ELSEVIER

Journal of Socio-Economics 33 (2004) 343–358

The Journal of Socio-Economics

www.elsevier.com/locate/econbase

Economic man and selfish genes: the implications of group selection for economic valuation and policy

John Gowdy [a,*], Irmi Seidl [b,1]

[a] *Department of Economics, Rensselaer Polytechnic Institute, 3404 Sage Hall, 110 8th Street, Troy, NY 12180-3590, USA*

[b] *Institut für Umweltwissenschaften, Winterhurerstrasse 190, 8057 Zürich, Switzerland*

Abstract

A basic tenet of socio-economics is that economic behavior is shaped by social bonds and cultural context. A relevant controversy in evolutionary biology is group selection and the related issue of altruistic behavior, that is, behavior neutral or detrimental to the individual but positive for the survival of the group. In this paper we examine the parallel controversies surrounding "economic man" and "selfish genes" with particular emphasis on the policy implications of group selection. We argue for the replacement of standard welfare economics with models of human behavior in the spirit of "consilience" between economic theory and the best available science from other relevant disciplines.

JEL classification: B4; C7; D0; Z1

Keywords: Altruism; Behavioral economics; Competition and cooperation; Economic man; Experimental economics; Game theory; Group selection; Optimization; Valuation controversies; Welfare economics

1. Introduction—economics and evolutionary biology

Evolutionary biology and political economy both matured in the cultural milieu of Victorian England with its world view of progress, continuity and gradual change. The explanation of biological evolution (or in Darwin's words "descent with modification") through natural selection came to both Charles Darwin and Alfred Russel Wallace though the writings of Thomas Malthus emphasizing population pressure on scarce resources. Darwin's careful and cautious argument for the mechanism of evolution was recast by Herbert Spencer as

* Corresponding author. Tel.: +1-518-276-8094; fax: +1-518-276-2235.
E-mail address: lgowdy@aol.com (J. Gowdy).
[1] Present address: Swiss Federal Research Institute, Zürcherstrasse 111, 8903 Birmensdorf, Switzerland.

1053-5357/$ – see front matter
doi:10.1016/j.socec.2003.12.026

"survival of the fittest", an unfortunate simplification which is still the popular interpretation of evolution. The early formulators and synthesizers of modern economic theory—Alfred Marshall in particular—were greatly influenced by the social Darwinism of Spencer and William Graham Sumner (Hodgson, 1993a). Throughout the twentieth century there was a steady exchange of ideas between biologists and economists. In the 1950s and 1960s the use of the metaphor of natural selection was hotly debated among economists (Alchian, 1950; Friedman, 1953; Penrose, 1952) and although this debate raised serious doubts about the relevance of the natural selection metaphor to economics, it is widely still used to justify neoclassical general equilibrium analysis and neoliberal free market ideology. Simplistic biological metaphors continue to play a major role in economic theory and policy recommendations. And going in the other direction, concepts from economics continue to influence theoretical biology. Contemporary biologists have imported economic models of constrained optimization to examine biological phenomena (Ghiselin, 1978).

Economics and biology share a similar subject matter insofar as both fields of inquiry deal with complex, hierarchical, and evolving systems. As many economists and biologists have noted, the controversies in biology and economics are remarkably similar (van den Bergh and Gowdy, 2003; Hodgson, 1993b; Samuelson, 1993) and since biology has gone further in explaining the dynamic behavior of living systems, economists have much to gain from an understanding of current controversies in evolutionary theory. One controversy of particular importance to the notion of economic value and the theory of consumer choice is group selection and the related issue of altruistic behavior. The existence of prosocial (Henrich, 2004) behavior, that is, behavior neutral or detrimental to the individual but positive for the survival of the group, has far-reaching implications not only for biology but also for neoclassical welfare economics and for market-based policies in general.

Economic policy in the US is dominated by The New Welfare Economics (NWE) based on the notions of ordinal utility and the rejection of interpersonal comparisons of well-being. Two broad approaches to this task were the compensation principle of Kaldor and Hicks and the social welfare function approach of Bergson, Samuelson, and others. The compensation principle foundered on the many paradoxes arising from using a partial equilibrium framework to draw general equilibrium conclusions. The social welfare function foundered on the Arrow Impossibility Theorem. Over the past few decades the scientific validity of the assumptions of human behavior underlying the New Welfare Economics has come under sharp attack from within and from without the economic mainstream. Sixty years of theoretical work in mainstream economics has shown convincingly that welfare judgements cannot be made without resorting to interpersonal comparisons of utility (Boadway, 1974; Chipman and Moore, 1978; Little, 1950; Scitovsky, 1941; Suzumura, 1999). Work in behavioral economics and game theory has shown that the axioms of consumer choice offer incomplete descriptions of human choice yielding poor predictions of economic behavior (Bowles and Gintis, 2002; Henrich et al., 2001).[2]

[2] Heroic attempts have been made to include endogenous preferences in a general equilibrium framework. A good introduction to the debate is given by Albert and Hahgnel (1990, Chapter 4). See also Bowles and Gintis (2002) who reject *Homo economicus* but argue that "... economics should become more psychological and more institutional, yet no less dedicated to the construction of mathematical general equilibrium models.