

Letters

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Introduction

If you have any comments or criticisms of any of the material that appears in *E:CO* then please send them along to us at letters@emergence.org.

Dear Max:

I would like to thank you for your thoughtful review of my new book, *Holistic Darwinism: Synergy, Cybernetics and the Bioeconomics of Evolution*, which appeared in issue 8.2 of *E:CO*. I hope you won't mind if I respond to just a few of your points.

First, it seems to me that you may have overlooked the theoretical importance of the Survival Indicators framework in my chapter on "Biological Adaptation in Human Societies: A 'Basic Needs' Approach." In effect, the fourteen "basic needs" domains, developed, refined and tested over more than 20 years, specify in measurable ways the "parameters" of the biological survival and reproduction problem (adaptation) for humans, and human societies. They provide a concrete analytical framework (either for individuals or for defined populations) for a "bioeconomic" approach to economic analysis. In other words, it puts a theoretical and a workable empirical foundation under welfare economics.

On the concept of "scarcity," that has always seemed to me to be a slippery term: if scarcity is defined narrowly in terms of demand and supply relationships in classical market transactions, well OK. If it's defined in Malthusian terms, where population growth may outrun the means of "subsistence," yes, but. Population growth, after all, is a product of past successes — an exploitation of "profits" in terms of the means of subsistence. Resource scarcity may indeed be an ever-present threat and a chronic problem, but it does not define the "basic problem" — survival and reproduction. It is a secondary consequence of the fact that an array of resources are required to meet basic survival and reproductive needs, and that populations will grow if the means are available. Finally, if scarcity is defined expansively to mean that there is no "free lunch" in nature (or in human economies), this is equivalent to saying that life is a contingent phenomenon or, in economic terms, that there are usually costs associated with providing a supply of goods and services. I don't find this way of defining scarcity very helpful. But more important, scarcity (and competition) are relevant but neither necessary nor sufficient to account for the evolution of complexity, I would argue. If I "underplay" competition in my writings, it is because the whole thrust of the Synergism Hypothesis, and of Holistic Darwinism, is to explain the evolution of "wholes" — of complexity. In this process, co-operative phenomena (and the synergistic effects they produce) were of overriding importance. However, I do emphasize the phenomenon of "competition via cooperation" in evolution.

As for my chapters on thermoeconomics and control information, these were addressed especially to the biophysicists who have been seeking to explain the evolution of complexity in terms of the laws of thermodynamics, or classical Shannon information theory. Social scientists certainly understand the functional (cybernetic) nature of information in human societies, but the theoretical foundation seems to me to be, at best, implicit. Systematic measurement, where it occurs, relies on conventional information units — bits, phonemes, etc. But, as I noted, all bits are not created equal. I think you missed the theoretical importance of the new concept of "control information," which represents a radical reformulation of classical information theory. (My original paper on this won the 30th anniversary prize competition of the UK Cybernetics Society and was subsequently published in different forms in two professional journals.) As for Bateson's famous mantra ("the difference that makes a difference"), I've always found it to be a bit cryptic. What exactly did his "difference" refer to? After all, the sun is a difference that makes a difference. But is it information? The cybernetic, "control information" definition delimits a biologically relevant subset of all imaginable "differences that make a difference" in a way that can be operationalized, as I show (and illustrate).

On my ethics chapters, I was frankly a bit disappointed in what seemed like less than a careful reading. You're quite right that the globalization of the survival enterprise raises thorny issues, as I also explicitly noted. But I also pointed to a basic criterion for disentangling that ethical conundrum, namely, the principle of "fairness." A collectively organized, interdependent survival enterprise must be based on mutuality and reciprocity, not altruism (except at the margin), or exploitation. As for the neo-Marxism charge, I specifically rebutted that in the text and pointed out that Marx signally failed to include reciprocity and, most especially, "merit" in his schema. Are "needs" alone enough to justify the provision of goods "to each"? That sounds like altruism to me. My three normative principles constitute an interdependent package. I hope you'll reconsider my argument (and its biological grounding) in this chapter.

With general appreciation and all best wishes,

