Why we Need to Teach the History of Economics and How to Do It

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Abstract: There is a growing recognition that economists need to study the history of their subject not just because it helps them to understand how economies work, but also because it is part of the transmission of cultural traditions. It is not just that knowing the works of the great economists of the past, such as Adam Smith or John Stuart Mill, is valuable for their economic insights, but may be even more valuable for the traditions they represent. The attached paper looks at the importance of the history of economic thought in terms of the cultural transmission such studies represent. From that premise, it goes on to suggest how the history of economics should be taught so that both the economics of earlier times is understood as well as providing deeper insights into the cultures of both their own times and, by way of contrast, our own.

> "The great Paul Samuelson was a better economist for his 'conversations' – often quite disputatious – with Quesnay, Hume, Adam Smith, Thünen and Marx. At his Nobel Prize banquet he listed among the conditions for academic success in economics, fourthly: 'You must read the works of the great masters.'"
>
> Anthony Waterman

I am always struck by how little any of my students know about the historical and intellectual traditions of their own culture. All of the following make at least walk-on appearances in the course I teach although most are treated at length: Adam Smith, J.-B. Say, T.R. Malthus, David Ricardo, James Mill, John Stuart Mill, Karl Marx, Charles Darwin, Stanley Jevons, Karl Menger, Leon Walras, Alfred Marshall, F.A. Hayek, Ludwig von Mises and J.M. Keynes. On more minor members of the economics tradition, I throw in Robert Torrens, Walter Bagehot, Henry Clay, Fred Taylor, Gottfried Haberler, Paul Samuelson, Gary Becker and William Baumol.

It will not, of course, any longer surprise anyone that even in a class of graduate students, the only one that any of them have ever heard of is Karl Marx although what they know is pretty hazy. To encourage someone to speak up, I always say (as a joke but they can't be 100% sure) that I will give an automatic "A" to anyone who can tell me a single historical fact about John Stuart Mill. I have had only one taker in the last five years.

Their cultural knowledge is pitiful. My course is a tiny experiment in trying to do better. And I might note that as I begin this three hour class on the history of economics, I always say that for some this will be the longest three hours of their lives but for others it will be amongst the best experiences they will have in a classroom during their university career. And at the break, around half don't come back but the half that remain feel they have learned something worthwhile. It gives them some sense of what they have missed out on had they actually had a genuinely liberal education.

But the real question is, whose fault is it? Why don't they know who these people are or what they wrote, and whose responsibility is it to ensure that they do know? My argument in this paper is that it is our fault in the way economics is taught, and that an important contribution that economists can make to the cultural awareness of economists is to ensure that our students have had a proper education in the history of economic thought. Not just because it makes them better economists, which is undoubtedly true, but because it draws the deeper into their own culture, the culture in which they live.

Teaching the History of Economics to Economists

The opportunity cost of time spent with HET is time lost on some other area of study that might have been more valuable. In an era where mathematical and statistical technique is taking precedence over theoretical underpinnings, the question becomes whether having learned HET will be more value adding to an economist's array of abilities that can be brought to the issues that will need to be dealt with later on. The time and effort spent must be justified, at least to another economist, on a straightforward benefit-cost analysis. Here is a short list of how learning HET is a productive use of a student's time:

- it makes an economist better at thinking about theoretical issues in the abstract

- gets past the routine of what is taught in the first year that is amplified in later years and instead provides a parallax view that a different perspective provides

- emphasises that there are other ways of thinking about issues that economists in the past have found fruitful

- deepens an economist's understanding of existing theory by making them look at economics when other perspectives were dominant

- broadens an economist's understanding of existing theory by taking them back to the origins of these concepts when they were fresh and contested

- develops the ability to turn economic conclusions into words that can be used to explain one's own conclusions to others who do not have a background in economic theory

- fosters historical thinking as a routine means of looking at issues
- develops the ability to read with meaning
- heightens an economist's ability to write
- encourages economists to look for answers amongst the theories that were developed in earlier times
- develops critical thinking since economists will need to think through for themselves why present theoretical understanding is superior to the understanding of economists in the past
- emphasises the logical connections between aspects of reality
- is a reminder that running regression lines through incomplete and flawed data sets may not be the perfect way to do economic analysis and is certainly not the only way
- makes the study of economics far more interesting.

But then there's one more:

- "It is also important, as a matter of general cultural awareness, to know the great economists of the past who have had an influence on the way in which we think about economic matters. For good or ill, these people have influenced our lives more than any other people in the social sciences because it is based on their theories that our economic structures are organised. This is true irrespective of the kind of economic system one happens to live within." (Kates 2011: 181)

The Narrowness of Modern Economics

The narrowness in how economic theory is taught today at the undergraduate level is quite astonishing. A range of largely identical introductory texts supplemented by similar texts in later years that re-do the same set of theories but using more advanced techniques is how everyone now learns the subject. More advanced classes then include journal articles which are almost invariably highly mathematical that attempt to demonstrate some conclusion but in which textbook economic theory itself plays a minor part at best.

The challenge of different ideas, the true life of scholarship, is almost invariably crushed. And I would emphasise this:

> "If learning the history of economics doesn't interest you then economics itself doesn't really interest you. If the history of economics doesn't interest you, then you should perhaps find some other area of study." (Kates 2013: 75)

This is a passage from my *Defending the History of Economic Thought* that I dwelt on when writing the book more than any other. I looked the passage over on many occasions, considered it for a very long time even as I wrote the words down. Then in each review of the text, from the initial editing right through to the proof copies, I re-examined these sentiments and on each occasion I felt the words expressed exactly what I believe is true. If you are not interested in the history of economic thought, you are really not all that interested in economic theory itself.

I went to a presentation the other day on Roosevelt's New Deal housing policies about which the presenter knew nothing other than the dataset he was running through his model. He wasn't interested in the history of the New Deal, in the nature of the policy process or even whether some policy had been a success. The aim was to provide a virtuoso demonstration of data manipulation.

I fear that the more general this is amongst economists, the more that economics will fall into the hands of technicians (I refrain from using the term "barbarians" but it did cross my mind).

Economics is and must be philosophical. It must be grounded in some deeper belief system. There is a portion that is merely a series of identified cause and effect relationships, but beyond this there are ethical, moral, political and social issues that cannot be leached out of most economic questions. They are not add-ons to the main questions being dealt with. They are the main issues and cannot be removed.

Piketty and the Distribution of Income

As an example of such moral questions, take the recent controversy over Thomas Piketty's *Capital in the Twenty-First Century* which, in spite of its title, is about wealth distribution. In some sense this is a technical question in economics. If one starts perhaps with the marginal product theory of distribution, one could argue that everyone receives their marginal product and that the eventual distribution is an outcome with no other dimension besides how to compile the statistical data that are published after the fact.

Piketty's book is, of course, filled with data but knowing the facts is not his ultimate point nor does anyone else think so either. There are major social issues indelibly pressed into these questions that go deeply into equity and justice. One could argue that this has nothing to do with economics since economists only deal with the way in which things work, but evading the question does not make it go away. This is a core issue of economics for which there is no technical answer. Many people are aggrieved about the way wealth and income are divided amongst the population and normative issue though this may be, it lies within the province of economics and economic theory. And economists do have answers to the questions Piketty has raised. Here is one provided by Simon Newcomb in 1886.

> “We have in the first place to point out certain widespread popular errors which lead to the impression that our present system is not the most conducive to the public good. The mere correction of these errors will go far towards putting us on the right track, and will make it less necessary than it otherwise would be to consider the views of socialists in detail.
>
> “The first error is that of tacitly supposing that the inequality now existing in the ownership of wealth indicates a corresponding inequality in its enjoyment. Let us suppose the income of the richest man in New York to be ten millions of dollars, and that of each day-labourer to be five hundred dollars. If their consumption of the products of labor were proportion to their income, Mr Vanderbilt’s family would consume annually 100,000 barrels of flour, 10,000 suits of clothes, and so on; or at least the equivalent in value of these quantities of flour and clothing. But nothing of this sort take place. The rich consume but little more of the necessaries of life than the poor. All that the wealthiest man gets to live on is his house, with its furniture and decorations, the food he eats, the clothes he wears, and the articles which contribute to his comfort and convenience. As already shown, all his surplus income above this is not consumed by him, but is directly or indirectly expended in employing laborers to build more houses, factories, mills, railways and locomotives, to clear more farms and to dig more mines – in a word to increase the general supply of all the commodities required by men in general. What society really expends in the support of Mr. Vanderbilt is only the commodities which he takes out of the general storehouse for his own consumption.” (Newcomb 1886: 513-514)

This is an answer that would satisfy many and dissatisfy many. But there is no data, no regression, no mathematical or statistical technique that can answer questions about the fairness of the existing distribution of wealth today any more than it could in 1886. To engage with such questions can require technical answers that explain why wealth tends to be distributed in particular ways or perhaps the economic consequences of attempts to change this distribution through different kinds of economic policies. But since there will always be a clamour for a “fairer” distribution, unless economists wish to disqualify themselves from even entering into such debates, they do need to be primed in some way or another to be able to enter such discussion. Nothing in the economics curriculum today would prepare and economist for any such debate. Yet Simon Newcomb, and indeed the entire classical school, were not just experts in some narrow range of techniques that could be applied in various circumstances, but were scholars with a deeper interest in social and philosophical issues and were capable of holding their own in any such debate. Here is Newcomb looking at these same issues:

> “The fact is that on our present system the enjoyment of the collected wealth of the community is a nearly in accord with the ideal principles of equity as any general system can be. It is a great mistake to suppose that the enormous inequalities which we see in wealth imply anything wrong with the system which permits them. When we speak of principles of equity, we mean principles which have their rise in the constitution of human nature. At the bottom of these

> principles is one which we have already several times alluded to or defined; the feeling in the breast of every well-organised man that he is entitled to make the best use of the faculties with which nature has endowed him for his own advancement, and thus so long as he gives to others a full equivalent for the benefits that he receives from them, his fellow-men have no other claim upon him. We have shown that under our present system no one can, as a general rule, command from others more than the equivalent of the good he does them. (Newcomb 1886: 516)

My concern is three fold. The first is that given the way we educate economists, very few of them could put together an argument as coherent as this based on the economics they are taught.

Second, given the nature of economic theory as it is taught today, the ethical and moral issues that lie beneath the economics is ignored. Everyone will have a view, but virtually no economist will have examined as part of their studies anything outside of the prejudices of our own day. They will seldom if ever come across in the midst of their economic studies any discussion that attempts to defend the capitalist order from an ethical perspective embodied within the economic theory they learn.

Third, almost no economist would ever be confronted by an argument as utterly foreign as this would be to most economists today. Piketty has introduced an argument for which the only well-publicised disagreement has revolved around whether he had fudged his statistics. The ethical and moral questions have remained generally speaking outside the debate. For as Newcomb would have asked – and he asked it in a time when the poor were a good deal poorer than today and it is possible that the divide was a good deal wider than it is today – what moral claim does anyone else have to the income earned by others?

Newcomb was writing an introductory text in which he discussed in quite some detail the philosophical side of economic issues. John Stuart Mill even titled his book, *Principles of Political Economy with Some of their Applications to Social Philosophy*. Economics at one time was understood to be part of what were called, following Hume, the “moral sciences” (see, for example, Young 1997). With the mathematisation of economics, and the trend towards a more physics-like structure of thought and discourse, this dimension has shrivelled and plays a near invisible element in the education of an economist.

It may be going too far to say this, but economics has almost completely departed from its role within the moral sciences since there is almost no element in the way economics is taught at any level that would satisfy a curiosity about the nature of society and the culture in which we live. What values an economist may have come from the outside and not as part of how we teach this subject.

There may well be some economists who learn their economics as part of a humanities program but as a proportion of all economists, the number is dwindling. Economics is now more often taught within schools of business, and the heavy reliance on mathematical and statistical validation has oriented the subject away form words and concepts into equations and proofs.

Economics and the Humanities

This shift was reflected in the last set of revisions to the Frascati Manual which is an extremely important entity no one has ever heard of. The Frascati Manual determines how academic subjects are classified by national statistical agencies, a matter normally of little actual interest or importance to individual undertaking research. The following classification breakdown was recommended by the OECD in 2006 and remains in operation today. The recommended classification scheme appears to place the study of economics (section 5.2) in an entirely different category from the study of the history of economics (section 6.3). For economics itself this is the recommended classification:

> “5. Social sciences
>
> > “5.2 Economics and Business
> >
> > - Economics, Econometrics; Industrial relations;
> > - Business and Management”

But for the history of economics, this is the classification that some have interpreted as the correct division into which this subject area should be placed.

> “6. Humanities
>
> > “6.1 History and Archaeology
> >
> > - History (history of science and technology to be 6.3, history of specific sciences to be under the respective headings); Archaeology”.

This separation of economics from the humanities was hardly noticed by anyone until it became a major issue for historians of economics (see Kates 2013: Chapter 5 for a full discussion of the controversy). The Frascati manual was undoubtedly discussed at the highest levels with input from a range of economic representative organisation with no known dissent across the world. This seemed to be a reasonable division. Economics is a social science in the company of business studies and not part of the humanities. The only reason this division came to anyone’s attention was that attempt were made to remove the history of economics from the economics classification and put into the humanities as part of the history and philosophy of science. And even then there was no hue and cry from economists in general. It was only we historians of economics, who objected to being removed from the economics classification, that brought any of this to light.

For most economists, there was nothing here to see to find their subject area officially divorced from the humanities. It is a classification system but it is also a characterisation. Economists by and large no longer recognise their own subject area as part of the humanities, as a moral science. It is social-physics. It is a study of various forces at work, and given the way we now teach and learn economics, it is a subject area with humans almost entirely left out.

Economics and the History of Economic Thought

The last vestige of economics as self-consciously part of the humanities is in the study of the history of economic thought. It is entirely appropriate to recognise that a large element in the study of HES is the history and philosophy of science. It is the one part of economics that remains a component of the moral sciences. Values are a clear element in discussions within HET. Debates between different schools of thought – debates which are almost entirely carried out within HET and seldom anywhere else – are not just technical questions but go to the very heart of questions on the nature of the world and man's place in the universe. The following discussion from an introductory textbook published in 1913 by Fred Manville Taylor would be almost inconceivable in a textbook published anytime since the 1950s.

> "Just as certain factories are engaged in making hats, golf balls, candy and other consumption goods, so certain other factories are engaged in making engines, machines, tools, and other capital goods. At first sight, then, it might seem as if such a factory was the place to study the question: 'How does capital come into existence?' In fact, however, we are here concerned with *something deeper than mere technical production*. **We are looking for the ultimate origin, the moral origin, so to speak, of capital.** This is a legitimate question to ask with reference to any product" (Taylor 1913: 87 – italics in the original but my bolding).

Taylor, moreover, although a man of the left, provides as good an understanding and defence of capital as found anywhere.[1] He writes as a conclusion to these arguments, that "from the standpoint of people in general, the rich man who saves from his income *is* **to be commended** rather than the one who spends it on himself or his immediate dependants" (ibid.: 89-90 – my bolding again), which leads to this:

> "**Principle.** The accumulation of capital is favored by the existence of large incomes, by conditions which insure to capitalists the expected advantages of saving, and by the presence of suitable social machinery to aid in caring for, and investing, accumulations." (ibid.: 91)

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[1] Taylor's most indelibly famous publication was his 1928 presidential address to the American Economic Association his essay on the socialist calculation debate, "The Guidance of Production in a Socialist State" (Taylor 1929), and later published in the *On the Economic Theory of Socialism* (1938). Whatever his political leanings, his discussion on capital in its physical and financial senses is more profound, I would argue, than any discussion I have come across from any source in the modern era which I date with publication of the first edition of Samuelson's *Economics* in 1948.

There are certainly places within economics where discussions of this kind are still found, but no one undertaking an undergraduate education in economics would be likely to come across such a discussion and sentiment. And with the mathematisation of economics, it would be a very rare instance even to find such issues raised. I would expect a proportion of economists to agree with Taylor's argument as a kind of residual understanding that lies behind the premises but not as the result of any instruction they may ever have had. Instead, we have Piketty using data on wealth distribution as if the numbers speak for themselves. The actual ability to employ moral reasoning towards an economic conclusion is no longer the manner in which economic theory is taught. It is here that one of the most important reasons for the study of the history of economic thought may be found. Unfortunately, the way HET is now taught, to the extent it is taught at all, will not provide the kind of moral and cultural depth that it might. It is a beginning, but it far from achieving what it might be able to do.

How HET is Taught

The mistake that plagues most of the approaches to the history of economics is to teach HET as a sequence of ideas that followed one upon the other. First there was this economist and this is what he taught and then there was that economist and this is what she taught and so on and so on with each economic theory seen to have replaced the one before in a piecemeal sort of way. In the meantime, a poor student is asked to come to terms with a sequence of theories, each as complex as the ones found in a modern textbook but prefigured with the admonition that the theory is wrong and has been anyway superseded. It is a history of ideas with everything of any interest and importance left out.

The history of economics should be about controversy and conflict. It should be about the clash of ideas. It should be about the meeting of the human equivalent of tectonic plates where those with different perspectives have tried to convince each other that their own view of the world is the correct one. It should not just be a study of first-there-was-this-and-then-there-was-that. It should not just be a sequential study of the order in which various ideas came to dominate the mainstream which were then supplanted by other ideas which took their place. Too much of HET has been along those lines in much the same way that biologists talk about the evolution of the horse.

That deprives economics of much of what is not only interesting but also relevant. There is at any moment a standard accepted theoretical consensus view on each of the main elements not only of what is within economic theory, but even of what constitutes the subject matter of economics. Over time these change, partly because new answers become accepted and partly because the events of the world bring into the foreground other questions that require investigation while older answers appear increasingly inadequate. It is these changes that ought to be the substance of what is taught when we are teaching the History of Thought.

In the ideal history of economics course that I might construct, the curriculum would be based around an examination of a succession of basic textbooks from their earliest manifestation through into the most recent textbooks used to teach undergraduates today. Start wherever you like, perhaps with an investigation of the first textbook treatments available in a cheap edition, and then move forward in something like quarter century lots. A progression might look like this, but these are listed only as examples and others could be just as easily preferred. I have chosen these because most have variations on "principles of political economy" as part of the title.

1825: J.R McCulloch: *Principles of Political Economy*

1848: John Stuart Mill: *Principles of Political Economy*

1886: Simon Newcomb: *Principles of Political Economy*

1913: Frederick Manville Taylor: *Principles of Economics* (2^{nd} ed.)

1940: Lewis A. Froman: *Principles of Economics*

1948: Paul Samuelson: *Economics: an Introductory Analysis*

1965: Campbell McConnell: *Elementary economics: principles, problems, and policies*

1988: William J. Baumol: *Economics: Principles and Policy*

1998: Gregory Mankiw: *Principles of Economics*

What is Proposed

The most important aspect of this proposal is that students in the history of economic thought are guided through the economics of earlier times not through reading texts written at some later date that tries to explain to modern ears what these earlier economists had said. However sympathetic someone is to what they are explaining, they cannot capture the actual intent of writers of an earlier and different era. This proposal is therefore different from the traditional approach. It argues that students should go to original sources but not to the various landmark papers and texts which had changed the nature of economic theory. Instead they should be asked to read the economic textbooks that were used to teach economic students at the time.

This approach would ensure that what is being examined is not a second hand account written by an economist at some later date and from a different era looking backwards through a lens that knows which side will prevail in debates that had not even occurred when these books were written. It is, instead, an actual discussion by someone writing at the time who is trying to explain a particular point of view in as logical and persuasive a way as possible. Just as we cannot know what economic theory will be like fifty or a hundred years from now, these textbook writers of the past could not know what economic theory would be like today. They described the economic world as well as they could and applied the theory they found most applicable given what they knew.

And this is economics, not physics. There are no undiscovered fundamental particles within economies or unknown forms of motivation or new discoveries about the nature of humans that we know that they did not. We have technologies and information sources they did not, and we can do more in-depth computations with datasets that were unimaginable in earlier times. But when it comes down to the basic theoretical models and the way the world can be conceptually organised, there is truly nothing new under the sun. A textbook from a century ago will therefore not be some foreign territory entirely filled with conceptions difficult to grasp and requiring additional background information to clarify the meaning. For the most part, the meaning of these earlier texts will be apparent on the surface. And in going through this material, a student would not only be learning the history of economics but would be learning it in a way that genuinely acquainted them with ideas that will help to understand their own modern theoretical structures better because they will now be put into the context of the theoretical structures that had existed in earlier times.

And try as hard as modern writers on the history of economics might do, they can never fully re-capture the past because they do not fully accept either the arguments or the theories. So try as they might, they will inevitably put forward strawman versions of such earlier theories because they do not accept them as being as accurate as our latest theories. If they thought the earlier modes of instruction or theories were superior, they would teach those instead. That they include these older economists and their theories in a course in HET means that there is a necessary condescension in what they write. This is what they believed but they did not have the benefit of learning from the great economists who came after so their economic theories are therefore primitive versions of what we know today if not actually completely wrong. By going to the original sources, the past is given the opportunity to speak for itself as clearly as possible and in its own voice.

Moreover, the books referred to should be the mainstream texts of the time, not the antecedents of the various heterodox traditions that exist today. This is not a criticism of any of the non-mainstream positions. It is only stated to ensure that the focus of such studies into the history of economics is on what the economists of that earlier mainstream had once generally accepted.

All economists should recognise that there is a common core tradition in economics which is what the history of economic thought should be so far as it is taught to all students of economics. There can also be the history of Marxist economics, the history of the Austrian School, the history of Institutional economics, the history of Post-Keynesian thought or any other part of the heterodox tradition. But every student should know both the common core of contemporary economics and they should know its history. These should both be common ground for every economist.

Concepts and Diagrams

Yet there is a major problem with this approach which is that economics is no longer a subject which attracts and promotes individuals with a more philosophical approach. The subject has itself evolved into something quite different from its original structure. Economists no longer are trained to read for meaning. The history of economic thought is the last area within economics which requires an ability to read detailed and intricate arguments in words, and requires an ability to think about ideas in the abstract.

The mathematisation of economics has been frequently noted, but even so, possibly the most momentous change in the manner in which economics has been taught, which is unmistakeable from an examination of textbooks written before and after World War II, is the proliferation of diagrams. The argument in earlier texts was carried in the words and not in the manipulation of lines on a graph. The human side has disappeared into a series of forces that exist in economic space almost without regard to any human being at all. No one is personally doing anything. There are just outcomes that happen based on self-interested actions, but those self-interested individuals play no active part, not even an entrepreneur.

Contrast this with Marshall's 20-plus page discussion of 'Equilibrium of Normal Demand and Supply" in the *Principles* in which the supply and demand curves are shown only once, in a footnote and with no extended discussion (Marshall [1920] 1947: 346n). Students were then asked to apply logic and reason to understand the underlying economic relations. In a modern text, there is an apparatus presented that one learns to manipulate and from the shifts in diagrams to understand that the equilibrium price and volume will necessarily have shifted.

The diagram provides a way of looking at such matters that gives a kind of precision to the underlying reality that just may not be there.[2] A modern text will tend to present a kind of stability in equilibrium different from the kind of message Marshall was trying to convey.

> "The demand and supply schedules do not in practice remain unchanged for a long time together, but are constantly being changed; and every change in them alters the equilibrium amount and the equilibrium price, and thus gives new positions to the centres about which the amount and the price tend to oscillate. . . .
>
> "We cannot foresee the future perfectly. The unexpected may happen; and the existing tendencies may be modified before they have had time to accomplish what appears now to be their full and complete work. The fact that the general conditions of life are not stationary is the source of many of the difficulties that are met with in applying economic doctrines to practical problems." (Marshall [1920] 1947: 346-47)

[2] Coase calls this blackboard economics. In his Nobel speech (Coase 1991) he said:

> "What is studied is a system which lives in the minds of economists but not on earth. I have called the result 'blackboard economics'. The firm and the market appear by name but they lack any substance. The firm in mainstream economic theory has often been described as a 'black box'. And so it is."

This is qualitatively different from the way supply and demand is normally taught today where an equilibrium exists until it is disturbed by some shift in *ceteris paribus* conditions. Marshall is discussing an ephemeral momentary focal point that may be gone in a moment. He immediately goes on to discuss the need to understand that there is no stability in the equilibrium he has described. He concludes in a way that would seldom be discussed in a modern text but which may nevertheless be entirely valid.

> "Thus we may conclude that, as a *general rule*, the shorter the period which we are considering, the greater must be the share of our attention which is given to the influence of demand on value; and the longer the period, the more important will be the influence of cost of production on value. For the influence of changes in cost of production takes as a rule a longer time to work itself out than does the influence of changes in demand. The actual value at any time, the market value as it is often called, is often more influenced by passing events and by causes whose action is fitful and short lived, than by those which work persistently. But in long periods these fitful and irregular causes in large measure efface one another's influence; so that in the long run persistent causes dominate value completely. Even the most persistent causes are however liable to change. For the whole structure of production is modified, and the relative costs of production of different things are permanently altered, from one generation to another." (ibid.: 349)

By taking students out of their own texts and into these earlier ways of discussing even what ought to be the most familiar of ideas plunges them into a new world that is on the one hand part of what they would be expected to understand – nothing about what Marshall wrote has been superseded – while on the other hand being strangely unfamiliar all the same.

Using diagrams in the place of argument and reason changes the nature of economic instruction and tends to make such instruction more superficial. By teaching price determination as if it is merely about a meeting point between two lines when such lines have no existence, and no one setting a price ever knows where they are or even thinks such concepts are of any direct relevance, we may be leaving students less capable of truly understanding the logic of economic action.

Both micro and macro are saturated with diagrams that are seen as essential for an understanding of the conceptual framework being taught. Students who are instead compelled to explain such matters without diagrams but using the logic of the situation are very different kinds of students, and become better economists as well.

The Five Essential Diagrams of Economics

There are five diagrams that could be said to cover the essentials of economic theory. I won't deny there is more to economics than these five diagrams, but I will argue that broadly speaking, they represent the sum total of an economist's understanding of economic theory. Most advice an economist might offer are based on an analysis that is underpinned by concepts represented by these diagrams. These are:

- the production possibilities curve
- supply and demand
- marginal revenue and marginal cost
- indifference curves
- aggregate demand.

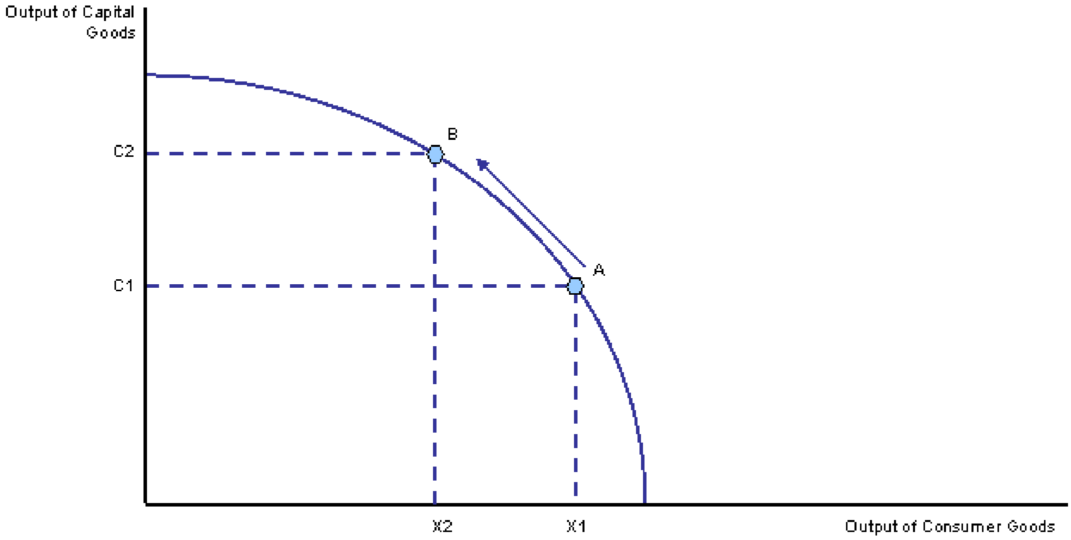
All five diagrams are found in the first edition of Samuelson's *Economics* (1948) and have been the staples of an economics education ever since. Understand these thoroughly and no modern debate on economics will be beyond you. This is economics as social-physics, not as a subject area with even a pretence of philosophical depth.

The one overriding characteristic of the five diagrams is that human agency is invisible. There are humans somewhere, but whoever they are, are less human than even the infamous economic man. This is now the economics of the invisible man. This is the economics of invisible forces, with self-interest the economics equivalent of gravity.

Production Possibility Curve

With the production possibility curve, there are social choices being made somehow somewhere. But there is not a human in sight. There are trade-offs, opportunity cost, substitution. The diagram can be used to depict various economic concepts, such as potential output, unemployment, inefficiency and economic growth. It is a very useful diagram to help explain the nature of economic activity and the limits to our ability to consume based on our ability to produce.

Production Possibility Curve

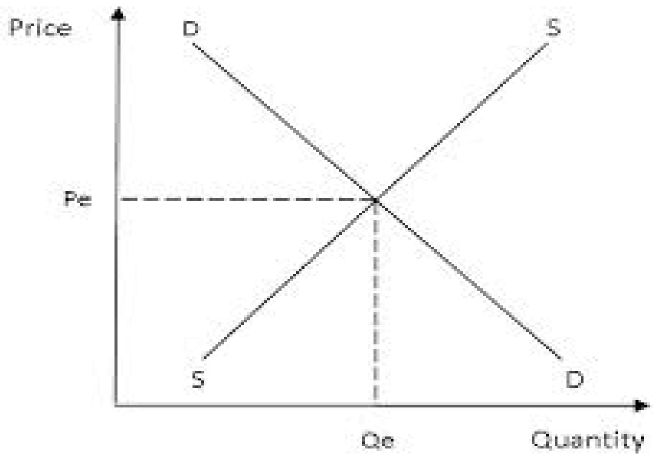


All that is there. But what is not there is any evidence of actual decision making individuals facing dilemmas of the kind everyone must deal with in making an economic decision. Somehow events unfold, choices are made, production takes place but everything of interest about an economy disappears. Economics is treated almost as a natural phenomenon, with changes in almost every element of the economy treated as if they were natural phenomena, such as the setting of the sun and the changing of the seasons. And whether these were cave dwellers or members of a modern highly technological society makes no difference at all to the analysis and the conclusions that might be reached.

Supply and Demand

Similarly with supply and demand. There are individuals, I suppose, but they are bundled together into large aggregates with the only thing in common between them being, on the demand side, that there is a price at which they will collectively buy so many units of some product, and on the supply side, that there are so many units they will sell at those different prices. Every market and every product is reduced to these same two lines, with variations allowed in regard to the elasticities but nothing else.

Supply and Demand

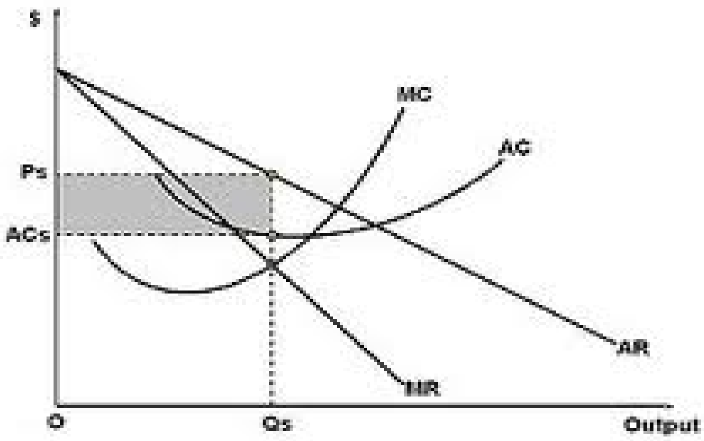


Of most significance is that the entrepreneur, the human agent behind the supply curve, cannot be seen. The only driving factor is the desire for profit, and the only circumstance they will respond to is a change in price, *ceteris paribus*. The forces of the market are anonymous and distant. The existence of actual human beings making actual decisions is invisible. We treat a shift of demand and the supply response as an automatic adjustment, when the reality in the world can be catastrophic for the owner of some business and the business's employees. Actual circumstances on the ground are so distant it is hard to see how they matter at all.

Marginal Revenue and Marginal Cost

Marginal revenue and marginal cost diagrams – which come with quite a number of variations as part of the ridiculously named theory of the firm – have the whole of the process synthesised down to considerations of the addition to revenue versus the addtion to costs of selling one more unit of some product (a box of toothpicks, paper clips, matches?) The great drama of business and production, with the tremendous consequences of uncertainty and possible loss, is nowhere to be seen.

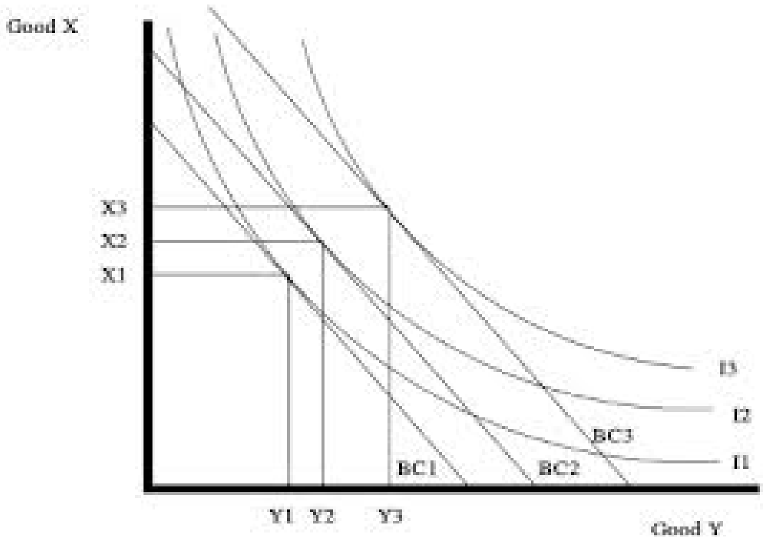
Marginal Revenue and Marginal Cost



Indifference Curves

Indifference curves are the depiction of the logic of choice. Someone is supposedly making a decision between two goods so there is a human somewhere. We call them "indifference" curves which is almost the reverse of how an individual feels about many of the products they buy. No one is "indifferent" about whether to buy a Lamborghini rather than a Ferrari. The juice is gone from the very notion of decision making. There is no human dimension in this depiction of how decision making is made.

Indifference Curves

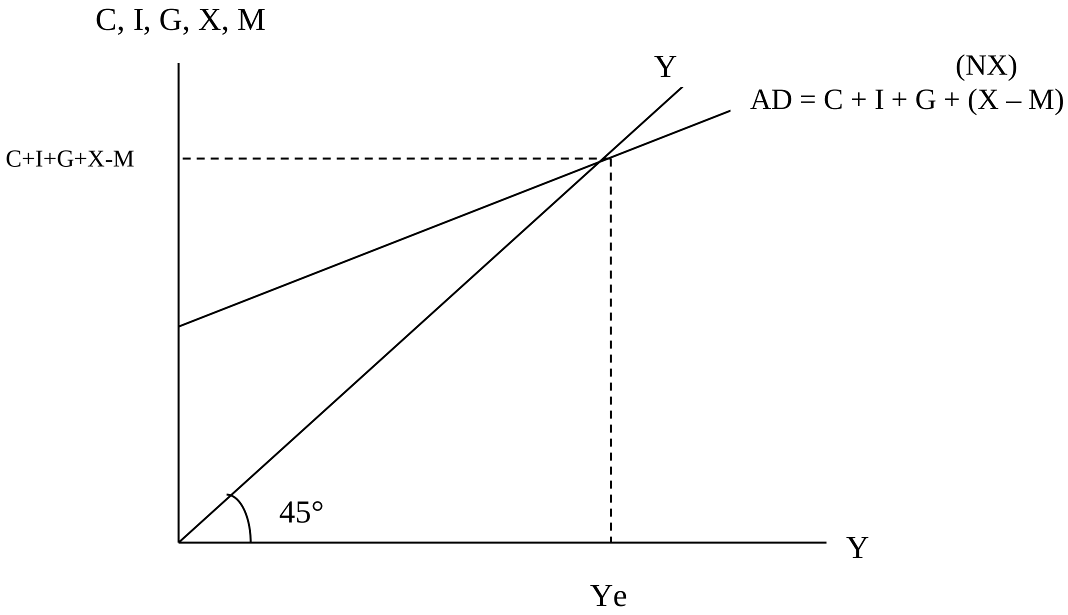


The indifference curves are just there, predetermined in some way, and the choice is made based on relative prices and nothing more. Such an elaborate apparatus which can be reduced to the statement that if the price of some good goes up relative to some other good, and both of the goods are desired, there will be more demanded of the now relatively cheaper product and less demand for the other.

Aggregate Demand

And then, finally, there is our approach to macroeconomics, the most important constituent element being aggregate demand. The version shown in the diagram is the Keynesian-cross but it could just as easily have been injections and leakages, AS-AD or IS-LM. One could throw in the Phillips Curve but it's not much more than an indifference curve with inflation as Good X and unemployment as Good Y.

Aggregate Demand



The level of aggregation is so absurdly comprehensive that the entire Chinese economy is shown as a single point on a line. Every economy is shown in exactly the same way with all of the struggle and effort absolutely invisible. There are many flaws in every form of analysis based on aggregate demand. but the significance here is in recognising how remote from any actual understanding of the facts on the ground this kind of analysis is.

The only reality behind a shift in aggregate demand is the data that are eventually recorded in some statistical measure such as the national accounts. To an economist, reality, if it is not just the data in some time series, are the figures on the CPI, unemployment rate or GDP.

Economics is no longer a subject that asks its students to engage with long chains of reasoning and philosophical debate. Instead, it is a subject in which manipulating lines on a chart are the sum and substance of what an economist is expected to know. For a physicist, there is some excuse since no one can see the underlying physical particles. For an economist, however, the world is actually before them. That this reality is now reduced to sets of diagrams, for not a single one of which can data even in principle ever be discovered, makes economics a very odd subject area.

Conclusion

The history of economic thought is one of the few areas in which economists are asked to examine broader philosophical and social ideas. They are asked to read texts and derive meaning. They are asked to contend with different ways of thinking. The importance of the history of economic thought, in terms of the cultural transmission such studies represent, is greater than ever. There was a time when economic theory was as much part of the humanities as it was a social science. In its own way, studying economic theory and policy was a study of the social interaction of individuals and groups.

There are many reasons for studying the history of economic thought, but amongst the most important is the transmission to a modern generation of economists the ability to think in terms of economic issues within the context of a larger social philosophy. There is more to life than cheaper products and higher incomes.

The history of economics should be taught not only so that both the economics of earlier times is understood but also to provide deeper insights into our own culture by seeing economic thinking through the eyes of earlier generations. The study of the economists of the past and the economics they taught provide insights virtually no economics student is any longer asked to share. Economists, in the way they learn their subject, are now cut off from the wider social and philosophical aspects of the subject. How we work and produce determines in very large measure the way we live. Economic structures play a very large part in the culture of our own times, as they always have. The sad part is economists are no longer educated in a way that will allow them to participate fully in a cultural understanding of our own times or to contribute, other than marginally, to furthering contemporary cultural debates.

Economists are no longer asked to think about economic issues within a larger social dimension. To the extent that economics has become a science where logic and the manipulation of lines on a chart or statistical analysis of datasets without genuine insight predominate, where there is a diminished stress on the underlying theory, and no focus at all on the human dimension, then economics is all the worse for it as are the societies they provide policy advice to.

Properly structured courses in the history of economic thought would meet an even stonier reception than in the past yet are even more crucial than ever. Perhaps this is the next stage of physics envy. Physicists no longer have a theory that explains sub-atomic particles, only statistical guides to what will happen. But economies are not at the sub-atomic level. We do have theories to explain what goes on as we always have. The proper education of an economist would ensure that economists would be almost as conversant with the economic theories of the past as they are with the theories which exist in the present.

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