

Classifying Heterodoxy

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Heterodox economics, as its name implies, does not so much reject the practice of mainstream economics as the practice of *only* mainstream economics. While the desire to encourage the use of a wider range of theory and method is laudable, there is an obvious difficulty in a community of scholars organizing itself around a pledge to diversity. As interdisciplinary scholarship has shown, disciplines and subdisciplines are each characterized at any point in time by a narrow shared set of ‘acceptable’ theory and method. The coherence of disciplines and subdisciplines comes from these shared understandings: members of these communities of scholars can easily converse and, importantly, readily judge each others’ work according to narrow standards appropriate to the favored theory and method (see Klein, 1990, Salter and Hearn, 1996). In economics, for example, the favored theory and method each lend themselves to quantification, and thus work is generally judged in terms of mathematical content.

Heterodox economics thus takes as its starting point a critique not just of economics but also by extension of the way that most/all fields of inquiry are organized in the modern academy. It is therefore in an important sense an ‘interdisciplinary’ endeavor, for the heart of the scholarship on interdisciplinarity is a belief that complex issues can be best appreciated by integrating the theories and methods favored by different communities of scholars (see Newell, 1998). While heterodox economists often turn to other disciplines for theories and methods, they also – again like interdisciplinary scholars – appreciate the need to develop new theories and approaches freed from the biases of any discipline.

Interdisciplinary researchers tend to argue that the academy needs both specialized and integrative research. Narrow communities with shared theoretical and methodological assumptions have a role to play, but such communities on their own can only generate a congeries of little bits of biased insight. Integrative researchers can recognize the strengths and weaknesses of different pieces of specialized research and tie the insights of different groups of specialized researchers into a coherent and superior holistic understanding. At present, the institutions of academia emphasize specialized research and teaching: interdisciplinary research and teaching survive and occasionally prosper but the standard structure of autonomous departments is obviously better suited to inward-looking than outward-looking scholarship.

If interdisciplinarity were more firmly entrenched in the academy, then the plea for integrating across theories and methods in the study of the economy would appear obvious rather than revolutionary. Nevertheless the project for a heterodox economics can benefit greatly from looking beyond economics to ask how the scholarly enterprise as a whole should be organized. If the ideal academy contains groups of specialized scholars and groups of integrative scholars, then heterodox economics needs to grapple with two questions:

- What range of theories and methods should be applied to the study of economics?
- How should these be integrated?

While heterodox economics is founded on a belief in flexibility, it is nevertheless quite possible for one heterodox economist to be more suspicious of the efforts of another heterodox economist than of the efforts of mainstream economists. The mainstream, after all, benefits from a very detailed theory and method worked out over decades, while heterodox economists often of necessity are making very tentative theoretical or methodological assertions. The field could thus benefit from a detailed appreciation of the value of several theories and several methods, and also of how the insights gained from these can be synthesized.

The next sections of this paper will begin by briefly reprising classifications of scholarly theories and methods I have developed elsewhere (especially Szostak, 2004). These classifications are then applied to economic analysis, highlighting the unique contributions that different methods and types of theory have to make. Brief discussions of the phenomena studied by scholars, and the biases that affect all scholarship, follow. The succeeding section then discusses an idealized process of integrative analysis. In each case, lessons for the practice of heterodox economics are drawn.

Theoretical Flexibility

A typology of the types of theory used by scientists was developed in Szostak (2004). Among its many uses, this typology allows scholars to much more readily appreciate the simple fact that every type of theory has differing strengths and limitations. Every theory should specify answers to five questions:

- *Who is the agent?* There are two important distinctions here: non-intentional agents (as in most of natural science, but also the study of institutions) versus intentional agents; and individuals, relationships, or groups.
- *What 'action' is undertaken?* There are three possibilities, passive reaction, active action, and attitude change, which map imperfectly onto the six types of agent.
- *What is the decision-making process?* Non-intentional agents cannot make decisions, but provide constraints or incentives for others. Intentional agents can make use of one or more of five types of decision-making: consequential/rational (the sort emphasized by mainstream economists), intuitive (one does what one's gut indicates), rule-driven (one follows some rule or rules), process/virtue oriented (one behaves honestly or courageously, and so on), and tradition based (one does what others in one's group do). In the case of intentional relationships and groups scholars must also ask how individual preferences are aggregated.
- *How generalizable is the theory (where is it applicable)?* A continuum between nomothetic (very generalizable) and idiographic (not very generalizable) theory can be identified.
- *What is the time path of change?* There are four broad possibilities for a system of phenomena: return to the original equilibrium, move to a new equilibrium, continued movement of some realizations of phenomena in a particular direction, or a stochastic outcome.

Some scholars would attempt to simplify this typology by arguing that at least some of these options should be ignored: eschew either individual agency or group agency, eschew the study of actions or of attitudes, ignore rational decision-making or ignore anything but rational decision-making, develop only nomothetic or idiographic

theory, ignore equilibria or anything but equilibria. Examples of scholars taking each of these extreme positions are legion. There is no space to argue against each here (see Bunge, 1998, Szostak, 2004), but note that to accept any one of them is to argue that some community of scholars has been completely wasting its time.

Every theory can be placed within this typology. Some theories, like rational choice theory, give explicit answers to all five questions (primarily individuals, actions, rational decision-making, nomothetic, with a strong tendency toward equilibrium analysis). Others, like action theory or functionalism, provide clear answers to a couple of questions, but controversy rages with respect to others.¹ Table 1 (from Szostak 2004) provides a brief summary of how a variety of grand theories fit within the typology.

Is the economy characterized *exclusively* by individuals making generalizable equilibrium-generating rational decisions? Obviously not. Heterodox economists can identify a set of characteristics that a set of alternative theories should possess if the scholarly community is to fully appreciate economic activity. Note that what is *not* needed is a single alternative theory that embodies each of these characteristics; rather several alternative theories that embody at least one of these are called for. Indeed, some of the alternatives are inconsistent, and thus require multiple theories.

Agents. Most obviously the methodological individualism of mainstream economics must be supplemented by theories that operate at the group or relationship level. Human science has in recent decades witnessed an often-heated debate between methodological individualism and its antithesis. In most human science disciplines, it is now recognized that the scholarly enterprise should appreciate that individuals both shape and are shaped by the societies in which they live. In other words, there is causation in both directions between individual-level and societal-level phenomena. Economics has been among the slowest to move toward this type of plurality.

Game theory, despite its many shortcomings, can be celebrated for focusing on relationships. Yet casual empiricism suggests that relationships are often guided by altruism rather than strategy, and economists have been notoriously slow in engaging altruism.² With respect to groups, economists tend to assume that these can be understood entirely in terms of the individuals that comprise them. Many sociologists still go to the other extreme, and assume that individual behavior is entirely determined by group affiliations. The community of heterodox economists must urge the integration of theories at individual, relationship, and group level.

Non-intentional agency should also not be neglected. As with groups, economists tend to assume that institutions simply reflect the individuals that create them. Yet individuals lack perfect foresight, and institutions often survive dramatic changes in economic environment, and thus institutions often exert incentives and constraints never imagined by their creators. Theories of how institutions evolve are thus an essential component of economic understanding.

Behavior. Mainstream economics is focused almost entirely on ‘active action.’ One advantage that would flow from theorizing institutions (above) is that the many situations in which humans passively react to institutional incentives and constraints can then be appreciated. Mainstream economics is notorious for assuming away ‘changes in attitudes’: individuals are assumed to be rational and un-sullied by peer pressure, preferences are assumed to be inherent, and even attitudes toward risk, leisure or time preference are taken as given. Economists have been forced by macroeconomic

instability to entertain the possibility that ‘expectations’ might change, though many have given in to the temptation to assume that this occurs entirely rationally.³ The failure of super-competitive markets such as stock exchanges to behave in accord with standard theory has led some to posit non-rational changes in expectations (including group processes like bandwagon effects), but these arguments are viewed by many as beyond the pale. Heterodox economists must thus be open to theories of attitude formation that are not constrained to conform to simplistic views of entirely rational decision-making.

Decision-making. The decision-making methods listed above are complementary. Individuals characteristically draw on all of them in their daily lives, acting fairly rationally when making major financial decisions, following intuition in romance, choosing clothes based on what others wear, following a variety of rules (‘be nice to strangers’), and striving to behave in a certain way. Particular decisions may reflect all five. In judging what is responsible behaviour, an agent may have recourse to cultural guidelines, evaluation of likely consequences, the Golden Rule, and gut feelings. *Theorists focussing on any one of these types of decision-making should be aware of (and ideally speak to) the possibility of other influences.* Behavioural economists have begun to explore the variety of ways in which individuals make economic decisions, and their efforts must be seen as a key component of the heterodox project – and also an example of how new (and in this case explicitly interdisciplinary) communities of scholars can be formed to perform some of the tasks of the broader heterodox enterprise. When group or relationship decision-making is involved, theorists will need to address how individual decisions are aggregated as well.

Economists have over the years devoted a great deal of energy to showing how rational decision-making can overwhelm other forms of decision-making: for example, in a marketplace with lots of buyers and sellers the equilibrium price may reflect rational calculation even if some buyers and sellers are not behaving rationally. It is then too easily assumed that this is always the case. Heterodox economists will want to identify precise circumstances in which other forms of decision-making have an important effect on outcomes. Such research may often be idiographic in nature, though there may also be a nomothetic element in such theorizing for the four non-rational forms of decision-making are ubiquitous in human societies.

Generalizability. Economic theory tends to be ‘nomothetic’: it is assumed to apply broadly. The typology suggests that all scholarly fields of inquiry will benefit from a mix of nomothetic and idiographic theory. Economists have under-studied both institutional change and technological innovation, because these lend themselves poorly to standard theory and method. One important way in which this is the case is that each technological or institutional innovation is necessarily unique. And thus theorization in both areas needs to leave scope for idiographic elements that may have important influences on the direction and speed of both types of innovation. In particular, economists like to assume that both technology and institutions tend inexorably toward some optimal outcome, whereas economic historians are more cognizant of path dependence: the possibilities today depend on the technology and institutions inherited from yesterday.⁴ Heterodox economists should more generally be open to theories that stress the importance of unusual or ‘one-off’ occurrences.

Time-path. Economic theory has long emphasized equilibrium outcomes, though not exclusively. This in part reflects the ease of modeling equilibrium outcomes (and

thus reflects a disciplinary desire to have theory and method in accord), but also often reflects the assumption of rational decision-making: agents who think carefully about what they are doing will often move toward an equilibrium where no agent can do better. It is likely, though not essential, that reliance on non-rational decision-making will generate processes of dynamic change, perhaps in unpredictable directions. The importance of idiographic influences and/or path dependence also suggests non-equilibrium outcomes.

Heterodox economists should embrace the two main types of non-equilibrium theory: stochastic and directional. Evolutionary theory can be useful in both respects. Random mutations can generate stochastic processes (and heterodox economists can usefully ask to what extent human decisions characterized by imperfect foresight can be accurately modeled as ‘random’). Selection environments of a certain type may reward several mutations in a particular direction (such as the oft-heard argument that societies inevitably become more complex through time); non-random mutations may also impart directionality to evolutionary processes. Various versions of complexity theory (see Colander, 2000) can also be useful in capturing processes characterized by positive rather than negative feedbacks.

The bulk of the theorizing of heterodox economists must fall under one of these five headings:

- Stressing groups, relationships, or non-intentional agents
- Stressing passive reaction or attitude formation
- Examining non-rational decision-making
- Emphasizing idiographic elements; and/or
- Stressing either stochastic outcomes or change in a particular direction rather than equilibria

Less often, heterodox economists may suggest different ways of coping with rational individual decisions and equilibria. As noted above, advocates of one type of theorizing need not at present appreciate others. The purpose of this exercise in classification has been to establish that all of these types of theorizing are *equally valid*. The classification thus provides a structure that both clarifies and justifies the common purpose of what otherwise might be seen as completely independent theoretical endeavours.

Those fearful of theoretical flexibility will worry that the task of judging the work of others becomes more difficult if all scholars do not begin from the same theoretical premises.⁵ The typology of theory helps greatly here. First, it shows us that the number of theory types is manageable, for there are generally only a few possibilities with respect to each of the five questions. It is not difficult to imagine a field of scholarship of the size of economics having many experts in each type. Even if this were not the case, the typology provides a handy guide to the sorts of questions for which each type of theory is particularly well suited.

Note that the typology provides guidance on what to expect from a certain theory type even if no such theory has yet come to the attention of scholars. While it is likely that some theorist in some human science discipline has developed a theory that would fit every cell in the typology (excepting, hopefully, those that are impossible, such as combinations of non-intentional agency and attitudes), it is nevertheless true that a survey of the main ‘grand’ theories in human science suggests that coverage is uneven (see Table 1).

Methodological Flexibility

There are, broadly speaking, some twelve distinct methods employed by scholars (often in combination):

- Experiments (including natural or quasi-experiments)
- Surveys
- Interviews
- Mathematical models (and simulations, which some would treat separately)
- Statistical analysis (often, but far from always, associated with models)
 - including secondary [that is, collected by others] data analysis
- Ethnographic/ observational analysis [some would distinguish ‘interactional’ analysis in which the investigator interacts with those under observation]
- Experience/ intuition [some would treat this as an important subset of observational analysis, since we are in effect ‘observing’ ourselves here]
- Textual (content, discourse) analysis
- Classification (including evolutionary analysis)
- Mapmaking
- Hermeneutics/ semiotics (the study of symbols and their meaning)
- Physical traces (as in archaeology)

Some would treat ‘evaluation’ of programs as distinct, though it can be seen as a combination of some of the above methods. Similar arguments can be made with respect to ‘demography’, case study, feminism, and perhaps also hermeneutics. Certainly, ‘case studies’ involve the use of one or more of the above methods.

These methods can each be evaluated in terms of the questions that were asked of theory above: how well does the method cope with different types of agency, behaviour, decision-making process, time path, and degrees of generalizability? In asking these questions a handful of other questions arise: how many agents can a method handle? (Interviews deal with fewer agents than do surveys, for example.) How well can the method identify the four criteria for identifying a causal relationship (see Singleton and Strait, 1999): correlation between variables, temporality (the cause must generally precede the result), dismissal of alternative hypotheses, and recognition of intermediate variables (certain cultural attitudes might influence growth through effects on work effort or investment or trust)? (Participant observation under-performs experiments here, for example.) Does the method allow for induction: the identification of phenomena or links beyond those in existing theory? (Experiments under-perform participant observation here, excepting the numerous historical examples of experimental serendipity.) Does the method allow scholars to follow agents through time and space? (Mapmaking is of special importance here.) Table 2 (from Szostak 2004) summarizes how five of the twelve methods, including that most commonly used by economists, fare in terms of these ten questions.

Evaluating all twelve methods in terms of these criteria shows without doubt that each method has strengths and weaknesses. For some scientific questions, one method clearly excels. Notably, experiments are unrivalled for the analysis of non-intentional agents. Even here, though, experiments are fallible, and scientists should supplement

experimental evidence with evidence from other methods. More commonly, a particular scientific question lends itself to study by various methods.

Certain methods will be particularly good at investigating particular theories, for they have strengths with respect to the agents, actions, decision-making, time path, and/or generalizability posited by that type of theory. For example, mathematical modeling and statistical analysis are most readily applied to situations of rational individual actions generating equilibrium outcomes. Other methods, especially various ‘case study’ methods such as interviews and observation and textual analysis, but also experiments, provide invaluable insights when investigating other types of theory.⁶ If heterodox economists wish to posit relationship agency, emphasize attitudes or non-rational decision-making, investigate idiographic relationships, and/or explore non-equilibrium outcomes, they will likely find that mathematical modeling and statistical analysis are not ideally suited to their needs. If heterodox economists choose to battle mainstream economics on a battleground of econometric analysis, they will fare much less well than they should. Thus the success of heterodox economics will depend on convincing (many members of) the economics profession of the validity of alternative methods. Some success with respect to experiments has already been achieved, though economists still all too readily dismiss experimental results on the grounds that the laboratory cannot adequately mimic real life. Resistance to surveys and interviews is still strong: economists are so accustomed to assuming that outcomes will be those that would have been generated rationally that they fail to appreciate the value of asking agents why they do (or did) what they do. Historical (text-based) case studies are appreciated within the field of economic history: ironically econometrics is still the favoured method in that field though most of the insights of the field regarding both institutional and technological innovation have inevitably reflected detailed case analysis (see Szostak, 2006). The typology of strengths and limitations of methods described above may provide a powerful means of convincing economists to embrace a wider range of methods.

It should be stressed that the typology used to evaluate methods grew out of the typology used to identify theory types. One implication of this analysis is that particular methods are ‘biased’ toward supporting certain theories. A method focussed on individuals will be able to provide support for a theory grounded in individual agency, while a method focussed on relationships will tend to provide evidence for the importance of these. Evaluating the relative importance of different types of agency in terms of a particular method *must bias the result* (even if, as may happen, methods fail to uncover supporting evidence, though in this case the bias will operate in the opposing direction). The same argument applies to the other questions that were asked of theories. Methodological orthodoxy is thus supportive of theoretical orthodoxy. Since it is easier by far to use statistical analysis to ‘test’ models that embrace generalizable individual-level rational actions that generate equilibrium results, it should hardly be surprising that economists also embrace a theory with exactly those elements. Economics, like all disciplines, chooses a mutually supportive set of theory and method (and phenomena). And economists of all types should thus seek evidence from other methods in order to better establish the validity of their theory. And thus if heterodox economists are going to embrace a wider range of theories, they will also have to both embrace and urge a wider range of method if they hope to have these judged fairly.

Reliance on any one method will necessarily limit scholarly understanding. This will especially be the case if the method has limited inductive potential. And this of course is true of statistical testing. Philosophers of science (at least those who believe that scientific understanding can advance) recognize that scientific understanding advances best when both induction and deduction are employed. A purely deductive enterprise can easily become un-tethered from reality, while a purely inductive enterprise can too easily miss the connections between diverse observations (Gower, 1997, 254). Statistical analysis is primarily a deductive tool, designed to see how accurate a depiction of reality a particular model is, and/or to establish the strength of certain posited relationships. Researchers may be surprised by some of the results that they obtain when they first design a mathematical model. And they may be tempted by poor results in testing their model to look elsewhere.⁷ But in general the method favoured by economists has limited inductive potential. Economists are guided instead to play with the same old set of variables over and over. This, as we shall see in the next section, provides yet another set of distinctions in terms of subject matter that heterodox economists should embrace.

Phenomena

The dominant method does not just guide scholars away from induction. It also guides them to downplay phenomena which are hard to quantify and/or for which data do not exist. As noted above, technological and institutional innovations are necessarily unique. While some aspects of these processes are quantifiable, the uniqueness of each innovation guarantees that case study analyses will always be important. Likewise, the dominant theory discourages economists from investigating values or attitudes because it is harder (though not impossible) to assume rationality there.

The same results hold even more widely. Hundreds of key phenomena investigated by human scientists were identified in Szostak (2003, 2004). One of the key results of Szostak (2003) was that some causal relationship could be found between virtually any pair of these phenomena. The present organization of the human sciences is predicated on an implicit and misguided assumption that there are largely distinct domains of economic, political, cultural, social, literary, linguistic, and other activities. Our lives would be much more 'fragmented' than even the most pessimistic postmodernist claims if indeed this were the case. Rather, economic transactions are embedded in a host of cultural, political, and other understandings (and vice versa). We cannot understand the economy without understanding how economic phenomena influence and are influenced by cultural, political, psychological, and social phenomena.

The argument made here is of course complementary to the arguments made in previous sections. A theoretically and methodologically flexible profession of economists would naturally look at a much wider set of phenomena. In turn it should be clear that one cannot fully comprehend cultural influences without embracing theories of attitude formation, or psychological influences if unwilling to look beyond rationality, or the simple fact that we all have crosscutting group memberships without some openness to case study analysis.

At the start of this paper it was suggested that there are important commonalities between interdisciplinarity and heterodox economics. In urging theoretical and methodological flexibility alone, this commonality need not be obvious. The disciplinary

homes of alternative theories or methods need not be emphasized. With respect to phenomena, however, it is obvious that other disciplines study political, cultural, and psychological phenomena. Translating the argument for heterodoxy into terms of phenomena thus serves to highlight that heterodoxy is an inherently interdisciplinary project. Economists must have much to learn from other scholars who take these other phenomena as their focus. The possibilities for useful communication will be enhanced if these others (and/or interdisciplinary scholars) also worry about links between these phenomena and economic phenomena.

This analysis also highlights the complexity of the heterodox project. As noted above, flexibility with respect to theory and method is quite manageable. There are only a handful of possibilities with respect to each of the five dimensions in the typology of theory. And there are only a dozen methods. With respect to phenomena, however, there are thousands of causal relationships among hundreds of key phenomena (and even more if these are further disaggregated). This degree of complexity may seem overwhelming, and might encourage the squeamish to retreat to the mainstream world of a comforting handful of phenomena. Yet our collective understanding of the economy cannot be artificially constrained to be considerably less messy than reality. Individual models necessarily simplify, but one of the purposes of integration is to transcend these simplifications.⁸

If heterodox economists are to embrace the full range of interdisciplinary causal interactions, and wish to do so without themselves producing a congeries of incommensurate tidbits of understanding, then these diverse insights need to be *organized*. This in turn means that heterodox economists should aspire to consensus on terminology for these hundreds of key phenomena, and carefully identify in their research which particular causal links among these they are examining.⁹

Natural scientists struggle to identify the ‘range of applicability’ of their theories: under what range of temperature and pressure will a particular chemical reaction occur, for example. Human scientists do a much worse job of this. Theories are often assumed to apply widely, or rejected when they fail to apply to a particular case. In Economics, one obvious implication is that instead of simply assuming rational decision-making, one asks under what circumstances other sorts of decision-making might be important. More generally, economists should strive to identify along which causal links, and under what conditions, a particular theory has explanatory power. While no one theory may provide exclusive guidance to any one link, each will be more powerful along some than others. And thus one important task in integrating across different theories is carefully identifying the ‘range of applicability’ of each, and this can only be done with reference to an *exhaustive* list of relevant phenomena.

Scholarly Practice

The classification of scholarship involves not just phenomena, data, theory, and method, but also the daily practice of scholars. In the so-called ‘science wars’ those who characterize science as a flawless march toward enhanced understanding have engaged those who characterize science as driven instead by cultural and personal biases alone. As in most debates of this type, the truth lies somewhere in between: biases and errors afflict scientific practice but do not prevent the gradual accretion of understanding. The rate of expansion in understanding can be enhanced if scientists are familiar with the full

range of possible biases and errors, and attempt to limit these. The economics profession tends to (naturally) under-appreciate the errors that can creep into mathematical modeling and statistical analysis, while exaggerating the horrors of alternative approaches. A familiarity with the full range of possible biases and errors can thus serve to reinforce the arguments above regarding theoretical and methodological flexibility. Moreover, economists can usefully be reminded in this way of the dangers of not regularly interrogating their methodological preferences.

The who, what, why, where, and when questions asked above with respect to theory and method can also be asked of scientific practice. While the answers yielded here are somewhat less precise, it is still useful for economists to understand that:

- Science is an endeavour carried out by humans whose perceptions are imperfect and who are inevitably influenced by social and cultural considerations – notably but not exclusively the disciplinary perspectives spoken of above.
- The scholarly enterprise is (or at least should be) a unified endeavour embracing a wide range of phenomena, theory, and method.
- Researchers inevitably face incentives that may divert them from the selfless pursuit of understanding.
- The institutional structure governing a scholarly community has important effects on what research gets done; and
- A field of inquiry can only be understood in the context of its historical evolution.

Scholarly communities are only likely to develop appropriate institutions and incentives if they reflect upon the possible sources of bias and error. Heterodox economists are well aware that a discipline with a strong preference for a particular theory or method can provide powerful disincentives for scholarly exploration of alternatives. They can usefully articulate a set of more precise concerns as well. Referees in economics are notorious for picking at the weakest points in an article or manuscript while ignoring the insights that it may provide.¹⁰ While referees should of course spot weaknesses, they should strive to provide a balanced judgment. A hypercritical stance makes it hard for new ideas to emerge. Scholarly insights are built upon and revised by a community over time: new theories and methods can hardly be as precise as those that have been discussed for decades. Moreover, as noted above, economists can be expected to forget or downplay the possible biases and errors associated with rational choice theory, mathematical modeling, or econometrics; it is thus all too easy for a paper involving survey research to be rejected while a similarly flawed econometric analysis is accepted. In other words, unusual errors and biases will be penalized more than common errors and biases. A discipline that changed its standards of judgment so that it consciously looked for what was good in a piece, as well as what was flawed, would provide a much more fertile home for heterodox economics.

As noted above, economists worry that it will be difficult to maintain ‘standards’ if the profession comes to embrace multiple theories or methods. While it is undoubtedly true that false standards may be worse than no standards, this argument alone is unlikely to win the day. The fact that there are only a dozen methods, broadly defined (and a manageable set of theory types as well) potentially provides a more powerful response: there is no reason why a large academic discipline could not develop expertise in each of

these. That discipline would have to embrace multiple communities with recognized expertise with respect to certain theories and methods; these could be relied upon to referee different types of papers. Familiarity with Tables 1 and 2 would help scholars to appreciate papers drawing on theories and methods that they are not themselves expert in. Rather than judge papers in terms of their adherence to an artificially narrow set of theoretical and methodological preferences, economists could instead judge them by the only true academic standards: is the question addressed of interest?; does the paper enhance our understanding?; are the assumptions and outcomes clearly stated?; and is the paper placed within the broader literature?

Heterodox economists cannot expect to change the standards of the profession overnight. But they can argue forcefully that these standards need to change. They can ensure that the journals they edit or the referee reports they write hold to this higher standard. And the standard is indeed higher, both in the sense that it will be more supportive of good research, and also that it will demand that referees think a bit more about their task.

Integrative Analysis

This section briefly reviews a 12-step idealized process of interdisciplinary analysis developed in Szostak (2002) and reprised in Szostak (2004). Since heterodox economics overlaps with interdisciplinary analysis, it is useful to explore how heterodox economists should approach each of these steps.

1. Start with an interdisciplinary question: any question that draws on insights from more than one discipline. Note that a researcher might not know at the moment that they formulate a research question whether it will require interdisciplinarity. Heterodox economists need not feel a need to explore interdisciplinary questions but should be open to doing so.¹¹

2. Identify the key phenomena involved, but also secondary phenomena. The interdisciplinary literature in general is silent on how interdisciplinary researchers should go about identifying key and subsidiary phenomena. In order not to be seduced by the existing literature, and thus continue to ignore relevant phenomena just because other scholars have, it is advisable for the interdisciplinary researcher to reflect on this question independently. Exposure to a list of all of the possibilities would be invaluable here. Heterodox economists could then usefully ask themselves at the start of a research project what political, cultural, or other phenomena might be of particular importance.

3. Ascertain what theories and methods are particularly relevant to the question at hand. As with phenomena, be careful not to casually ignore theories and methods that may shed some lesser light on the question. The sorts of questions that interdisciplinarians investigate are likely to involve different types of agent, action, decision-making process, and timepath. The typology will thus guide heterodox economists, like interdisciplinarians, to draw upon multiple theories. The very insight that scholars should generally seek a complex amalgam of theories, rather than one grand theory, is itself invaluable. A similar argument applies to method.

4. Perform a detailed literature survey. Present methods of document classification in libraries serve the interdisciplinary researcher poorly: Szostak (2004) discusses how classifications grounded not in disciplines but in universal lists of phenomena, theory types, methods, and so on could allow researchers of all types, but

especially interdisciplinarians, to identify relevant research from diverse disciplines (and beyond) for any topic. In particular, works at present are rarely classified with respect to the theory and method employed. Heterodox economists operating within the present limited systems of library classification must be aware that much relevant research will be classified under different disciplines and terminology. Sadly, interacting with scholars from other disciplines is often the best way to get a handle on these possibilities, though such a strategy depends on the idiosyncrasies of one's contacts.

5. Identify relevant disciplines and disciplinary perspectives. Note that disciplinary perspectives are self-reinforcing: the theory will be applied in a manner congenial to the method(s) and phenomena embraced by the discipline; overall philosophical and ideological outlooks will both influence and reflect the theories, methods, and phenomena. Heterodox economists, as noted above, need to be aware of the biases inherent in the economists' worldview. If they will borrow theories and methods from other disciplines, or even definitions of phenomena, they must be similarly cognizant of the worldview of those disciplines and thus the biases that may be embedded in such works. In general each discipline tends to exaggerate the causal importance of its phenomena and the range of applicability of its theories and methods.

Economists often exaggerate the rigor of their own standards relative to other human sciences. And they ignore the biases in those standards. Nevertheless it is true that other human science disciplines are often guilty of even less firmly grounding their theories in empirical analysis. If heterodox economists display a useful skepticism of results emanating from other disciplines, they can model an appropriate interdisciplinary attitude while assuaging some mainstream concerns regarding the heterodox project.

6. If some relevant phenomena (or links among these), theories or methods identified in (2) and (3) have received little or no attention in the literature, the researcher should try to perform or encourage the performance of such research. As mentioned at the start of the paper, heterodox economists face two distinct tasks: developing novel theoretical and/or methodological approaches, and integrating across these. While most of the interdisciplinary process reprised here emphasizes the second task, this step emphasizes the first. And its place in the process shows that such investigations can be stimulated by a holistic look at an important economic question. It should be emphasized, though, that the interdisciplinary process is iterative, and thus heterodox economists can also start out with a theory and/or method in mind and then search for meaningful applications.

7. Evaluate the results of previous research. This must often involve some degree of mastery of the theories, methods, and perhaps phenomena implicated in that research. Heterodox economists, like interdisciplinarians, can bring several key insights to this task.

- If some key phenomena were excluded from previous analysis, the impact this may have had on results can be assessed. See step 6.
- Since no theory or method is perfect, results using different theories and methods can be critiqued from a general understanding of the strengths and weaknesses of different theories and methods.
- Moreover the particular way that a disciplinary researcher applied a theory or method will reflect the overall 'disciplinary perspective' of the discipline in question (see step 5): this perspective can first be identified

and the question of how this perspective influenced the results investigated. Familiarity with the variety of biases that can creep into both scholarly and non-scholarly research can be invaluable here. Note that while disciplines are an important source of bias, human nature, individual psychologies, and the diverse roles that people play in society are also sources of bias.

8. Compare and contrast results from previous disciplinary or interdisciplinary research. This step obviously interacts with the previous one. It cannot be stressed too much that the goal of heterodox economics is not to overturn mainstream theory and method. Rather the goal is to more carefully establish their range of applicability, and integrate their insights with those provided by alternative theories and methods.

9. Develop a more comprehensive/integrative analysis. While this may involve some sort of unifying theory, it is more likely to involve a complex combination of theories, each shedding light on different (possibly overlapping) pieces of the puzzle. It is likely as well that analysis using different methods will be drawn upon to argue for why one theory is favored in some places but not others. If more than one theory is involved, the range of applicability of each should be specified (as well as the evidence used to reach these conclusions). If evidence from multiple methods is utilized, the strengths and limitations of these must be compared. A classification of method can guide researchers as to which are most appropriate to certain types of phenomena or causal links.

It is natural that heterodox economists stress the insights of their approach, and the limitations of mainstream analysis. In the end though, the limitations of the former and advantages of the latter must also be appreciated.

10. Reflect on the results of integration. This step should be mandatory. Researchers should reflect upon their own biases. Having a list of potential biases to refer to can be very helpful in the identification of – generally subconscious – biases. Researchers should reflect on any steps they have omitted from the interdisciplinary process, and the potential costs of the omission(s). They should reflect on the weaknesses of the theories and methods used in their comprehensive vision. Heterodox economists, in stressing both the insights and the weaknesses of their analyses, can hopefully mitigate the economist tendency to see only the latter, while facilitating the revision and improvement of their analyses that generates advances in scholarly understanding.

11. Test the results of integration. Are there implications of the integrative framework that can be empirically evaluated? Can the integrative framework be applied in some way? The researcher should be careful of biasing such tests and should also be prepared to adjust the analysis in the face of new information. Economics, and even moreso other human sciences, does not adequately test its theories against empirical reality. Heterodox economics must pursue higher standards of empirical testing. It must appreciate that we can have the greatest confidence in theories (whether nomothetic or idiographic) that are validated by multiple methods.

12. Communicate the results. One insight of interdisciplinary analysis is that different communities speak different languages. These are not incommensurate as some postmodernists suggest (or interdisciplinarity would be impossible), but communication across communities is fraught with misunderstanding. Heterodox economists should strive to use a vocabulary that appeals not just to other heterodox economists. They

should naturally try to speak to mainstream economists. They should also appreciate audiences beyond economics. Scholars in other disciplines may prove particularly receptive to heterodox insights. Interdisciplinary fields such as political economy or economic sociology are especially valuable audiences. And heterodox economists can usefully (but responsibly) address the wider public: mainstream economists only rarely bother to do so and thus there is a market niche for the heterodox public intellectual.

Concluding Remarks

This paper has attempted to describe the broad contours of the heterodox economics enterprise. It has argued that this enterprise overlaps with interdisciplinary scholarship, and can thus usefully pursue strategies for integrative analysis. The purpose of heterodox economics is not to supplant the mainstream but to integrate across a broader range of theory, method, and phenomena. This paper has essayed to describe the strengths and weaknesses of the widest range of theory and method. Heterodox economists need to appreciate the value of the full range of heterodoxy. The paper has also described the benefits of exploring causal interactions with the phenomena studied by other disciplines. Yet this enterprise will drown in complexity unless the resulting insights are organized in terms of causal links. And this paper has outlined the advantages of familiarity with the biases and errors that afflict scholarship in general, and economics and other disciplines in particular.

In sum the paper has argued that a vast enterprise such as heterodox economics must both classify and appreciate the varied facets of heterodox analysis.

TABLE 1: Typology of Selected Theories

Theory Type	Who? Agency	What? Action	Why? Decisionmaking process	When? Time Path	Where? Generalizability
Most Natural Science	Nonintention various types	passive	inherent	various	various
Evolutionary Biology	Nonintention individual	active	inherent	not same equilibrium	nomothetic
Evolutionary Social Science	intentional individual (group)	active	various	not same (any) equilibrium	nomothetic
Action Theory	intentional individual (relationship)	action (attitude)	various; often rational	various	generally idiographic
Systems theory; Functionalist	various	action and attitude	various; emphasizes constraints	new equilibrium	generally nomothetic
Psychoanalytic	intentional individual [look within]	attitudes	intuition; others possible	various	implicitly nomothetic
Symbolic Interactionist	intentional relationships emphasized	attitudes	various	stochastic	idiographic; some generalizing
Rational Choice	intentional individual	action	rational	usually equilibrium	nomothetic
Phenomenology	intentional relationships (individuals)	attitudes (actions)	various	various	Various

Source: Szostak (2004, 94).

Table 2: Strengths and Weaknesses of Selected Methods

Criteria	Participant Observation	Physical Traces	Statistical Analysis	Survey	Textual Analysis
Type of Agent	Intentional individual; relationships; groups?	Non-intentional, intentional individuals.	Intentional individuals; non-intentional	Intentional individuals; groups indirect	Intentional individuals; others indirect
Number Investigated	Few; one group	Few	Many/all	Many	One/few
Type of Causation	Action (attitude)	Passive, Action	Action, Attitude	Attitude; acts indirectly	Attitude, Action
Criteria for identifying a causal relationship	All, but rarely done	Some insight to all four	Correlation, temporal well; others maybe	Some insight on correlation	Some insight on all
Decisionmaking Process	All	No	No	Little	some insight; biased
Induction?	Much	Much	Some	Very little	Much
Generalizability	Idiographic; nomo. from many studies	Idiographic; nomo. from many studies	Both	Both	Idiographic; nomo. from many studies
Spatiality	Very good; Some limits	Possibly infer	Limited	Rarely	Possible
Temporality	Very good up to months	Possibly infer	Static, often frequent	Longitudinal somewhat	Possible
Time Path	Some insight	Some insight	Emphasizes equilibrium	Little insight	Some insight

Source: Szostak (2004, 138-9).

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Notes

¹ The typology thus serves a couple of valuable purposes. It guides theorists to be more precise in their answers to all five questions. It allows those within a particular theoretical ‘camp’ to appreciate the sources of controversy. And it allows scholars to much more readily compare and contrast different theories.

² Indeed, Berne (1964) urged people away from playing ‘games’ in relationships, and argued that such game-playing was emotionally immature.

³ In Szostak (2003) I discuss how macroeconomists, faced with the failure of macroeconomic theories to explain the Great Depression, have seized on expectations as a savior: people were pessimistic in the early 1930s and optimistic later. This has occurred despite the fact that no macroeconomic model, or even all in combination, can explain why people should have switched (rationally) so dramatically from pessimism to optimism.

⁴ See Szostak (2006) for an extended discussion of technological and institutional innovation, and economic growth more generally.

⁵ They might – or not – take solace from the experience of journals in Business or Public Policy, or a variety of other “interdisciplinary” fields, which manage to maintain standards despite embracing theoretical and methodological diversity.

⁶ Ragin (2000) argues at length for the differential advantages of examining a few data points in detail, versus analyzing many.

⁷ Reder (1998) notes that among economists the greatest fame is accorded to those who develop mathematical models or apply/develop sophisticated econometric techniques. It is possible to achieve some lesser degree of fame in a field for the discovery of empirical anomalies.

⁸ The emphases in this section on causal links and interdisciplinary linkages are consistent with the application of realist philosophy to economics urged in Lawson (1997) and elsewhere.

⁹ It would also be highly useful if libraries classified works in terms of causal links, and theories and methods applied. I discuss how this might be done in Szostak (2004). As noted above, that book also contains a detailed classification of the phenomena studied by human scientists.

¹⁰ See Freedman (1993).

¹¹ This step may at first seem banal. But Solow (1998, 74) notes that economists should start by looking at reality and asking what is going on, but that model-building economists tend to skip that step.