
Foreword

Jack Reardon

School of Business,
Hamline University,
A1740, 1536 Hewitt Avenue,
Saint Paul, MN 55104-1284, USA
E-mail: jreardon02@gw.hamline.edu

Biographical notes: Jack Reardon is a Professor at the School of Business at Hamline University. He is an Adjunct Professor at the University of Science and Technology of China in Hefei, China and Visiting Professor at Dr. Gaur Hari Singhania Institute of Management and Research, Kanpur, India. His research interests include energy and the environment, economic education and labour economics. His most recent book, *The Handbook of Pluralist Economics Education*, was published by Routledge in 2009.

1 Introduction

The Economist lavishly praised the discovery of the Higgs boson, gracing the cover of its July 7th issue with the encomium, ‘A giant leap for science’. *The Economist* noted the discovery as “the crowning achievement of one of history’s most successful scientific theories” [‘The Higgs Boson-Gotcha’, (2012), p.68]. But more importantly the magazine predicted, “it is also certainly the beginning of that theory’s undoing, and its replacement by something better. In science, with its constant search for the truth, this is something to celebrate” [‘The Higgs Boson-Gotcha’, (2012), p.68].

I doubt we will ever see such a paean for economics in *The Economist* or any magazine for that matter. Unlike physics which epitomises the scientific method by constantly searching for ‘something better,’ economics (and neoclassical economics in particular) “is a pre-science, rather like astronomy before Copernicus, Brahe and Galileo” [Keen, (2011), p.158]. Its Neoplatonist modus operandi – “deducing everything from basic and self-evident truths is anathema to a real scientist” [Fullbrook, (2009), p.18]. Sure, physics has its internal squabbles like any other discipline, and stubborn stalwarts tenaciously adhere to their world view, but overall no better example exists “of the revisionism imposed by physical reality upon the thinking of the scientist” [Polkinghorne, (2002), p.85]. Compare this to the dismal record of neoclassical economics “which is far more a belief system than a science” [Keen, (2011), p.101]. Indeed what makes neoclassical economics “different from and inferior to other sciences is the irrational tenacity with which it holds to its core beliefs in the face of either contrary factual evidence or theoretical critiques that establish fundamental inconsistencies in its intellectual apparatus” [Keen, (2011), p.168]. In this sense neoclassical economics is no different from fundamentalism, marked by “intolerant zealots presenting themselves as the true guardians of orthodoxy” [Bruce, (2008), pp.2, 100].

While the founders of neoclassical economics were progressive, innovative and willing to learn from contemporary physics, they

“would be surprised to find that a matter of thinking they thought would be transitional has instead become ossified as the only way one can do economics and be respectable. They would, I hope, be horrified to find that the limitations of economic theory have been soundly established, and that most ‘respectable’ economists nevertheless transgress these limits without conscience, and often without knowledge.” [Keen, (2011), p.35]

And no more palpable imprimatur of fundamentalism for neoclassical economics than the inexcusable realisation that “students at the beginning of the 21st century are receiving much the same instruction about how firms set prices as did their counterparts at the end of the 19th century [and] that any scientist from the 19th century would be bewildered by what is commonplace today in his [sic] discipline – save an economist” [Keen, (2011), pp.168, 169].

Just as the founders of neoclassical economics looked to 19th century physics for inspiration, perhaps today’s economists can emulate 21st century physics for its openness; its humbleness in acknowledging the unknown; its eagerness to empirically test theory; and its willingness to look for ‘something better’ and constantly revise.

2 Articles incorporating pluralism

A good start is the article by Panayotis Giannakouros and Lihua Chen ‘Reclaiming math for economists: a pedagogical approach to overcoming a persistent barrier to pluralism in economics’. Giannakouros and Chen look to statistics and mathematics “which have been more successful than economics in responding to the need to change with the times” to devise a more useful and stimulating math for economists course. They also incorporate the Moore method, exemplified in the successful teaching of R.L. Moore (a mathematician at the University of Texas at Austin from 1920 to 1969) consisting of posing questions that stimulate students to make mathematical discoveries so that they do mathematics research rather than sit passively through lectures. The result is the prototype for a new course in mathematics for economics that educates students and empowers them with a healthy appreciation of the usefulness of mathematics within the context of a liberal arts education. Their ten key course features can be also be used as a prototype for restructuring any course in economics.

Probably the most damning criticism of neoclassical economic education is the publication of the book *The Economics Anti-Textbook – A Critical Thinker’s Guide to Microeconomics* (Hill and Myatt, 2010). The book’s title acutely underscores the problem: students need a book – an anti-text – not as a helpful guide in learning complex material but to unlearn what is written in their texts, so that they “can begin to think critically about what they read in their textbooks, to defend themselves against the unconscious acceptance of ideology” [Hill and Myatt, (2010), p.2]. The objective is “not so much to claim that this ideology is wrong, but simply to point out that it exists, and that there are always alternative views that one ought to consider” [Hill and Myatt, (2010), p.1].

In their article, ‘Text and anti-text in teaching the economics of the firm’, Rod Hill and Tony Myatt focus on the mythical perfectly competitive firm. The authors contrast its simplistic textbook portrayal (both in actual content and what is omitted) with an anti-text

approach that challenges students to think about the nature of a real firm and its relationship within the economy so that, “instead of giving students one single view of the firm, we suggest giving them competing views and asking them to think about how to choose between competing views in general”. The article then poses the following questions: Who runs the firm and for what ends? What are the possible alternative governance and ownership structures? What is the empirical evidence of production and costs? What are other profit-maximising activities commonly undertaken by firms? Thus, by “presenting both text and anti-text, students can be shown by example how to distance themselves from their text to examine its limitations, omissions and ideology, and how to compare its implicit value judgements with their own”.

One of the most intriguing courses I ever took was a two month ‘Introduction to Philosophy’ class as a high school senior, where we read and debated Machiavelli’s *The Prince* and Plato’s *Republic*. It was the first class in the morning and our instructor would often bring us coffee and pastries from Boston’s North End. Since then reading philosophy (and indulging in pastries!) has become a life-long passion. Economics has much to learn from philosophy with its emphasis on justice and ethics and its passion for reasoning, openness and dialogue. If economics is to become useful once again it must concern itself with justice and, “not only are dialogue and communication part of the subject matter of the theory of justice ... it is also the case that the nature, robustness and reach of the theories proposed themselves depend on contributions from discussion and discourse” [Sen, (2009), pp.88–89].

In his article ‘Teaching economic pluralism using the Hegelian dialectic principle’ Subbu Kumarappan proffers the dialectic to efficaciously advance pluralism. The dialectic, with roots traced back to Socrates, is usually associated with the German philosopher Georg Hegel (1770–1831) and is the “process of change in which a concept or its realization passes over and is preserved and fulfilled by its opposite”. The dialectic can elucidate how new ideas arise from conflicting viewpoints.

Like any technique the dialectic is not without its faults and, as Kumarappan notes, numerous detractors. Nevertheless, it can be superior to other techniques for introducing pluralism since it emphasises how ideas flow back and forth across different schools of economic thought, “while compare-and-contrast techniques focus on how to analyze alternative perspectives, the Hegelian dialectic method addresses an even better educational objective of creating and synthesizing knowledge from the apparent contradictions”. Kumarappan includes in his paper pedagogical strategies to teach economic pluralism and suggests assignments for using the Hegelian dialectic framework within a pluralist framework.

In Vol. 3, No. 2 of the *IJPEE* we launched a special series on economics, education and sustainable development, in order to understand the holistic connection between economics, sustainability and economics education. This issue continues the series with two articles.

The first article ‘Integral solutions to complex problems: climate change, adaptation policies and payment for ecosystem services schemes’, by Andrés Vargas and Mauro Reyes investigates the socioeconomic consequences of climate change on the *Páramos* of Colombia. *Páramos* are high mountain ecosystems located approximately 3,100 and 4,000 meters above sea level. By 2030, climate change, already underway, will cause the disappearance of (approximately) 56% of the Colombia’s *Páramos*, with devastating effects on the ecosystem and everyone within it.

Using original data the authors investigate the efficacy of payment for ecosystem services as a means of arresting some of the most harmful effects of climate change on the disappearance of the *Páramos*, at two different sites in Colombia. PES have been applied with a high degree of success in many countries of the world, particularly Meso-American and South American countries; and its essence “is that the beneficiaries of a service provision compensate the providers upon a voluntary and conditional transaction over a well-defined ecosystem service between at least one supplier and one user”.

Vargas and Reyes note that an efficacious PES scheme must be holistically designed, taking account all stakeholders, and cannot be imposed from above; to do otherwise will exacerbate (both locally and globally) the problem it was designed to solve. The authors conclude that a successfully designed PES will “foster resilience to external shocks like climate change as people obtain ownership and leadership of their territory, while learning to manage their natural resources and understand the importance of changing some practices that will affect their water sources in the near future”.

The second article of this section ‘Introductory economics textbooks: what do they teach about sustainability?’ by Tom L. Green analyses the sustainability content of principles of economics textbooks. Fullbrook (2010) notes that,

“The importance of economics’ introductory level textbooks tends to be under appreciated. In the United States alone more than a million young minds annually take a year-long introductory course. For over 90 percent of them this experience is dominated by a textbook little changed from Paul Samuelson’s 1948 text *Economics*. With few exceptions, their textbook fundamentally shapes how they think about economics and economic issues for the rest of their lives. As such, these books are a powerful and long-lasting cultural and political force. And of course their influence extends to the economics profession itself, because these textbooks also serve as the formative introduction to economics of that small minority of students who go on to become economists.”

Such textbooks are highly ideological as Hill and Myatt write in the current issue,

“We see the standard textbooks as part of a broader system of persuasion (or ‘propaganda’) that permeates our culture and that has the effect of shaping or influencing people’s view of the world, or at least trying to do so. Students of economics should consider the subject as it is presented to them in their textbooks in that broader context. They would then be in a better position to decide for themselves whether the worldview offered in the text is one they agree with or not.”

Indeed economics textbooks “are powerful devices, which serve as the main vehicle for the international standardization of economic education” [Otsch and Kapeller, (2010), p.18]. But as Keen (2011) notes the textbooks are mendacious, “virtually every concept that is taught has been proved to be unsound in the original literature?” (p.18). And, economics textbooks “often present hypotheses and policy prescriptions with surprisingly little or no supporting evidence, or [worse] ignore inconvenient contrary evidence” [Hill and Myatt, (2010), p.6]. In addition, the textbooks are part and parcel of an intransigent and interlocking set of institutions along with “university departments, associations, journals, classification systems, and its basic narrative, [that] collectively and interactively block any effort at meaningful reform” [Fullbrook, (2010), p.95].

Thus as we reconceptualise economics education to make it more open and pluralist, it is important to scrutinise both the content and the ideological purpose of principles of economics textbooks.

Sustainability is a contested and multi-faceted concept existing at many different levels [Soderbaum, (2008), pp.1, 14–15]. Nevertheless, as universities commit to integrate sustainability across the curriculum, it is incumbent to investigate the sustainability content, particularly of basic economics textbooks. Green finds that the standard textbooks have failed this important task: they either ignore or mischaracterise sustainability and its connection with the environment and provide little content to help further student understanding of sustainability. Green recommends that “students would be better served if authors of standard textbooks would improve the sophistication with which their texts address environment-economy interactions”.

Granted this is a tough task but so is the overall objective of reforming economics education.

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