How To Be Better Prepared For A Paradigm Shift In Economic Theory

And Write Better Articles In The Meantime

Pat Welch and Wilfred Dolfsma

ERIM REPORT SERIES *RESEARCH IN MANAGEMENT*	
ERIM Report Series reference number	ERS-2004-101-ORG
Publication	November 2004
Number of pages	19
Email address corresponding author	w.dolfsma@fbk.eur.nl
Address	Erasmus Research Institute of Management (ERIM) Rotterdam School of Management / Rotterdam School of Economics Erasmus Universiteit Rotterdam P.O.Box 1738 3000 DR Rotterdam, The Netherlands Phone: +31 10 408 1182 Fax: +31 10 408 9640 Email: info@erim.eur.nl Internet: www.erim.eur.nl

Bibliographic data and classifications of all the ERIM reports are also available on the ERIM website:
www.erim.eur.nl

ERASMUS RESEARCH INSTITUTE OF MANAGEMENT

REPORT SERIES

RESEARCH IN MANAGEMENT

BIBLIOGRAPHIC DATA AND CLASSIFICATIONS		
Abstract	The development of economic thought is not unlike the development of technological knowledge: paradigms can be discerned over time and across the field. Indeed, in its history economics has experienced paradigm shifts. There is no reason why it will not do so again in the future. In technology, as in economics, paradigms do not emerge from the blue, but build on precursors, possibly from fields other than our own discipline. Recognizing this draws our attention to other fields, preparing us for a possible paradigm shift. Understanding these other paradigms might best be done using historian Wight's concepts of plot structure, myths, and cultural endowment. A better understanding of different paradigms allows us to combine ideas from other (sub-) fields with our own so that we are likely to come up with better ideas. In the meantime, as the parallel with the composition of music and the playing of chess shows, we compose better articles in the meantime because we are aware of the rules guiding our own compositions, yet. The history of our own field may be the first and best source for such inspiration.	
Library of Congress Classification (LCC) LCC Webpage	Mission: HF 5001-6182	
	Programme: HB 615-715	
	Paper:	HC 26 Economic Theory, Methods and Relation to other subjects
Journal of Economic Literature (JEL) JEL Webpage	Mission: M	
	Programme : M 13, O 32	
	Paper:	B 25 History of Economic Thought, Evolutionary
Gemeenschappelijke Onderwerpsontsluiting (GOO)		
Classification GOO	Mission: 85.00	
	Programme: 83.82, 83.62, 85.00,	
	Paper:	83.01 Geschiedenis en filosofie van het economisch denken.
Keywords GOO	Mission: Bedrijfskunde / Bedrijfseconomie	
	Programme: Ondernemerschap, Innovatie	
	Paper: Paradigma's, verandering, kennisrepresentatie, geschiedenis, economie.	
Free keywords	Knowledge paradigms, paradigm shifts, myths & plot structure, writing by the rules, history of economics.	

How To Be Better Prepared For A Paradigm Shift in Economic Theory, And Write Better Articles In The Meantime

Pat Welch[1]
Wilfred Dolfsma[2]

Abstract: The development of economic thought is not unlike the development of technological knowledge: paradigms can be discerned over time and across the field. Indeed, in its history economics has experienced paradigm shifts. There is no reason why it will not do so again in the future. In technology, as in economics, paradigms do not emerge from the blue, but build on precursors, possibly from fields other than our own discipline. Recognizing this draws our attention to other fields, preparing us for a possible paradigm shift. Understanding these other paradigms might best be done using historian Wight's concepts of plot structure, myths, and cultural endowment. A better understanding of different paradigms allows us to combine ideas from other (sub-) fields with our own so that we are likely to come up with better ideas. In the meantime, as the parallel with the composition of music and the playing of chess shows, we compose better articles in the meantime because we are aware of the rules guiding our own compositions, yet . The history of our own field may be the first and best source for such inspiration.

Keywords: knowledge paradigms, paradigm shifts, myths & plot structure, writing by the rules, history of economics.

[1] St. Louis University, dept. of economics, St. Louis, MO-63108, welchpj@slu.edu

[2] Erasmus University Rotterdam & Maastricht University. Correspondence: Erasmus University Rotterdam, FBK, PO Box 1738, NL-3000 DR Rotterdam, the Netherlands, w.dolfsma@fbk.eur.nl

How To Be Better Prepared For A Paradigm Shift in Economic Theory,
And Write Better Articles In The Meantime

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. Indeed, in our time there is mention of a paradigm shift: for example, that economics is turning into an information economics (Stiglitz 2002). Subfields are also said to show paradigm shifts. Economic geographic is thought to have gone through two in a very short period of time: one with the publication of Krugman's 1995 book and, more recently, what the authors call a 'reflexive' shift (Bathelt & Glückler 2003). Our argument in this paper is that paradigm shifts are not like bolts from the sky. Elaborating on the parallel with developments in technology on the one hand, and the arts on the other, we argue that precursors of a shift can always be found. This is significant for contemporary economists, and we suggest in this short article ways that they can be prepared for possible paradigm shifts.

1. Paradigms and Rules of the Game

The concept of technological regime, or paradigm, has emerged as an appealing vehicle for studying stability and change in the field of technological and scientific knowledge (Kuhn 1962, Dosi 1982).[3] Knowledge does not change haphazardly, so there is a need for understanding patterns in its development, and how and why these patterns may change. Toward this end, the concept of regime has received a lot of attention across the academic disciplines, and has been interpreted in various ways (Maasen & Weingart 2000). Within economics it has been used particularly in fields where the impact of technological development is a primary focus (Dosi 1982). A technological regime is best conceived of as a set of rules or routines.[4]

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 ("push") as well as developments from the market ("pull") may account for the regime's emergence (cf. van den Ende & Dolfsma, forthcoming).

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

4 See Nelson & Winter (1982) and Rip & Kemp (1998) for examples of the productive use of this approach.

From this perspective, to say that (technological) knowledge did not "develop," is to say that certain rules existed that prevented or obstructed the development of the technique. This is a statement that needs to be substantiated by empirical evidence. The regime perspective itself can be seen as constraining the range of acceptable concepts. By conceiving regimes as sets of action-guiding rules, it sees social phenomena as ultimately originating in individual human actions. Regimes also enable practioners to focus their attention on areas where development is expected to be most fruitfully pursued; not all possible directions for development are pursued with equal zeal.

One of the things that becomes clear from studies of technological regimes is that new regimes usually grow out of old ones.[5] However, it is important to acknowledge that technological change does not necessarily require a regime shift or transformation; it may also occur within the bounds of an existing regime. An example of technological change within the bounds of a technological regime is the promise-requirement cycle (Van Lente & Rip, 1998). Promises or expectations that are shared within a technological regime will be translated into requirements that guide the innovative activities of the involved actors. This gives rise to incremental changes, in particular, but the changes may also be of a more radical nature (Levinthal 1998). That technological regimes have a dynamic element was explored by Nelson & Winter (1997, 57), who stress:

> The sense of potential, of constraints, and of not yet exploited opportunities, implicit in a regime focuses the attention of engineers 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.

2. Paradigms and the Development of Knowledge in Economics

Concerns over economists' apparent lack of interest in the history of their discipline have been voiced on several occasions.[6] It might, however, be fruitful for contemporary economists to raise their awareness of the history of their own field because doing so implies going outside of, or beyond, one's own paradigm. We offer three self-interested reasons for contemporary economists

[5] See Van den Ende & Kemp (1999) on computing technology.

[6] See for example, Gordon (1965), Shabas (1992) and Reder (1999).

to be more mindful of the discipline's history. These reasons 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. For radical developments in technology this has been observed by Levinthal (1998), who proposed the term "speciation" for the phenomenon where a piece of knowledge from one field enters into and is picked up in another field. In the former field this knowledge may have developed incrementally, but in the latter field it may cause radical changes. Being aware of these paradigms, understanding their focus and theoretical concepts puts one in a better position to be prepared for a paradigm shift. This is probably the most important reason for a contemporary economist to study the history of economics. 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). Thus there is all the more reason for economists to be more aware of the history of their field.

A second reason is that reflecting on one's knowledge by contrasting it with that of others allows one to come up with new ideas more quickly. As John Stuart Mill (1848, p.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 has observed this as well (REF), and others have noted that such a process works in teaching (economics) (Feiner & Roberts 1995, Pressman & Holt 2003) -- an observation consistent with psychological findings about learning (Bandura 1986).

A third reason is that a study of the peculiarities of other paradigms makes one more aware of the rules of the game of one's own paradigm. It is argued, for example, that pieces of music that have drawn the bulk of attention were composed *mindful* of, but not *obedient to*, the rules of composition (Manns 1994). It is for these reasons that the works of Mozart, Bach, Haydn, as well as Presley and the Beatles are still among us even as new paradigms for music have

emerged since these musicians composed their works (Porter 1979; Tillekens 1998). A similar argument holds for being able to play chess well (cf. Levy & Newborn 1991).

In light of the impact of rules of the game, and in keeping with Stigliz' focus on information, there is much to be gained from being more attentive to the often unacknowledged influence of language and culture on our understanding of writings in both contemporary as well as historical contributions to the field of economics. In this regard, the historian Hayden White (1978) argues that histories are fictions, not in the sense that they are untrue, but in the sense that they are as much invented as found. Their forms are 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 escaped our attention, despite the fact that it has been widely accepted by other audiences. White develops three concepts: myth, plot-structure, and cultural endowment. Together these offer interesting insights into how we read and perceive writings, which in turn assist our understanding the rules (routines) of the game (paradigm) in economics.

White describes myths as *stories* through which we shape our perceptions to give them meaning. The importance of these stories in gaining understanding is suggested by Stark (1958, p.105), who observes: "It is illogical to assume that *we* could ever know the world as it is *apart from ourselves*. What we know we know only by and through the categories of our understanding" (cf. Lakoff & Johnson 1980).[7] Accordingly, White focuses on four myth categories: romantic, comic, tragic, and ironic. Romantic myths are about quests, perhaps seen as sacred, toward a higher state of perfection or classless society. Comic myths are not about humor, but rather the attainment of order through evolutionary or revolutionary change. Tragic myths are about decline and fall, and ironic myths are about recurrent or unexpected catastrophe.

White acknowledges the Canadian literary critic Northrop Frye (1957) as the source of his myth categories. However, his position on recourse to myth in historical methodology differs from Frye's in an important way. Frye holds that patterns and generalizations should flow from the facts under review, while White sees them as flowing from recognizable pre-established themes around which facts are organized (White 1978, pp. 82-83). Their differing positions lie 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 v. perspective, or chronicler v. constructionist debate (Backhouse 1992).

[7] All emphases in quotations are in the original unless otherwise noted.

Plot structures are what give a story its shape. They are the elements of the story and how they are arranged by the author to allow the reader to understand what is being presented. White states (1978, p.86):

> The reader, in the process of following the … account of those events, gradually comes to realize that the story he is reading is of one kind rather than another: romance, tragedy, comedy, satire, epic, or what have you. And when he has perceived the class or type to which the story that he is reading belongs, he experiences the effect of having the events in the story explained to him. He has at this point not only successfully *followed* the story, he has grasped the point of it, *understood* it, as well.

What allows the reader to understand the story is that he shares a cultural endowment with the writer that leads to similarities in their understanding of how significant human affairs take form. Culture provides the context, or template, 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 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 she reads those writings.

3. Paradigms, Myths, and the History of Economics

While myth categories can be applied to economics in general, here we focus on the history of economic thought literature. Adam Smith's Invisible Hand and Karl Marx' economic interpretation of history can be read as romantic myths, each describing 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 prefect information or Say's Law that the economy tends to full employment can be read as comic 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 capitalists' incomes as production is forced onto lower quality land can be read as stories of decline and fall, and therefore as tragic. The undoing of the hive in Bernard de Mandeville's *Fable of the Bees* following the bees' conversion from vice to honesty, and Malthus' population theory can be read as irony.

References to plot structures and cultural endowments, although not named as such, if at all, are also found in the writings of economists. Perhaps the best-known acknowledgment of plot structures in economics is Schumpeter's (1954, p.42), "vision." He writes: "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, Heilbroner (1990, 1110), observes 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]."

Concerning the economics profession's having a particular cultural endowment which contributes to understanding, Hayek (1969, p.46), writes: "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 is voiced by McCloskey (1990, 34), who writes: "An economist can read the most unreadable and compressed production of a fellow economist if she participates in the same community of speech." Weir (1989) underscores this point by analyzing the differential acceptance of the views of Keynes in two contemporary cultures. Strassman (1993), Strassman and Polanyi (1995) and Feigenbaum and Levy (1995) also argue that the audience of economists is culturally endowed in a particular fashion. Weintraub (1991, p.7) takes the role of cultural endowment one step further by explicitly separating it from science:

> [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.

One need not go this far to acknowledge the role of myths, plot structure and cultural endowment as means to understand the rules (routines) of the game (paradigm) in economics.

These comments by Schumpeter and the others appear comfortably aligned with the importance White assigns to myths, plot structures, and culture; suggesting that a heightened awareness of the myths and plot structures employed by writers, as well as of their cultural endowments, can enhance what we take away from earlier writings on economics. Below are two ways in which this heightened awareness can strengthen one's interaction with that literature: first, by allowing a more open and penetrating assessment of what has been written, and second by increasing the recognition that the mathematical arguments on which so much of current economics is based are, in fact, plot structures.

Sensitivity to Differing Cultural Endowments and the Assessment of Earlier Works. Greater sensitivity to differences in the cultural endowments of earlier writers and today's reader will hopefully prompt the reader to make an effort to better understand the environments in which the writers found themselves. Thanks to this effort, today's reader might better understand, rather than merely "follow," the writers' arguments. 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 surroundings. As Coats (1973, p.489), writes: "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" (cf Boylan & O'Gorman 1995, p.53-4).

For example, the modern economist reading Malthus' population theory should, even if tightly culture bound, readily follow the *analytics* of his argument. But since he or she cannot enter Malthus' 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' society had a largely poor, wealthless and politically under-represented 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]

Another example involves economic thought on property rights and the charging of interest on loans. Views on these issues have, in the West, and certainly among economists, changed

[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., p.16.)

dramatically from Biblical times. Thomas Acquinas' influential remark that it 'is to sell what does not exist, and this evidently leads to inequality which is contrary to justice' (in his *Summa Theologica*, ca.1270) stands in marked contrast with what we believe is natural today. In effect, the practice of lending has become commonplace, however, even in the Islamic world where interest may not be charged. Or consider positions taken in statements from the *Old Testament* that property shall be returned to its original owner on the sabbatical year, a person forced to sell their land can reacquire it at a discount, and interest can be charged to foreigners but not fellow countrymen.[9] Such positions might seem nonsensical to today's reader. But for a largely nomadic society in hostile surroundings, as was often the case for the ancient Jews, such rules could well lead to more orderly (or "comic") outcomes than would more individually determined 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 what we call the two paradigms (Heilbronner 1996, pp. 42-3)? We believe it would.

One consequence of a greater appreciation for differences between the writers' and reader's cultures 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 underlay modern economics. As Strassman and Polanyi (1995, p.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 economic thought be jarring and irrelevant to the established practitioner? One answer is because of the way *we* prioritize and present the earlier literature. Consider Richard Schmalensee's (1991, pp.115-116), speculation on the future of economics, which builds on Kuhn's normal science and paradigm shifts:

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

[9] See Leviticus, 25: 8-17, 23-28; Deuteronomy, 23: 20-21.

If, indeed, we prioritize and present the history of economic thought in a way that focuses more on paradigm shifts than on extensions through normal science, an appreciation for the differences between the cultural endowments and recognizable myths and plot structures of earlier writers and today's readers might well play a key role in informing our understanding of the earlier works. This is especially true if, as suggested by Heyne (1996, pp.2-3), what we take as "preanalytic visions" are in fact "postanalytic conclusions" following from study of the current mainstream literature.

A greater openness to cultural differences would, hopefully, lead us to approach the earlier writings with questions like: "what cultural elements make this viewpoint reasonable, even though it might not at first appear reasonable to residents of today's culture"; and "once cultural differences are acknowledged, what can we learn from this viewpoint?" An alternative approach to the earlier writings would be to use what Barber (1990, p.116), calls "selective filtration." This occurs where subsequent renditions of earlier works edit out some parts while retaining others. If selective filtration is the method of choice for dealing with earlier writings that appear inconsistent with how we currently view economics, its likely effect is to be their dismissal.

Thus, as we suggest, if one is able, as an economist, to *explicitly* grasp the rules (routines) of a game (paradigm), one is in a much stronger position to compose better research than would otherwise be the case. In addition, one will be in a better position to respond to paradigm changes.

Mathematics as Plot Structure. Heilbroner (1988, 38) writes: "Economics prides itself on its sciencelike 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 their method. Yet, the characterization fits. White (1978, p.82), describes the poetic plot 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. Terms like "comprehensive" and "constructed" (as opposed to simply "reported"), suggest underlying forms that allow us to articulate our imaginations and come to a fuller understanding of that which surrounds us. Given this definition, mathematics with its carefully structured and widely applicable formats, and its role in arriving at orderly understandings can be reasonably described as poetic. Thus, to the extent economists' current

method of choice for analyzing and explaining social phenomena is mathematics, their method is poetic.[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 Hexter (1971, pp.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 Nelson's (1992, pp.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.

More pointedly, the economist Boettke (1992, p.85), notes that "...'vision' and 'analysis' are not so neatly separated."

If, as suggested by Nelson and Boettke, mathematical techniques convey meaning beyond what is immediately present in their mechanics, potential conflicts are likely to surface when reading the history of economic thought literature. For example, mathematical techniques for solving maximizing problems are at the core of a large part of modern economics. Because of these techniques, one meaning likely to be attributed to maximizing behavior by the modern practitioner is that it leads to orderly, or comic, outcomes – which are good. While much of the earlier economics literature is consistent with this modern perception of maximizing behavior,

---

[10] The elements used in defining "poetic" are drawn from White's discussion of Frye's views on the relationship of history to myth. McCloskey (1990, p.12) speaks of models as the poetics of economics. For more on mathematics and form in economics see McCloskey (1985, 53; 1994, Ch. 13), and Knorr Cetina (1991, p.108).

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

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. This is consistent with a tragic or ironic myth – which is bad. This leaves the modern economist with a choice: Dismiss the Aristotelian view because it is inconsistent with how stories are plotted today (selective filtration again), or ask what would make the viewpoint reasonable, and what can be learned from the viewpoint. But the risk of premature dismissal is not limited to our acceptance of earlier writings. Modeling out-of-equilibrium dynamics is mathematically possible.[12] But it is largely incompatible with the equilibrium-directed approach popular among economists today, and practitioners of each approach might not understand what the other is doing.

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 its mainstream recognizes or accepts as myths and plot structures. Given this, Lyotard (1984, p.7), writes: "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, especially if it is to undergo an exteriorization with respect to the 'knower.'" In fact, exactly the opposite may occur with the history of economic thought. The scientific (mathematical) aspects of earlier theories may pass relatively easily and understandably from their writers (the knowers) to today's readers possessing standard analytic skills. What may not pass so easily are the myths and plot structures around which the theories were built.

4. How the history of economic thought helps us better understand paradigms

In a 1976 article McCloskey (1976, p.454) has 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

[12] Out-of-equilibrium mathematical modeling is undertaken in fields, for instance, that are inspired by systems theory, analyzing the 'entropy' that arise in such fields (see Leydesdorff et al., forthcoming, and references therein).

better thinking,[13] or 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 arguments 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, pp.2-3; Houghton 1991, pp.397-399; Fetter 1965, pp.136-137).

But do these arguments speak to the worth of the earlier writings, or to how we interact with them? For example, and based on what we have seen from our exploration of White's views, is current thinking really better, or is it just expressed in a way that is more recognizable to today's economist? While some modern theories are unquestionably superior to earlier presentations, the fact that names like Smith, Marx, Schumpeter, Ricardo and Keynes carry more weight in certain circles than do those on a short list of today's leading economists suggests that it is presumptuous to categorically dismiss the earlier works as, relatively speaking, inferior.

Likewise, is it that the history of economic thought is just a chronicle of what used to be important, or is it that we might not fully appreciate the importance of what had been written because we are embedded in our own culture? For example, somewhere in the world is there an under-represented and largely wealthless class unable to effectively politically organize or otherwise create an economic safety net? If there is, can Malthus' writing be ignored when considering these people because "it applies to an earlier time?" Or now that the "Evil Empire" has been defeated and capitalism has reached global proportions, can we forever close *Das Kapital*? And now that education of children is generally understood as beneficial, can today's reader understand Jevons' position on this topic (cf. Mosselmans & White 2001)?

Thus, the (inescapable) presence of myths, plot structures and cultural endowments challenges the accuracy, and therefore the validity, of two primary avenues of attack on the history of economic thought. However, myths, plot structures and cultural endowments might create an alternative reason for modern economists to ignore the history of economic thought. This has to do with the history of economic thought's potential impact on the acceptance of current thinking. Ramstad writes: "It is taken for granted by the neoclassical economist that there lies submerged within the social totality a logically separable mechanism known as the 'market system.'... This presumption permits the economist to mentally dissever the economic sphere... from the larger entity, society."[14]

Dissevering the economic sphere allows the economist to sidestep the muddying effects of

[13] Weintraub (1991, p.5) describes this as the attitude that economics has progressed "...from a dark and uninformed past to an enlightened and scientifically sophisticated present."

[14] Quoted by Whalen and Whalen, 20.

alternative myths, plot structures and cultural endowments on his or her inquiry. But is this dissevering appropriate? In the study of the history of economic thought, the answer is likely, "No." One reason is suggested by Karl Polanyi, who writes (1968, p.3): "...[P]rior to our time no economy has ever existed that, even in principle, was controlled by markets.... Though the institution of the market was fairly common since the later Stone Age, its role was no more than incidental to economic life." This creates a (perhaps unwelcome) opportunity for the modern economist to confront what Mitchell (1967, p.7), describes as "...the limitations of his knowledge, the fallibility of his insights, ...[and] the degree to which he is a child of his age...."

To the extent we are unavoidably children of our age, the literature from the history of economic thought challenges the generalizability of received analysis by introducing myths, plot structures and cultural endowments unlike those currently dominant in the profession. This creates a situation like that in literary analysis, as described by Michael Valdez Moses: "At virtually every level of analysis...the consideration of the peripheral case begins to alter our perception of the metropolitan one...."[15] It can also be likened to Kuhn's paradigm shift, but this time running in reverse - where the earlier challenges the current.

Unfortunately, this challenge creates an opportunity cost for the modern economist. If part of the attraction of economic analysis is that it both describes and creates reality - the latter when its "story" is uncritically accepted as "true" - the works of earlier economists whose chosen myths and plot structures differ from those employed by modern analysts may present a threat to those analysts who have a stake in the generalizability of their own findings.[16]

5. Conclusion

We have argued here that confronting other paradigms in our field of economics will increase your awareness of the peculiarities of your own sub-field within economics. This will: (1) make you better prepared for a possible paradigm shift in your field, (2) imbue your work with more varied ideas, thus (3) improving its quality, recognition and longevity. As Alvin Gardner comments: "The 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."[17] Some debate might arise over Gardner's ranking of tasks. Certainly the history of economic thought, if paid attention to, should challenge or at least inform, the present; if not in its own

[15] Quoted by Ruland, 359.

[16] Feigenbaum and Levy (2, 5) approach this issue using the theory of clubs.

[17] Quoted in Lowery (1991, p.136).

right, then by playing into the interests of practioners in the field of economics. Regardless of how one wishes to rank these tasks, the celebrating, burying or discomforting will be more focused and informed if it is based on greater understanding. And greater understanding should come from greater attention to the myths (paradigms) and plot structures (routines) used by the earlier writers, as well as the cultures in which they found themselves.

References

Agassi, J. (1975) *Science in Flux*. Dordrecht: Reidel.

Backhouse, R. (1992) 'How Should We Approach the History of Economic Thought, Fact, Fiction or Moral Tale?' In *Journal of the History of Economic Thought* 14: 18-35.

Bandura, A. (1986), *Social foundations of thought and action - a social cognitive theory*, Englewood Cliffs, NJ, Prentice-Hall.

Barber, William J. Fall 1990. "Does Scholarship in the History of Economics Have a Useful Future?' In *Journal of the History of Economic Thought* 12: 110-123.

Bathelt, H. & J. Glückler (2003) "Towards a relational economic geography" *Journal of Economic Geography* 3(2): 117-144.

Blaug, Mark. 1968. *Economic Theory in Retrospect.* Homewood, IL: Richard D. Irwin.

Boettke, Peter J. Spring 1992. In 'Analysis and Vision in Economic Discourse'. *Journal of the History of Economic Thought* 14:84-95.

Boylan, Thomas A., and Paschal F. O'Gorman. 1995. *Beyond Rhetoric and Realism in Economics. L*ondon: Routledge.

Burt, R.S. (2004) "Structural Holes and Good Ideas" *American Journal of Sociology* 110(2): 349-399.

Knorr Cetina, K. (1991) 'Epistemic Cultures: Forms of Reason in Science'. In *History of Political Economy* 23,1: 105-121.

Coats, A. W. (1973) 'The Interpretation of Mercantilist Economics: Some Historiographical Problems'. *History of Political Economy* 5(2): 485-495.

Dosi, G. (1982) "Technological Paradigms and Technological Trajectories: a Suggested Interpretation of the Determinants and Directions of Technical Change" *Research Policy*, 11, 147-162.

Ende, J. van den and Kemp, R. (1999) "Technological Transformation in History: How the Computer Regime Grew out of Existing Computing Regimes" *Research Policy*, 28, 833-51.

S. Feigenbaum and D. M. Levy (1995) 'Towards a Positive Theory of Schools of Economic Thought'. University of Missouri, St. Louis; George Mason University; unpublished manuscript.

S. Feiner & B. Roberts (1995) "Using Alternative Paradigms to Teach About Race and Gender: A critical thinking approach to introductory economics" *American Economic Review* 85(2): 367-71.

Fetter, Frank W. (1965) 'The Relation of the History of Economic Thought to Economic History'. *American Economic Review* 65(2): 136-142.

Frye, N. (1957) *Anatomy of Criticism.* Princeton: Princeton UP.

Hayek, F.A. (1969) *Studies in Philosophy, Politics and Economics*. New York: Simon and Schuster.

Heilbroner, R.L. (1990) "Analysis and Vision in the History of Modern Economic Thought' *Journal of Economic Literature* 28: 1097-1114.

_____. 1996. 'Economics as an Explanation System: Comments on Neoclassical, Social, and Other Economic Theories'. *Forum for Social Economics* 26(2): 41-46.

Hexter, J.H. (1971) *The History Primer.* New York: Basic Books.

Heyne, P. (1996) "Theological Visions in Economics and Religion" *Forum for Social Economics* 25(2): 1-7.

Houghton, J.W. (1991) 'Cultural Theory as Applied to the History of Economic Thought: A Case Study'. *History of Political Economy* 23(3): 497-518.

Kastan, D.S. (nd). 'The Noyse of the New Bible: Reform and Reaction in Henrician England'. Columbia University, unpublished manuscript.

P. Krugman (1995) *Development, Geography and Economic Theory*.Cambridge, MA: MIT Press.

T. Kuhn (1962) *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.

Lakoff, G. and M. Johnson (1980) *Metaphors We Live By*. Univ. of Chicago Pr.

Lente, H. van and Rip, A. (1998). "Expectations in Technological Developments: An Example of Prospective Structure to Be Filled in by Agency" In Disco, C. and Meulen, B. van de *Getting New Technologies Together. Studies in Making Sociotechnical Order.* Walter de Gruyter, Berlin, 203-230.

Levinthal, D.A. (1998) "The slow pace of rapid technological change. Gradualism and Punctuation in Technological Change." *Industrial and Corporate Change* 7(2), 217-247.

D. Levy & M. Newborn (1991) *How Computers Play Chess*. New York: Computer Science Press.

L. Leydesdorff, W. Dolfsma & G. van der Panne (forthcoming) "Measuring the Knowledge Base of an Economy in terms of Triple-Helix Relations among Technology, Organization and Territory" *Research Policy.*

Lowry, S.T. (1991) "Are There Limits to the Past in the History of Economic Thought?' In *Journal of the History of Economic Thought* 13: 134-143.

Lyotard, J.-F. (1984) *The Postmodern Condition: A Report on Knowledge.* Translated from French by G. Bennington and B. Massumi. Minneapolis: University of Minnesota Press.

S. Maasen & P. Weingart (2000) *Metaphors and the Dynamics of Knowledge*. London & New York: Routledge.

J. Manns (1994) "On Composing 'by the Rules'" *Journal of Aesthetics and Art Criticism* 52(1): 83-91.

R. Martin (1999) "The new 'geographical turn' in economics: some critical reflections" *Cambridge Journal of Economics* 23(1): 65-91

McCloskey, D.N. (1976) "Does the Past Have a Useful Economics" *Journal of Economic Literature* 14(2): 434-461

_____. (1985) *The Rhetoric of Economics.* Madison: The University of Wisconsin Press.

_____. (1990) *If You're So Smart.* Chicago: University of Chicago Press.

_____. (1994) *Knowledge and Persuasion in Economics.* Cambridge: Cambridge UP.

Mill, J.S. (1987 [1848]) *Principles of Political Economy*. Fairchild, NJ: Augustus M. Kelley.

Mitchell, W.C. (1967) *Types of Economic Theory*. Vol. I. Edited by Robert Dorfman. New York: Augustus M. Kelley Publishers.

B. Mosselmans & M.V. White, eds. (2001) *Economic Writings of W.S. Jevons*, 9 vols., London:

Palgrave/MacMillan

Nelson, J.A. (1992) "Gender, Metaphor, and the Definition of Economics" *Economics and Philosophy* 8: 103-125.

Nelson, RR and S.G. Winter (1982) *An Evolutionary Theory of Economic Change*. Cambridge, MA: Belknap Press of Harvard UP.

Nelson, R. and Winter, S. G. (1977). "In Search for a Useful Theory of Innovation" *Research Policy*, 6, 36-76.

Polanyi, K. (1968) "Societies and Economic Systems." Ed. by George Dalton. *Primitive, Archaic and Modern Economics: Essays of Karl Polanyi.* Garden City: Anchor Books: 3-25.

S. Porter (1979) *Rhythm and Harmony in the music of the Beatles*. Ann Arbor, MI: University Microfilm International.

S. Pressman & R. Holt (2003) "Teaching Post Keynesian Economics to undergraduate students" *Journal of Post Keynesian Economics* 26(1): 169-186.

Rip, A. and Kemp, R. (1998) "Technological Change" In Rayner, S. and Malone, E.L. *Human Choice and Climate Change*, Vol. II, Batelle Press, Columbus OH, 327-399.

Ruland, R. (1991) "Literary History and the Legacy of Pragmatism" *American Literary History* 3: 354-370.

Schmalensee, R. (1991) "Continuity and Change in the Economics Industry" *Economic Journal* 101: 115-121.

Schumpeter, J.A. (1954) *History of Economic Analysis.* New York: Oxford UP.

Stark, W. (1958) *The Sociology of Knowledge.* London: Routledge & Kegan Paul.

Stiglitz, J.E. (2002) "Information and the Change in the Paradigm in Economics" *American Economic Review* 92(3): 460-501.

Strassman, D. (1993) "The Stories of Economics and the Power of the Storyteller". In *History of Political Economy* 25(1): 147-165.

_____ and L. Polanyi. 1995. 'The Economist as Storyteller'. In: *Out of the Margin: Feminist Perspectives on Economics*, ed. E. Kuiper & J. Sap, London: Routledge: 129-150.

Tillekens, G. (1998) *Het Geluid van de Beatles [The Sound of the Beatles]*. Amsterdam: Spinhuis.

J. van den Ende & W. Dolfsma (forthcoming) "Technology-Push, Demand-Pull and the Shaping of Technological Paradigms – The development of computing technology" *Journal of Evolutionary Economics*.

I. Van de Poel, M. Fransen & W. Dolfsma (2002) "Technological Regimes: Taking stock, looking ahead" *International Journal of Technology, Policy and Management* 2(4): 482-495.

Weintraub, E.R. (1991) *Stabilizing Dynamics.* Cambridge: Oxford UP.

Weir, M. (1989) "Ideas and Politics: The Acceptance of Keynesianism in Britain and the United States." In: *The Political Power of Economic Ideas*, ed. P.A. Hall. Princeton: Princeton UP, pp. 53-86.

C. Whalen & L. Whalen (1994) "Institutionalism: A Useful Foundation for Feminist Economics?" In: *The Economic Status of Women Under Capitalism, e*d. J. Paterson & D. Brown. Northampton, MA:

Edward Elgar, pp.19-33.

White, H. (1978) “The Historical Text as Literary Artifact”. in *Tropics of Discourse.*.Baltimore: Johns Hopkins UP, pp. 81-100.

Publications in the ERIM Report Series Research* in Management

ERIM Research Program: "Organizing for Performance"

2004

Learning And Governance In Inter-Firm Relations
Bart Nooteboom
ERS-2004-003-ORG
http://hdl.handle.net/1765/1122

Organisational Learning And Multinational Strategy
Bart Nooteboom
ERS-2004-004-ORG
http://hdl.handle.net/1765/1123

Density And Strength Of Ties In Innovation Networks: A Competence And Governance View
Bart Nooteboom and Victor A. Gilsing
ERS-2004-005-ORG
http://hdl.handle.net/1765/1124

Innovation, learning and cluster dynamics
Bart Nooteboom
ERS-2004-006-ORG
http://hdl.handle.net/1765/1125

Empirical Tests Of Optimal Cognitive Distance
Stefan Wuyts, Massimo G. Colombo, Shantanu Dutta, and Bart Nooteboom
ERS-2004-007-ORG
http://hdl.handle.net/1765/1126

Entrepreneurship in Transition: Searching for governance in China's new private sector
Barbara Krug and Hans Hendrischke
ERS-2004-008-ORG
http://hdl.handle.net/1765/1128

Exploring Emotional Competence: Its effects on coping, social capital, and performance of salespeople
Willem Verbeke, Frank Belschak and Richard P. Bagozzi
ERS-2004-014-ORG
http://hdl.handle.net/1765/1174

The Impact of Business Ownership Change on Employee Relations: Buy-outs in the UK and the Netherlands
Hans Bruining, Paul Boselie, Mike Wright and Nicolas Bacon
ERS-2004-021-ORG
http://hdl.handle.net/1765/1263

---

* A complete overview of the ERIM Report Series Research in Management:
https://ep.eur.nl/handle/1765/1

ERIM Research Programs:
LIS Business Processes, Logistics and Information Systems
ORG Organizing for Performance
MKT Marketing
F&A Finance and Accounting
STR Strategy and Entrepreneurship

Towards a Dynamic (Schumpeterian) Welfare Economics
Wilfred Dolfsma
ERS-2004-026-ORG
http://hdl.handle.net/1765/1264

The Three-Step Test-Interview (TSTI): An observational instrument for pretesting self-completion questionnaires
Tony Hak, Kees van der Veer and Harrie Jansen
ERS-2004-029-ORG
http://hdl.handle.net/1765/1265

Measuring the Knowledge Base of an Economy in terms of Triple-Helix Relations among 'Technology, Organization, and Territory'
Loet Leydesdorff, Wilfred Dolfsma & Gerben van der Panne
ERS-2004-034-ORG
http://hdl.handle.net/1765/1300

Paradoxes of Modernist Consumption – Reading Fashions
Wilfred Dolfsma
ERS-2004-035-ORG
http://hdl.handle.net/1765/1330

Some Economics of Digital Content
Wilfred Dolfsma
ERS-2004-036-ORG
http://hdl.handle.net/1765/1331

Learning Opportunities And Learning Behaviours Of Small Business Starters: Relations With Goal Achievement, Skill Development, And Satisfaction
Marco van Gelderen, Lidewey van der Sluis & Paul Jansen
ERS-2004-037-ORG
http://hdl.handle.net/1765/1429

The Process Of New Service Development – Issues Of Formalization And Appropriability
Wilfred Dolfsma
ERS-2004-051-ORG
http://hdl.handle.net/1765/1445

On And Off The Beaten Path: How Individuals Broker Knowledge Through Formal And Informal Networks
Rick Aalbers, Wilfred Dolfsma & Otto Koppius
ERS-2004-066-LIS/ORG
http://hdl.handle.net/1765/1549

Governance Modes For Systemic Innovation. Service Development In Mobile Telecommunications
J. van den Ende and F. Jaspers
ERS-2004-067-ORG
http://hdl.handle.net/1765/1539

Performance Management: A model and research agenda
Deanne N. den Hartog, Paul Boselie & Jaap Paauwe
ERS-2004-068-ORG
http://hdl.handle.net/1765/1779

Human Resource Function Competencies In European Companies
Paul Boselie and Jaap Paauwe
ERS-2004-069-ORG
http://hdl.handle.net/1765/1451

Web-Based Organizing In Traditional Brick-And-Mortar Companies: The Impact On HR
Jaap Paauwe, Elaine Farndale and Roger Williams
ERS-2004-071-ORG
http://hdl.handle.net/1765/1609

Longevity in services: the case of the Dutch warehousing companies 1600-2000
Hugo van Driel, Henk Volberda and Sjoerd Eikelboom
ERS-2004-072-STR/ORG
http://hdl.handle.net/1765/1571

Honing and Framing Ourselves (Extreme Subjectivity and Organizing)
Sławomir Magala
ERS-2004-076-ORG
http://hdl.handle.net/1765/1583

Cross-cultural compromises, multiculturalism and the actuality of unzipped Hofstede
Sławomir Magala
ERS-2004-078-ORG
http://hdl.handle.net/1765/1584

Perceptions about the ISO 9000 (2000) quality system standard revision and its value: The Dutch experience
T. van der Wiele, J. Iwaarden, R. Williams and B. Dale
ERS-2004-081-ORG
http://hdl.handle.net/1765/1736

Mystery shopping: A tool to develop insight into customer service provision
M. Hesselink, J. van Iwaarden and T. van der Wiele
ERS-2004-082-ORG
http://hdl.handle.net/1765/1737

A transparent role of information systems within business processes: A case study
Menno Verboom, Jos van Iwaarden and Ton van der Wiele
ERS-2004-083-ORG
http://hdl.handle.net/1765/1738

Understanding the development of temporary agency work in Europe
Bas Koene, Jaap Paauwe and John Groenewegen
ERS-2004-086-ORG
http://hdl.handle.net/1765/1803

Central Unification versus Local Diversity: China's Tax Regime, 1980s-2000s
Ze Zhu and Barbara Krug
ERS-2004-089-ORG
https://ep.eur.nl/handle/1765/1787

The evolution of high-technology in China after 1978: Towards technological entrepreneurship
M.J. Greeven
ERS-2004-092-ORG
http://hdl.handle.net/1765/1785

Effects of multiple network ties Knowledge transfer and sharing in a network: The effects of multiple ties
Irma Bogenrieder
ERS-2004-093-ORG
http://hdl.handle.net/1765/1781

Multiple Inclusion and Community Networks
Irma Bogenrieder and Peter van Baalen
ERS-2004-094-ORG
http://hdl.handle.net/1765/1782

The Performance Of Team Start-Ups In The First Phases Of The Life Course
Erik Stam And Veronique Schutjens
ERS-2004-097-ORG
http://hdl.handle.net/1765/1784

How To Be Better Prepared For A Paradigm Shift In Economic Theory, And Write Better Articles In The Meantime
Pat Welch and Wilfred Dolfsma
ERS-2004-101-ORG