

Paradigms and Novelty in Economics

The History of Economic Thought as a Source of Enlightenment

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ABSTRACT. Over time, economics has experienced paradigm shifts, and there is every reason to think this will continue. In economics, as in the development of technological knowledge, paradigms do not emerge from nowhere, but build on precursors, possibly from other fields. Our understanding of current economic thinking can be enhanced by paying greater attention to the role of paradigms and by using concepts such as myth, plot structure, and cultural endowment, which are typically given greater attention by literary analysts than by economists, to study paradigms. Here we argue that together these can help us better understand how ideas from other times and fields may be combined with our own to generate better research and publications, and that a greater awareness of the history of economics may well be an excellent vehicle for enhancing that understanding.

The development of the discipline of economics might best be understood by using the concept of paradigm. Indeed, Richard Schmalensee (1991: 115–116) has done this when, building on Thomas Kuhn’s ideas of normal science and paradigm shifts, he speculated on the future of economics:

[M]any, if not most, of the problems on today’s research agenda will be solved through “normal science.” . . . History also suggests, however, that

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some problems . . . will be solved only by “paradigm shifts” and that these shifts will change both the tools economists use and the problems they study. Whatever the successes that will be achieved by natural extensions of current lines of research, these revolutions will dominate histories of 21st-century economic thought.

The paradigmatic development of knowledge, including that in economics, is inescapable. Indeed, the history of economics as a science has seen a number of paradigmatic shifts. One might think of the marginalist revolution, Keynesianism, monetarism, and new growth theory, to name just a few. Paradigm shifts are not to be relegated to the past, however. In our time there is talk of paradigm shifts: for example, that economics is turning into an information economics (Stiglitz 2002). Subfields are also said to show paradigm shifts. Geographical economics is thought to have gone through two in a very short period of time: one with the publication of Paul Krugman’s 1995 book and, more recently, what Harald Bathelt and Johannes Glückler (2003) call a “reflexive” shift.

While the need to study the history of economics has been argued for before (e.g., McCloskey 1976), we show that looking at the development of economics over time in terms of evolving paradigms adds useful insights for economists by opening the way to analyze the contents of thought patterns in terms of routines and rules as used in technology studies and evolutionary economics. We also employ concepts dealing with the impact of cultural perspective on the development of ideas that can be combined with the concept of a paradigm to deepen our understanding of economic thinking—be it current, previous, or upcoming—by studying the history of our discipline.

Our argument in this article is that paradigm shifts in economics are not like bolts from the sky. Elaborating mostly on parallels with developments in technology, we argue that precursors of a shift can always be found. This is significant for contemporary economists, and in this article are suggested ways we can be better prepared for possible paradigm shifts. In addition, being aware of paradigms in economics that have preceded the current paradigm allows us to better see the contours of the incumbent one, which can be extremely valuable since creative works “composed” when mindful of the rules

of a paradigm but not slavishly following them will likely be better than works that neatly and rigidly fit into the paradigm. A utilitarian argument to study the history of economics such as the one developed here thus hinges crucially on the need for substantial understanding of the development of paradigms.

In this article, we start by discussing concepts from technology studies on the paradigmatic development of knowledge. Section II argues that economics develops paradigmatically too, and Section III offers ways to substantially, rather than simply procedurally, understand paradigms by discussing some concepts on rhetoric suggested by the historian/philosopher Hayden White. While the rhetoric in economics has been studied before (McCloskey 1985), and the argument that it affects the course of development of the discipline has been made (Klamer and Leonard 1994), it appears no proposal has been offered as to how to advance our awareness of the impact of language and culture on our understanding and acceptance of current and previous developments in economics. This article can thus be considered a first attempt to chart the route to increasing this awareness. Section IV offers some examples of what the suggested perspective allows one to understand, and Section V concludes that, indeed, economists should study the history of their field, if not for intrinsic reasons then for utilitarian ones.

I

Paradigms and Rules of the Game

THE CONCEPT OF TECHNOLOGICAL PARADIGM, or regime, has emerged as an appealing vehicle for studying stability and change in the fields of technological and scientific knowledge (Kuhn 1962; Dosi 1982).¹ Knowledge does not change haphazardly, so there is a need to understand patterns in its development, and how and why these patterns may change. Toward this end, the concept of paradigm has received much attention across the academic disciplines, and has been interpreted in various ways (Maasen and Weingart 2000). Some might argue that the claim that new paradigms have emerged is invoked with too much enthusiasm nowadays (Cohen 1999), but nevertheless the paradigmatic nature of knowledge seems inescapable. As relates

to economics, Mark Blaug (2001: 156) noted that “[e]conomic knowledge is path dependent.”

Whereas the philosopher of science Thomas Kuhn (1962) used the term paradigm as a set of ideas and institutions, here we draw more on works in technology studies, where paradigm is defined more narrowly as a set of rules and routines.² Perhaps not surprisingly, within economics the concept has been used particularly in fields where the impact of technological development is a primary focus (Dosi 1982).

Rules and routines coordinate the behavior of actors vis-à-vis each other because they create mutual expectations and make the actions of other actors more predictable. Developments from within the technological/knowledge field as well as the market may account for a paradigm’s emergence as well as its development (see Van den Ende and Dolfsma 2005). By conceiving paradigms or regimes as sets of action-guiding rules, social phenomena related to knowledge development are ultimately seen as originating in individual human actions and decisions aligned with those of others. The paradigm perspective itself can be seen as constraining the range and development of acceptable solutions that practitioners in the field take into consideration. This focuses attention, allows for specialization, and enables practitioners to direct their efforts toward areas where development is expected to be most fruitfully pursued. These advantages are nicely summarized by Richard Nelson and Sidney Winter (1977: 57), who wrote:

The sense of potential, of constraints, and of not yet exploited opportunities, implicit in a regime focuses . . . attention . . . on certain directions in which progress is possible, and provides strong guidance as to the tactics likely to be fruitful for probing in that direction. In other words, a regime not only defines boundaries, but also trajectories to those boundaries.

One of the things that becomes clear from studies of technological paradigms is that new paradigms usually grow out of old ones.³ However, it is important to acknowledge, as did Schmalensee as quoted at the beginning of this article, that technological change does not necessarily require a paradigm shift or transformation; it may also occur within the bounds of an existing paradigm, constituting an incremental change. An example of incremental change within the

bounds of a technological paradigm is the promise-requirement cycle (Van Lente and Rip 1998). Paradigms indicate which research questions may be pursued, and where progress is deemed most likely to be made (Nelson and Winter 1982). Promises or expectations that are shared among players within a technological regime will be translated into requirements that guide the innovative activities of the involved actors.

II

Paradigms and the Development of Knowledge in Economics

THERE IS MUCH TO BE GAINED by contemporary economists from raising their awareness of the history of their own field because doing so can help them better utilize current and dominant paradigms. While concerns over economists' apparent lack of interest in the history of their discipline have been voiced on several occasions,⁴ here we offer three self-interested, or utilitarian, reasons for contemporary economists to be more mindful of their discipline's history that relate to the development of knowledge along paradigms.

First, new paradigms can take a field by surprise, obviating much knowledge that has been accumulated from the past. However, it must be remembered that these new paradigms are rooted in paradigms developed in the (sometimes distant) past, or that are developing along, or beyond, the profession's fringes (see Levinthal 1998). Thus, being aware of some of these other paradigms and understanding their focuses and theoretical structures puts one in a better position to be prepared for a paradigm shift. In addition, because the development of knowledge is not necessarily cumulative and linear, earlier paradigms that have been discarded may again be corroborated (Agassi 1975). For example, the paradigm shift toward a new geographical economics initiated by Krugman (1995) was not entirely new, as it could draw on research undertaken in this field for quite some time (Martin 1999).

A second reason is that reflecting on one's knowledge by contrasting it with that of others may allow one to more effectively come up with new, fruitful ideas. As John Stuart Mill (1848: 581) observed:

It is hardly possible to overrate the value . . . of placing human beings in contact with persons dissimilar to themselves, and with modes of thought and action unlike those with which they are familiar. . . . Such communication has always been, and is peculiarly in the present age, one of the primary sources of progress.

Robert Lucas (Holt 1995) has made this point about research in economics; Susan Feiner and Bruce Roberts (1995) and Steven Pressman and Richard Holt (2003) about teaching economics; and somewhat relatedly, Ronald Burt (2004) about how organizations and firms develop new knowledge.

A third reason is that a study of the peculiarities of other paradigms can make one more aware of the rules of the game of one's own paradigm. It is argued, for example, that pieces of music by the likes of J. S. Bach, Aaron Copeland, and the Beatles that have drawn the bulk of attention were composed *mindful of*, but not *obedient to*, the rules of composition at the time of their writing (Manns 1994). A similar argument holds for being able to play chess well. It is said that, thanks to their awareness of boundaries and trajectories, grand masters are able to recognize patterns in positions pieces take and the branches according to which a play may develop, which allows them to break away from conventional thinking in order to win (Simon and Schaeffer 1992; De Groot 1965).⁵ An awareness of these and other examples of movements beyond the boundaries of paradigms in other fields should help someone working in a discipline like economics to depart just enough and in the right way from the discipline's rules so as to introduce enough novelty to draw attention from their peers, but not so much novelty as to perplex them (see Stigler 1965). This, for example, might help explain the immense impact of John Maynard Keynes's aggregate equilibrium theory, which combined neoclassical analytic methodology with a trajectory along a path away from Say's Law that supply creates its own demand to generate an economic paradigm that would revolutionize 20th-century macroeconomic thinking.

III

Myths, Plot Structures, and Cultural Endowments

IN LIGHT OF THE IMPACT OF EVOLVING PARADIGMS, there is much to be gained from being more attentive to the often unacknowledged influ-

ence of language and culture on our understanding of both contemporary as well as historical contributions to the field of economics. This attentiveness can be helped by an awareness of ideas put forward by the historian Hayden White (1978) in an essay where he argues that the forms in which history is presented are as much devised as discovered, which in some way puts them closer to what we find in literature than in science. While other of White's works have been cited by economists (McCloskey 1985, 1990), this essay appears to have largely escaped economists' attention, despite the fact that it has been widely accepted by other audiences. White directs our attention to three concepts—myth, plot structure, and cultural endowment—that can be highly useful in helping us better discern and understand paradigms in economics by offering insights into how we read and perceive writings.

While we cannot elaborate too much in this article, it is sufficient to note that White describes myths as *stories* through which we shape our perceptions of what we are reading or hearing to give them meaning. This view is in line with the perspective of language as one of the constitutive institutions in social life (Searle 2005). The importance of stories in gaining understanding (about theories) is suggested by Werner Stark (1958: 105), who observed: "What we know we know only by and through the categories of our understanding" (see Lakoff and Johnson 1980; Wittgenstein 1953). In his essay, White (1978: 82) focuses on four specific myth categories: romantic myths about quests toward a higher state of perfection; comic myths about the attainment of order through evolutionary or revolutionary change; tragic myths about decline and fall; and ironic myths about recurrent or unexpected catastrophe.

Plot structure is the arrangement of elements in the story by the author to give it its shape. It is this shaping that allows the reader to recognize which myth is being employed, which in turn allows the reader to better understand what the writer seeks to convey.⁶

What allows the reader to understand the story is that he or she shares a cultural endowment with the writer that leads to similarities in their perceptions of how significant human affairs take form. Culture provides the context, or template (Denzau and North 1994), in which myths and plot structures are interpreted. What distinguishes

one culture from another is differences in how their members interpret a myth or plot structure. Thus, the relationship between myths, plot structures, and culture is interactive: how you interpret a myth or plot structure defines the culture to which you belong, and if you belong to a particular culture, you can be expected to interpret a myth or plot structure in a particular way. For example, how one reads the writings of Adam Smith or Karl Marx will determine whether he or she is more appropriately seen as belonging to a culture endorsing capitalism or a culture endorsing socialism; and, at the same time, belonging to one or the other of these cultures will influence how he or she reads those writings. It should not be surprising that culture lies at the core of a debate over whether the outcomes of inquiries reflect clearer understandings of truths verifiable to anyone, or truths verifiable only to those who see the world in the same way. Such a debate has been engaged over how we read earlier writings on economics, and has been characterized as the truth versus perspective, or chronicler versus constructionist, debate (Backhouse 1992). We believe that the argument that we develop here does not entail a position in the discussion about truth versus perspective debate.

IV

Understanding Paradigms in Economics

WHILE MYTH, PLOT STRUCTURE, AND CULTURAL ENDOWMENT are not typically part of economists' standard operating vocabulary, each can be applied to economics in general. But rather than generally discuss the uses to which each of these concepts can be put, we choose to discuss how the three concepts combined may help us better understand specific pertinent episodes in the history of economic thought literature.

Beginning with myths, we propose that these categories are a fruitful means to "labor at historical reconstruction" (Blaug 2001: 152). For example, both Adam Smith's "invisible hand" and Karl Marx's economic interpretation of history can be read by a capitalism advocate and socialism advocate, respectively, as a romantic myth, since each describes a quest toward a higher state of perfection. For Smith, the quest is toward a fuller realization of the principle of subsidiarity

through a reduction in the role of government. For Marx, it is toward a truly human society by way of a progression through epochs of the production process. The general equilibrium model under perfect information or Say's Law that supply creates its own demand can be read as comic myths, since each leads in an evolutionary way to an ordered outcome. Joseph Schumpeter's theory of creative destruction, when viewed from the perspective of those with a stake in the displaced technology, and David Ricardo's prediction of shrinking capitalist incomes as production activity expands, can be read as stories of decline and fall, and therefore as tragic myths. The undoing of the hive in Bernard de Mandeville's *Fable of the Bees* following the bees' conversion from vice to virtue, and T. R. Malthus's population theory can be read as ironic myths describing unexpected or recurrent catastrophies.

References to plot structures and cultural endowments, although not named as such, can be found in the writings of economists. One well-known acknowledgment of plot structures in economics that can help us better understand earlier writings is Schumpeter's "vision." He wrote (1954: 42): "Analytic effort starts when we have conceived our vision of the set of phenomena that caught our interest. . . . The first task is to verbalize the vision or to *conceptualize it in such a way that its elements take their places, with names attached to them that facilitate recognition*" (emphasis added). Building on Schumpeter's "vision," and suggesting as well the role of myths, Robert Heilbroner (1990: 1110) observed that: "[B]ehind scenarios of the most differing sorts lie the precognitive analytic acts . . . that not only fulfill the essential task of reducing raw perceptions to ordered concepts [plot structures], but that also imbue those concepts with qualities of inevitability and rightness [myths]." Certainly, earlier economic writings can be described as scenarios of differing sorts.

Concerning the economic profession's having a particular cultural endowment that impacts understanding, Friedrich A. Hayek (1969: 46) wrote: "It is significant that the capacity to respond to signs of which we are not conscious decreases as we move from members of our own culture to those of different cultures." A similar opinion has been voiced by D. N. McCloskey (1990: 34), who wrote: "An economist can read the most unreadable and compressed production of a fellow

economist if she participates in the same community of speech.”⁷ E. Roy Weintraub took the role of cultural endowment one step further by explicitly recognizing its importance in the evaluation of economic theories and separating it from scientific verifiability. He wrote (1991: 7):

[W]hat constitutes a good theory . . . is not a matter of comparing the theory to some standard of scientific goodness. We have to ask more complex questions of a theory and its interpretations. . . . We seek to understand the way the interpretive community has read the economy text and what makes the community more likely to respond to one interpretation rather than another.

These comments by Schumpeter and the others strongly suggest that a heightened awareness of the myths and plot structures employed by economists, as well as of their cultural endowments, can enhance both what we take away from their writings and our own understanding of economic paradigms. Below are two different examples of ways in which a heightened awareness of myth, plot structure, and cultural endowment can strengthen one’s understanding of earlier economic writings. The first focuses on myths employed in different paradigms in economics and its history. The second looks more at plot structures as exemplified by the mathematical arguments on which so much of current economics is based. Both these, we submit, indicate that we can thus use the three concepts to allow a more open and penetrating assessment of contributions to the economics discipline.

*A. Sensitivity to Differing Cultural Endowments When
Assessing Earlier Works*

Greater sensitivity to differences in the cultural endowments of earlier writers and today’s reader should allow one to better understand the environments in which the writers found themselves. Thanks to this effort, today’s reader might better understand, rather than merely assemble, the writers’ arguments, which in turn can contribute to the reader’s better understanding of possible paradigm shifts. This sensitivity and subsequent effort is important because an understanding of the writers’ cultures is not automatically conveyed in their writings, and the present-day reader is to some degree a captive of his or her

current surroundings. As Alexander Coats (1973: 489) put it, perhaps overly pessimistically: “However sensitive his historical imagination, the intellectual historian cannot enter fully into the minds of his subjects, especially if they lived long ago; and however hard he tries, he cannot fully emancipate himself from the ideas and beliefs of his own day.”

For example, the modern economist reading Malthus’s population theory should, even if tightly culture-bound, readily follow the *analytics* of his argument. But since he or she cannot enter Malthus’s mind or be fully emancipated from today’s ideas and beliefs, the reader’s understanding of the motivation and reasoning underlying the theory should be enhanced by a greater awareness that Malthus’s in many ways tragic society had a largely poor and politically underrepresented working class, prohibitions against organizing labor, and a history of laws hostile to the working class to the point of forbidding its members to read the Bible in English.⁸ Malthus’s tragic story could be better understood in this context.

Other examples involve economic thought on property rights and the charging of interest on loans. Views on these issues have changed dramatically over time. For instance, there are statements from the Old Testament that property shall be returned to the countryman who is its original owner on the jubilee year, and that interest can be charged to foreigners but not fellow countrymen.⁹ Or, more recently, consider Thomas Aquinas’s influential remark in *Summa Theologica* (1947: 1518), that charging interest is to “sell what does not exist, and this evidently leads to inequality which is contrary to justice.” Such positions, standing in marked contrast with what today’s reader typically views as natural, might seem nonsensical. But for a largely nomadic society in hostile surroundings, as was often the case for the ancient Jews, or a survival-level society where economic transactions were often noncooperative zero-sum games, as was the case in Aquinas’s time, such rules could well lead to more orderly (or “comic”) outcomes than would more individually based agreements on property ownership and lending such as those found today. Would one’s understanding of this thinking be improved by a greater sensitivity to the similarities and differences between earlier and modern paradigms and the environments in which they were constructed? We believe it

would. As both Aquinas and present-day economists argue from comic myths, the example shows how one should benefit from a greater awareness of the concepts of plot structure and cultural endowment when seeking to understand their differences.

Thus, one consequence of a greater appreciation for differences between the writers' and reader's culture is that it should make us more hesitant to dismiss earlier writings as uninformed or irrelevant because, on first reading, they appear inconsistent with the tenets that underlie modern economics. As Diana Strassman and Livia Polanyi (1995: 143), explain: "[I]n economics, stories which jar with the situated perspective of established practitioners . . . are deemed outside and irrelevant to the important conversations of the field." Why might stories from the history of economics be jarring and irrelevant to the established practitioner? One answer is because we might be prioritizing and presenting earlier literature with no regard for cultural differences.

Accordingly, the history of economic thought can be approached as an area of inquiry in which an awareness of the possibility of paradigm shifts, rather than extensions through normal science, is emphasized more. A greater appreciation for the reality of differences between the cultural endowments, myths, and plot structures of earlier writers and today's readers is both a requirement and an outcome of such an exercise. This, in turn, can play a key role in better informing our understanding of *both* earlier and present-day works. This is especially true if, as suggested by Paul Heyne (1996: 2–3), what we take as "preanalytic visions" are in fact "postanalytic conclusions" following from the perspective of the current literature. A greater openness to cultural differences would, hopefully, lead us to approach the earlier writings with questions like: "What elements would make this viewpoint reasonable, even though it might not at first appear reasonable to residents of today's culture?" and, subsequently: "Once differences are acknowledged, what can we learn about both then and now from this viewpoint?" The notions of myth, cultural endowment, and especially plot structure relate to the theme of paradigm, too: What routines are in place for normal science in any circumstance? What counts as legitimate scientific argument? What questions are believed to be worth pursuing?

B. Mathematics as Plot Structure

Heilbroner (1988: 38) wrote: “Economics prides itself on its science-like character, and economists on their ability to speak like scientists, without color, passion, or values, preferably in the language of mathematics.” Given this self-image of economists, one would not expect the word “poetic” to be the first chosen to describe our method. Yet, the characterization fits. In his essay, White (1978: 82–84) describes the poetic method as that which works from, not toward, a unifying form. Certainly, a poem’s meter and rhyme demonstrate the presence of a unifying form. But the notion of unifying form goes far beyond the obvious mechanics of poetry. Given this definition, mathematics, with its carefully structured formats and axiomatic approach that allow us to articulate our mental images and come to a fuller understanding of that which surrounds us, can be reasonably described as poetic. Thus, to the extent economists’ current method of choice for analyzing and explaining social phenomena is mathematics, the method is poetic. Indeed, McCloskey (1990: 12) has spoken of models as the poetics of economics.¹⁰

If economists’ method is poetic in the sense used here, one problem for today’s reader approaching earlier economic writings might be the nonmathematical format in which many of their arguments are cast. Specifically, the reader might have what J. H. Hexter (1971: 16–17) calls an “assimilationist” view of the worth of earlier works, which holds that: “‘explanation’ . . . that deviate[s] . . . from the physical-science norm [is] . . . either an inferior or inadequate surrogate for ‘real,’ ‘complete,’ or ‘satisfactory’ explanation, . . . or it [is] . . . not an explanation at all.”¹¹ Ultimately, this criticism is of the form of the explanation, not its content.

One example of how this could affect the reading of earlier works in economics occurs where there is a conflict between a currently popular mathematical technique and a myth or plot structure underlying an earlier presentation. As background to an examination of this conflict, consider Julie Nelson’s (1992: 114–115) comment that:

the application of mathematics to problems of human behavior can come only through the explanation of mathematical formulas as metaphors for

some real world phenomenon, and this drawing of analogies involves the use of words. In the process, meaning beyond that immediately present in the mathematical analogy will also be suggested.

Nelson's comment suggests that economists' technical analyses might, in fact, be influenced by their cultural endowments. More pointedly, the economist Peter Boettke (1992: 85), noted in this regard that " 'vision' and 'analysis' are not so neatly separated."

If, as suggested by Nelson and Boettke, the meanings conveyed by mathematical techniques can come from beyond what is immediately apparent in their mechanics, potential conflicts can surface when reading earlier economic writings.¹² For example, mathematical techniques for solving maximizing problems are at the core of a large part of modern economics. But applying these maximizing techniques to formalize the writings of previous economists may not be easy due to differences in the myths and plot structures dominant in the writers' and readers' cultures, as Alfred Marshall found to his dismay when he tried to "mathematize" Ricardo (Keynes 1933: 151; Pigou 1925: 427). This shows how differing cultural endowments—in Marshall's case, separated by a marginalist revolution—may affect the core of the argument. The difficulty is partly one of unaligned myths—Ricardo's is tragic, Marshall's is ironic—and of mathematics being poetic.

Regarding the impact of differences in myths, because of the precision of these mathematical techniques, one meaning likely to be attributed to maximizing behavior by the modern practitioner is that it leads to orderly (or comic) outcomes. While much of the earlier economics literature is consistent with this modern perception of maximizing behavior, from the Aristotelian viewpoint such behavior is questionable because of its association with gain seeking and greed, which can prevent the attainment of higher values (Aristotle 1908; Langholm 1979). This is consistent with a tragic or ironic myth. This leaves the modern economist with a choice: dismiss the Aristotelian view because it is inconsistent with how stories are plotted today, or ask what would make the viewpoint reasonable, and what can be learned from the viewpoint.

Interestingly, the risk of premature dismissal on mathematics-based grounds is not limited to our acceptance of earlier writings and

paradigms; it can also affect acceptance of current writings and paradigms. This is partly due to the fact that mathematics is not singular, as many economists would seem to hold, but rather plural (Mirowski 1991). For example, modeling out-of-equilibrium dynamics is mathematically possible and well-established within mathematics and biology, but largely incompatible with the equilibrium-directed cultural endowment and myths adhered to by today's economists.¹³ Consequently, practitioners of each approach might not readily or fully understand what the other is doing, which makes concepts like myth, plot structure, culture, and poetics useful for evaluating both earlier economic writings and alternative current methodologies.

In summary, our understanding of earlier writings in economics stands to benefit from a greater awareness that myths and plot structures underlay the interpretation of economic theories, and that the economics profession is a community of inquiry with a defined but changing dominant view of reality that informs what tends to be recognized or accepted as appropriate myths and plot structures. Given this, Jean-François Lyotard (1984: 7) wrote: "I do not mean to say that narrative knowledge can prevail over science, but its model is related to ideas of internal equilibrium and conviviality. . . next to which contemporary scientific knowledge cuts a poor figure." In fact, exactly the opposite may occur when reading literature from the history of economic thought. The scientific (mathematical) aspects of earlier theories may pass relatively easily and understandably from their writers to today's readers possessing similar analytic skills. What may not pass so easily are the culturally defined myths and plot structures around which the theories were built.

V

Why Economists Should Study the History of Economic Thought

IN A 1976 ARTICLE asking if the past has a useful economics, McCloskey (1976: 454) claimed that: "An economist hopping around without a historical leg . . . has a narrow perspective on the present, shallow economic ideas, little appreciation for the strengths and weaknesses of economic data, and small ability to apply economics to large issues."

Nevertheless, from time to time, one encounters the opinion that the modern economist can safely ignore the history of economic thought, either because the earlier thinking has been replaced by better thinking,¹⁴ or because it simply chronicles what was important in the past and is therefore of little interest to the modern economist wrestling with today's problems. These two opinions go by several names: absolutism and relativism; incrementalism and inductivism; and economic thought in the tradition of Walras and in the tradition of Adam Smith (Blaug 1968: 2–3; Houghton 1991: 397–399; Fetter 1965: 136–137).

But do these opinions speak to the worth of the earlier writings, or to how we interact with these writing? Might we not fully appreciate the importance of what had been written earlier because we are embedded in our own culture and thus conceive of the history of economic thought as just a chronicle of what used to be important? For example, now that the education of children is generally seen as a beneficial human capital investment, can today's reader understand William Stanley Jevons's position that only after a person has gained adulthood is education perceived of as an investment, and that before maturity is reached parents (should) provide for their children's education for moral reasons only (Jevons 2001)?

The fact is, a focus on the paradigmatic nature of developments in economic thinking combined with a greater awareness of the impact of cultural, literary, and other forces addressed by White, Schumpeter, Heilbroner, and others creates an opportunity for the modern economist to confront what Wesley C. Mitchell (1967: 7) described as "the limitations of his knowledge, the fallibility of his insights, . . . [and] the degree to which he is a child of his age." Confronting other paradigms within the fields of economics will increase our awareness of the peculiarities of our own subfield. This will: (1) make us better prepared for possible paradigm shifts in our field and (2) imbue our work with more, and more varied, ideas¹⁵ and, thus, may (3) improve the quality and recognition of our work, as it will more likely be composed mindful of but not strictly obedient to the rules of our own paradigm. In short, the history of economics can be made use of even if one is not a historian of economics when one understands how scientific knowledge develops substantially.¹⁶

Notes

1. Here, as others do, we use the concepts of paradigm and regime interchangeably. The two may, however, be distinguished (Van den Ende and Dolfsma 2005; Van de Poel et al. 2002).

2. See Richard Nelson and Sidney Winter (1982) and Arie Rip and René Kemp (1998) for examples of the productive use of this approach.

3. Jan Van den Ende and René Kemp (1999) on computing technology.

4. Donald Gordon (1965), Margaret Schabas (1992), and Melvin Reder (1999).

5. See also Anthony J. Puddephatt (2003).

6. White (1978: 86).

7. Diana Strassman (1993) and Diana Strassman and Livia Polanyi (1995) also argued that the audience of economists is culturally endowed in a particular fashion. Margaret Weir (1989) further underscored this point by analyzing the differential acceptance of Keynes's economic views in two contemporary cultures.

8. The 1543 English Act for the Advancement of True Religion forbade reading from the Bible by prentices, husbandmen, laborers, and others. (See Kastan, nd.:16.)

9. See Leviticus, 25: 8–17, 23–28; Deuteronomy, 23: 20–21.

10. For more on mathematics and form in economics, see McCloskey (1985: 53; 1994: Ch.13), and Karin Knorr Cetina (1991: 108).

11. In this quote Hexter is referring to the comparison of explanation in history to that in the science of physics.

12. Rosemary Varley et al. (2005) have suggested that a different part of the brain is used in mathematical reasoning.

13. Out-of-equilibrium mathematical modeling is undertaken in fields that are, for instance, inspired by systems theory to analyze the “entropy” that arises in such fields (see Leydesdorff et al. 2006 and Dolfsma and Leydesdorff 2009, and references therein).

14. Weintraub (1991: 5) described this as the attitude that economics has progressed “from a dark and uninformed past to an enlightened and scientifically sophisticated present.”

15. It has been found that individuals who are unable to remember past events well are “markedly impaired relative to matched control subjects at imagining new experiences” (Hassabis et al. 2007).

16. History of economic thought, as the most prominent source for contact with a wider set of paradigms in economics, should thus not be, as Brush (1974) phrased it, “x-rated.” If understood this way, it is clear that “[t]he task of the historian of social theory is not, as is commonly thought, either to celebrate, to bury—or even to merely understand—the past; its task is to discomfort the present” (Alvin Gardner, quoted in Lowry 1991: 136).

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