

A radical reformation of economics education: educating real world economists¹

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Abstract

Our generation is confronted with many problems including climate change, a global financial crisis, a palpable disparity in income and wealth, and a health care crisis. These problems are mutually reinforcing and will only worsen. At the center, however, is the discipline of economics itself and economics education, which obfuscates the interrelationship of our problems, inures its students to human suffering and abnegates thoughtful discussion of the human predicament. This paper will briefly discuss the problem of economics education, and then present a vision for a radical restructuring of the economics curriculum.

Keywords: Economics education, pluralism, neo-classical economics

1: Introduction

Alfred Marshall, in the eighth edition of his *Principles of Economics*, wrote that “economic conditions are constantly changing, and each generation looks at its own problems in its own way” (Marshall 1946 [1920], p.v). Our generation is beset with many problems including climate change, a global financial crisis, a palpable disparity in income and wealth, and a health care crisis. These problems are mutually reinforcing and will only worsen. At the center, however, is the discipline of economics itself and economics education, which obfuscates the interrelationship of our problems, inures its students to human suffering and abnegates thoughtful discussion of the human predicament.

To date, calls for reform of economics education within the neoclassical paradigm have been tepid, content with tinkering around the edges, adding less chalk to more talk, while leaving the bulk of the curriculum intact. Despite the persistence of one of the worst recessions in recent history, and the collective failure of neoclassical economics to predict or understand it, “the generals of [the] mainstream status quo, along with middle ranks, show no signs of giving ground or even of feeling the need for appeasement” (Fullbrook 2010, p. 94). The crisis “doesn’t seem to have any decisive impact on the way economics is taught and the trends in economic research” (Otsch and Kapeller 2010, p. 22). The emphasis is overwhelmingly on ‘more of the same.’

There is no better example than Gregory Mankiw, author of one of the best-selling economics textbooks, writing during the depths of the financial crisis, “We still have to teach the bread and butter issues, the gains from trade, supply and demand, the efficient properties of markets and so on. These topics will remain the bread and butter of introductory courses” (Mankiw 2009). But “it is hubris run amuck that assumes we only need minor adjustments” (Reardon 2010, p. 182).

What is wrong with neoclassical economics that precludes a honest re-assessment? Where is the humility? Where is the umbrage? Where is the *mea culpa* of university professors,

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textbook authors and publishers? Where is the willingness to go back to the drawing board? Where is the public shock that despite the prodigious change in our economy, “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, p. 168 and p. 169).

Imagine “if universities continued to use for nuclear engineering a textbook by an engineer who had headed a team managing a nuclear power plant that without external causes exploded creating a huge devastation, there would be a public outcry” (Fullbrook 2009, p. 22). Or imagine the outbreak of a disease, an epidemic, that caught the medical profession unaware, with most of the profession (and textbooks) fastidiously denying the epidemic’s possibility. Wouldn’t there be public outrage? An enraged demand to hold the profession accountable?

Why is such a similar situation tolerated in economics? Why isn’t there a public effort to disbar economists who continue to teach such failed policies? Why isn’t there an effort to de-commission the universities that grant such degrees? Why isn’t there a detailed public hearing to ascertain what is taught in economics courses and published in economics textbooks?

Imagine a book written for economics students that describes in detail what is missing and wrong in their textbooks 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).

Unfortunately we don’t have to imagine- such a book has been written (Hill and Myatt 2010). The book’s title, *The Economics Anti-Textbook - A Critical Thinker’s Guide to Microeconomics* acutely underscores the problem: students need a book not as a helpful guide in learning complex material but to unlearn what is written in their texts.²

Several reasons explain the collective failure of neoclassical economics to reform and its steadfast refusal of an honest re-assessment. One, a proclivity (I am not sure if it is natural or not) for individuals and academics to become comfortably immersed in the old ways of doing things, while viscerally impugning anything new that might disturb the accepted way. Indeed Francis Bacon noted almost four centuries ago that,

“In the manners and customs of the schools, universities, colleges and similar institutions, which are intended to house scholars and cultivate learning, everything is found to be inimical to the progress of the sciences... For the readings and men’s (sic) writings are confined and imprisoned in the writings of certain authors; anyone who disagrees with them is instantly attacked as a troublemaker and revolutionary ” (Bacon 2000 [1620], Book I, XC, pp. 75-76).

Two, and closely related, a reluctance exists to admit that one’s work has been in vain. Ironically, for a discipline that claims rationality, it is hard for established practitioners to jettison their life-long beliefs in favour of a new paradigm. And sadly the myopic and

² While this book only tackles one subject in economics– microeconomics, the malaise and disconnect described by Hill and Myatt unfortunately affects all subjects within the discipline of economics. Expect more such books to be written.

fundamentalist limitations of their education precludes understanding of the manifold alternatives. It is this “irrational tenacity [to] hold its core beliefs in the face of either contrary factual evidence or theoretical critiques” (Keen 2011, p. 168) that keeps neoclassical economics “a pre-science, rather like astronomy before Copernicus, Brahe and Galileo” (Keen 2011, p. 158).

Three, the basic institutions of neoclassical economics: university departments, associations, journals, classification systems, economics 101 textbooks, and its basic narrative, collectively and interactively block any effort at meaningful reform (Fullbrook 2010, p. 95). Fullbrook notes that “this intransigence and insuperability stems from the fact that as institutions, although independently constituted, they are interlocking and their characteristics inter-determined” (Fullbrook 2010, p. 95).

Four, uniting each of the above factors and, important in its own right, is economics education, which in my opinion best explains why neoclassical economists could not predict the recent crisis; why they are ignorant of alternative paradigms; why they obdurately cling to failed policies; and why they chastise and bully dissenters. Indeed, “economics [and economics education] as currently constituted and practiced, acts as a most effective barrier against the understanding of [our] problems” (Schumacher 1989, p. 50); and as Keen noted,

“economists may be the main force preventing the introduction of countervailing measures to any future economics slump. Economics may make our recessions deeper, longer and intractable, when the public is entitled to expect economics to have precisely the opposite effect” (Keen 2011, p. 1).

We need economics and we need economists to help fix our problems but more importantly we need educated (and not proselytized) real world economists. And we don't need an economics or economics education that insists on proselytization rather than education; an education that is monist rather than pluralist; that produces students unable and unwilling to understand the myriad diversity of human behavior and unable to work with other social scientists in solving our generation's problems. Economics education is a problem of our generation and must be radically reformed.³

2: The problem with economics education

One of my students wrote on a recent exam, “I took two economics classes before yours, and I had a hard time finding a relationship between the study of economics, firms and the entire

³ Although Marshall is most responsible for the neoclassical synthesis, Marshall along with other founding fathers of neoclassical economics, would “be surprised to find that a manner of thinking they thought would be transitional has instead become ossified as the only way one can do economics and be respectable” (Keen 2011, p. 35). A constant theme of Marshall's work is the exhortation that “the study of local circumstances as the only way to bring general economic principles to bear on the solution of factual problems [which presupposes that the economic principles themselves are given an inherently flexible formulation and conceived as evolutionary instruments by means of which human societies can learn how to deal with changes either of the endogenous sort or those deriving from external sources” (Raffaelli et al., p. xvi). And not surprisingly “some of Marshall's economic ideas had an indirect and almost underground diffusion on political science, urban planning, sociology, demography, rural studies, and so on” (Raffaelli et al., 2010, p. xi)

society.” Given that the overall objective of economics is the study of the economy (isn’t it?) and given that the economy is comprised of firms and individuals, isn’t this a damning criticism?

If this was an isolated comment, I could cavalierly dismiss it, but I hear it time and time again. My heart stops when students tell me that they were excited to begin their study of economics only to be turned off by an onslaught of deductive logic and abstract models with little resemblance to the world in which they live. Indeed, “in the business, government and other non-academic communities, the perception is widespread and growing of economics as a technical and rarefied discipline, of questionable relevance and limited practical use” (Hodgson 2001, p. 9).

Imagine a physicist being told that her lectures had nothing to do with the physical world; or an anatomy professor being told that his lectures had nothing to do with the human body. Wouldn’t there be umbrage; a humbled admission of fault and a dedicated desire to amend the pedagogy?

Not so with neoclassical economics, which claims that “economics isn’t defined by its subject matter but by its way of thinking” (Coyle 2007 p. 231-232). No wonder students are disappointed and perplexed when they open up a textbook and expect to learn about the economy in which they live and (will) work, only to be told that economics is about allocating scarce resources among unlimited wants and then hit with an abstract production possibilities curve to drive home the point.

The problem with neoclassical pedagogy isn’t too much math – actually quite the opposite: it uses the wrong math (simple calculus) to study the wrong problem – optimization. And even worse, it is bad math – a distorted and misunderstanding of the limitations of mathematics (Keen 2011, pp. 402–411). Mathematics can elucidate, especially the laws of nature, “natural inquiry succeeds best when the physical ends in the mathematical” (Bacon 2000 [1620] Book II, VIII, p. 108).

Nor is neoclassical economics too complex: as a former physics major who switched to economics, I found it deceptively simple; and perhaps this is its appeal as Keynes wrote on the completeness of the Ricardian victory,

That it reached conclusions quite different from what the ordinary uninstructed person would expect, added... to its intellectual prestige. That its teaching, translated into practice, was austere and often unpalatable, lent it virtue. That it was adapted to carry a vast and consistent logical superstructure, gave it beauty (Keynes 1936, p. 33).

The problem with neoclassical pedagogy is threefold:

First, a disconnect between what is taught as subject matter and how the world works. Consider a flyer sent by Hugo Radice in 1969, a Cambridge University postgraduate student in economics,⁴

⁴ The flyer led to a Conference held in London, January 1970, which developed the Conference of Socialist Economics – an important institution in developing heterodox economics in the UK; and the *Bulletin of the Conference of Socialist Economists* which in 1976 was superseded by *Capital and Class* (Lee 2009, pp. 127-130).

Many of us who study or teach economics feel that much of our subject matter is irrelevant and meaningless in the face of the intense social and economic problems of the world. For the most part, economics takes the existing capitalist system for granted, and is concerned solely with making it work more efficiently, or with making marginal adjustments which are totally inadequate. Furthermore, economists persistently deny that economic problems are inevitably social and political problems as well (quoted in Lee 2009, p. 127).

Simply put, neoclassical economics has failed to construct a workable model that reflects the world in which we live, while “critical thought is pushed aside to make room for apocryphal stories of how human selfishness in an unfettered market environment leads to social progress” Magnuson (2012, p. 13). Rather than teach students how real firms operate in real industries, students are ‘bullied’ (Fullbrook, 2009, *passim*) into accepting basic axioms as true, which is anathema to science (Fullbrook 2009). Students are then asked to use these axioms in order to analyze hypothetical firms in idealized industries, with “fictitious values invented at the desk of the textbook author in order to fit the courageous assumptions necessary for developing the respective economics model” (Otsch and Kappeller 2010, p. 17).

Second, the wilful ignorance of the social sciences and the physical sciences, particularly physics and mathematics,

In other sciences, chaos theory, complexity analysis and their close cousin evolutionary theory have had profound impacts. It shows how isolated economics has become from the scientific mainstream of the late 20th and early twenty-first century that such ignorant views could be commonplace (Keen 2012, p. 410).

Third, neoclassical pedagogy is anti-pluralist. Instead of enabling students to grasp the complexity of our problems with a multi-faceted emphasis on different theoretical and empirical approaches, neoclassical economists train students to think like economists – as if all economists think alike – and that only one perspective exists, while denying the legitimacy of all others. Partly this is due to the “incestuous relationship between capitalism and economics” (Dowd 2004, p. xiii) whereby neoclassical economists are ideological apologists for the business community and capitalism” (Lee 2009, p. 49).

So anyone who criticizes the established orthodoxy or thinks beyond the conventional boundaries is instantly attacked as a ‘troublemaker and revolutionary’ and/or bullied, vilified, black-listed, or worse. Take Diane Coyle’s chastisement of John Kenneth Galbraith, as one example among many, the reason many economists think Galbraith wasn’t one of us lies in his methodology. His work covers the terrain of economics... but it uses the methods of sociology and history... many of us spurn Galbraith because he wasn’t a modeler (Coyle 2007, p. 232). This is notwithstanding Galbraith’s presidency of the American Economic Association and his authorship of numerous books explaining in lucid prose how the economy works.⁵

⁵ The invidious term ‘one of us’ comports with the ubiquitous statement found in neoclassical textbooks that the goal is to teach students to think like an economist- as if we all think alike -- its constricting and conformist overtones send shivers down the spine of anyone with an open mind. Shouldn’t our goal be to educate students so that they understand history, sociology, psychology, etc., and can work with other social scientists to address the many problems of our generation? No wonder neoclassical economists cannot understand power and the historical evolution of institutions.

And needless to say only one conceptualization of a modeler is taught, tolerated and accepted for publication in the leading neoclassical journals. Economists who challenge the accepted dogma and/or develop alternative model conceptualizations are ostracized, as Lee writes,

it is not just that [heterodoxy] represented *no* research but that they represented (to use a phrase that is becoming popular with mainstream economists) anti-economists and being the enemy of economics such research and researchers should be cleansed from the profession (Lee 2009, pp. 175-176).

In this sense neoclassical pedagogy is no different from fundamentalism marked by “intolerant zealots presenting themselves as the true guardians of orthodoxy” (Bruce 2008, p.2 and p.100). If we don’t tolerate fundamentalism in our universities why should we tolerate the teaching of neoclassical economics?

We have abnegated the lofty goal of educating our students in lieu of the easier (yet ethically questionable) goal of proselytization.

3: Solutions

I am inspired by William Lloyd Garrison, who began publishing *The Liberator* in 1831 and vowed to continue until the abominable injustice of slavery was outlawed. Our generation is also enslaved by an outdated and unrealistic neoclassical economics that ignores pressing environmental realities and inures its practitioners to our generation’s many problems. As Keynes wrote on the Ricardian victory, “That it could explain much social injustice and apparent cruelty as an inevitable incident in the scheme of progress, and the attempt to change such things as likely on the whole to do more harm than good, commended it to authority” (Keynes 1936, p. 33). Reforming and reconceptualization of economics education is our most important task.

As founding editor of *the International Journal of Pluralism and Economics Education*, it is assumed that I fully endorse pluralism as a ubiquitous solution.⁶ On the contrary I feel that pluralism is a necessary but not sufficient condition for the reconceptualization of economics education.

While different definitions of pluralism exist (is this surprising?) a simple definition that conveys its essence is, “a mutual respect for the legitimacy of competing views.” Perhaps one reason for the different definitions of pluralism is that it exists on several levels – ontological, epistemological, methodological and pedagogical (Negru 2009).

Pluralism is necessary (but not sufficient) for the following reasons. One, pluralism ensures vitality and innovation since, “in ideas, as in nature, *variety is the evolutionary fuel*. When pluralism and variety disappear, innovation and progress may slow to a halt . . . Pluralism is

⁶ For an introduction to the historical evolution of pluralism please see (Negru 2009; and Negru 2010). The objective of the IJPEE is to reconceptualize and reform economics education and to foster and encourage inquisitive cooperation between the many disciplines in economics and among the social sciences.

necessary for innovation and scientific advance” (Hodgson 1999, p. 13, emphasis in original). Variety gives competition and competition in the realm of ideas is necessary for economics to advance, and can only do so if “it is genuinely pluralist, stimulating full competition in the market place of ideas” (van Staveren 2011, p. 123) The antithesis of pluralism is monism, and neoclassical economics as currently practiced is monist with fundamentalist zealots protecting against any encroachment on orthodoxy. The “intolerant and anti-pluralist” attitude *modus operandi* of neoclassical economics has degenerated into an ‘intellectual insularity’ in which disciples are unaware of economic theory beyond neoclassical economics” (Lee 2009, p. 48).

Two, only pluralism is consistent with democracy and only a democracy in ideas is consistent with the ideals of a university, “Intellectual diversity, free inquiry, and the principle that there is no humanely accessible truth that is not in principle open to challenge are indispensable to the achievement of the central purposes of a university” (Lee 2009, p. 185). And hence,

an intellectual faction that has a monopoly on truths and wisdom and utilizes state and/or organizational power (such as control over research and testing funding or university budgets) to maintain and enhance this monopoly, that rejects the unsettled character of all human knowledge, and that rejects a diversity of approaches to unsettled questions is not compatible with the idea and nature of a university (Lee 2010, pp. 185-186).

Three, pluralism exposes students to different viewpoints, “so they can debate their relative merits and develop an awareness about the weaknesses and strengths of competing theories” (Ostch and Kapeela 2010, p. 23). Not only is pluralism consistent with a democracy of ideas and a democratic society, but democratic interaction can lead to a ‘transformative dialogue,’ which can help move economics forward (Soderbaum and Brown 2011).

Four, pluralism is useful because, “no paradigm or theoretical perspective can claim universal applicability, i.e., usefulness for all kinds of all problems. Each paradigm or theoretical perspective may have something to offer and preference for one theoretical perspective over another is... partly a matter of ideology” (Soderbaum 2008, p. 10). In other words, given “the presence of values and ideology in social science research... a complementary relationship between theoretical perspectives or paradigms, each reflecting a specific ideological viewpoint is relevant” (Soderbaum 2008, p. 41). For we “cannot understand contemporary societies very well unless politics, economics, psychology, and the other social science disciplines are all brought together to study the complexities of modern life” [Bowles et al., (2005), p.51].

Five, pluralism enhances student-based learning,

Developing the ability to ask probing questions is empowering. It draws upon the students’ analytic, global perspective taking, and valuing abilities. The assumption inherent in this approach is that students are entitled to inquire and to explore and that economic phenomena are subject to continual investigation (Davis and Emami 2009).

Six, only pluralism can instill passion into economics; and passion is necessary to “identify redressable injustice” (Sen 2009, p. vii). Passion in turn is necessary to give us the intellectual courage to help solve the problems of our generation. As Joan Robinson exhorted, “independent economists ought to be speaking up on the side of humanity” (1980, p. xiii). In

addition, we should be ashamed to hide behind the ideological cloak of positive science, long ago jettisoned by other social scientists. Neoclassical economists, still stuck in the 19th century, have inured their students to “redressable injustice” while fastidiously extirpating passion.

And finally, if a reformed economics is to help make the world a better place – and it must – then economics must be concerned with justice, which in turn is interconnected at many levels with pluralist dialogue since,

“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).

To be passionate about economics requires being able to recognize injustice, which in turn requires an understanding of power and how institutions evolve, which in turn requires an open mind and a willingness to learn from other disciplines. Passion and justice are incommensurate with monism – the current modus operandi of neoclassical economics, especially at the pedagogical level.⁷

Despite the above-mentioned virtues of pluralism, it is a necessary but not sufficient element in the reformation of economics education for two reasons. First, as Fullbrook writes,

Pluralism, both its ethos and epistemology, is extremely important, but no matter how robust it may become among economists it will never be a sufficient basis for breaking the hegemony of neoclassical economics. That will require a new cohesion of underlying economic ideas other than the neoclassical ones and which heterodox schools will in the main accept and, even more importantly, which their members will become in the practice of relating to their particular school of thought as they currently do with neoclassical ideas. (Fullbrook 2010, p. 101).

Second, pluralism is currently a one-way street, “[although] heterodox economists are willing to engage in pluralism the mainstream economists generally do not reciprocate” (Lee 2009, p. 283, note #26). While neoclassical economists claim to be pluralist and perhaps they are to a very limited extent at the methodological level (Coyle 2007, pp. 239-254) they are certainly not at any other level, which explains their fundamentalist ‘bullying, cajoling, threatening, expelling, disparaging, etc., (Lee 2009, passim) and their ‘irrational tenacity’ to hold onto cherished beliefs.

Given this intransigence, real world economists have three options. One, do nothing and to continue letting neoclassical economics dominate and influence the intellectual baggage of all citizens. But as Fred Lee emphatically writes “to do nothing is not an option” (Lee 2009, p. 206). At the same time, “Economics cannot be trusted to reform its own house” (Keen 2011, pp. 23-4) suggesting a concerted action from real world economists.

⁷ Even Coyle admits, after almost ebullient about the advances made on the frontiers of economics, the disconnect between practice and pedagogy, “I accept that critics of mainstream economics have a point until we economists teach what we preach” (Coyle 2007, p. 250) But alas, keep in mind her strict requisite of an economist!

Second, renounce any attempt at dialogue with neoclassical economics while continuing to develop a robust agenda and a vibrant real world economics research community. Fred Lee delineates what must be done to establish a robust agenda,

Heterodox economics [must] be taught to more students, more doctoral students be produced, and heterodox economists [must] become more professionally and theoretically engaged through joining multiple heterodox associations, subscribing to multiple heterodox journals, attending multiple heterodox conferences and engaging in open pluralistic theoretical dialogue with other heterodox economists [and must] challenge the research assessment exercises, subject benchmark statements, and the mainstream ranking of journals and departments (Lee 2009, p. 206).

Third, while not necessarily engaging in dialogue – which given the anti-pluralist nature of neoclassical economics is an oxymoron – to actively lessen the tenacious grip of neoclassical economics, with its almost exclusive western thinking and its self-absorption in the scientific methods of the 19th century, such is the explicit goal of the World Economics Association (Fulbrook 2010).

Fourth, while not denying the efficacy of building a robust real world economics agenda and attenuating the grip of the current institutions, it is also important to reform neoclassical education head-on. If we don't, they will continue to bully, exclude, disparage and discredit, while using the powers of the state to cement their ascendancy, dominate and influence public policy, and to infect the baggage of the intellectual elite; while we will be relegated to the status of second class citizens, regardless of how vigorous and robust our research agenda.

It is in the best interest of real world economics, economics in general, our students, and the future well-being of our planet to add the reconceptualization of neoclassical economics and pedagogy to our agenda. To rest content with building our own research program is self-defeating, as echoed by Zola's Charvet in the *The Belly of Paris*, "Class self-interest is one of the most powerful allies of tyranny" (2007, p. 139). In other words, minding your own business – literally – gives a carte blanche to the continuation of the status quo and allows the "ruling elites to continue to control the discourse" (Leech 2012, p. 96). Thus, in my view, attacking the provenance of the lack of pluralism in neoclassical economics – education – is paramount.

Before we address specific solutions, it is perhaps necessary to briefly address the question – as real world economists, should we continue teaching neoclassical economics in one form or another? Several reasons are usually given to do so. One, if we are to change neoclassical economics we must understand it. Two, neoclassical economics is, for better or worse, the *lingua franca*, so one must understand it. Three, it is often the foundation upon which policy is built. Four, knowledge of neoclassical economics can chip away at the edifice and establish ports of entry in order to establish a pluralist dialogue. Five, exposure to neoclassical economics is necessary in order to understand multiple viewpoints.

Although I see merit in the above arguments, I respectfully disagree with my colleagues that we should continue to teach neoclassical economics. I don't know of any other science that insists on teaching failed, out-dated thinking, particularly since "neoclassical economics is not

really about the economy, so how can it be useful for the analysis of institutional structures such as markets” (Hodgson 1999, p. 44). And as Keen writes,

Neoclassical economics, far from being the font of economic wisdom, is actually the biggest impediment to understanding how the economy actually works – and why, periodically, it has serious breakdowns. If we are ever to have an economic theory that actually describes the economy, let alone help us manage it, neoclassical economics has to go (Keen 2011, p. 15).

A discipline should move on; there should be no reason why the rest of the profession feels obliged to continue to teach this stuff. Perhaps in a history of thought course; or in a course on logic; or as part of a course that introduces multiple viewpoints, but never alone, and not in a course on the economy, since “neoclassical theory... does not show how real markets work” (Otsch and Kapeller 2010, p. 21).

It is time for a radical break with orthodoxy,

“it is futile to expect a great advancement in the sciences from overlaying and implanting new things on the old; a new beginning has to be made from the lowest foundations, unless one is content to go round in circles for ever, with meagre, almost negligible results” (Bacon 2000 [1620], Book I, CXXIV, p. 96).

The opportunity cost is too high to continue teaching neoclassical economics, especially if we are to develop sufficient knowledge to help solve our generation’s problems, which can only come from a vigorous real world economics research agenda which is first and foremost concerned with the social provisioning process (Lee 2009, p. 8). And conversely, the opportunity cost is too high to acquiesce to the continued teaching of neoclassical economics.

But in the spirit of pluralism, isn’t neoclassical economics necessary, especially in light of the virtues mentioned earlier? Yes of course, but only if neoclassical economics can reciprocate and practice pluralism – as of now it cannot. Thus, our goal is to reconceptualize neoclassical economics so its practitioners are no longer obdurate and unwilling to notice, discuss and accept alternatives. Only then can the “universal mindset of the neoclassical project” (Fullbrook 2010) be broken. Easier said than done! And, like William Lloyd Garrison, we are in this for the long haul; but nevertheless, this is a necessary and important battle.

But how to teach open-mindedness and toleration? That such a question must be asked is testimony to the sorry state of economics education; I don’t know of any other discipline where this is an issue. While much attention has been devoted to ‘how to’ for individual courses and ‘how to’ redesign the curriculum,⁸ the remainder of this paper will focus on a neglected issue: that given the contested nature of economics (Lee 2010, *passim*) and the highly ideological content and anti-pluralism of neoclassical economics, it is necessary for a set of prerequisite courses to be incorporated into the economics curriculum. This comports with the necessity of an integrative and multi-faceted attack on the citadel of neoclassical economics, which in turn requires numerous ports of entry, including students, university officials, and the public (Reardon 2004). Offering a set of prerequisites targets students by enabling them to withstand (and hopefully parry) the inevitable ideological neoclassical

⁸ See various issues of the *International Journal of Pluralism and Economics Education* for helpful articles, along with a special issue on the topic in the *IJPEE*, Vol. IV (No. 4) December 2013.

onslaught from later courses. Thus, this suggestion will help chip away at the neoclassical edifice from within.

Hill and Myatt hope “to help stoke the fires of revolution” (2010, p. 2) from below by peppering their text with ‘71 Questions for Your Professor’. While many professors welcome the give-and-take in a college classroom and relish the opportunity to learn from their students, these questions go far beyond prepping students with thoughtful questions. They are designed to reveal the ignorance of neoclassical economics professors of their own discipline, their lack of understanding of alternative theories and their wilful neglect of conflicting evidence. That Hill and Myatt’s book was written in the first place suggests the seriousness of this problem.

So when a neoclassical professor bullies students into assuming that all consumers are rational or when a textbook claims that markets, left uninhibited, arrive at a beneficent equilibrium for all,⁹ students rather than absorbing this like a sponge, can think for themselves, develop their own minds, and challenge their professors.

3.1 Establishing prerequisites for the economics major

Otsch and Kapeller suggest reforming the economics curriculum with, “additional courses in related areas such as economic history, sociology, political science or philosophy in order to provide students with some context knowledge on economic systems (What is the history of an economy? Where do its institutions come from? What’s the relation between economy and society?” (Otsch and Kapeller 2010, p. 23).

I agree, but argue that this suggestion should be taken to its next logical step: economics majors should not take any economics courses until after the first year of university study. Instead, they should take (at least) the following courses during their first year: World Literature, History of Capitalist Systems, History of Intellectual Thought, Quantum Physics, and Philosophy with an emphasis on ethics. Here is my rationale for the individual courses:

a. *World Literature* - There is no better primer on the diversity of the human condition than fiction. Properly taught, fiction can explain the myriad forms of behavior and human predicaments as good as, or even better, than any individual academic discipline. As Johann Goethe’s main character explains in *The Sorrows of Young Werther*, “things in this world seldom come down to an either-or-down decision, and possible courses of action, and feelings, are as infinitely various as kinds of noses on the gamut from hooked to snubbed” (Goethe 1989 [1774], p. 58). And to parry the highly gratuitous claim that all people are rational, here is Goethe’s Werther again, “Human kind is merely human, and that jot of rational sense a man may possess is of little or no avail once passion is raging and the bounds of human nature are hemming him in” (Goethe 1989 [1774], p. 64). And the poet Imlac in Samuel Johnson’s *The History of Rasselas, Prince of Abissina*,

The truth is, that no mind is much employed upon the present: recollection and anticipation fill up almost all our moments. Our passions are joy and

⁹ While numerous examples abound, one in particular struck me for its insidious ignorance, “Economists often personify market forces by saying that the market works with an invisible hand. RIDDLE: How many economists does it take to change a light bulb? ANSWER: None. The market will do it” (Froeb and McCann 2010 p. 99). Left unanswered of course, is ignorance over what constitutes the market, who makes the light bulb and the power relationship between the decision makers and the workers who actually install them, and a myriad of other questions.

grief, love and hatred, hope and fear. Of joy and grief the past is the object, and the future of hope and fear; even love and hatred respect the past, for the cause must have been before the effect” (Johnson (1976 [1759])).

Fiction can also efficaciously describe injustice and can be a powerful call to action. And there are no better examples than Zola’s *Germinal* and Upton Sinclair’s *The Jungle*. If the goal of economics is to understand the provisioning process and help the world become a better place, then fiction and pluralism are natural allies. As Sen writes, “we have to be able to react spontaneously and resist inhumanity whenever it occurs. If this is to happen, the individual and social opportunities for developing and exercising moral imagination have to be expanded” (Sen 2005, p. 278). While fiction is obviously not history, quite often the apt descriptions and careful dialogue are more evocative and stick in one’s memory far longer than any historical description, and thus are instrumentally more efficacious. And for me, one of the most powerful images in Dickens’ *Tale of Two Cities* is Madame Defarge’s vigilant knitting of names of the condemned once the French Revolution begins. This captures the patient vengeance of the long-oppressed peasants far better than any historical narrative.

This is not the place to debate what type of fiction works best¹⁰ – poetry, novels or drama or even which of the works are best; rather just to place the argument that prerequisites are necessary bulwark against future intimidation and bullying, and fiction is most apt.

b. *History of Capitalist Systems* – It is essential for economics majors to understand how the present system of capitalism has evolved, the role of government and how people respond to contemporary problems by constructing appropriate institutions. There is nothing natural or inevitable about capitalism or any economic system. Neoclassical economics, which is taught from a historical vacuum, tries to prove that capitalism, albeit with less government intervention, can ideally allocate resources.

A course in the History of Capitalist Systems will discuss how and why capitalism developed, who loses and who benefits, as well as the necessary institutions to construct a better society. Such a course is also beneficial since,

History by giving context and examples, helps when it comes to thinking about the present world. It aids in formulating questions, and without good questions it is difficult to begin to think in a coherent way at all. Knowledge of history suggests what sort of information might be needed to answer those questions (MacMillan 2008, p. 167).

c. *History of Intellectual Thought* – A course in the history of intellectual thought will elucidate how ideas developed in response to certain problems; and students will understand how and why neoclassical economic theory was developed.¹¹ And history, within the liberal arts tradition is a natural ally of pluralism: “History can help us to make sense of a complicated world, but it also warns of the dangers of assuming that there is only one possible way of looking at things or only one course of action” (MacMillan 2008, p. 168). And what better introduction to the excitement of college learning than a course in the intellectual development

¹⁰ See Jack Reardon “Teaching Fiction Within a Pluralist Economics Curriculum” *International Journal of Pluralism and Economics Education* Vol. IV (No. 2, 2013), forthcoming.

¹¹ While much has been written on necessity of reinstating history of economic thought into the curriculum (Dow 2009) the prerequisites discussed here will prepare students well for such an important course.

of ideas? And as the poet Imlac speaks in Samuel Johnson's *The History of Rasselas, Prince of Abissina*,

“there is no part of history so generally useful as that which relates the progress of the human mind, the gradual improvement of reason, the successive advances of science, the vicissitudes of learning and ignorance, which are the light and darkness of thinking beings, the extinction and resuscitation of arts, and all the revolutions of the intellectual world” (Johnson (1976 [1759]) pp. 104-105).

d. *Quantum Physics* – not only are many of the accoutrements of today's economy such as the CD, laser, computer, MRIs and traffic lights the result of the intellectual achievements of quantum physics, but no better example exists of the scientific willingness to test and experiment and the openness to reform theory if necessary than quantum physics. In addition, “the rise of quantum theory is... an outstanding example of the revisionism imposed by physical reality upon the thinking of the scientist” (Polkinghorne 2002, p. 85). This is because, “every interpretation of nature which has a chance to be true is achieved by instances, and suitable and relevant experiments, in which sense only gives a judgement on the experiment, while the experiment gives a judgement on nature and the thing itself” (Bacon 2000 [1620] Book I, L, p. 45). Compare this to the dismal record of neoclassical economics (Keen 2011, passim) and economics textbooks which “often present hypotheses and policy prescriptions with surprisingly little or no supporting evidence, or (worse) ignoring inconvenient contrary evidence” (Hill and Myatt, 2010, p. 6).

No better example exists of how physics progresses as a science than the discovery of the Higgs boson. In a paean to the discipline of physics, *The Economist* wrote that it was,

the crowning achievement of one of history's most successful scientific theories. 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, p. 68).

d. *Philosophy* - An introductory course, perhaps with a focus on ethics, aptly illustrates the tradition of philosophy for debating ideas within a pluralist context and the vanity of human understanding. As Bacon writes,

The human understanding from its own peculiar nature willingly supposes a greater order and regularity in things it finds, and though there are many things in nature which are unique and full of disparities, it invents parallels and non-existent connection” (Bacon 1990 [1620], Book I, XLV, p. 42).

While agreement exists for a need for ethical standards within economics (DeMartino, 2010), today's students of neoclassical economics are taught that not only will the market correctly allocate resources, but there is no need to worry about ethics, since the market, will correctly make such decisions. Consider, for example, a popular managerial economics textbook claiming that the most important lesson of business is, “identifying assets in low-valued uses and devising ways to profitably move them to higher-valued ones” (Freob and McCann, 2010, p. 16). But what is meant by value and how do we conceptualize it? Whose perspective do we use? What ethical standards should help us to decide which assets to move and how to move them?

Philosophy can also help attach meaning to deliberately vague words like “efficiency, rationality, choice, freedom often found in economics textbooks but seldom discussed” (Fullbrook 2009, p. 19).

3.2: Objections to the prerequisites

There are two objections to this proposal. First, these courses will constrict the course offerings for the economics major. But economics education is not working – it is not educating our students; so, if one of the end results is either a diminution in the traditional number of courses or the content of existing courses, so be it. And besides, these suggested prerequisites are fundamental to a university education and will produce better educated (rather than trained) economists, able to converse intelligently with all social scientists. Such prerequisites will also enable students to parry the inevitable ideological onslaught in later neoclassical courses.

Second, who can teach such courses? Certainly not neoclassical economists, which underscores that this proposal must be part and parcel of a long term planning strategy.

4: Conclusion

In a provocative yet disturbing book (Shearman and Smith 2007) the authors argue that our most important problem, bar none is climate change, and that we are inexorably heading toward cataclysmic change. Given recent weather patterns it is hard to disagree. To avoid this, or perhaps at least to attenuate it somewhat, Shearman and Smith advocate dismantling our current university system (which only produces graduates who are ecologically ignorant) and replace it with a real university, producing philosopher-warriors who can understand our ecological predicament,

The conventional university trains narrow, politically correct thinkers who ultimately become the economic warriors of the system. Our proposal is to counter this by an alternative framework for the training and complete education of a new type of person who will be wise and fit to serve and to rule. Unlike the narrowly focused economic rationalist universities of today, the real university (special institutions in which the opportunity is provided for the much-needed ecowarriors to develop and be nurtured) will train holistic thinkers in all of the arts and sciences necessary for tough decision making that the environmental crisis is confronting us with. These thinkers will be the true public intellectuals with knowledge well grounded in ecology... We must accomplish this education with the dedication that Sparta used to train its warriors. As in Sparta, these natural elites will be especially trained from childhood to meet the challenging problems of our times (Shearman and Smith 2007, pp. 134-135).

Aside from the undemocratic nature of such training, and that such a proposal will disenfranchise large segments of the population – a fundamental objection is ‘who is going to educate the educators?’ And is this education or proselytization? On what basis will knowledge progress?

Shearman and Smith's book presents a sober warning that with a sudden cataclysmic and irreversible change in climate, democratic debate could very well cease; and despite their abysmal track record, neoclassical economists by default might be thrust upon the world stage as the elite corps abetted by the power of the state. Peter Soderbaum reminds us that,

surprisingly the seriousness of present environmental and development problems has done little to raise questions about the monopoly of neoclassical economics. Instead the tendency is to listen to neoclassical economics and their story about possible marginal failures (Soderbaum 2005, p. 43).

If a cataclysmic climate event occurs, would the average citizen side with heterodox or mainstream economists, on the basis of name only? Consider the unfortunate appellation for the Mensheviks (Minoritarians) *vis-a-vis* the Bolsheviks (Majoritarians) when several factions opposing Lenin walked out before a key vote among the Social Democrats in pre-revolutionary Russia in 1903, which gave Lenin and his group (or more accurately Lenin himself) a majority. Figs writes,

“with hindsight it is clear that the Mensheviks were very foolish to allow the adoption of these names. It saddled them with the permanent image of a minority party, which was to be an important disadvantage in their rivalry with the Bolsheviks” (Figs 1996, p. 152).

I realize many of us are proud of the heterodox identifier¹² but perhaps we could experiment to see what name resonates best with the public? In the spirit of this journal why not ‘real world economists?’ Maybe the latter might resonate well as climate change worsens? Why cede to neoclassicals the word orthodox when the knowledge produced by heterodox economists is fast becoming orthodox? Doesn't this ‘saddle’ us with the permanent image of a minority party, just like the Mensheviks? After all, we are economists concerned with how individuals and societies provision in the real world. And by adopting this name, we assume the upper hand: all other economists by default are not focused on the real world.

The possibility of a cataclysmic climate event provides one more reason to give diligence to reconceptualizing neoclassical economics and economics education. In the case of an ecological catastrophe,

the ruling elites control the discourse, thereby determining which ideological perspectives will dominate mainstream debates and which ones will be marginalized. The ideology that the hegemonic discourse of capital promotes is free-market capitalism, regardless of the contradictions that exist in the functioning of the system (Leech 2012, p. 96).

If we are to break the hold of neoclassical economics, we must radically reform economics education. But don't expect this to be a fair fight – it has never been (Lee 2009, *passim*). Bacon's call for a new age is most appropriate for economics. It is imperative to redirect economics away from syllogisms and the rationalists “who like spiders spin webs from themselves” (Bacon 2000 [1620] Book I, XCV, p. 79) and begin with the “true order of experience [which] first lights the lamp, then shows the way by its light, beginning with experience digested and ordered, not backwards or random, and from that it infers axioms,

¹² For an interesting genesis of the heterodox identifier see (Lee 2009, pp. 189-192).

and then new experiments on the basis of the axioms so formed.” (Bacon 2000 [1620] Book I, LXXXII, p. 67). Thus, “from both results and experiments to draw causes and axioms, and from causes and axioms in turn to draw new results and experiments” (Bacon 2000 [1620] Book I, CXVIII, p. 90).

Reformation of economics education is our most important endeavor and the best investment we can make for the next generation. Schumacher wrote that education is “the most vital of all resources” (Schumacher 1989, p. 84) and indeed “education is our most important function as human beings: it is an investment in ourselves, future generations and the planet” (Reardon 2009, p. 267). To paraphrase C.P. Snow, “there is no excuse for letting another generation be as vastly ignorant” (Snow 1998, p. 61). We need a radical reformation in economics education.

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We need real world economists to help solve our generation's problems, and we need a real world economics to conceptualize our problems. But first things first: we need a radical reformation of the economics curriculum. We hope this conference will stimulate debate on the structure, content and reconceptualization of the economics curriculum. We also anticipate this conference will effectuate changes in the curriculum for the benefit of the profession and of ordinary people across the world. How does the current curriculum help include: reforming economics education, energy and the. or hinder the understanding of economic systems and environment. Email: jreardon02@hamline.edu. We need economics and we need economists to help fix our problems but more importantly we need educated (and not proselytized) real world economists. And we don't need an economics or economics education that insists on proselytization rather than education; an education that is monist rather than pluralist; that produces students unable and unwilling to understand the myriad diversity of human behavior and unable to work with other social scientists in solving our generation's problems. Economics education is a problem of our generation and must be radically reformed.

3. 2: The problem with ec... On trial
Lessons from a radical education experiment in Liberia. The messy reality of trying to improve schools in a poor country. Jan 2nd 2020.
IN 2016 GEORGE WERNER faced an unenviable task. Liberia's education minister was in charge of one of the most difficult school systems in the world. More than a decade of civil war and an outbreak of Ebola in 2014 had stopped many children from going to class. Those who did learned little. Just 25% of Liberian women who completed primary school could read, one of the lowest shares anywhere. Many were badly educated. Operators could not fire poor performers or reward good ones. They had an advantage nevertheless. Economics education requires: Greater awareness of economic history and current real-world context; Better practical data-handling skills; Greater ability to communicate economics to non-specialists Why is it so hard to reform economics education, and to make it more socially useful? Who and Where are the Economists? Faculty panel discussion: Vision in Heterodox Economics.

Education economics or the economics of education is the study of economic issues relating to education, including the demand for education, the financing and provision of education, and the comparative efficiency of various educational programs and policies. From early works on the relationship between schooling and labor market outcomes for individuals, the field of the economics of education has grown rapidly to cover virtually all areas with linkages to education.