on Trial: The Pure Theory of Legal Procedure*. New York: Columbia University Press.

Tullock, G. (1981). "Why so much stability"? *Public Choice*, 37(2), 189–202.

Tullock, G. (1989). *The Economics of Special Privilege and Rent-Seeking*. Boston: Kluwer Academic Publishers.

Tullock, G. (1991). "Casual Recollections of an Editor". *Public Choice*, 71(3), 129–140.

Tullock, G. (1993). "*Rent seeking*," Shaftesbury Paper No. 3. Aldershot: Edward Elgar Publishing.

Tullock, G. (1994). *The Economics of Non-Human Societies*. Tucson: Pallas Press.

Tullock, G. (1997). *The Case Against the Common Law. The Blackstone Commentaries, No 1.* Fairfax, Virgina: The Locke Institute.

Tullock, G. (2000). *Exchanges and Contracts. The Blackstone Commentaries, No. 3*. Fairfax, Virginia: The Locke Institute.

Weingast, B.R. and Moran, M.J. (1983). "Bureaucratic discretion or congressional control: regulatory policy making by the federal trade commission." *Journal of Political Economy*, 91, 765–800.