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Beneath "First Principles": Controversies Within the New Macroeconomics

George DeMartino

He who never studies metaphysical questions, and even prides himself on his unconcern with metaphysics, often does not know how much in fact he talks about it. To stay away from metaphysics one has got to know a good bit about it.

—Machlup, 1955

The study of economic methodology has progressed substantially over the past three decades, encouraged in part by developments in the philosophy of science and by Friedman [1953] and the many economists who deemed it necessary to respond to his influential contribution. Yet, these discussions have tended to conflate epistemology and methodology. Moreover, discussion has tended to ignore ontological issues.¹

There are several inferences that can be drawn from these tendencies. One is that epistemology is effectively subsumed under methodology in a one-to-one correspondence, so that methodological critique *is* (or can safely stand in for) epistemological critique. Another is that one's ontological and/or epistemological view can be treated as a private matter that has little direct bearing on the kinds of economic science one undertakes. From this perspective, the content and protocols of economic theories would be seen to be agnostic with respect to these philosophic presuppositions.

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Perhaps there is a more compelling reason. Following Friedman, many economists have believed themselves to be beyond "metaphysical" critique in view of their commitment to an instrumentalist approach to theory.² On this view, theory is but an instrument that serves the common good by solving the practical problems that arise. As such, it is to be judged by its usefulness alone.³ Hence, economists may dispense with the big questions—of truth and of what is really down there beneath the surface of empirical events—leaving them to the philosophical specialists. The vain hope is that Friedmanian instrumentalism, having side-stepped positions in epistemology and ontology, is somehow actually free of them. As Machlup might say, "If only it were that easy."

This essay attempts to demonstrate that decidedly anti-instrumentalist ontological and epistemological positions are taken in economic science, and with rather pronounced effects. These effects surface not just in the interparadigmatic skirmishes that flare up from time to time. Rather, they encompass the day-to-day decisions of economists engaged in theoretical elaboration. Moreover, to the degree that metaphysical disagreements are suppressed, they tend to be displaced onto the terrain of methodology proper, confusing these discussions. If this thesis is correct, then methodologists above all can ill afford to fall prey to the charms of Friedmanian instrumentalism and neglect such issues.

This essay will develop these points through an engagement with one dramatic controversy of recent years, namely, the emergence of new classical economics and the new Keynesian reply. It will explore the ontological premises of the new classicism, which found the new classical attack on "Keynesian" macrotheory (of the 1960s variety) and anchor its own "positive heuristic." These premises will be approached through an exploration of the content—and especially the *status*—of the "first principles" of new classical thought. Examples will be drawn as appropriate from the new classical business cycle theory.

The paper then undertakes a parallel investigation of new Keynesianism. The new Keynesian reply to the new classical challenge conjoins two distinct levels concerning first principles; we will therefore seek to disentangle these levels in the pursuit of ontological premises.

The following section examines the influential but unacknowledged epistemological rift that separates the two schools. I will also note recent criticisms of the philosophical presumptions of

orthodox economics and highlight the work of the growing corp of what might be called anti-modernist or anti-essentialist methodologists. Finally, I will bring the argument together into a "dynamic model" of economic theory that is founded on the ontological and epistemological precepts that underwrite the new macroeconomics. If successful, the essay will demonstrate the *practical* import of incorporating the explicitly metaphysical in theoretical critique.

A preliminary word is in order about how certain terms will be used. Ontology concerns the nature of things—their origins, foundations, and particularly their interrelations. Epistemology refers to theories of knowledge and comprises both the truth claims that are made for theories, such as the relations that are presumed to exist between concepts and the objects of knowledge, and the most abstract strictures that govern the apprehension of truth. Despite the tortured history that the term metaphysics has suffered in economics, it will be used here simply to designate the two realms of epistemology and ontology together rather than a distinct field of inquiry. Finally, methodology refers loosely to the study of theoretical protocols, procedural norms, modes of verification/falsification, rhetorical conventions, and the like.

New Classical Economics

Investigation of new classical economics must begin with a preliminary consideration of the foundations of neoclassical (micro)economics because the first principles and ontological presuppositions of new classical economics *are* those of the neoclassical orthodoxy.

Neoclassical First Principles

We begin with a simple question: what ontological vision founds the neoclassical approach to economic theory? Neoclassical theory begins with a small set of initial concepts. Agents are endowed with the ability to make rational choices over the sets of opportunities that they confront. Rationality is manifested in preference orderings that are consistent in the sense of exhibiting a few well-defined features (such as transitivity). Agents are endowed with the ability to act on nature through work, with the effect of producing goods and services that fulfill human needs. The state

of this ability at any given moment is subsumed under the concept of technology. As producers, agents continue to act rationally, securing the greatest available return (e.g., there is no waste). But nature's bounty is limited, and because all production requires inputs, agents confront constraints and trade-offs in production and consumption [Katzner 1988; Resnick and Wolff 1987a].⁴

That neoclassical theory begins with such simple concepts is hardly notable. Indeed, all theory must begin with a set of such concepts; these may be designated a theory's conceptual "entry points" without which it is hard to imagine a discourse developing at all [Resnick and Wolff 1987b]. Different theories may be distinguished in the first instance by their distinct sets of entry point concepts. Nor is the striking "unrealism" of these concepts exceptional or exceptionable. Constituted at the highest level of abstraction, entry point concepts purposely efface all manner of distinctions, complications, and nuances. They are, after all, just a place to *begin*.

But there *is* something notable about the status that neoclassical theory accords to its entry point concepts, something that betrays a particular ontological vision. They are taken to represent those objects existing outside of theory that are the *primary drivers* of economic affairs.⁵ In the language that has attained some currency throughout the social sciences in recent years, these objects are elevated to the status of ontological "essences."⁶ This means that they are seen to determine—but not to be equally determined by—the other aspects of human nature and society. Hence, they can work their dynamic effects, producing alterations in the broader environment without being themselves transformed.⁷

We should be clear about what is at stake in the privileging of entry point concepts. In order for this move to be warranted, one must be prepared to accept that the world is marked by a hierarchical ontological order in which certain timeless elements shape the trajectory of human interactions. It follows directly that the goal of correct science must be to represent these irreducible elements in theory—to identify them and to place them into a theoretical system that captures the relations that are presumed to obtain between them "out there" in the real world. In economic science, this entails the specification of pure theory, represented in an economic model, which stands as a (simplified) proxy for these essential elements and their interrelationships in the real-world "economic system." The better the theory, the better it reflects the

real relations that exist between the objects that its concepts represent, and as a consequence, the better it predicts.

The first analytical moment of theory construction that presumes the ontological hierarchy described here, then, is the specification of essences and their interrelationships, or what will be called the mapping of the terrain of "necessity." This exercise entails (as the opposite side of the same coin) the simultaneous demotion of all other aspects of the natural and social order to a subordinate ontological status—the status of "contingency." Hence, the founding moment of the science entails the presumption of an *ontological* dualism, which is reflected in the theory's *analytical* essentialism that attends the privileging of its entry point concepts. This ontological foundation will be called the "necessity/contingency dualism."

New Classical First Principles—Content and Status

There can be little doubt that the new classical economics embraces not just the entry points, but also the ontological commitments of orthodox microeconomic theory. This will be illustrated in two steps, beginning with the new classical attack on Keynesian theory and following with a brief treatment of new classical approaches to business cycles.

The earliest new classical challenges of the early 1970s to the massive structural "Keynesian" macroeconomic models (e.g., MPS, Wharton, DRI) that served to evaluate policy concentrated on the degree to which this body of applied theory had strayed from neoclassical first principles. In particular, the models were said to violate the fundamental assumption of rationality. The models explicitly relied on unsatisfactory proxies for rationality in the treatment of expectations formation. For example, the short-term Phillips relation was sustained via the assumption of adaptive expectations. But why, the new classical queried, should one attribute adaptive expectations to rational agents when this implied that they were prone to systematic, correctable expectational errors? Following Muth [1961], new classical substituted rational expectations for this inferior proxy, in the process invalidating the short-term Phillips trade-off in the case of announced changes in policy regimes [Lucas 1972, 1973, 1976].

Next, the new classical challenged the structural relations embedded in the behavioral components of the models [Lucas

1976; Lucas and Sargent 1978]. Current investment and consumption behavior, the demand for money, and similar patterns of behavior depended in the models on expectations about future states of the economic environment. But these behavioral relations were posited as invariant in the face of changes in policy regimes. In contrast, Lucas showed that rational agents would adjust their expectations—and consequently their current behavior—in the event of announced policy changes. Hence, the presumed structural relations of the macroeconomic models were indeed not at all structural.

The models at issue also included price adjustment parameters that were intended to incorporate the wage and price rigidities theorized by the neoclassical-Keynesian synthesis. In the new classical view, Keynesian theory paid insufficient attention to the microeconomic origins of these rigidities and to the microeconomic factors that might induce a change in their magnitudes over time. Consequently, their use was thoroughly "ad hoc." As a practical matter, then, the models were built on faith that these parameters remained invariant over relevant time periods. Only on this basis could the models be expected to make useful predictions. The new classicals ridiculed this assumption. Lucas argued:

Insofar as our descriptions of past behavior rely on arbitrary mechanical rules of thumb, adjustment rules, illusions, and unspecified institutional barriers, this task will be made difficult, or impossible. Who knows how "illusions" will be affected by an investment tax credit? [1975, 1114]

For the new classicals, the way out of the morass into which modern macroeconomic theory had driven itself lay along the path of a return to orthodox first principles. Investigation of real-world phenomena, including macroeconomic fluctuations and even unemployment, had to return to the general equilibrium's *unimpeachable* foundation in the individual "choice theoretic framework of maximization" [Plosser 1989, 52]. Modelers had to resist the temptation to indulge in ad hoc free parameters that were not derived from this foundation and about which, as a consequence, economic *science* has nothing useful to say. On these grounds, Lucas proclaimed a hostility to "theorists bearing free parameters" and confessed his sympathy "to the view of simply capitalizing this opinion and calling it a Principle" [1980, 709].

The dramatic conclusion that followed from the "Lucas critique" is that the Keynesian models were useless tools for policy evalua-

tion [Lucas and Sargent 1978]. The point was not just that in departing from neoclassical first principles the Keynesians had inaugurated a distinct approach. Rather, it was that in so doing they had forfeited entirely their claim to science.

New Classical Business Cycle Theory

These principles guided the new classical approach to macroeconomic fluctuations. Central to this project is the presumption, drawn from the microeconomic orthodoxy, that prices adjust instantaneously to the market-clearing level in the wake of exogenous shocks. Two generations of new classical business cycle theory have emerged over the past 20 years. The first was inaugurated by Lucas and entailed a stochastic environment in which agents possess imperfect information about the current and future states of the environment [1975]. In the simplest models, individual producers have incomplete information about prices other than their own. In the case of unannounced expansionary monetary policy, agents incorrectly perceive the increase in the price of their own good as a relative increase, and they respond by increasing supply. The aggregate effect is an expansion in production. Persistence in output deviations is achieved by introducing the assumption of capital goods, investment in which is taken under similar informational circumstances. Price misperceptions induce waves of unwarranted overinvestment, followed later (when expectations have been corrected) by disinvestment. Miscalculations thus engender a business cycle extending over several periods [Lucas 1975, 1981].

A second generation of models arose out of the combination of two factors: a general concern with the forced informational assumptions of these early models and a growing suspicion among some new classicals that monetary disturbances have been overblown as a cause of macroeconomic fluctuations [Barro 1984, 1989; Kydland and Prescott 1990]. The new "real business cycle" models locate the primary catalyst in technology shocks. These are integrated with the other essential assumptions of the new classicism, including market clearing, time to build, the intertemporal substitution hypothesis, and rational expectations, to generate random walk dynamics following production function disturbances [Kydland and Prescott 1982; Long and Plosser 1983; McCallum 1989; Plosser 1989].

For present purposes, the continuities between these two models warrant their treatment as a unified approach. In its ontological commitments, the approach follows Frisch [1933] and Slutsky [1937] in theorizing the dynamic properties of the economic system as pursuing a steady state, interrupted only by the effects of exogenous shocks or impulses [Kydland and Prescott 1990; Fischer 1988]. These excite the economic system, the structure of which transmits their effects in the generation of economic fluctuations that are ultimately dampened as the system returns to its natural steady state.⁸

It should be apparent that the Frisch/Slutsky framework is fully consonant with the ontological necessity/contingency dualism. The steady state is determined by the theory's essences—rationality, as expressed in the domain of consumer choice and production, and scarcity—while the destabilizing shocks emerge on the terrain of contingency that leaves the essences undisturbed.

New Keynesian Reply

Of the diverse schools of Keynesian thought that exist today, we will be concerned with only one—new Keynesianism—because of the degree to which it emerged in direct response to, and bears the imprint of, the new classicism.

Two distinct strands of argument have been advanced by the new Keynesians in their encounter with new classicism. The first (chronologically) was a begrudging and humbling recognition that, indeed, things had gotten a bit out of hand during the Keynesian heyday of the 1960s. The hunt for empirical success had crowded out theoretical integrity tied to first principles. The adventurous spirit to map new terrain had left supply lines long and undefended. The Lucas critique struck from behind, leaving the Keynesian pioneers cut off from any source of sustenance or assurance. If Keynesian theory was to survive the ambush, it too would have to find a foundation in economic science's first principles.

The "new" in new Keynesianism signalled, in the first instance, the pursuit of orthodox microfoundations for classical Keynesian propositions [Blinder 1987, 1988; Greenwald and Stiglitz 1987; Mankiw 1988]. Gordon sums up well what is at stake:

The development of new-Keynesian economics in the past decade has primarily involved the search for rigorous and convincing models of wage and/or price stickiness based on maximizing behavior and rational expectations. The ground rules of this search are commonly accepted . . . Any attempt to build a model based on irrational behavior or sub-maximizing behavior is viewed as cheating [1990, 1137].

The pursuit of a tie between traditional Keynesian results and the first principles of neoclassical economics generated influential discoveries. In the labor market, a variety of models were produced to demonstrate why profit-maximizing firms would fail to lower the real wage to the market clearing rate; most notable of these, at the moment, is the efficiency wage model in which wage rates are set above the market-clearing level as firms seek to minimize the cost per efficiency unit of labor. Similarly, rational lenders might refrain from raising the interest rate to the market-clearing level because of moral hazard and adverse selection concerns. Finally, the goods market might fail to exhibit instantaneous price adjustment because of menu costs, the optimality of "near rational" pricing behavior in the context of imperfect competition, and coordination problems that inhere in a complex free market economy.⁹

The microfounding of these impediments to instantaneous market adjustment in the wake of exogenous shocks is taken as full vindication of Keynesian theory of macroeconomic fluctuations. In the presence of such impediments, aggregate demand fluctuations can be shown to influence real economic variables in a manner replicating the stylized patterns associated with business cycles. As a result, policy can be shown to have systematic effects on real economic variables in line with traditional (or "hydraulic") Keynesian theory.

The degree to which even Keynesian macroeconomic theory has been reoriented by the new classical revolution calls into question the significance of the division between the two historic components of orthodox theory. It is appropriate that Lucas should be among the first to call attention to the collapse of macroeconomics into microeconomics:

The most interesting recent developments in macroeconomic theory seem to me describable as the reincorporation of aggregative problems such as inflation and the

business cycle within the general framework of "microeconomic" theory. If these developments succeed, the term "macroeconomic" will simply disappear from use and the modifier "micro" will become superfluous [1987, 107].

To reiterate, the new Keynesians interpret their own efforts to microfound Keynesian results as attempts to repair a breach in the theory and to fill lacunae that opened during the excessive sixties. New Keynesianism signals a return to neoclassical first principles and, in our terms, a restoration of the orthodox necessity/contingency dualism as the foundation of economic science. But from another perspective, this move can be read as a *re-interpretation* of the very terms of the Keynesian revolution. From this alternative perspective, a critical feature of Keynes's dissent was his articulation of an alternative set of first principles that were not reducible to those of orthodox economics. To the microfoundations of orthodox theory, Keynes counterposed a set of structural determinations in the form of institutional matrices and group psychology that were located beyond the attributes of the isolated individual [Coddington 1976; Leijonhufvud 1976; Amariglio, Resnick, and Wolff 1990]. The marginal propensity to consume, market psychology and the infinite regress problem, market coordination problems, true uncertainty—these can be read as a *distinct set* of founding propositions undergirding a *distinct* economic science. On this alternative view, Keynesian theory need not, and indeed cannot, "return" to neoclassical first principles (or its ontological vision) because it never shared them and, consequently, never left them. Hence, the new Keynesian position amounts to a capitulation to a particular interpretation of Keynesianism, articulated forcefully by the new classicals, that denies the specificity of Keynesian economic theory.

An Interrogation of First Principles

The second strand of the new Keynesian reply has only recently begun to emerge as an outgrowth of the struggle to microfound Keynesian theory. The new Keynesians have begun to question the concepts that had been so long ordained as essences. Recently, Blinder has called attention to this shift in the research agenda that took place gradually throughout the 1980s. Citing new work in the areas of monopolistic competition, efficiency wages, fixed

costs and inertia, and hysteresis, Blinder argues that "these new developments in economic theory, all of them still in progress, seem to me not only to shore up the theoretical foundations of Keynesianism, but actually to push micro theory in a Keynesian direction" [1988, 289]. Elsewhere he adds:

It is far from clear that the particular first principles selected by new classical economists deserve to come first . . . Why, Keynes might ask, are these postulates more acceptable as first principles than nominal wage contracting? [1987, 135]

Similarly, and citing a different set of aspects of market economies, Gordon argues:

The essential features emphasized here, the independence of shocks, and the input-output table, embody a core set of realistic microeconomic elements: A technology of transactions, heterogeneity of goods and factor inputs, imperfect competition, imperfect information, and imperfect capital markets. Unlike time-dependent or place-dependent factors like unions, these essential features are *timeless and placeless* . . . Recognition of the *universality* of these imperfections in economic life is overdue—perhaps a campaign can be started to change economic language so that these features will be considered the norm, rather than some aberrant or exotic flower [1990, 1163; emphasis added].¹⁰

At its most extreme, this campaign dares to interrogate rationality itself. Relying on recent work in cognitive and social psychology, Akerlof and Yellen [1987] advance the claim that economic science must begin to take account of the evidence that individuals may not act all that rationally after all.¹¹ It is, of course, too early to tell whether and to what degree this new campaign will affect neoclassical economics. Certainly, the neoclassical orthodoxy has withstood *identical* challenges in the past.¹² At the limit, the new Keynesian project threatens to effect a replacement of the first principles that have driven orthodox economic science to date with an alternate set that, in the new Keynesian view, truly are "timeless and placeless." Paradoxically, it is precisely the apparent collapse of macro- into microeconomics—a legacy of the new classicism—that has rendered micro theory particularly vulnerable to these new *macro*-inspired developments.

The Absent Defense

If the new classical and new Keynesian economics entail a "necessity/contingency dualism," we might enquire about the nature of the defense that is offered for this foundation. In the case of the new macroeconomics, one searches in vain. Rather, this ontology has been so fully adopted in economic science that these practitioners no longer feel compelled to defend it. Most would surely subscribe to the view that

A meaningful scientific hypothesis or theory typically asserts that certain forces are, and other forces are not, important in understanding a particular class of phenomena [Friedman 1953, 40].

It seems clear that the new macroeconomists have read such methodological prescriptions as a full warrant for a dualistic ontological world view in which elements are partitioned into the spheres of necessity and contingency.

It is, of course, axiomatic that one should not demand nor expect "proof" that a set of ontological presuppositions is true. The adopted set of ontological presumptions is precisely what cannot be proven within a theoretical discourse founded thereupon; it is the "given" that enables the proof or disproof of *other* propositions. But what it is fair to expect, and what every science should be prepared to present, is a defense of its particular ontological presumptions. Following Resnick and Wolff, we might ask what is to be gained from a specification in which concepts such as preferences and technology stand as originating essences? What are the precise theoretical consequences of this designation? On what basis is this specification better than one that refuses to accept an ontological hierarchy?¹³ To pose the question at this level, of "better" versus "worse," of consequences rather than authority, is to inaugurate a strictly secular interrogation of principles that have often been embraced reflexively. It is to ask, in McCloskey's sense, that good conversation commence.

But if the fundamental assumptions of neoclassical theory are indeed essences and not simply arbitrary entry points, then how is it possible that they can be questioned by the new Keynesians at all? And if they succeed, how unimpeachable will be the *new* essences? To answer these questions, we must try to make sense of the standards of truth that are invoked in the struggles over the designation of necessity, to discover the terms in which adjudication be-

tween competing essentialisms occurs. In what follows, we will turn to the epistemological face of the necessity/contingency dualism.

Epistemological Controversies

Recently, the new Keynesians have been outspoken on issues concerning the apprehension of truth. Blinder has repeatedly made the new Keynesian case:

Which attitude leads to better science? Is it better to start deductively from axioms or inductively from facts? . . . The important thing [for Keynesians] is to make sure our models are congruent with the facts. Lucasians, it seems to me, reverse the sequence. They want to begin with fully articulated, tractable models and worry later about realism and descriptive accuracy [1987, 135].¹⁴

These remarks suggest a new Keynesian commitment to a dated position in epistemology, known as empiricism, that privileges the facts of the case in the pursuit of truth. Committed to the ontological dualism described above, the new Keynesians search for the originating essences through direct observation of human affairs. Precisely on this basis, the traditional neoclassical essences are found wanting, as we have seen.

Empiricism (in its various forms) has been subjected to penetrating criticism in recent years by philosophers of science as well as by economic methodologists. If an invocation of authorities might be permitted in place of extensive treatment, Popper, Lakatos, Kuhn, Feyerabend, and Rorty (to name just a few) in various ways have placed into doubt the adequacy of empiricism. Popper's critique of verificationism, for example, isolated the logical problem of induction as a means of generating general propositions from singular statements. In this view, empirical observations (which are necessarily singular) provide an illogical foundation for the assertion of universal truths. Building on his work, Lakatos advanced the critique of empiricism on the grounds that it is predicated on the "naturalistic doctrine of observation" which is in turn unsustainable. The doctrine requires the mind to function as a "*tabula rasa*, emptied of all original content, freed from all prejudice of theory" [1970, 99].¹⁵ The new Keynesians are apparently unconcerned by such criticisms, given the frequency with

which they assault the new classicism for failing the empiricist standard.

The Return of Mises?

The new classicals approach these questions from an alternative (albeit no less dated) epistemological position. On this "rationalist" view, the facts cannot present unmediated access to the truth of the world. Bombarded by an infinite set of conflicting facts, the observer must always make loaded choices and impose interpretations. Only the a priori specification of true abstractions, which capture the ontological order that is presumed to lie beneath the chaos of surface manifestations, allows for the scientific management of the otherwise intractable data. Hence, correct theoretical judgments must analytically precede and guide empirical work. We have already encountered this rationalism in the new classical condemnation of old Keynesian theory. Echoing the sentiments of Mises, the new classicals condemned Keynesianism for having placed theory at the mercy of the capricious and deceitful factual record. Keynes erred when he succumbed to the temptation to take appearance as essence in his reading of the state of the interwar labor market:

Keynes wrote as though the "involuntary" nature of unemployment were verifiable by direct observation, as though one could somehow look at a market and verify directly whether it is in equilibrium or not [Lucas 1981, 220].

Once disequilibrium was accepted as a normal state of affairs, modelers could incorporate adjustment parameters in pursuit of empirical relevance. In Lucas's view, this historic compromise with the a priori principles of economic science spurred a misguided theoretical pilgrimage. Keynes's error "freed a generation of economists from the discipline imposed by equilibrium theory" and resulted in the generation of "jerry-built" models unworthy of the title of science [Lucas 1981, 220, 216].

As with empiricism, rationalism is not without its critics within and without economics.¹⁶ On what basis, they have asked, does human reasoning secure access to the originating essences of human existence? Whence the true set of rules of abstraction (and the confidence in the powers of human reason to discern them) that warrant the conviction that theory is capable of capturing

these essences? While Mises [1960, 1966] risked addressing these questions directly, exploring the logical relations between the structure of the human mind and the knowability of the nature of human action, his theoretical descendants certainly refrain from such metaphysical speculations. Yet rationalists in economics have little choice: *either* they must adopt Mises's view, *or* they must replace it with a similarly metaphysical defense. If this is unpalatable to the modern economist, then so should be rationalism. The latter is simply not tenable or complete without the former. This choice is obscured only by the tendency of modern economics to elide the metaphysical presuppositions that found its methodological positions through the defensive embrace of an insulating instrumentalism.

We have, then, two distinct epistemologies contesting beneath the new macroeconomics. But these epistemological differences should not obscure the shared commitment of both empiricism and rationalism to a vision of theoretical development as a progression toward the singular truth. The hunt for the singular, true set of first principles surveyed above signifies an *epistemological essentialism*—a correspondence or reflection view of theory—that informs the development of these schools. This shared premise has likewise been forcefully questioned in recent years by philosophers and economists. Influenced by the philosopher Richard Rorty [1979], McCloskey [1985] encourages the profession to recognize that these traditional epistemologies are components of a "modernist" notion of science that has been displaced in philosophy not only because it is detrimental, but because it is strictly impossible. Following the path cleared by Althusser [1970], Hindess and Hirst [1977], Lecourt [1975], and others, Resnick and Wolff [1987b], Amariglio [1987], and Ruccio [1991] call into question the presumed subject/object split that posits the thinker as autonomous from the world s/he seeks to interpret and the related notion of theories as representations of autonomously existing entities that can be judged according to their degree of correspondence with these independent entities.¹⁷ Taken together, these critics have extended the earlier attacks on empiricism and rationalism. To date, most practicing economists—and certainly those whose work we have treated here—have not taken account of these criticisms.

In the face of this shared correspondence view of theory, the critical differences between the epistemological positions in play

seem to collapse into little more than a practical methodological problem. According to Mankiw, for instance:

All scientists, including economists, strive for theories that are both internally and externally consistent. Yet like all optimizing agents, scientists face tradeoffs. One theory may be more "beautiful," while another may be easier to reconcile with observation [1989, 88-9].

If the new classical rationalism and the new Keynesian empiricism appear as but two poles of a simple methodological trade-off, we should expect to find economists sliding along the constraint in pursuit of discursive advantage without apparent awareness of what is at stake.¹⁸ Indeed, such is the case. In a remarkable passage, Lucas argues:

Though there is absolutely no theoretical reason to anticipate it, one is led by the facts to conclude that, with respect to the qualitative behavior of co-movements among series, *business cycles are all alike*. To theoretically inclined economists, this conclusion should be attractive and challenging, for it suggests the possibility of a unified explanation of business cycles, grounded in the *general* laws governing market economies, rather than in political or institutional characteristics specific to particular countries or periods [1977, 218].

Lucas's *induction* of the notion of a unified business cycle from the empirical evidence stands in direct contradiction to his attack on Keynes (and the entire Keynesian tradition) for having succumbed to empirical appearances *at the expense of a priori theory* in his disequilibrium account of the labor market.

The Trajectory of the New Macroeconomics

Let us sum up. The new macroeconomics is founded on what has been described as a necessity/contingency dualism. Indeed, the ascendance of the new classicism was signalled by a forceful return to the particular vision of necessity underlying neoclassical orthodoxy. In the first instance, the ensuing debates centered on the strength of the links between Keynesian macrotheoretic conclusions and microeconomic essences, and in the second instance they focused on the specification of these essences themselves. At

no time has the ontological dualism itself been called into question. The new controversy over essences has been propelled by an epistemological fissure that divides the new macrotheorists. But this fissure is obscured by the displacement of such issues onto the field of methodology, where they are interpreted merely as different practical responses to the difficulties that inevitably beset the hunt for truth.

The metaphysical positions beneath the new macroeconomics conspire to determine a particular trajectory to theoretical elaboration. The following maps this trajectory via a "dynamic model."

The first moment of theoretical work founded on these metaphysical presuppositions we have encountered already. It entails the mapping of the terrain of necessity, the concomitant designation of contingency, and the specification of the border separating them.

The second analytical moment involves an attempt to reduce real-world economic events to the effects of the necessary elements and relations. This second moment follows directly from the dualism and the particular epistemological positions founding the new macroeconomics. Given that the core concepts are taken as proximate representations of the privileged ontological elements, the model is understood to provide theoretical access to the course of economic events. A theory's truth is thus demonstrated in its ability to make forecasts that are ultimately confirmed.

Difficulties arise in the application of the model to the empirical record. History tends to generate statistical anomalies, refusing to behave in the manner specified by simple models developed at the highest levels of abstraction. But this is, after all, as it should be. The economic system (which the model is intended to represent) is understood to exist in a world that comprises countless other elements. Empirical explanation must therefore entail a strategy for *handling* the relationship between the necessary elements and those originating on the terrain of contingency.

The Necessity/Contingency Frontier: Trouble at the Border

This handling (the third analytical moment) is no simple matter. If an event is shown to be the produced result of the *interaction* of necessary and contingent factors (as all real-world events must be in dualist theories), then on what grounds is the difference between these categories to be preserved? In what sense

are certain causal factors—without which an event would not have occurred—*not necessary*? This problem is exacerbated by the degree to which certain contingent elements are seen to exert continuous force on economic outcomes. Under these circumstances, the pragmatic practitioner seeking predictive success may very well come to rely on the explanatory power of these contingencies. In the process, contingencies may be illicitly imported into the necessary core—under the cover of night, if you will, if not through official channels. We will call this tendency, undertaken in pursuit of empirical and/or predictive relevance, the "illegal alien" problem.

The illegal importation of undocumented concepts may flourish for quite some time in the course of the development of a paradigm. And yet, no one may take exception, perhaps because of the good service rendered by the immigrants. The ensuing period may prove to be a particularly fruitful one for the science, as it expands its ability to map historical events and to predict.

But at any moment, circumstances may rupture the silent consensus. Perceived empirical failures of the model, for example, may spark a mean-spirited "nativist" reaction in the form of a demand that pedigree be checked and that those concepts without papers be excised from the models and deported back to the province of the contingent whence they came. This contest over first principles is the fourth moment of dualist theoretical elaboration.

The new classical intervention of the early 1970s was precisely of this form. The Keynesian models were seen by the future new classicals to be generating haphazard predictions [Lucas and Sargent 1978]. In their view, Keynesian theory failed precisely because it had forfeited theoretical purity in the pursuit of empirical relevance. On this point, Lucas proved influential:

If we are honest, we will have to face the fact that at any given time there will be phenomena that are well-understood from the point of view of the economic theory we have, and other phenomena that are not. *We will be tempted, I am sure, to relieve the discomfort induced by discrepancies between theory and facts by saying that the ill-understood facts are the province of some other, different kind of economic theory. Keynesian "macroeconomics" was, I think, a surrender (under great duress) to this temptation.* It led to the abandonment, for a class of problems of great importance, of the use of the only "engine for the discovery of truth" that we have in economics [1987, 107-8; emphasis added].

The alleged Keynesian "abandonment" refers to the demotion of economic science's essences; the "surrender" took the form of the importation of ad hoceries into the explanatory core of macro theory, as we have seen. Echoing Marshall, the sacrificed "engine of truth" refers to pure neoclassical theory, undiluted by extraneous elements. Even though these models could be calibrated to simulate data well, the contamination of the theory's essences through the intermingling of transient contingent factors sacrificed their predictive—and equally, their explanatory—power. The new classicals took it as their mission to repair the damage by discriminating ruthlessly between necessary and contingent concepts and to begin anew the pursuit of explanation from the purest set of first principles.

In response to this new classical nativism, the new Keynesians eventually inaugurated a liberal (albeit no less disciplined) campaign to enfranchise the undocumented immigrants—to extend to these concepts (e.g., sticky prices) full citizenship associated with the status of necessity. In its boldest declarations, the campaign interrogates the authenticity of the neoclassical specification of necessity; it seems evident that a new Keynesian purge of new classical essences may be in the offing. The new Keynesians find a footing for this critical break on an epistemological plane different from that on which the neoclassical essences are themselves rooted. From the empiricist perspective, the new classicals appear as bearers of ideology. It follows that Blinder can ridicule the "religious zealotry" with which the new classicals commit to the neoclassical first principles rather than to the evidence of their own eyes, perhaps unaware that in so doing he rehearses a centuries-long empiricist attack on rationalist thought [1987, 135].

A Future Consensus?

Over a decade ago, Lucas wrote of his hope "for a kind of unification, not dissimilar in spirit from the hope for unification which informed the neoclassical synthesis" [1980, 712]. This hope followed rather directly from his sense that the new, microfounded macrotheory was advancing toward the truth of economic affairs. But the 1980s seems to have produced fragmentation and disharmony rather than consensus [Fischer 1988; Zarnowitz 1985]. What are we to make of this unfulfilled expectation? If the foregoing is correct, the anticipated consensus failed to materialize in

part because of the *incommensurable* "double standard" of truth at play in the new controversies. With its two distinct branches of empiricism and rationalism, the new macroeconomics is epistemologically *overspecified*. These two positions call forth antagonistic approaches to the designation of first principles. In short, no unified inter-epistemological standards of proof exist to adjudicate between their respective sets of first principles. Cross allegations of "zealotry" and "ad hockery" notwithstanding, the controversy over access to the truth is strictly unresolvable on its own terms.

In the event that the new Keynesians succeed in displacing the neoclassical first principles, the model of theoretical development elaborated here suggests that the hunt for empirical success will lead to a new theoretical struggle to *handle* the interpenetration of the *new* necessary and contingent elements (a return to the third moment). The model predicts renewed trouble at the border, as contingent elements assert their worth and appeal their exclusion from the reconstituted terrain of necessity. Moreover, to the degree that different epistemological positions survive in economics, some of these contingent elements will find champions among economists. Accusations will fly, borders will be redrawn, and the mapping will commence anew. In place of the anticipated asymptotic approach to the singular truth, the model predicts a ceaseless process of theoretical discontinuities, false starts, and revivals of previously abandoned paradigms.

I have attempted to demonstrate that metaphysical presuppositions have concrete effects on the nature and course of economic theory. I have also attempted to demonstrate that the adoption of a particular set of presuppositions, such as the necessity/contingency dualism, is a consequential, theoretical *choice* that is imposed on the object of study, not a conclusion that is necessitated by that object itself. If this demonstration has succeeded, then we might be encouraged to undertake new forms of critique. We might even be emboldened to investigate the kinds of economic theory that become possible once we set aside the necessity/contingency dualism. This engagement could expand significantly the field of methodological and substantive possibilities within economics.

Notes

1. Certain Marxist contributions that embrace realism stand as notable exceptions. Unfortunately, this sensitivity is not reflected in the influential schools surveyed here.
2. The term instrumentalism is used here in the sense intended by Friedman (as described in the text), not in the sense in which it is used in institutionalist economics and the philosophical tradition of American pragmatism in which institutionalism has its roots.
3. See Boland [1979] and Caldwell [1980] on instrumentalism in economics.
4. Many theorists would include the assumption of omniscience [see Hutchison 1978; Latsis 1976]. Even in a stochastic environment, in which expectation errors are acknowledged, the assumption is implicitly retained as a crucial precondition for the generation of individual demand and supply schedules, without which the entire theoretical edifice collapses. I am indebted to Professor Douglas Vickers for sharing this insight.
5. The epistemological content of this representation will be investigated below.
6. This discussion of essentialism is founded on the work of Resnick and Wolff [1982, 1987b].
7. Although an individual's preference ordering is conceptualized as variable, for example, the logic of rationality that generates such orderings is strictly invariant.
8. This brief summary glosses over the differences between the Frisch and Slutsky frameworks. These differences relate to the trajectory of the system, once excited from without, as it returns to the steady state. Frisch specified a process of dampened oscillations, while Slutsky's system does not exhibit an oscillating dynamic. See Kydland and Prescott [1990] for an exposition of these issues. This summary also does not treat fully real business cycle theory, which specifies a random walk dynamic following an exogenous shock (rather than a return to the previous steady state).

Here it is sufficient to note that this school shares the fundamental Frisch/Slutzky vision of a system that pursues a steady state in the absence of such shocks. See Plosser [1989, 54].

9. All of these contributions are surveyed (with citations) in Gordon [1990].
10. See also Greenwald and Stiglitz [1987, 120]; Akerlof and Yellen [1987, 140]; and Mankiw [1989, 89].
11. This argument departs dramatically from their earlier work [1985] on "near-rationality," in which firms find it optimal to refrain from instantaneous price adjustments in the face of even small adjustment costs. The term is a misnomer because it still imputes rational behavior and merely elaborates its expression in the context of market power.
12. The attack on the unrealism of the rationality assumption (and the associated assumption of perfect knowledge) was advanced by Leslie in the nineteenth century and by Veblen and J. M. Clark in the first half of this century, among others. See Coates's survey of this theoretical procession [1976]; on Leslie, see Hutchison [1978]. Notably, these attacks failed to dethrone rationality in neoclassical thought.
13. Resnick and Wolff answer the question they pose by developing an intensive critique of theories founded on essentialist ontological premises and by extending economic analysis founded on a radically anti-essentialist foundation. For a concise statement of the research project, see their critique of the economic determinism of traditional Marxian theory [1982] and their comparison of Marxian and neoclassical economics [1987a].
14. See also Akerlof and Yellen [1987], Blinder [1988], McCallum [1988], Mankiw [1989], and Gordon [1990].
15. This is but one of Lakatos's criticisms of empiricism. See the cited work for a fuller elaboration. Within economics, empiricism has been called into question by theorists such as McCloskey [1985], Resnick and Wolff [1987b], Amariglio [1990], and Ruccio [1991] as part of a broader critique of "modernism" and epistemological essentialism.

16. For a survey and extension of this criticism, see Resnick and Wolff [1987b] and Amariglio [1987, 1988, 1990].
17. Samuels's introduction to *Economics as Discourse* [1990] (and several of its essays) provides a summary of such criticisms.
18. See Coates [1976, 55-7] for a discussion of different criteria of theory assessment and the trade-off they impel in economic science. As is common, Coates treats this matter as strictly methodological, thereby failing to investigate the epistemological origins of the different criteria.

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