Introduction

Janet T. Landa¹ · Michael T. Ghiselin²

Published online: 9 July 2016

© Springer Science+Business Media New York 2016

Abstract This *Journal of Bioeconomics* Special Issue celebrates the life and accomplishments of Gordon Tullock (February 13, 1922–November 3, 2014), who was instrumental in establishing the *Journal of Bioeconomics* and was one of the founders of the discipline. He also deserves much of the credit for public choice theory and the theory of rent-seeking. We present ten tribute papers and three bioeconomics papers—from scholars in Canada, China, Norway, Singapore, and the US—in his honor.

Keywords Bioeconomics · *Journal of Bioeconomics* · Public choice · Rent-seeking

1 Introduction

Gordon Tullock was instrumental in establishing what later became the *International Society for Bioeconomics* (ISB) and the *Journal of Bioeconomics*, which it sponsored. The ISB was established as an informal group on July 13, 1984, at a dinner during a conference at George Mason University. Present were: Michael Ghiselin (biologist), Jack Hirshleifer (economist), John Staddon (psychologist), Hubert Markl (biologist), Gordon Tullock (economist) and Jagdish Hattiangadi (philosopher).

Tullock played a leading role in establishing the *Journal of Bioeconomics*. Especially important was persuading the publisher—initially Kluwer Academic Publishers,

✉ Janet T. Landa
jlanda@yorku.ca

Michael T. Ghiselin
mghiselin@calacademy.org

¹ Department of Economics, York University, 4700 Keele St., Toronto, ON M3J 1P3, Canada

² California Academy of Sciences, 55 Music Concourse Drive, Golden Gate Park, San Francisco, CA 94118, USA

replaced later by Springer—to support the *Journal*. Equally important was recruiting economics professor Janet Landa as Editor-in-Chief, and biologist Michael Ghiselin as the Co-Editor. In addition, Tullock contributed manuscripts, and provided the Editor and Co-Editor with much useful advice and support, including participating in every “Bioeconomics” panel that Janet Landa organized at various conferences.

Tullock had a very distinguished academic career and was a founder, together with Nobel Laureate in Economics, James M. Buchanan, of the field of public choice (the integration of economics with political science). Tullock also was a founder of the field of bioeconomics, integration of economics with biology. For a paper honoring Gordon Tullock’s scholarly legacy see “On the extraordinary scholarly life and times of Gordon Tullock” (Shughart and Tollison 2016).

Tullock, born February 13, 1922, passed away on November 3, 2014 at the age of 92. To honor the memory of Gordon Tullock, the current Editor-in-Chief, economist Ulrich Witt of Max Planck Institute, Jena, Germany, invited Janet Landa as Guest-editor and Michael Ghiselin as biologist Co-editor to put together the *Journal of Bioeconomics* Special Issue, entitled, “Gordon Tullock: The man and his ideas.”

2 Ten tribute papers on “Gordon Tullock: The man and his ideas”

In this Special Issue, ten scholars from different parts of the world contributed tribute papers in honor of Tullock: Economic professors Robert Tollison, Nicolaus Tideman, Victor Goldberg, Thomas Ireland, Zhaofeng Xue, Yew-Kwang Ng, Kjell Hausken and Janet Landa, and political scientists Peter Corning and Bernard Grofman.

Peter Corning, Institute for the Study of Complex Systems, in his paper, “Honoring a pioneer: Gordon Tullock (1922–2014),” considers Gordon Tullock to be an “original,” a non-economist who contributed significantly to the three fields of economics, politics and biology. Together with his co-author, James M. Buchanan, Tullock created the sub-discipline of “public choice.” His path-breaking work on the theory of “rent seeking,” also contributed to the public choice literature. In addition, Tullock was a founder of bioeconomics when, in 1971, he published his first bioeconomics paper, “The coal tit as a careful shopper.” Tullock also contributed to the debate in sociobiology about altruism and inclusive fitness. Underlying all of Tullock’s work is the assumption of “self-interested” rational behavior.

Robert Tollison, Clemson University in South Carolina, in his paper, “Remembering Gordon Tullock,” knew Gordon Tullock as a professor at the University of Virginia, a colleague at Virginia Polytechnic Institute and State University (“Virginia Tech”), as a co-editor of the journal, *Public Choice*, and as a co-author. Tollison remembers Tullock as a person very helpful to younger scholars. Tollison thinks that Tullock should have shared the 1986 Nobel Prize in Economics with his collaborator, James M. Buchanan for their 1962 co-authored book, *The Calculus of Consent*. Although Tollison is unfamiliar with Tullock’s work in bioeconomics, Tollison speculated how Tullock would have treated squirrels’ optimizing behavior in hoarding nuts.

Nicolaus Tideman, Virginia Tech, in his paper, “Understanding Gordon Tullock,” tells stories about Tullock, including ones that Tullock told about himself to Tideman.

One amusing story he told to Tideman was his decision to apply to study law at the University of Chicago. Being a rational person, Tullock decided that he did not want to get a bachelor's degree because he would be going to study law there. When interviewed by the Dean of the law school where a BA is a prerequisite for admission to the law school, Tullock, pointed out that the University of Chicago did not say that a bachelor's degree is required, only that admission required that one "fulfill the requirement for a bachelor's degree" not that one have the degree. The Dean relented, and Tullock was admitted to the law school. The second part of Tideman's paper is an account of the role of Tideman and Tullock in explaining and publicizing "the demand-revealing process," the "Clarke tax" mechanism that Edward Clarke invented that motivates people to report truthfully the value they place on public goods.

Victor Goldberg, Columbia Law School, New York City, in his paper, "Reminiscing about Gordon Tullock," first met Gordon Tullock, when he, as a Public Choice Fellow, arrived at the *Center for Study of Public Choice*, Virginia Tech in 1975. During the year, conversations with Tullock was always interesting and challenging, particularly on the topic of the "Clarke tax." Goldberg also recalls that he attended a session at the 1978 *Western Economic Association* meeting where Tullock first presented his now famous "rent-seeking" paper. Goldberg found the session to be poorly attended, not surprisingly because the conference was held in Hawaii. Goldberg expressed disappointment that Tullock did not share the 1986 Nobel Prize in Economics with James M. Buchanan for their 1962 co-authored book, *The Calculus of Consent*. But Goldberg thought that Tullock's contributions went beyond *The Calculus of Consent* because of the importance and impact of Tullock's 1967 rent-seeking paper on many scholars, including himself, in contributing to the emerging rent-seeking literature.

Thomas Ireland, University of Missouri in St. Louis, in his paper, "Gordon Tullock as a teacher and mentor," remembers Tullock as a teacher, a Ph.D. supervisor, and as a mentor. As a teacher, Ireland found Tullock's lectures to be not well organized. Also, Tullock preferred to discuss topics that interested him, rather than delivering course lectures. As well, Tullock had a unique teaching style: he frequently discussed interesting current events topics with his students. For example, Ireland describes his first day attending Tullock's "Non-market decision making" class. Ireland was surprised to find Tullock engaged in a discussion with the students about the upcoming 1964 presidential election between President Lyndon Johnson and Senator Barry Goldwater, and how if Goldwater were to adopt a "small state strategy" successfully, he could win an electoral college victory, even though President Johnson won the popular vote overwhelmingly. That first class left a life-long impression of Gordon Tullock for Ireland. As a mentor and Ph.D. supervisor, Tullock played an important role in Ireland's economic career: (1) Ireland published his first paper, "The rationale for revolt," in 1967, which became his most cited paper; (2) Ireland completed his Ph.D. thesis in 1968, which in 1970 was published as a book, *The Economics of Charity*, co-authored with David Johnson; and (3) Through Tullock's influence and teachings, Ireland became a "forensic" economist, i.e. an economic expert witness in court litigation.

Zhaofeng Xue, The Institute for Law and Economics, Peking University, in his paper, "Fond memories of professor Gordon Tullock," recalls his graduate days taking Tullock's courses in public choice and in law-and-economics at George Mason University in Arlington, Virginia. He found Tullock to be a not well-organized professor

who preferred to talk on political events of the day rather than giving conventional lectures. But Xue was impressed with Tullock's first graduate class he attended. Xue mentions Tullock's pioneering work on rent-seeking, which provides a deeper understanding of the notion of cost. Xue provides a possible reason why Tullock failed to receive the 1986 Nobel Prize in Economics, which he should have received jointly with James M. Buchanan. Finally, Xue discusses Tullock's contribution to the debate, together with other scholars, as to whether the "bifurcating development of antitrust law enforcement in the U.S. and Europe confirms that the decentralized legal system in the United States has done less harm than the centralized ones in Europe."

Bernard Grofman, University of California at Irvine, in his paper, "Memories of an altruist who denied the importance of altruism," discuss his interactions with Gordon beginning when he, a political science graduate student, was encouraged to write a paper and have it submitted to *Public Choice*, which greatly helped his career. Grofman makes the point that, while Gordon was justly recognized for his curmudgeonly and combative demeanor, that demeanor masked someone who was at heart, very much an altruist.

Yew-Kwang Ng, Nanyang Technological University in Singapore, in his paper, "The memorable Gordon Tullock," recalls his visit to Virginia Tech from December 1978–May 1979. He chose Virginia Tech because of the impact of Buchanan and Tullock's seminal book, *The Calculus of Consent*, on his research. During the period, he had many lunches with Gordon Tullock, often also with visiting professors Geoffrey Brennan and David Friedman (Milton Friedman's son). He learnt a lot from listening to their conversations which sometimes included topics that went beyond economics, e.g. Einstein's theory of relativity. Ng also said that he and Gordon had arguments over whether revolutionaries have altruistic objectives, he being "left-of-center" among economists, whereas Tullock had much of a "right-wing, free-market view." Ng ends the article by recalling a memorable evening attending, with his wife, a dinner at Gordon's home.

Kjell Hausken, University of Stavanger, Norway, in his paper, "Gordon Tullock: A Nobel Prize left unbestowed," recalls his memories of his first sighting of Tullock—one of the speakers at the "Bioeconomics" panel, organized by Janet Landa—at the 1998 *American Economic Association* meeting in Chicago. Hausken's research agenda was and is especially influenced by Tullock's concept of a "contest success function." Hausken and Hirshleifer, in two papers used the concept to develop a "mating success function" to show how a female distributes her mating capacity between the high-signaling and the low-signaling male types. Furthermore, Hirshleifer and Osborne, and Hausken et al. used the concept to model a "litigation success function" for lawsuits. Influenced by Buchanan and Tullock's seminal work, *The Calculus of Consent*, Hausken and Knutsen modelled governmental units to be subjected, like business firms, to the same market forces, and proposed an enabling mechanism for the creation, adjustment and dissolution of governmental units. In his tribute paper Hausken integrates Tullock's seminal concept of "rent-seeking," with further developments of the rent-seeking concept and conflict in Buchanan's 1980 paper, Hirshleifer's 1989, 1995, and 2001 papers, and his own 2005 and 2012 papers. Finally Hausken comments on the idea that Tullock should have received the Nobel Prize in Economics, together with James M. Buchanan who alone received it in 1986. Nevertheless, Hausken notes

that in 1998 Tullock became a Distinguished Fellow of the *American Economic Association*. More importantly, Tullock left scholars with a rich legacy.

Janet Landa, York University in Toronto, Canada, in her paper, “‘Remembrance of things past’: Gordon Tullock as a man and as a bioeconomist,” remembers Tullock as her professor, co-author, and as a friend, in her “Toast and Roast: Gordon Tullock,” which is also re-written in the form of a poem, “Ode to Gordon Tullock.” She never forgot on one occasion at a conference, where she was presenting her paper on bees, saying that the queen bee has a small head relative to her body size, Tullock immediately quipped, “Landa has a small brain,” much to her chagrin. Landa discusses Tullock as a founder of bioeconomics: Tullock’s 1971 paper on the coal tit, a species of birds; his 1994 book on the *Economics of non-human societies*, and his 2003 co-authored paper with Janet Landa on the differences between the organization of bee colonies in contrast to ant colonies. Landa concludes her tribute paper with two poignant stories about Gordon Tullock.

3 Three bioeconomics papers

Biologist Jason Oakes, UC Davis, California, in his paper, “Rent-seeking and the tragedy of the commons: Two approaches to problems of collective action in biology and economics,” compares the approaches of Gordon Tullock and Garrett Hardin (a biologist) to some related topics. Both Tullock and Hardin dealt with the problem of coordinated action, and both of them considered institutional failure. Tullock’s “interest-based” perspective led him to recognize the problems of rent-seeking by rational agents. Hardin realized that there is a tendency for such agents to over-utilize resources, even to the point that they might be driven to extinction. There were clear differences between the two with respect to political philosophy. But whereas Hardin believed that the tendencies in question could be counteracted by a strong and active state, Tullock did not. Oakes focuses in on a dispute about whether, as Hardin claimed, competitive exclusion in ecology is analogous to monopoly in economics. It is amusing to see the protagonists talking past one another. It is also instructive to see how ontological claims about the individuality of so-called “aggregates” entered into the discussion. The putative analogies between organisms and societies have been a traditional theme in political discourse and the literature on insect societies continues to be affected by them. Hardin took his undergraduate degree in zoology at the University of Chicago, where organicist ideas strongly influenced biological theory. Ecological succession, for example, was analogized with embryological development. It seems not to be a question, however, of whether we should be seeking such analogies at all, but rather of which analogies are appropriate and what to make of them.

Biologist Michael Ghiselin, California Academy of Sciences, San Francisco, in his paper, “What is sexual selection? A rent-seeking approach,” argues that rent-seeking provides a better analogy for sexual selection than the “tragedy of the commons” does. Both rent-seeking and the tragedy of the commons provide us with grounds for concluding that ours is not the best of all economic worlds. But the reasons are somewhat different. Rent-seekers decrease the size of the economic pie by diverting

scarce resources via competitive bidding for a monopoly resource. In the tragedy of the commons the pie can be destroyed outright. What makes this “tragic” is that the pie was formerly a source of prosperity for the group using it. Sexual selection causes resources that might be used in raising reproductive output to be diverted to efforts to monopolize potential mates, resulting in a smaller pie. According to Ghiselin, sexual selection played an important role, distinct from those of natural and artificial selection, in Darwin’s theoretical system and in his arguments. Purely reproductive competition, he thought, is able to give rise to features such as sexual ornaments that are adaptively useless, or even deleterious, especially insofar as the well-being of the species is concerned. That is not what his naively teleological predecessors would have expected.

Biologist Deby Cassill, University of South Florida, St. Petersburg, and her co-authors in their paper, “A study on abdominal wagging in the fire ant, *Solenopsis invicta*, with speculation on its meaning,” consider a similar Darwinian theme: emotional expression. Social animals send signals to one another about matters of importance in the struggle for existence, such as the availability of food and the presence of enemies. Fire ants use venom for communication, as well as defense and subduing prey. What is called “abdominal flagging” involves venom and is used in two kinds of signals. The first of these is a “call to arms,” the second an attack on an invader. “Abdominal wagging,” on the other hand, seems to be neither a warning signal nor a defensive maneuver. Rather, it happens while the workers are tending the brood. Since abdominal wagging is done only in the dark, it does not seem to be a visual signal. So given the context in which it occurs, abdominal wagging, like tail-wagging in dogs, may be interpreted as an incidental byproduct of an emotional state. Like the redness of blood, it is neither a signal nor an adaptation.

4 Concluding comments

The ten tribute papers and the three bioeconomics papers in this Special Issue paint a picture of Gordon Tullock as a multifaceted man: a man sometimes curmudgeonly, and sometimes kind and generous, but definitely a man of ideas, a genius who left us with a rich scholarly legacy. Four of the ten authors of tribute papers suggest that Gordon Tullock should have shared the 1986 Nobel Prize in Economics with his co-author, James M. Buchanan, for their seminal book, *The Calculus of Consent*. Tullock’s high reputation among economists also rests on his contributions to the theory of rent-seeking. The significance of his work for political science has also been well recognized.

Tullock was deeply interested in the connections between economics and biology, especially the study of social behavior. He went out of his way to foster interdisciplinary cooperation among economists and biologists. He was therefore one of the founders of the modern discipline of bioeconomics and deserves much of the credit for establishing this Journal. Although Michael Ghiselin, Co-editor for this Special Issue did not contribute a tribute paper in memory of Gordon Tullock, Ghiselin nevertheless, wanted to express his heartfelt brief tribute to Tullock: “Tullock may truly be said to have had a mind of his own. He was bold, outspoken, and unconventional

in conversation as well as in print. That discourse was stimulating, and often a lot of fun. He probably would have rejected the kindly suggestion that he was an altruist, given that he did not believe that such animals exist. Be this as it may, those of us who have worked with him toward common goals remember him as kind, generous, and a dear friend.”

Acknowledgments We would like to thank economist Ulrich Witt, Editor-in-Chief, for inviting Janet Landa to be Guest-editor, and Michael Ghiselin to be Biologist Co-editor for the *Journal of Bioeconomics Special Issue in Memory of Gordon Tullock*.

Reference

Shugart, W. F., & Tollison, R. D. (2016). On the extraordinary scholarly life and times of Gordon Tullock. *Constitutional Political Economy*, 27(2), 227–247.