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CRITICAL REALISM, GROUNDED THEORY, AND THEORY CONSTRUCTION
IN HETERODOX ECONOMICS

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ABSTRACT

This paper proposes an approach to theory creation and evaluation for heterodox economics that is based in the integration of critical realism and the method of grounded theory. Critical realism provides the concepts of structures and causal mechanisms that form the outline of theory construction, while the grounded theory method provides the research strategy to transform them into a theory. After this is set out in the first two sections of the paper, research methods issues, such as data triangulation, case studies, analytical statistics (econometrics), and mathematics and modeling, are discussed. The final section of the paper deals with the historical character of critical realist-grounded theories and the implication for heterodox economic theories.

Keywords: Heterodox, Critical Realism, Grounded Theory

JEL Code: B5, B41, D0

CRITICAL REALISM, GROUNDED THEORY, AND THEORY CONSTRUCTION IN HETERODOX ECONOMICS

For any factual field of inquiry or scientific research field to exist, its object of study must be real (as opposed to fictitious or non-existent) and relate to the problems and issues that are the focus of the research community. Moreover, the methods used by the researchers to study the objects and address the problems and issues need to be grounded in the real world. Heterodox economics is concerned with explaining and proposing qua advocating changes in the real historical process of producing the social surplus that provides the flow of goods and services required by society to meet its reoccurring needs and promote the well-being of those who participate in its activities. In other words, *heterodox economics is a historical science of the social provisioning process*, and this is the general research agenda of heterodox economists. Drawing from all heterodox approaches, its explanation involves both *human agency* embedded in a transmutable hence uncertain world with fallible knowledge and expectations and in a cultural context, and *social processes* situated in historical time which affect resources, consumption patterns, production and reproduction, and the meaning (or ideology) of market, state, and non-market/state activities engaged in social provisioning. This implies that agency can only take place in an interdependent social context which emphasizes the social and deemphasizes the isolated nature of individual decision-making; and that the organization of social provisioning is determined outside of markets, although the provisioning process itself will, in part, take place through capitalist markets. Thus heterodox economic theory is a theoretical explanation of the historical process of social provisioning within the context of a capitalist economy; and hence it is also a historically contextual explanation. Therefore it is concerned with explaining those factors that are part of the process of social provisioning, including the structure and use of resources, the structure and change of social wants, structure of production

and the reproduction of the going business enterprise, family, state, and other relevant institutions and organizations, and distribution. In addition, heterodox economists extend their theory to examining issues associated with the process of social provisioning, such as racism, gender, and ideologies and myths.

Heterodox economic theory is not a pre-existing doctrine to be applied to an invariant economic reality. Rather, there are many heterodox theoretical arguments which appear to contribute to its construction, but there is no reason why they should command blind acceptance; and, in any case, they fall short of making a comprehensive theory. Consequently, new theories are needed to fill the gaps and omissions. In either case, there needs to be a basis for accepting the theories as reasonable scientific theoretical contributions to explaining the social provisioning process. This suggests that the development of heterodox theory requires theory creation and theory evaluation. Scientific theory creation requires a philosophical foundation on which a research strategy for theory creation and evaluation is based. However, such a combination is either not recognized by heterodox economists or when recognized is underdeveloped, as in the case of critical realism and abduction. Moreover, issues about research methods are, with the exception of analytical statistics (such as econometrics), generally minimized, while the historical nature of and the role of the historical narrative in heterodox theories are ignored all together. The objective of this paper is to delineate a particular integration of a realist philosophical foundation centered on critical realism (CR) with the well-known research strategy, that is usually associated with qualitative theorizing, of the method of grounded theory (GTM), to produce a critical realist-grounded theory (CR-GT) approach to theory creation and evaluation that directly engages with research methods (such as data triangulation, case study, analytical statistics, and formal modeling) and historical theorization.

Critical realism has its roots in the 1970s philosophical developments which argued that for

causal-and-effect events to occur in the world, there must be underlying causal mechanisms to make them happen. By the late 1980s, critical realism had emerged as the philosophical foundation for a causal analysis of the social sciences; and by the early 1990s it had entered heterodox economics through Tony Lawson and his students. The grounded theory method, on the other hand, was first articulated in 1967 and has been under continual development since then. Initially used in sociology and nursing, over time it spread to other disciplines where qualitative research on social relations, social networks, and intentional actions through acting persons were important. In particular, it has become an accepted research strategy in management, business, marketing, and leadership research (Goulding 2002), but not in economics to any great extent.¹ With hindsight, it is clear that CR and GTM are compatible, with the former providing the philosophical foundations for the latter and the latter is a specific research strategy that ‘create’ the structures and causal mechanisms required by the former for theoretical explanation. However, this awareness is slow in coming because of some perceived limitations on the part of GTM. That is, from a critical realist perspective, it appeared to have an inductivist, empiricist, and/or a constructivist (with multiple realities) bias, to under-estimate the value of general abstract theories, and to reject engagement with any previous theories (Layder 1990; Danermark et. al 2002). In any case, there are only a few efforts to show the compatibility between CR and GTM, with the earliest being by Yeung (1997), with subsequent contributions by Kempster and Parry (2011) and Oliver (2012).

Among heterodox economists who have an interest in critical realism and are at the same time interested in creating new theories and new ways to evaluate theories, there is almost no efforts to engage with the GTM. This is probably due to their adherence to abduction; but it may also be attributed to a preference for theoretical concepts and analogies that are empirically ungrounded. My work on integrating CR and the GTM began in early 1998 when looking for a research strategy that

would give form and articulation to the way I engaged in developing theoretical arguments and analytical, historical narratives. I first read articles and books on the GTM which appeared to be precisely the research strategy I was looking for. Then one day a couple of months later I got into a long and fruitful discussion with Steve Fleetwood about methodology; and he convinced me that my research strategy needed a philosophical foundation, specifically CR. I first presented my integration of CR and GTM at the Critical Realist Workshop Seminar in Cambridge on 11 May 1998; and then presented a more developed version of the paper in 2000 at the Cambridge Realist Workshop Reunion Conference. Subsequent versions of it have been presented at the Association for Heterodox Economics methodology workshops in 2001, 2002, 2004, 2005, 2007, 2009, and 2012 (<http://www.hetecon.net>). After some revisions, the paper was published in 2002 in the *Cambridge Journal of Economics* as “Theory Creation and the Methodological Foundation of Post Keynesian Economics” (Lee 2002; also see 2003, 2005). In the past decade, I have reworked my integration of critical realism and grounded theory producing in the process a variant of the grounded theory method: critical realist-grounded theory (CR-GT) approach.²

This paper is organized in the following manner. The *philosophical foundation*, which consists of realism, critical realism, and epistemological relativism is dealt with in the first section; and the *research strategy* of theory creation and evaluation, which consists of the method of grounded theory, is dealt with in the second section. Once the critical realist-grounded theory approach is articulated, it is necessary, in the third section, to deal with a number of *research methods* issues: (1) the use of data triangulation and case study method in the development of categories, structures, and causal mechanisms, and in the evaluation of critical realist-grounded theories; (2) the use of analytical statistics for the development categories, structures and causal mechanism, and for the evaluation of grounded theories; and (3) the use of analytical qua

mathematical models to contribute to the development, delineation, and evaluation of CR-GTs. The fourth and concluding section of the paper deals with the *historical character of critical realist-grounded theories* and its implication for heterodox economic theories.

Philosophical Foundation

Being both participants in and observers of the social and economic activity around them, heterodox economists approach their study of economics with a common sense understanding of the world. By common sense, it is meant a complex set of beliefs and propositions (many of which are historically grounded) about fundamental features of the world that individuals assume in whatever they do in ordinary life. Thus, they take particular features, characteristics, institutions, and human actors of economic activity as real, obvious, and practical initial starting points for further research. To be real, obvious, and practical means that various features, institutions, and actors qua acting persons³ exist, are ingrained everyday properties of the world of economic activity, and are encountered when observing or participating in ongoing economic activity. In particular, heterodox economists can, as observers, see them in action in the economy; or they can directly experience them as participants in economic activity. In short, they interact with what they study. By being a participant-observer, they are able to be close to the real, concrete form of the economy. Consequently their common sense beliefs and propositions provide the background against which they carry out their research. Hence, this common sense understanding of economic activity informs the methods which heterodox economists actually use to examine economic activity, particularly with regard to the way it is explained—it is impossible for any heterodox economists, or indeed any researcher, to approach the study of economics with a ‘blank mind’. [Coates 1996; Maki 1989, 1996, 1998a, 1998b; Dow 1990, 2001]

Heterodox economists characterize their common sense propositions by stating that the real

(actual) economy is a non-ergodic, independent system with human agency and economic-social-political structures and institutions embedded in an historical process located in historical time.

Other propositions accepted and articulated that support and clarify the above include: the actual economy and the society in which it is embedded is real and exists independently of the heterodox economist; the economy is transmutable, hence its future is uncertain and unknowable; ends are not entirely knowable nor independent of the means to achieve them; economic outcomes and change comes about through acting persons interacting with social, political, and economic structures, and hence are ethical and political outcomes as well; and a capitalist society is a class society and the economy is permeated with hierarchical power derived in part from it. The final common sense proposition is that the study of particular economic activity cannot be done independently of the whole economy or from the social system in which it is embedded. Mutually shared among heterodox economists, these common sense propositions provide the basis for its ontological realism foundation. [Wilber and Harrison 1978; Gruchy 1987; Lawson 1994, 1999a; Arestis 1996; Davidson 1996; Dow 1999, 2001; Downward 1999; Rotheim 1999]

From the common sense propositions, heterodox economists conclude that the economy works in terms of causal-historical processes. Moreover, because they accept the ontological constraint implicit in this, a specific form of realism, *critical realism*, is the ontological basis of heterodox economics. Not only do they posit that economic phenomenon are real, heterodox economists also argue that their explanations or theories only have real components, refer to real things, represent real entities, are judged good or bad, true or false by virtue of the way the economy works, and are causal explanations.⁴ As a causal explanation, theory provides an account of the process as a sequence of economic events and depicts the causes that propel one event to another in a sequence. In addition, while accepting that theories are evaluated on the accuracy of their

explanations, they also accept *epistemological relativism*, which is that explanations of economic events are historically contingent, and integrate the two. Finally, to ensure that their theories are causal explanations of real things, it is necessary to adopt the *method of grounded theory* as the research strategy to create and evaluate economic theories. [Maki 1989, 1992a, 1996, 1998a, 1998b, 2001; Ellis 1985]

Critical Realism

Critical realism starts with an account of what the economic world must be like before it is investigated by economists and for economic analysis to be possible. Thus its fundamental claim is that the economic world is causally structured which means, as will be subsequently argued, that economic theories are historical and narratively structured. CR begins with four propositions, the first being that the economic world consists not only of events and our experiences, but also of underlying structures and causal mechanisms that are in principle observable and knowable. Second, it is argued that economic events, structures and causal mechanisms exist independently of their identification. Third is the argument that all economic events are produced by an underlying set of causal mechanisms and structures. Finally, as an *a posteriori* observation, it is commonly noted that the social world is open in that economic events are typically produced as a result of interactions of numerous, unanticipated, often counteracting structures and contingently related causal mechanisms. Consequently, there is a three-tier view of economic reality. The first two tiers are the empirical events of experience and impression and the actual events underlying them. Understanding the former depends on the explanations of the actual events and that is derived from causal mechanism(s) and economic structures, which constitute the third tier of economic reality. The causal mechanisms and structures together are the ontological core of heterodox economics in that when they are identified and understood, the empirical and actual events are jointly understood.

Moreover, because causal historical processes are knowable and observable, so are the causal mechanisms and structures. This implies that agency qua decision making by the acting person is an objective activity as opposed to a purely subjective one and hence as objective as ‘objective structures’. Thus for the heterodox economist, identifying structures and causal mechanisms and describing their way of influencing or acting on specific events in the open economic world is their scientific undertaking; putting critical realism into practice thereby making the unknown knowable and the unseen observable although it will not be perfect.

A causal mechanism in the context of heterodox economics is irreducible, has a relatively constant internal organization whose components are intentionally not mechanistically related, is real, observable, and underlies, hence governs or produces actual events, and acts transfactually (that is acts and has effects even when it does not generate discernable actual events). Being irreducible means the form and organization cannot be disaggregated into its constituent components and still function as a causal mechanism. In this sense, a causal mechanism is an emergent entity in that its properties and powers cannot be completely traced to its individual components. To have a constant form and organization means that the mechanism can be empirically identified by stable patterns of behavior and organizational format and hence empirically observed and delineated. Furthermore, the ability to act means that the mechanism has the power to generate qualitative and/or quantitative outcomes; and the triggering of the mechanism comes from agency, human intentionality via the acting person, which means that the causal mechanism cannot be thought of as a machine or ‘mechanistic’—that is, not completely structurally determined. Thus economic actors qua acting persons have independent power to initiated actions (and so making the system open), thereby setting in motion causal mechanisms which generate outcomes that underlie hence govern actual economic events. Because the causal mechanism utilizes the same processes when producing results, the same

results are repeatedly produced; and conversely, a causal mechanism does not produce accidental, random, transitory results.⁵ To say that a causal mechanism acts transfactorially producing the same results is also to say that its form and internal organization are constant thereby making it a relatively enduring entity. Hence, if the same causal mechanism operates in different situations, it will produce the same, or transfactual, results each time it is in operation; but the empirical and actual events need not be regular or repeatable, as other contingently related causal mechanisms may be affecting them. So, in an open system, a causal mechanism only has the tendency to produce regular, repeatable qualitative or quantitative actual economic events denoted as *demi-regularities*.

Structure is different from causal mechanism in that it does not include human agency; hence it can only help shape or govern the actual event. Otherwise it is similar to a causal mechanism in that it is real, observable, relatively enduring in form and organization, irreducible, and governs transfactorially. The structures of an economy have two additional properties: (1) being sustained, reproduced, and slowly transformed by economic and social events that are caused by acting persons through their causal mechanisms; and (2) their form and organization have a historical character. Moreover, all economic structures are social structures in that they represent and delineate recurrent and pattern interactions between acting persons or between acting persons and technology and resources. Economic structures include economic and social norms, practices and conventions, social networks such as associational networks or interlocking directorates, technological networks such as the production and cost structures of a business enterprise or the input-output structure of an economy, and economic, political, and social institutions such as markets or the legal system. As distinct entities, neither causal mechanisms nor structures can separately cause and govern actual economic events. Rather they must work jointly where the structures provide the medium or the conditions through which causal mechanisms act. So, as long as they remain enduring, there will be

a tendency for regular and repeatable actual economic events to occur. In fact, in a transmutable world where the future is not completely knowable, acting persons are only possible if causal mechanisms and structures are relatively enduring so that they can connect their acts to outcomes; for if acting persons could not see themselves producing transfactual results, they would not act.⁶

Epistemological Relativism

Epistemological relativism is the view that knowledge of economic events is historically contingent. That is, because the social and economic activities of interest to heterodox economists change over time, knowledge and understanding of them is historically contingent; hence there are no eternal 'truths' and knowledge is always in the process of being created, even for past events. Consequently, what is known about actual economic events of the past need not be knowledge about current or future economic events. As a result, heterodox economists are continually engaged in creating new knowledge, new explanations to take the place of those that cease to refer to real things, represent real entities, and explain actual economic events. Thus CR explanations or theories are historically conditioned hence historically contingent, which implies that, for heterodox economists, there are no ahistorical economic laws or regularities. Moreover, it is not possible to make ahistorical, general statements with absolute certainty beyond the historical data and context in which the statements are embedded. Another implication is that theories must be, in some sense, grounded in historical data in order to tell historical stories explaining historical economic events. A third implication is that the difference between good and not-so-good, between true and simply plain wrong theories is how well their explanations correspond if not 'embody' to the historically contingent economic events being explained. Finally, epistemological relativism implies that the continual creation of knowledge is a social act carried out by informed actors, that is by heterodox economists, in a socially, historically contingent context. [Sayer 1992; Lawson 1997]

Research Strategy: Method of Grounded Theory

To develop a critical realist empirically grounded theory that analytically explains causally related, historically contingent economic events, the critical realist heterodox economist needs to identify and delineate the structures, causal mechanisms, and causal processes producing them. The guideline for creating causally explanatory theories that is also consistent with realism, critical realism, and epistemological relativism is the *method of grounded theory*. First delineated by Barry Glaser and Anselm Strauss (1967), it was subsequently developed by them, their students, and others to become a widely used research strategy, especially when qualitative research methods are used to deal with issues of agency (Strauss 1987; Strauss and Corbin 1990, 1994; Dey 1999; Locke 2001; Goulding 2002; Bryant and Charmaz 2007; Morse et. al 2009). At roughly the same time, similar (but not as fully developed) guidelines for theory creation and evaluation going by the names of holism, pattern model, method of structured-focused comparison, and participant-observer approach using case study method were also proposed and developed (Diesing 1971; Wilber and Harrison 1978; George 1979; Fushfeld 1980).

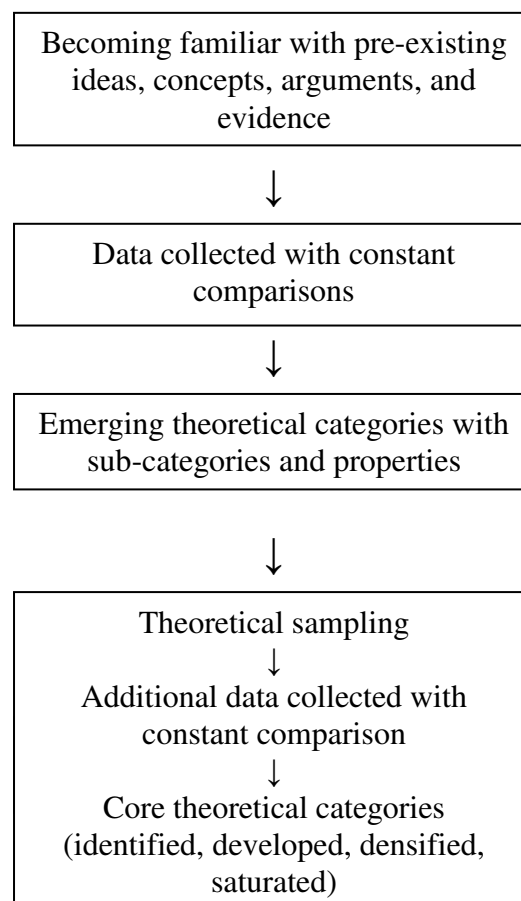
Finally, for the past two decades, critical realists have advocated the research strategy of *abduction* (or sometimes called *retroduction*) for theory creation. It is a form of theory construction that goes from the surface event to the structures and causal mechanisms that produce it by inferring causes from the effects. The first step in this process is a ‘hypothetical’ theoretical-abstract re-description of the events based on existing theoretical arguments and qualitative and quantitative material. The next step is to postulate and identify the structures and causal mechanisms underpinning the theoretical re-description, thereby producing a theoretical explanation (hence theory) of the event. The final step is to check whether the theory is empirically valid. Although, advocated by critical realists, abduction is in fact weak on realism. That is, there is no requirement

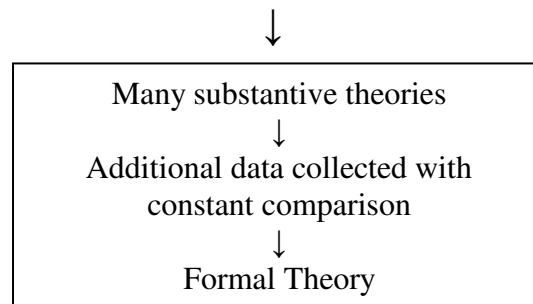
that the theoretical re-description be empirically grounded; and nor is there any requirement that the postulated structures and causal mechanisms be real qua empirically grounded. Hence, it is argued by some critical realists that abduction permits the use of analogies, similes, and metaphors as useful ways to identify causal mechanisms and structures. But since the latter are by their nature not real, they cannot contribute in any manner to the construction of a realist theory and in any case may direct the attention of the researcher towards fictitious, hence empirically ungroundable, causal mechanisms and structures and thus to unfactual theories. Finally, abduction does not indicate *how* the causal processes should be delineated and articulated, that is the analytical and literary form the theory should take. In short, abduction is insufficient as a research strategy for the creation of a critical realist grounded theory.⁷ [Lawson 1996, 1998c, 1999b, 2003; Sarre 1987; Sayer 1992; Pratt 1995; Boylan and O'Gorman 1995; Yeung 1997; Runde 1998; Downward 1999; Oliver 2012]

The method of grounded theory is a guideline qua process by which researchers create their theory 'directly' from data (which is defined below); and in which data collection, theoretical analysis, and theory building proceed simultaneously--see Figure 1. The use of the method begins with the economist's becoming familiar with, but not dogmatically committed to, the relevant theoretical, empirical, and historical literature that might assist them in approaching, understanding, and evaluating the data relevant to their research interest. Then, one engages in 'field work' by collecting comparable data from economic events from which a number of specific categories or analytical qua theoretical concepts and their associated properties are isolated and the relationships between them identified. With the theoretical concepts and relationships empirically grounded in detail and hence empirically justified, the economist then develops a theory in the form of a complex analytical explanation based on the data's core concepts. The essential property of the theory is that it explains why and how the sequence of economic events represented in the data took place. Hence,

the economist does not attempt to construct a simplified or realistically deformed empirically grounded theory by ignoring or rejecting particular data. Rather, the economist endeavors to capture the complexity of the data by establishing many different secondary concepts and relationships and weaving them together with the core concepts into structures and causal mechanisms. This ensures that the resulting theory is conceptually dense as well as having causal explanatory power. The process of selecting the central theoretical concepts and developing the theory brings to light secondary concepts and relationships that also need further empirical grounding, as well as suggesting purely analytical concepts and relationships which need empirical grounding if they are to be integrated into the theory. After the theory is developed, the economist will evaluate it by seeing how it explains actual economic events. Let us now consider aspects of the grounded theory method in more detail.

Figure 1

Schema of the Grounded Theory Method



Pre-Existing Ideas and Concepts

Any researcher undertaking a project of economic theory creation is already aware, to one degree or another, of various ‘competing’ economic theories. So the question is how aware should they be of the ‘local’ research frontier of the project as well as what lies behind it? To use the GTM fruitfully, the heterodox economist must become familiar with the contemporary heterodox and mainstream theoretical and non-theoretical literature, the controversies between economists, and the relevant literature from the history of economic thought. In particular, they need to make a detailed and critical investigation of the pre-existing heterodox ideas and concepts to see which might lend themselves to empirical grounding. The economist also needs to be familiar with some of the empirical literature as well as with the relevant literature from economic history. By acquiring a critical awareness of the pre-existing economic theories and empirical findings, they acquire a theoretical sensitivity regarding the data and theoretical concepts they will be examining, comparing, and empirically grounding. As a result, the economist will have the ability to recognize what might be important in the data and to give it meaning as well as recognizing when the data do not support a pre-existing theoretical concept or category, requires a large or small transformation of the pre-existing concept or category, or ‘produce’ a new category. Thus, the GTM not only recognizes that

observations, data, and descriptions are conceptually qua theory laden; it also reinforces the latter by demanding that all economists enter into theory creation as theoretically knowledgeable and aware individuals, as well as with the conviction that the creation of a new substantive economic theory will most likely require them to set aside forever some of that acquired knowledge. Consequently, the economist can still pursue the GTM even though they may favor particular non-grounded concepts and theories. Hence the grounded theory economist is not a neutral observer sifting through given “facts” that present them, through some sort of immaculate conception, with a theory without a moment of forethought; rather the economist is actively and reflectively engaged with it and is aware of the possibility of ‘observer bias’ (Olsen 2012: 65-71). By acknowledging the issue of conceptually-laden observations while at the same time demanding that the economist be skeptical of all pre-existing theory, the grounded theory method is a highly self-conscious, engaging and open-minded approach to economic research, data creation-collection, and theory building and evaluation.

Data, Constant Comparisons, and Theoretical Categories

The development of theoretical categories is a complex task that starts with collecting analytically and theoretically unembedded quantitative and qualitative information that is believed to be relevant for the task at hand. Information is obtained from interviews, surveys, oral histories, historical and current documents, videos, images, questionnaires, ethnographic investigations, observations, and site visits. Through comparing, analyzing, and interpreting the information while simultaneously organizing it into generalized categories qua theoretical concepts, information is transformed into data. This has three implications, the first being that data is created rather than pre-existing which means that the economist has direct and reflective relation to it. Secondly, not all information gets transformed into data. Through critical evaluation of it, some may be deemed not relevant, while other information may be found as inaccurately reflecting reality relevant to the task

at hand. The third implication is that data is not restricted to just sense experience. For example, historical documents or field reports contain data that cannot be verified by the reader's sense experience. The same can also be said for oral histories that deal with past events. On the other hand, non-written data, such as informal rules, hierarchical power, and expectations inside the business enterprise, are not unobservable in that they can be verbally articulated and hence written down, filmed and then identified at a later point in time, or observed as institutions, that is, as observable patterns of behavior hence capable of being recorded. Thus all data is observable, although the sources and medium in which they exist varies; to be unobservable in this sense is not to be real and hence to be no data at all. Hence, the theoretical categories that emerge come from the information qua data, not after they are all collected, but in the process of collecting them. Consequently each category is tied to or empirically grounded in its data; and since the data is real, observable, measurable, so is the theoretical category. Moreover, since the data lies in time and history, each theoretical category is anchored in a particular historical setting. In short, a grounded theory category is theoretical and actual, grounded in real time, and historically specific. [Olsen and Morgan 2005; Olsen 2012]

The purpose of constant comparison of the data is to see whether they support and continue to support emerging categories.⁸ Thus, each theoretical category that becomes established is repeatedly present in very many comparable pieces of data derived from multi-sources; in other words, a category represents a 'pattern' that the researcher recognizes in the data generated by replicatory or comparable studies. Consequently, categories are created by the researcher rather than 'discovered' in the data; hence categories are one conceptual outcome that arises from the researcher's immersion in the data. It is in this sense that categories emerge from the data (Dey 2007). In this way datum, that would not be significant on its own, obtains a collective, emergent significance. The categories

that emerge are of two types: one that is derived directly from the data and the other that is formulated by the economist. The former tends to denote data self-description and actual processes and behavior while the latter tend to denote explanations. In either case, the language used to describe the categories may be quite different from the existing theoretical language. As a result, the building of a grounded theory may require the creation of a new language and discarding old words and their meanings. On the other hand, the language used may come directly from the data collected and/or from commonly used language (which is generally not theoretical language) (Konecki 1989; Coates 1996). Finally, each category has properties also derived from data in the same manner, that is, by using constant comparisons. The more properties a category has, the denser and hence the more realistic it is. A grounded theory category does not ignore the complexity of reality; rather it embraces it.

Theoretical Sampling and Saturation

In the process of collecting data, the economist may feel that what is being collected is not revealing additional properties of a specific kind that they believe, owing to their familiarity with the relevant theoretical, empirical, and historical literature, might exist. As a result, they engage in theoretical sampling. This involves sampling or collecting data that are expected to increase the density of a specific category by producing more properties, as well as increasing the number of pieces of data supporting each of the properties, hence making it more definitive and analytically useful.⁹ Theoretical sampling and collection of data for a single category, as well as for a range of categories, continues until theoretical saturation is reached, that is when no new data regarding a category and the relationships between the categories continue to emerge. A saturated category is not a function of the number of pieces of data, as it may become saturated after only a small portion of the available data has been analyzed. The significance of this empirical grounding process is that the

theoretical categories cannot be unrealistic hence false since they are derived from the data. If the data collection and theoretical sampling is incomplete then the categories are not adequately dense, as relevant properties are missing; thus such categories are incompletely realistic. On the other hand, if future data emerges which the empirical grounding process shows do not fall into a previously existing category, then that category is not relevant, but it is not empirically false.

Structures, Causal Mechanisms, Demi-Regularities, and Grounded Theories

Once the real, observable theoretical categories are delineated and grounded, the economist, perceiving a pattern of relationships among them, puts critical realism into practice by classifying some directly as economic and social structures and others as components of them. Continuing the practice, other categories that centered on acting persons motivation and action and a set of outcomes are woven together into a causal mechanism; and finally, some categories are identified as demi-regularities. The resulting structures, causal mechanisms, and demi-regularities are real, observable as opposed to unreal, metaphoric, and hidden. So, to observe a structure or causal mechanism is to observe the working together of its observed concrete components. Hence structures, causal mechanisms, and demi-regularities are real, observable precisely because their categories are real and observable.

Given their research interest, the economist selects from the causal mechanisms identified one as the central causal mechanism around which the structures and secondary causal mechanisms and their outcomes are arranged. Criteria for selecting the central causal mechanism from among a number of possible causal mechanisms include its frequently in the data as a cause of the outcomes, its implications for a more general theory, and its allowance for increasing number of interrelationships between the structures and causal mechanisms. Thus the causal mechanism is central to the narrative being analytically developed in conjunction with the economic structures and

secondary causal mechanisms. More specifically, the narrative is not a description of present or a recounting of past unique and/or demi-regular economic events, although both techniques of presenting empirical and actual economic events are included in the narrative. Rather, it is a complex analytical explanation of those described or recounted events. Even when the basic narrative is decided upon, its development will involve further theoretical sampling and collecting of data as new properties for and interrelationships between the existing structures and causal mechanisms emerge. Consequently, the narrative evolves into an economic theory while at the same time becoming increasingly denser (in terms of increasing number of interrelationships between the structures and causal mechanisms).

The critical realist-grounded theory that eventually emerges is a intrinsically complete or closed (but ‘externally’ open via its causal mechanism) analytical explanation or interpretation of the actual economic events represented in the data. Thus the theory is not a generalization from the data, but of the data; that is, a grounded theory does not go beyond the data on which it is based--it does not claim universality or the status of an empirical-theoretical law. This means that the GTM is not the same as induction. That is, the GTM establishes qua creates structures and causal mechanisms (which CR say must exist for scientific research to be possible) from the data with the point of arguing that the relevant economic events, assuming that the structures and causal mechanisms remain relatively enduring, remain relatively ongoing as well. In this manner, CR-GT approach is not an inductivist research strategy leading to empirical-theoretical laws, with the implication that it cannot be evaluated or judged in terms of logical coherence of a deductivist kind. Rather, the coherence of a CR-GT is evaluated and judged on how rigorous, that is, strictly exact or accurate its explanation corresponds to the actual historically contingent economic events. [Sarre 1987; Sayer 1992]

Since the theory is a clear theoretical account of empirical and actual events that occur in historical time, the critical realist three-tier view of economic reality collapses into a single integrated tier for the CR-GT heterodox economist. In other words, reality is built into the theory (as opposed to having a non-grounded theory representing reality). With the grounded theory in hand, the heterodox economist can directly “see” the causal mechanisms and structures and “hear” the acting persons determining the empirical and actual events—the mysterious, randomness, and unintelligibility is replaced by clear explanation. Moreover, being a weave of a central causal mechanism, secondary causal mechanisms, and economic structures designed to explain actual economic events in historical time, the theory also consists of realistic (as opposed to stylized or fictionalized) descriptions of economic events and accurate narratives of sequences of economic events. As a result, the grounded economic theory is an emergent entity, a concatenated theory that cannot be disassembled into separate parts which compose it.

Economic theory centered on a single central causal mechanism is classified as a substantive economic theory since it is an explanation of a single basic economic process that occurs widely in the economy. From a number of substantive theories, a formal economic theory is developed in a concatenated manner into a general or holistic theory where the relationship or pattern among the substantive theories is its analytical explanation. That is, a formal theory is built up from substantive theories; it has no prior existence. As in the process of grounding the substantive economic theory, the formal theory also has to be grounded. In particular, the relationships between the substantive theories that constitute the formal theory need to be grounded in data assisted and directed by theoretical sampling. Consequently, the formal economic theory is grounded, historically contingent, and its analytical explanations are not empirical extrapolations. Moreover, it is no more (or less) abstract than a substantive grounded theory. Because a grounded theory must at all times be

grounded, it cannot be an abstract theory where the modifier denotes some degree of non-groundness, such as the use of fictional categories or the elimination of data. Hence grounded theories cannot be differentiated according to the levels of abstraction.

Evaluating Grounded Theories

Since the categories and their relationships that constitute the theory are intimately linked with the data, the grounded theory itself cannot be falsified. More specifically, because a grounded theory is developed with the data rather than prior to it, it does not stand independently of the data. Thus, it is not possible to test for the truth or falsity of a grounded theory by checking it against the data from which it is constructed. But a grounded theory is evaluated by how well it explains actual economic events, that is how well it identifies empirically and weaves together the causal mechanisms, structures, and descriptions into a narrative of the economic events being explained. In short, a grounded theory refers to real things, represents real entities, and is evaluated on how well it rigorously accounts for the causal manner in which the economy actually operates. The evaluation process takes place within a community of scholars where delineating tentative drafts of the theory are presented to colleagues at conferences and seminars for critical comments; and more refined presentations of the theory are published where colleagues have the opportunity to point out inadequacies. Through this cooperative process of economic-writing, economic-reading, and critical commentary, the community of heterodox economists arrives at, hopefully but not necessarily, adequate theories (which illustrates the social nature of knowledge construction). Consequently, a grounded theory as socially constructed knowledge is, in the first instance, only as good as its theoretical categories. If the data selected do not cover all aspects of the economic event(s) under investigation; if the economist compiles categories and properties from only part of the data collected or forces data into pre-determined categories; if the density of the categories is small or the

relationships between categories are not identified or under-grounded due to incomplete data collected; if the economist choose the 'wrong' central causal mechanism; and/or if the narrative is static, terse, unable to fully integrate structures and central and secondary causal mechanisms, and relatively un-complex, then the commentary of critics will make it clear that the economic theory is poor, ill-developed hence to a greater or lesser extent less-realistic, and unable to provide a comprehensive and convincing explanation of actual economic events. That is to say, all grounded theories are realistic in that they are grounded in every detail in data. A grounded theory may be relatively complete or a much incomplete explanation of an economic event; but in both cases they are entirely realistic. To be unrealistic from a grounded theory perspective is to include non-grounded concepts in the theory, but then it would not be grounded.

A second way to evaluate a grounded economic theory is to see how well it deals with new data: data is taken seriously and the validity of previously developed knowledge is always questioned. The relatively enduring structures, causal mechanisms and their outcomes of a grounded theory are based on data collected in a specific time period. So, it is possible to evaluate whether they have remain enduring outside the time period by confronting them with 'new' data derived from replicating studies, especially data from actual events that at first glance appears to fall outside existing categories and not to support demi-regularities and expected transfactual results. If the new data falls within the existing categories and conforms to the transfactual results, that is the pattern of data and narrative of the new data matches that of the existing theory, then the structures and causal mechanisms have been relatively enduring (Wilber and Harrison 1978; Yin 1981a, 1981b). On the other hand, if the new data falls outside the existing categories and not supporting the transfactual results, that is the pattern of the data and narrative does not match the existing theory, then at least some of the structures and causal mechanisms have changed. Consequently, the existing grounded

economic theory needs to be modified or replaced by a completely new one. Therefore, theory evaluation is designed to check the continual correspondence of the theory with the real causes of ongoing unique and demi-regular economic events. Hence, it is essentially a positive way of promoting theory development and reconstruction as well as new theory creation when the correspondence between theory and events breaks down.

The fact that good or poor research practices lead to better or worse grounded economic theories indicates that choices made by economists do affect the final outcome. Therefore, within the GTM it is possible, although not likely, to have good but different substantive and formal economic theories for the same economic events. Given the same theoretical categories, a different choice of a central causal mechanism produces a different theory; or if the same central causal mechanism is used but integrated with different structures and secondary causal mechanisms, a different theory will also be produced. However, since heterodox economists are critical realists, and their theories concern causal historical events, they do not accept the possibility that there are multiple valid grounded theories explaining the same economic events; and hence reject the possibility that there is no empirical evidence that could distinguish between two incompatible grounded theories. Thus, following the same procedures as above, the way forward for the grounded theorist is to collect new data to see which of the two theories they support supplemented by critical commentary from colleagues. Hence, although the procedures used are the same and the data collected are, in principle, the same, checking the continual explanatory adequacy of a grounded theory is a different activity from choosing between two different grounded theories, for the former produces a historically linked sequence of grounded theories, while the latter concludes that one of the two theories is not an explanation after all.¹⁰

Summary of the Critical Realist-Grounded Theory Approach

The CR-GT approach to theory creation and evaluation overcomes the perceived shortcomings of CR and the GTM: the former has little to say about theory, while the latter lacks the ontological foundation and so appears to be little more than an inductive research strategy. However, CR provides the ontological realist foundation for GTM and identifies its objects for empirical grounding—structures and causal mechanisms, while the GTM provides the research strategy by which they are empirically grounded. The theory resulting from the CR-GT approach is a conceptually dense analytical explanation of the actual events represented in the data; and its relatively enduring capability in this regard can be evaluated by confronting it with new data. Hence the CR-GT approach is not based on deductive or inductive logic, but on a reflective form of scientific knowledge creation data that is interactively fused with the creation of theory. So the theory is of the data—not separate from it; if new data supports the theory, it becomes part of it; while if the new data does not support it, then that data becomes part of a new theory with different structures, causal mechanisms, and perhaps demi-regularities.

Issues of Research Methods

The GTM of theory creation effectively dismisses not only the traditional issue of the realisticness of assumptions, but also the role of assumptions in theory creation and development. The reason is that assumptions are by definition not grounded in the real world, so their use for theory creation can not part of the GTM. Consequently, the degree of their realisticness or their adequacy as a logical axiomatic foundation for theory is not a concern. This implies that logical coherence is irrelevant for evaluating grounded theories. Moreover, because the role of theoretical isolation in traditional theory building and theorizing is dependent on assumptions, their absence in the GTM means that grounded theories are not isolated theories that exclude possible influencing

factors. The combination of CR, with its structures, causal mechanisms, and epistemological relativism, and the GTM produces theories that include all the relevant factors and influences, are historically contingent, and exist in ‘real’ space and time. To deliberately exclude some factors would leave the mechanisms, structures, and theories insufficiently grounded; and to claim to establish laws and certain (timeless) knowledge would remove the mechanisms, structures, and theories from the real world economic events they are to explain. Thus, the integration of critical realism and grounded theory results in theories and theorizing fundamentally different from the traditional mode. In particular, it means that heterodox economic theory is not an axiomatic-based approach to theory creation, does not use deductivist methods to create theory, and rejects every research strategy of theory creation that is not empirically grounded. On the other hand, their integration produces their own set of research methods issues, centering on data triangulation, on the use of the case study method in theory creation, on analytical statistics, and on mathematics and economic models. [Spiethoff 1953; Maki 1989, 1992a, 1992b, 1998b]

Data Triangulation

A CR-GT consists of an array of structures, a primary and perhaps some secondary causal mechanisms. The data needed to ground them is diverse, since some structures are based on statistical data while others are based on social-relational data; and the causal mechanisms require some data that clearly reveals intentionality qua decision-making. The use of different kinds of data to construct a CR-GT is called *data triangulation*. More specifically, the CR-GT approach requires the use of the method of data triangulation, since no one type of data is sufficient for theory construction. For example, to construct a critical realist-grounded explanation of a particular set of past and present economic events, such as pricing and price stability, the possible data sources include all existing written, recorded, physical, and quantitative records and artifacts. Since these

data sources might very well prove insufficient for the task at hand, it is necessary to use other research methods—such as surveys, interviews and oral histories, industrial archaeology investigations, questionnaires, mapping, direct observation, participation in activities, fieldwork, and statistical analysis--to create new data. In this context, subjective evaluations and interpretations of future possibilities constitute a particular kind of data that require particular research methods to observe and record. When it is important to explain how and why particular pricing decisions are made and who made them, the economist needs to create narrative accounts of relevant lived-historical experiences embedded within the cultural milieu of particular business enterprises. Thus they need to examine letters and other written documents, undertake interviews and other oral documentation, and possibly engage in participant observation in which the economist may directly engage with, for example, the enterprise in the process of collecting data that is used in the pricing decision. So what constitutes appropriate data depends on the object of inquiry. Consequently, real, observable, and measurable theoretical categories, hence real, observable, and measurable economic structures and causal mechanisms that constitute the CR-GT, are grounded in the data obtained from various sources. [Goulding 2002; Olsen 2003; Downward and Mearman 2007]

Case Study

The theoretical categories that make up grounded theories are based on an array of comparable data generated by case studies. A case study is defined as an in-depth, multifaceted investigation of a particular object or theme where the object or theme is ontologically real and gives it its unity. The object or theme can be historical or a current real-life event and the study may use several kinds of data sources. For example, the theme of a case study may be the pricing procedures used by business enterprises; consequently the case study will involve the collection, comparison, categorization, and tabulation of pricing procedures obtained from various empirical pricing studies

along with a critical narrative that examines and integrates the data. Thus, the case study approach is the principle method of data collection and comparison used to develop categories, structures, and causal mechanisms. Moreover, by providing information from a number of different data sources over a period of time, it permits a more holistic study of structures and causal mechanisms.

A case study does not stand alone and cannot be considered alone; it must always be considered within a family of comparable case studies. If the economist is faced with a shortage of case studies, the response is not to generalize from them but to undertake more case studies. Moreover, theoretical sampling is specifically carried out through case studies in that the economist makes a conscious decision to undertake a particular case study in order to increase the empirical grounding of particular theoretical categories.¹¹ Thus a case study may be of an individual business enterprise and the theme of the study may be to delineate the complex sets of decisions regarding pricing, production, and investment and to recount their effects over time. On the other hand, it may be concerned with a particular theoretical point, such as pricing, examined across many different case studies of different enterprises. The different cases not only provide comparable data for comparisons, but also descriptions of structures and causal mechanisms and a narrative of the causal mechanism in action over time. A third type of case study is a narrative that explains an historical or current event. The narrative includes structures and causal mechanisms which, when combined with the history or facts of the event, explains how and why it took place. Hence, this type of case study is both a historical and theoretical narrative, an integration of theory with the event. Consequently, it provides a way to check how good a CR-GT is and, at the same time, contributes to its further grounding and extension. A robust substantive CR-GT is one that is based on an array of case studies of historical and current events.¹²

Analytical Statistics

Analytical statistics (as opposed to descriptive statistics) is the use of statistical methods to examine various types of quantitative and qualitative data for the purpose of assisting in delineating structures, causal mechanisms, transfactual outcomes and demi-regularities; in evaluating CR-GTs for their accuracy in explaining past and present economic events; and in evaluating claims in the historical literature regarding causal mechanisms and transfactual outcomes and demi-regularities. It includes various forms of regression analysis qua econometrics (for example average economic regression and vector autoregression) and factor analysis (for example cluster analysis and qualitative comparative analysis). Constrained to a critical realist causally-related world of structures and causal mechanisms and the GTM insistence of not making inferences beyond the existing data, the use of analytical statistics, especially econometrics, is restrained. For example, in the process of transforming categories into an economic theory, the heterodox economist provisionally identifies and associates structures and causal mechanisms with particular transfactual outcomes. To assist them in this regard, the economist subjects the causal mechanism and its outcomes to econometric evaluation or testing. The econometric model used includes components for the quantitative representation of structures as well as components for the causal mechanism; and its particular statistical form is determined by the causal mechanism. As a result, the model is provisionally intrinsically closed. If the econometric tests of the given data support the existence of the causal mechanism's transfactual outcomes, then the empirical grounding of the causal mechanism is enhanced. Failure of the tests would, on the other hand, indicate that the causal mechanism and its associated structures are inadequately developed and needed further development. Assuming the testing a success and in light of the other empirical support, the economist can provisionally identify the causal mechanism and its transfactual outcomes. At this stage, they can engage in further

theoretical sampling to see if additional qualitative and quantitative evidence support it; and econometric testing can again be utilized in this context. Thus, in the CR-GT approach, econometric testing is about understanding the relationship between (given structures) the causal mechanism and its transfactual outcomes (and not about future prediction or about making inferences beyond the data). If econometric testing of new data fails to support the causal mechanism and its outcomes, then the implication is that the structures and causal mechanisms have changed; it then becomes necessary to re-ground them.

Econometrics can also be used to evaluate grounded theories that are associated with demi-regularities. In this case, the economic theory is econometrically modeled so as to include all the structures, the primary causal mechanism, and the secondary causal mechanisms. If the evaluation is a success, then it can be more strongly argued that there exists a demi-regularity associated with the primary causal mechanism of the theory. But if the examination is not successful, then all that can be said is that it is less likely that the theory has a demi-regularity. Hence econometric testing provides a way to evaluate the continual correspondence of the theory with the real causes of ongoing economic events. By doing so, it contributes to the promotion of new theory building when the empirical connection between theory and events break down.¹³

Mathematics and Economic Models

Mathematics and economic models are useful as tools and instruments that can contribute to the development and evaluation of causal mechanisms and grounded theory. Their uses are, like in analytical statistics, restricted since the tenets of the CR-GT approach prescribes that the type of mathematics used and economic models constructed are derived from (as opposed to being imposed upon via analogy or metaphor) the theories being developed: it does not have a theoretical life of its own. Consequently, the economic model reflects the narrative of the theory from which it is derived.

Model building involves translating a CR-GT into a economic model, which means its structures and causal mechanisms (which embody accurate measurements and observations) are converted, as far as possible, into mathematical language where each mathematical entity and concept is in principle unambiguously empirically grounded, meaning they also have to be measurable and observable. As a result, the mathematical form of the model is determined and constrained by the empirically grounded structures (such as the input structures of a input-output model) and causal mechanisms (such as investment decisions by business enterprises), and hence is isomorphic with the theory and its empirical data, which means it is intrinsically closed but externally open via the causal mechanism.¹⁴ In this manner, mathematical model-based analysis is derived from and remains subjugated to the study of agency-structure determined economic activity. If an economic model has only grounded structures and no agency, then it is not well-grounded and nor are its solutions; and if the model's structures and agency are not grounded, then its outcomes have no meaning. Thus, while mathematics helps illuminate aspects of the grounded theory and making clear what might be obscure, it does not add anything new to the theory. That is, it does not by itself produce new scientific knowledge; or more strongly, it is not possible to have a non-empirically grounded model say anything about the real world. Such models represent bogus or pseudo-knowledge; and the analytical exploration of the 'workings' of such models represents pseudo-scholarship.¹⁵

One implication is that the model's mathematical form is not derived by analogy or based on a metaphor, both of which are not constrained by reality. A second is that the model is an accurate, but reflective, description of the CR-GT and its data and therefore not a simplification of it (as in the case of stylized facts). And a third is that the economic model is constructed in terms of historical time. That is, the economic model cannot be mathematically framed to deal with theoretical problems that do not exist in the data—CR-GT models do not permit the making up of fictitious

theoretical problems which are then solved for. This means that it must be externally open in order to deal with real historical events and contribute to the historical narrative, which also means that economic models cannot be just anything, rather they must be empirically-historically something. Additional implications are that the relationships between the variables in the model are derived from the theory as opposed to being assumed fictions, that the same model is used in both theoretical and applied work, that the model does not operate mechanistically like a machine, and that different theories have different models. Consequently the mathematical-theoretical arguments and the measurable and observable numerical outcomes derived from the model are determined, constrained, and real. In particular, the outcomes of the model are not logical deductions from given axioms or unique (or multiple) mathematical solutions; rather they are non-logical empirically grounded outcomes. Such mathematical-theoretical arguments and models derived from empirically grounded theories are characterized as rigorous and non-deductive. Thus, this form of mathematical argument cannot be used to transform economic reasoning and explanation into mathematical formalism with its chains of mathematical-deductive reasoning.

Being isomorphic with the theory and its data, yet an alternative representation of the theory, a model can be used by the economist to obtain a better understanding of the theory (and the real world) itself as well as an analytical-narrative summary for pedagogical purposes. In addition, it can be used to examine and evaluate propositions found in the theoretical literature. That is, the mathematical-theoretical arguments derived from a rigorous economic model can be used to examine whether particular mathematical-theoretical propositions associated with different economic theories and models are also rigorous or have no empirical grounding hence real world existence. Because it is grounded in the existing data, it is independent of new and future data. Thus, it can be used, for example, for discussing economic policies and simulating their possible impacts on future economic

events. In particular, it is a way of visually picturing the economy and simulating its evolving, moving outcomes. Economic models can also be used to see whether the resulting outcomes of new data conform to the expected outcome patterns of the theory and to explore the impact of changing structures and causal mechanisms on economic outcomes. In this last case, if a structure is hypothetically altered so that the economic model produces hypothetical different outcomes, the outcomes can then be compared to actual outcomes. If they seem to be the same, then the structures of the theory need to be re-examined and the process of grounding the theory renewed.¹⁶

Historical Character of Heterodox Economic Theories

The common sense propositions combined with critical realism exclude, as part of heterodox theorizing, ahistorical, atemporal entities and theoretical concepts, atemporal diagrams, given known ends independent of means or processes to attain them, models and other forms of analysis unaccompanied by temporal-historical analysis, and the utilization of ahistorical first principles or primary causes. Being outside of history, historical time, and an unknowable transmutable future, these ahistorical entities and concepts are also rejected by the GTM as fictitious since they do not emerge as categories in the historical data. Consequently, ahistorical theories with their ahistorical concepts are not connected to the range of economic events they intend to explain and hence are not capable of explaining them. In contrast, the concatenated integration of the common sense propositions and critical realism with the grounded theory method, that is the CR-GT approach, prescribes that heterodox theorizing include the delineation of historically grounded structures of the economy, and the development of historically grounded emergent causal mechanisms. Consequently, they are *historical theories* in that they are historical narratives that explain the present or past internal workings of historical economic processes and events connected to the social provisioning process in the context of relatively stable causal mechanisms (whose actions and

outcomes can be temporally different) and structures. That is, the simultaneous operation of primary and secondary causal mechanisms with different time dimensions ensures the existence of historical economic processes that are being explained. But even when the primary causal mechanism concludes its activity, the historical processes do not come to an end for the secondary and other causal mechanism can also have an impact on the structures so that the slowly transforming structures (and their impact on causal mechanisms) maintain the processes.

Historical processes are organized and directed by structures and causal mechanisms and are what constitutes historical time. Since those same structures and causal mechanisms also change slowly, historical processes change as well, implying that there are no end points, ‘constants’ to which the processes tend or lock-in, evolutionary pathways that must be followed irrespective of agency, or cyclical ‘movements’. In short, historical change is non-teleological, non-historicist, non-cyclical and hence just can only be change. With historical process and historical change as intrinsic properties of historical theories, such outside-of-history concepts and methods as equilibrium, optimization-maximization-minimization short-period/long-period positions, centers of gravitation, market clearing, states of rest, or comparative statics *cannot be utilized to organize and direct economic inquiry and to narrate economic events*. These concepts are sometimes theoretically justified in the context of a layered view of reality and economic events, since it allows some structures and mechanisms to exist essentially outside of time and historical process. At other times, they are justified in terms of slow moving variables (structures and causal mechanisms) and fast moving variables (outcomes) where the latter does not have an impact upon the former. However, the interplay and linkages between structures, causal mechanisms, and outcomes means that the distinction between the two kinds of variables is not sustainable and that, consequently, historical outcomes are not based on accidental, random, or autonomous factors; hence no structures, causal

mechanisms, and outcomes can be independent of historical processes. In short, it is not possible to start with a static theory and dynamize it into a theory that explains historical processes—no amendments to an outside-of-history theory can transform it into a historical theory.

Historical economic theories are possible because, as noted under critical realism, all historical events are, due to the existence of structures and causal mechanisms, narratively structured—there are no accidental or uncaused events, that is, events without a narrative. Hence, heterodox economists do not impose narratives on actual economic events to make sense of them, but derive them from the events via the GTM. Moreover, as long as historical events are narratively structured, subjectivity, uncertainty, and expectations do not introduce indeterminacy into heterodox theories. In addition, being a narrative, theories have a plot with a beginning, middle, and end centered on a central causal mechanism and set within structures and other causal mechanisms. Therefore, antedated events prompt the causal mechanisms to initiate activity to generate particular results and hence start the narrative; and it comes to an end when the causal mechanisms conclude their activity. Finally, the storyteller of the narrative is the heterodox economist whose objective is to help the audience—which include fellow economists, students, politicians, and the general public—understand theoretically how and why the actual economic events transpired.¹⁷ [Carr 1986; Norman 1991; McCullagh 1984; Pentland 1999; Dey 1999; Appleby, Hunt and Jacob 1994, chs 7, 8]

As narratives linked with critical realism and centered on causal mechanisms and structures, CR-GTs qua historical heterodox theories are not completely aggregated or disaggregated; and nor are they devoid of explicit human intentionality and activity. That is, because causal mechanisms embody data from many case studies, they aggregate economic reality or, put differently, compact the scale of reality and therefore the degree of detail and specificity required of the narrative. However, the degree of aggregation is limited because of the existence of structures and causal mechanisms

that cannot be aggregated or disaggregated and human intentionality and activity that are both differentiated and specific. As a result, for the CG-GT approach, heterodox economic theories are neither an aggregate theory where the differentiation among the causal mechanisms, structures, and human agency disappear; nor such a disaggregated theory so that causal mechanisms, structures, and human agency are individual-event specific and hence of little interest.¹⁸ The impossibility of aggregating emergent entities to produce representational aggregate entities, that is, aggregate entities with the same properties and behavior as the individual entities, means that heterodox economic theory must consist of linked causal mechanisms and structures. Thus, heterodox theories tell quasi-aggregated narratives explaining the many and overlapping actual economic events occurring in a differentiated economy.¹⁹ The fact that the narrative is embedded in the events as opposed to mimicking them (as is the nature of non-CR-GTs) is perhaps the most compelling reason to use the CR-GT approach for theory creation.

End Notes

¹For the few who have used GTM in economics, see Reid (1993), Reid, Jacobsen, and Anderson (1993), Finch (2002), and Scheibl and Wood (2005).

²This integrative analysis involves bringing together a wide range of readings which are noted at the end of the relevant sections.

³The acting person is a theoretical conceptualization and representation of decision-making and implementation by a going concern organization, such as a business enterprise, or institution, such as a household. It has an ongoing, repeated pattern of culturally particular, ethically informed social relationships. Moreover, the acting person is reflexive in terms of its decisions and thus visualizes the possible impact of its actions. Finally, it can determine the extent to which its decisions qua actions achieve the desired outcomes.

⁴The contrast to a factual theory is a theory which is concern exclusively with conceptual objects (scarcity) that have no connection to the real world or with theoretical objects (utility functions) that are explicitly divorced from the real world.

⁵This property of causal mechanisms obviates the need for an inductivist approach for theory creation. [Sayer 1992]

⁶Maki 1989, 1998b; Sayer 1992; Lloyd 1993; Lawson 1994, 1997, 1998a, 1998b, 1998c; Lawson, Peacock, and Pratten 1996; Wellman and Berkowitz 1997; Fleetwood 2001a, 2001b; Hodgson 1998, 2000; Joseph 1998; Downward 1999; Lewis 2004.

⁷Others have also argued that critical realism does not have a convincing research strategy for constructing and evaluating theories—see Brown, Slater, and Spencer (2002) and Walter and Young (2003).

⁸Constant comparison can also involve exact replicating previous studies to see how robust they are.

⁹The point of theoretical sampling is specifically to find data to make categories denser, more complex. Since the aim of the grounded theory method is to build theories based on data collected, the issue of generalizing in a statistical sense is not relevant. [Glaser and Strauss 1967; Corbin and Strauss 1990]

¹⁰Annells 1996; Glaser and Strauss 1967; Charmaz 1983; Strauss 1987; Konecki 1989; Strauss and Corbin 1990, 1994; Corbin and Strauss 1990; Glaser 1992, 2007; Dey 1999, 2007; Finch 2002; Tsang and Kwan 1999; Bigus, Hadden, and Glasner 1994; Tosh 1991; Boylan and O'Gorman 1995; Runde 1998; Sayer 1992; Megill 1989; McCullagh 2000; Hunt 1994; Pentland 1999; Ellis 1985.

¹¹It is important to realize that a case study which involves the replication and re-evaluation of a previous case study is theoretical sampling. In this instance, the researcher is re-examining an existing case study to see how robust its data and results are.

¹²Smith 1998; Stake 1998; Eisenhardt 1989; Orum, Feagin, and Sjoberg 1991; Wieviorka 1992; Vaughan 1992; Yin 1981a, 1981b, 1994; Mjoset 2009.

¹³Lawson 1989; Downward 1999, 2003; Downward and Mearman 2002; Yeung 1997; Olsen and Morgan 2005.

¹⁴This relationship between mathematics and CR-GT is similar to the late nineteenth century view that mathematical rigor is established by basing the mathematics on physical reasoning resulting in physical models. However, the difference here is that rigor results when the mathematical model is based on social reasoning represented by the CR-GT approach.

¹⁵This CR-GT approach to economic models and their contribution to economic analysis and explanation of the social provisioning process is distinct from how mainstream economists utilize models. Mainstream economists mostly do not empirically ground their models, but prefer to embed

them in a hypothetical fantasy-based reality which they believe qua have (religious) faith in are credible representations of the real world. But at other times, they base their models upon single exemplary case study or ‘stylized’ facts that are not subject to constant comparisons to additional data; so rendering their models no more credible than entirely empirically groundless models.

However, in both cases the credibility of the models are enhanced by allegorical stories they tell. In short, from a CR-GT perspective, mainstream economists are engaged in wrong modeling and have done so for the past hundred years. [Sugden 2002: 131; Morgan 2002, 2007, 2009a, 2009b]

¹⁶Weintraub 1998a, 1998b, 2001, 2002; Israel 1981, 1991; Boylan and O’Gorman 1995; Boland 1989; Dupre’ 2001; Morrison and Morgan 1999; Setterfield 1995, 2003.

¹⁷The historical character of heterodox economic theories is closely aligned with the view of economic theories espoused by the German Historical School (Betz 1988; Spiethoff 1952, 1953).

¹⁸The outcome of a grounded theory approach to constructing causal mechanisms is a rejection of methodological individualism. While acting persons make decisions based on subjective and objective evaluations of a somewhat uncertain future and generate outcomes, for theoretical purposes, their decisions and outcomes are aggregated and embedded in a causal mechanism. Hence, the empirically grounded role of the subjective and the uncertainty in the causal mechanism is observable, persistent, and systematic.

¹⁹See Dopfer and Potts (2008: 21-26) for a similar argument regarding meso and macro.

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