The Realist Dualism and Monetary Economics*

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Abstract

The history of monetary thought can be characterized as a repetition of theoretical struggles over a few core questions. What reoccurring conflict, between economists in the real analysis and monetary traditions for example, both implies and obscures are the methodological principles common to both sides. I argue that these common methodological tendencies are the product of a common social ontology. Because this ontology is dualist, splitting the economy into its real and less-real (or monetary) moments, I refer to it as the realist dualism. While ontological concerns have been explicit in the literature on early monetary thought, scholarship on such philosophical contours shies away from taking modern economic theory as its object. After outlining the discursive characteristics and consequences of this realist dualism, I provide a few simple linguistic-inspired models exemplifying its various manifestations. I then provide examples of the realist dualism in both early and modern monetary thought. In the case of Aristotle, I show how attention to his social-economic ontology clarifies the ambiguity surrounding his metallism. In a more recent, and less explicitly philosophical, case I consider the way in which the realist dualism within the macroeconomic tradition helps explain the centrality of rigidity in New Keynesian economics.

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*This paper is based on Chapter 2 of my dissertation, "Money, Reality, and Value: Non-Commodity Money in Marxian Political Economy." Please do not quote without permission.

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I. Introduction: The Philosophy of Monetary Economics

> "But again at other times money seems to be a nonsense and altogether a thing of law and by nature nothing." - Aristotle, Politics I: 1257b5

> "Ultimately, philosophy has no history, philosophy is that strange theoretical site where nothing really happens, nothing but this repetition of nothing."
> - Althusser (1977, p.55)

I once shocked an economist by claiming an interest in the philosophy of money. "People still do that?" This paper is part of a project motivated by the idea that *everyone still does that*. In other words, philosophical concerns and assumptions, explicit or not, condition monetary thought. Whether we speak about money on the level of conversation, policy, or formal theory we rely upon a plethora of concepts such as nominal, real, natural, symbolic, and representation that all appeal to some discipline outside of economics. I refer to the study of the relationship between these more philosophical concepts and what is taken as analytic monetary theory as the philosophy of monetary economics.[1] In his *Philosophy of Money*, Simmel qualified his work as being strictly philosophical-sociological, and not a "statement about economics" (1991, p.54). Without necessarily accepting this claim I want to reject the obverse. There is no doing economics without doing/using philosophy. Statements from the standpoint of economics, to use Simmel's language, are conditioned by philosophical standpoints as well.

This paper presents a critical analysis of the opposition between real economy and less-real money that has long influenced economic thought. I argue that opposing this dichotomy on the level of formal theory or empirical evidence is insufficient because it misses its philo-

[1] The term philosophical is used in a very general sense here. I intend to include the ontological, epistemological, linguistic, semiotic, aesthetic, political, and various other fields through which the character of money is thought within this notion of philosophy. I use the term as a shorthand for this diversity for both practical ease and because historically, the philosophy of money tends to be broad in scope already.

sophical conditions of existence. One of the interesting aspects of the Monetarist-Keynesian confrontation was the debate within the debate over the actual nature of their disagreement. Friedman's (1974) paper was an attempt to show that the conflict was of an empirical nature by adopting what some would consider a Keynesian framework. Tobin, and others, responded that there were significant theoretical dimensions to the debate. Without discounting the importance of either the empirical or formal-theoretical aspects, we gain further insight through an analysis of the philosophical-methodological contours of monetary controversies.

Consider Tobin's attempt to get a handle on the object of debate:

> Friedman goes on to say that " 'money is all that matters, period' is a basic misrepresentation of our conclusions." When I [Tobin] tried to clarify the debate by distinguishing among the three propositions 'money does not matter,' 'it does too matter,' and 'money is all that matters,' the context was perfectly clear. It was what matters in the determination of money income. In the same paragraph, 'money is all that matters' is translated into 'the stock of money [is] the necessary and sufficient determinant of money income' (Tobin 1965). There has been no basic misrepresentation...They have been represented as claiming exactly what he now agrees 'gives the right flavor of our conclusions.' (Tobin, 1974, 79n)

Without untangling these different positions on the matter of money, this passage suggests that debates over money are complicated by competing notions of what it means for something to matter. In some sense the Monetarist-Keynesian debate was not over whether money mattered, but what it means for something to matter. A telling sign of this is that the charge of not taking monetary concerns seriously is leveled by both sides of the debate. In the eyes of a Monetarist/Keynesian, a Keynesian/Monetarist is an economist who hasn't taken the reality of money seriously enough. Again, while differences over theoretical and empirical approaches are not unimportant, I find they are insufficient in explaining these debates.

A further example of the role the philosophy of money can play is Patinkin's treatment of the classical dichotomy. In chapter 8 of his classic *Money, Interest, and Prices* he produces an interesting critique of neoclassical monetary theory.[2] It is neither a strictly external critique from an alternative framework, nor is it strictly internal. In a limited sense Patinkin's critique can be read as deconstructive.[3] What he shows is that the implicit logic underlying the classical dichotomy involves a violation of this dichotomy.

In Patinkin's view, the neutrality of money results from showing that demand for goods will not change given a change in the price level. The practice of assuming individual behavior does not take the price level into account is invalid, because it assumes away precisely the mechanism through which a change in the price level could fail to influence relative prices. If we accept this evaluation, the obvious question is how and why this "invalid dichotomy" (Patinkin, 1956, Ch.8) persisted. Patinkin's answer is what he refers to as passwords:

> [I]t also shows the reassuring passwords which discouraged critical examination and thus made the dichotomy's continued acceptance possible. The password of being a friend of the quantity theory, the password of connecting value theory with relative prices and monetary theory with absolute prices. The password of demand depending only on the ratios of prices...All of these are valid passwords - within a certain context. But this very multiplicity of respectable passwords dissuaded economists from looking more closely and seeing that in every single case the context was false. That in every single case there was a seemingly slight - but actually vital - difference. (ibid., p.113)

What exactly are these passwords? They are neither theoretical positions nor necessary conclusions of economic theory. Indeed, for Patinkin's they persist despite theory. Within the very domain of economics - the true context - they are invalid. But if they persist despite economics, what do they persist through? My argument is that these passwords are, at least in part, products of a social ontology. In particular a dualist ontology that

[2] I owe my particular appreciation for the novelty of Patinkin's work on money to Stephen Resnick who had initially advanced the idea to me that it contained possible "postmodern moments" (Ruccio and Amariglio, 2003). This is not to say that these moments produced any complete break with modernist monetary thought.

[3] I use deconstructive in a *relatively precise* sense. Deconstruction involves an unraveling of the binary oppositions found within a text. When Derrida deconstructs Rousseau's privileging of speech over writing, he does so through Rousseau's own text. Instead of offering an external criticism from an alternative framework, he shows how the textual privileging of speech undermines itself.

understands the economy as fundamentally split between its real and less-real sectors. The "context" in which they are valid is the set of presuppositions conditioned by this ontology. The simple quantity theory, the strict distinction between relative and nominal prices, and other passwords, make sense in the context of a dichotomous view of the economy itself.

Due to the reoccurring importance of some conception of the real, I refer to this ontological tendency as the realist dualism. It is not a position on the classical dichotomy or neutrality of money, but rather the broader epistemic conditions of these problems themselves. In other words it does not operate on the level of specifying the relationship between the real and monetary (of which there are multiple approaches), but rather in the distinguishing between a real and a monetary as ontologically distinct in the first place.

First, I discuss precisely what I mean by the realist dualism, explaining its typical features and influences on economic thought. Language metaphors are a frequent means through which this dualism is thought. However, to say that money is "like language" is a to say very little without specifying a particular notion of language. For this reason, I outline some simple linguistic models corresponding to competing economic approaches to money and reality.

I then present two examples of the realist dualism from very different times and theoretical places. First, I discuss Aristotle's positions on money and economy. Aristotle is a useful case because his economic work is relatively well-known and its philosophical character is quite explicit. Next I turn to the more modern example of the realist dualism in macroeconomics. Macroeconomic theory provides the the opportunity to show how extra-economic meaning still operates within modern economic discourse. In particular, I'll argue that the centrality of price rigidities to 20th Century macroeconomics is in part a product of the particular dualist social ontology it presupposes.

II. The Realist Dualism as Problematic?

As stated above, what I call the realist dualism is more general than the classical dichotomy result. While the latter is a solution to the problems posed by a distinction between the real and the monetary, the former is this presupposition of the distinction itself. It is, in other words, the acceptance of a problem. For this reason, it has different manifestations corresponding to alternative solutions. At the same time, because it begins from a particular problem, the real-monetary relationship, it (1) has certain tendencies and (2) may proscribe the posing of alternative problems and approaches.[4] As I describe it, the realist dualism appears to be an example of what Althusser called a problematic (problématique), Kuhn's notion of a paradigm (1970), or the Foucauldian episteme (1972; 1980). There is, however, an important theoretical distinction whose elucidation will serve to clarify the meaning and significance of the realist dualism.

Althusser describes a problematic in his discussion of the conditions of "science":

> This introduces us to a fact peculiar to the very existence of science: it can only pose problems on the terrain and with in the horizon of a definite theoretical structure, its problematic, which constitutes its absolute and definite condition of possibility, and hence the absolute determination of the forms of the *forms in which all problems must be posed*, at any given moment in the science.
> (1997, p.25)

As a "condition of possibility," a problematic is both productive and restrictive, and we err in seeing simply one or the other. In Althusser's language it makes some objects visible and

[4]Examples abound within economics. Within many paradigms, the problem of growth is posed as essential. Different theoretical and empirical approaches to this one problem exist, but each accepts the problem as such. Even attempts to produce alternative measures of economic activity accept certain aspects of this problem when they critique traditional measurement methods. Allocating resources to superior measures of growth, at once challenges the traditional method while accepting the objective of growth, and the ideal of accurate quantitative assessment. This is not necessarily a problem. What is problematic is that the particular object is reified into the natural object of economic analysis. For suggestions on improving measures of growth, by including unpaid labor for example, see Ironmonger (1996), Folbre (2001, Ch.3), and Luxton (1997). For an alternative that poses a different object of analysis and distinct methodology see of Cameron and Gibson-Graham (2003).

others invisible. The conditions upon which we can pose one set of questions and answers are the same conditions under which alternative research directions are excluded. Modigliani's distinction between monetarists and nonmonetarists, made in his AEA presidential address, is illustrative here - "Nonmonetarists accept what I regard to be the fundamental practical message of *The General Theory*: that a private enterprise economy using an intangible money needs to stabilized, can be stabilized, and therefore should be stabilized by appropriate monetary and fiscal policies" (1977, p.1). This framing of the debate is productive in the sense that it provides a framework in which to conduct research. Is the economy essentially nonmonetarist or monetarist? At the same time, this very language renders invisible and unintelligible *other non-monetarists*. For example, compared to Modigliani's non-monetarist, Marxian political economists typically have significantly less faith in the capacity of monetary and fiscal policy. In this framing Marxian economists are not non-monetarists. However, if Marxism and Monetarism are to have any meaning, they can not mean the same thing. In Modigliani's distinction between monetarism and non-monetarism, a whole variety of other approaches become non-existent.

What I call the realist dualism, operates in a similar fashion. It does not strictly dictate what is said, but provides the general framework in which intelligible statements can be made by posing a particular problem. This problem, the relationship between the economic real and the less-real, is interesting and productive but is based upon a particular (dualist) social ontology that proscribes alternative approaches informed by, for example, non-essentialist social ontologies.

In this sense the realist dualism is like Althusser's problematic, or the similar concepts of paradigm and episteme. In each case a framework conditions which statements can be made and understood. However, while the realist dualism seeks to explain a degree of continuity/regularity (a repetition of similar theoretical elements), these three notions each describe the history of thought as discontinuous, or incommensurable.[5] The incommensurability thesis states that concepts from one paradigm are qualitatively distinct from concepts from another, even if they are superficially similar. For Kuhn, incommensurability follows from a holist understanding of theory. If each individual concept is constituted by its relationships within the totality of the paradigm, differences at the level of paradigm imply fundamental differences at the level of concepts. Because concepts are constituted in this structural manner, they can not be reconstituted through the language (terms, logic, methods) of an alternative theoretical structure.[6]Althusser's problematic and Foucault's episteme also share a generally holistic approach to knowledge production, and hold principles analogous to incommensurability.[7]

From the perspective of a problematic/paradigm/episteme, the history of theorizing money through its opposition to something more *real*, is not a continuation of thinking the same thing, but rather a series of differences under the guise of nominal similarity. The notion of the real (economy), and how money is understood as its other, is heterogeneous across paradigms. So, for example, there is a radical difference in the term "real" as it is invoked in Davidson's classic *Money and the Real World* (1972) and Long and Plosser's "Real Business Cycles" (1983). How then do I square my interest in the continuity of the realist dualism with this principle of discontinuity?

My argument is that with respect to monetary thought, the realist dualism and the concept of problematic, operate at different levels. If there is indeed repetition in the appeal

[5]Kuhn (1970) and Feyeraband (1962) both adopt the mathematical concept of incommensurability around the same time. According to Kuhn (2000, Ch.2) each did so independently. Note that the original publication date of Kuhn's *Structure* was 1961.

[6]Incommensurability could be stated as the"impossibility of defining the terms of one theory on the basis of the terms of the other"(Kuhn, 2000, p.34, n.2). This impossibility may have epistemologically radical interpretations, but need not be taken as such. Kuhn suggests a "modest version" in which the incommensurability of two theories implies the lack of a "lanugage, neutral or otherwise, into which both theories, conceived as sets of sentences, can be translated without residue or loss" (ibid., p.36).

[7]If you are reading closely, yes, the concepts associated with Kuhn's paradigm, Althusser's problematic, and Foucault's episteme are ultimately incommensurable with each other. The differences, however important, are not of concern to us here.

to the real and less-real, this regularity is always mediated by problematics (paradigms or epistemes) that vary. In fact, it is precisely this diversity that makes the persistence of the realist dualism interesting. If monetary thought reproduces statements in which money is understood in opposition to reality, diverse frameworks with diverse understandings of reality will produce different monetary theories. If reality were matter-of-fact, and universally agreed upon, it would be much less noteworthy that money has been theorized through reference to it.

This diversity of realities is not in any way dependent on epistemological relativism. Whether an objective extra-discursive reality exists (and if so, its characteristics and our capacity to know it) is an important question. However, our answer to this question, whatever it is, does not undermine the existence of multiple notions of reality. In other words, even if there were an objectively true notion of reality, there would still be a set of false positions whose falsity does not impede them from conditioning the economic theories in which they are invoked.

Second, we can not say that something is real or less-real without, explicitly or implicitly, including a what (Austin, 1962). A note from the game *Monopoly* is not a real federal reserve, while it is certainly real game money. A note from a game I imagined in my mind but will never produce is neither a real federal reserve note nor real game money. If money, or the monetary sector, is not real, what type real thing is it not. The point here is not that we are unable to articulate the "what," but that this "what" can be diverse with diverse discursive effects.

Consider the following stylized account of the "real economy" since mercantilism. According to the standard narrative, modern political economy recognizes the existence of a sort of monetary illusion in the mercantilist system in that it takes money itself as *real* wealth. Political economic thought can then be seen as proposing a series of "real economies" that provide a more appropriate theoretical object. To theorize money as not real, some thing that is real must be presented. The Physiocratic system famously grounds economics in the reality of land. Classical political economy characterizes the real economy as the sphere of production/labor. Finally, neoclassical economics opposes the objective reality of the classics with the subjective reality of utility. In each case, the illusory linkage between money and real wealth is replaced by a particular distinction between real wealth/economy and money.[8]

While the notion of the real is radically diverse across time and paradigm, a regularity exists in which these notions overdetermine monetary thought. This regularity, the realist dualism, has the following basic characteristics.[9]

Conceptual Dichotomy. This is the social ontology itself. The economy has a real and a less-real sector/moment. The defining character of the former and latter, are again heterogenous. This distinction, with the privileging of the real, allows the relationship between the two spheres to function as an intelligible object of economics.[10]

Real Money. Money, which is deemed less-real, is itself seen as having real and less-real forms and associated functions. Which form/function is primary differs, alongside different concepts of the real economy. The ontology of real and less-real on the level of money is related to the broader dualist social ontology, but this relationship is not without contradictions. For example, the persistence of commodity money, as the real monetary form, in

[8]This "illusory linkage" between money and real wealth may be understood as simple equivalence - money is wealth - but also in the form of a strong causal link from the former to the latter.

[9]For concerns of space, an appendix from the dissertation chapter discussing the overdetermination of what I call the realist dualism with other dualisms in economic thought is excluded here. Very useful literature on these dualisms includes Madra (2007), Barker (1998), Charusheela (2005), Cullenberg (1988), Ruccio and Amariglio (1998), Ruccio and Amariglio (2003), and DeMartino (1992).

[10]While this dualism is conceptual it is often taken as a matter of fact. In other words, this conceptual distinction is understood as something that empirically-ontologically exists outside of theory. Patinkin, who may not be entirely innocent in regard to the realist dualism, warned about this conflation:

> It should also be clear that the foregoing dichotomy is purely a conceptual one. The real and monetary frameworks of the actual market place are obviously 'specified' simultaneously. Similarly, there are only money prices in this market, and these are simultaneously determined. In brief, our dichotomy has no operational significance other than that of the basic quantity-theory proposition from which it is derived. (1956, p.108)

My argument is that this conflation is probable because the divide is not just a simple modeling tool, but rather the product of deeply-embedded ontological presuppositions.

Marxian theory is in part attributable to the productivist social ontological found in the tradition.[11]

Harmony/Dissonance and Fidelity to the Real. The articulation of the real and the monetary, and the role of money's own distinct forms, can operate in a harmonious or dissonant fashion. The harmonious, and socially optimal, outcome is understood as being true to the real economy. In other words, a harmonious outcome coincides with one in which the real, as the essence of the economy, is justly given priority. Dissonance occurs when the monetary somehow impedes on the rightful place of the real.[12]

Policy/Politics. Given the existence of harmonious and dissonant real-monetary outcomes, some form of monetary policy (broadly understood) exists that achieves the former and avoids the latter. In each case, the particular type of policy (discretionary, rule-based, etc.) recommended as optimal within a theoretical tradition is overdetermined by the notion of reality they invoke.

III. The Language Metaphor: Competing Models of Money and Reality

"A pound sterling is not a thing at all. It is a name handed down in history."

- Pigou (1949, p.3)

Although my interest in the realist dualism is in the first instance motivated by its ubiquity, it is the diversity of its possible manifestations and effects that necessitates a

[11] This example is dealt with in more detail in Chapters 4 and 5 of my dissertation.

[12] Consider Keynesian and what we could call Neoliberal opinions on the merits of financial regulation. While each group would differ greatly over whether the pre-1970 or post-1970 institutional-regulatory environment is preferable, the contours of their arguments are similar. In each case, the good monetary-financial system is one that serves the real economy. For many Keynesians the post-WWII system of regulations provided constraints on the financial sector that forced it to serve the real sector. Deregulation allowed finance to serve itself, at the cost of the real economy. For Neoliberals, it is the inflexibility of regulation that prevents the financial sector from efficiently providing services (risk-sharing, information, capital allocation, etc.) to the real/general economy. It is not that there is no important difference between the two positions, but the significance of what they do share - the privileging of an idealized real economy that can/should be served by a financial sector as a goal of economic theory/policy - is overshadowed by the more obvious matters of contention.

careful analysis of its features. This section presents a series of linguistic-semiotic models exemplifying this diversity. The history of monetary thought is littered with linguistic-semiotic metaphors in which the relationship between real economy and its monetary other is viewed as analogous to the relationship between an objective reality and the reference to this reality through words and signs.[13]

Linguistic-semiotic metaphors are not in themselves a problem. Because I accept metaphor as asymptotically unavoidable, I am not a critic of this practice itself. At the same time, accepting these models uncritically is problematic because it assumes a singular and universally understood conception of the word or sign. Dyer (1986) and Wennerlind (2001) both discuss linguistic-semiotic models and metaphors within monetary thought but fail to identify the radically different forms this may take. There is no semiotic model in general. Consider Pigou's comment apropos of the pound. The statement that the pound is a name is ambiguous because there are multiple theories of the names.[14] Pigou implicitly acknowledges this by also stating that the pound is "not a thing," invoking a dualism of things and names that marginally clarifies his argument.

Since the recourse to the word/sign is historically ubiquitous, different linguistic-semiotic approaches can be used to represent different interpretations of the relationship between the real and the monetary.[15] Because this dualism between economy-money is repeated in the

[13] It is important to note that this relationship operates in both directions. If money is thought through language and reality, language and reality are themselves thought through monetary metaphors. As Maurer notes, "The difficulty in...the anthropology of money is compounded by the reliance of much anthropological research on theories of meaning and symbols that derived analytical precision through monetary metaphors" (2006, p.16).

[14] See Soames (2005) for one example.

[15] The interplay between the philosophical-linguistic - broadly understood - and the monetary is the object of a sizable literature. Certainly, no text on money hoping to reach a broad audience of the educated and curious is produced without some appeal to the philosophical. Among work that can be characterized as having a serious commitment to the problem Shell (1982) stands out. See also Shell (1995; 1978). Goux is noteworthy for work focusing on the shift in literary models corresponding to shifts in monetary regimes (1984; 1988), and attempts to incorporate these insights into a political economy type framework (1990). Karatani perhaps goes furthest in explicitly bringing the philosophy of money to political economy, introducing what may be called a linguistic interpretation of Marx's writing on money (or monetary exchange) (1995), that is further developed in relation to Kantian philosophy (2003).

concept of money itself (real money - symbolic/imaginary money), I take two passes, using simple linguistics for the former and semiotics for the latter. First I use a stylized account of the divide between semantic and pragmatic approaches to language to characterize different theories of the relationship between the real economy and less-real money. Second, I use the famous semiotic triad to discuss alternative notions of *real* money.

Semantics and Pragmatics

Semantics, in its simple traditional sense, is the field of linguistics that studies a word's literal meaning. From a semantic perspective, the significance of a word is what it signifies or refers to. Despite the negative connotations tied to the notion of "playing semantics" the semantic view on language is roughly similar to common sense ideas of speech. In the semantic model of the realist dualism emphasis is placed on money's capacity (or incapacity) to accurately reflect/represent the real economy. A money-price is to a commodity as a word is to its referent. As good speech, semantically speaking, is speech that accurately represents the ideas meant to be communicated, a good monetary regime is one in which money accurately reflects some fundamental aspect of the real economy.

Pragmatics, in the sense I am using here, focuses on how context dependent speech acts arrive, or fail to arrive, at goals. Pragmatics seeks to explain how speech acts with ambiguous or exceptionally little literal significance can *work* in achieving an outcome. This approach is at odds with the common sense notion of language as strictly literal and referential but it is also a typical part of our social lives. For example, most of us use utterances with very ambiguous literal value that none the less succeed. At a dinner table with close friends someone can bark "salt" if they want to have the salt passed to them. This will often work - someone will pass the salt - even though on literal grounds alone it could have meant infinitely many things involving salt.

- Pass the salt.

- Don't pass the salt.
- Throw the salt out of the window.
- My uncle loves salt.

Some of these are ridiculous and absurd interpretations of what a friend could possibly have intended. This is precisely the point. The literal meaning of the utterance alone can not account for the speaker's (lack of) success. The success/failure of an utterance is context dependent, and is not strictly about literal accuracy. In the pragmatic model of the realist dualism, the principle feature of money is its capacity to achieve desired objectives. In particular, a good monetary system is one that assists the economy in realizing the goals of the real economy.

A similar, but not identical, way to think about this distinction is through the difference between constative and performative speech (1975). The principle way to distinguish between the two is how statements can be judged. Any statement that can either be true or false falls into the category of the former. These are claims that attempt to mirror/reflect/represent a preexisting state and can therefore do so accurately or inaccurately. Performative statements can not be judged as simply true or false. In the typical example of the pronouncement of marriage, the utterance that a couple is "husband and wife" is without a preexisting state it can accurately reflect. It produces the outcome it describes.[16] The distinction constantive/performative roughly maps onto the semantic/pragmatic binary, with the qualification that performativity entails a relatively strong pragmatic position.

Aristotle's work is an example of the pragmatic model. It is not that there is no concern with the representational or referential role of money but that the central problem is whether

[16]Despite certain interpretations, the notion of performativity is not a suggestion that merely stating something will bring it into existence. This has very little to do with performativity. The point is not that such statements are always successful in producing effects. Not everyone can utter - "let there be light," and produce light (Butler, 1993, Preface), but the key difference between the God of Genesis and the average person attempting such a feat is not on the level truth/falsehood but rather effects.

money helps us achieve our desired real economy ends. The difference between C-M-C' and M-C-M' does concern not the accuracy with which monetary prices reflect some essence of commodities. The significance of this subtle movement is that money changes its role due to a contextual shift in which the same elements end up doing different things. We will return to Aristotle in more detail in section IV.

In the history of social thought the clearest member of the semantic tradition might be Rousseau. As Marc Shell (1978) documents, Rousseau's views on money are directly informed by his theory of representation. This theory leads Rousseau to analogous critiques of representation in pedagogy, politics and economy. The similarities between these critiques stem from an underlying distrust in representation:

> In general, never substitute the sign for the thing except when it is impossible for you to show the latter, for the sign absorbs the child's attention and makes him forget the thing represented. (Rousseau, 1979, p.170)

This same dualism between the privileged *thing* and the threat of the mere sign/representative is at work in again in the famous attack on the English in Chapter XV of *On The Social Contract*:

> Sovereignty cannot be represented for the same reason that it cannot be alienated. It consists essentially in the general will, and the will does not allow of being represented. It is either itself or something else; there is nothing in between...The English people believes itself to be free. It is greatly mistaken; it is free only during the election of the members of Parliament. Once they are elected, the populace is enslaved; it is nothing. (Rousseau, 1987, 198)

Rousseau was apparently well aware of the relationships between his understanding of social ontology, representation and the issues of pedagody, linguistics, politics and economy. He explicitly uses the artificial character of representation in one field to attack the integrity of representation in another. Writing on Poland, he critiques the fixation of money by comparing it to a sign, where a sign is assumed to be less than real/riches - "L'argent n'est pas la richesse, il n'en est que le signe" (quoted in Shell 1978, p.121). Here he uses the artificial character of the sign, to argue money is also not real (wealth).Chapter XV of *On The Social Contract* begins with the topic of money through a reference to the danger of citizens who "prefer to serve with their wallet rather than their person" (p.197) and Rousseau quickly associates money with slavery - "Give money and soon you will be in chains. The word *finance* is a slave's word"(pp.197-198). In these cases, the implicit artificiality of money is deployed to oppose fictitious forms of citizenship.

Both of our examples here are skeptics in the sense that they distrust money, worrying about its influence of economy and society. For Aristotle, the elevation of money to an end itself produces negative consequences. With Rousseau, money's representative character is dangerous because representation itself is taken to be suspect. Given the history of anxiety over the threat of money, this is not surprising. However, this anxiety over dissonance between the real and money, is coexstensive with an implied image of a harmonious relation. And while, they differ in specifics, both Aristotle and Rousseau find harmony when money stays in its place, as determined by the real economy.

It is also not surprising that in the modern era we can find approaches to economy-money that place more trust in monetary exchange. Classical dichotomy type models are a more modern version of a semantic, and in this case skeptism-free approach. It is semantic in the sense that money prices are merely descriptive of goods and services whose existence, production, or distribution is presupposed. Money-prices do not have effects, they do not call behaviors into action. Money-prices are strictly constative. In this sense they can be true or false - in terms of representing fundamentals - and are typically the former. Because real relative-prices are both optimal and logically prior to the determination of the money price level there is no Rousseauian danger that using representative names (nominal prices) will subvert the real world of commodities.

The theory of monetary circuit (see Graziani (2003)) is a useful modern example of a more pragmatist approach to money and economy. In a circuitist framework the role of money is related to its effects. The accuracy in which money allows prices to reflect a fundamental is of little theoretical concern. Money is theorized through conditions of capitalist reproduction. The monetary economy doesn't so much reflect/represent, as allow certain activities to occur.[17]

As a final note on pragmatics-semantics, we should take these models as ideal types. While the differences between them are heuristically useful, they are not necessarily mutually exclusive in all cases. The importance of the semantic fidelity of money/finance/prices to the real economy is often driven by the effects it has on behavior. In other words, the descriptive capacity of a set of prices is socially efficient because it helps produce/guide socially efficient behavior. For example, the efficient market hypothesis has a semantic dimension. For each asset price exists a real fundamental. Market efficiency is understood as a (best possible given available information) correspondence between prices and fundamentals. However, the social desirability of efficient financial markets is motivated by the economic activities it allows.

> The primary role of the capital market is allocation of ownership of the economy's capital stock. In general terms, the ideal is a market in which prices provide accurate signals for resource allocation: that is, a market in which firms can make production-investment decision, and investors can choose among the securities that represent ownership of firms' activities under the assumption that security prices at any time 'fully reflect' all available information. A market in which prices always 'fully reflect' available information is called 'efficient.' (Fama, 1970, p.383)

The efficient market hypothesis is therefore not a purely semantic view of money-economy, despite the strong semantic features. However, even when the effects of prices/finance on behaviors are considered, it is nonetheless the descriptive optimality of prices that is essential.

[17] It is not a coincidence that this pragmatic, and potentially even performative, notion of money exists in a theory based on the concept of reproduction, as opposed to equilibrium.

It is in the last instance a strictly constative (as opposed to truly performative) view of financial markets.

Semiotics of the Coin

If a simple dualism between the represented and representation characterizes the logic of the difference between real economy and money, the difference between real and less-real forms of money itself has often been thought of in threes. In particular, money has been considered to exist in real, symbolic, and imaginary forms. While this is a triad, it does fit within the scheme of the realist dualism. First, although money comes in threes, each of the three are typically distributed into the category of real or less-real. Second, one of three may play the role of intermediary between real and less-real money. Finally, there is mutual conditioning between the dualism ontology of general economy and this ontology of money itself.

The monetary triad bears a strong resemblance to the standard semiotic triad. One of the most well-known statements of the sign is offered by Pierce (1932) who distinguishes between three elements - representamen, interpretant, and object. The *representamen* is that which represents or stands for something else. The *interpretant* is the mental-imaginary representation produced by the representamen. Finally, the *object* is the thing the referred to. While the representamen is what we most commonly understand as the sign itself, Pierce sees the sign as a unity of the three. Signification always involves each element.

A similar logic is applied to money. As we discussed in the previous section, money has been thought of as a language with a commodity as its object. The distinction between the real and a symbol, does not stop there, but is also applied to money. Money itself has real, symbolic, and imaginary manifestations and forms. The common trope in beginning a text on money invokes a history of dematerialization in which hegemonic forms of money evolve from their most real, material forms to merely imaginary and symbolic forms.[18] Despite the

[18]The introduction to Marc Shell's *Money, Language, and Thought* (1982) is entitled "From Electrum to

diversity of possible monetary forms, economic thought often takes one of these dimensions as the *real* essence of money. The essence may be what we have called the real commodity form, but it need not be. Multiple essentialisms, which take either the physical, imaginary, or symbolic aspect (and its respective form/function), as the singular essence of money are possible. For example, Simmel (1991, pp.198-200) takes what others see as the dematerialization of money (he calls it a "spiritualization") as a movement towards the true essence of money. The "real" form of is thus money as pure function liberated from the real (qua physical-material) form.

Marx's discussion of money in Part 1 of *Capital* is an interesting counter to Simmel because it *can* be characterized by both an emphasis on different imaginary and symbolic types of money (corresponding to different functions) and an insistence on the ultimate priority of the real commodity form.[19] In this we get a sense of both the three registers of monetary ontology, and how they fit within the realist dualism as it exists in the Marxian tradition.

> In its function as measure of value, money therefore serves only in an imaginary or ideal capacity. This circumstance has given rise to the wildest theories. But, although the money that performs the functions of a measure of value is only imaginary, the price depends entirely on the actual substance that is money. (Marx, 1976, p.189)

In the same chapter we see how real commodity money provides the ground upon which valueless (and less-real) symbolic money can function as money. Note that paper money is

Electricity," referring to the material content of original coins and the current medium of our supposedly dematerialized electronic money. Ferguson begins his recent contribution to popular histories of money, by opposing the brute presence of physical silver money with the meekness of paper-representative money and the absence that marks imaginary digital money:

> But what exactly is money? Is it a mountain of silver, as the Spanish conquistadors thought? Or will mere clay tablets and printed paper suffice? How did we come to live in a world where most money is invisible, little more than numbers on a computer screen? Where did money come from? And where did it all go? (2008, p.1)

[19] Emphasis is placed on the "*can* be characterized" because other readings are possible (Rebello, 2009).

not really money, but a "symbol of money." Furthermore, the third term, the imaginary, plays the role of intermediary between symbol and symbolized.

> Paper money is a symbol of gold, a symbol of money. Its relation to the values of commodities consists only in this: they find imaginary expression in certain quantities of gold, and the same quantities are symbolically and physically represented by the paper. Only in so far as paper money represents gold, which like all other commodities has value, is it a symbol of value. (ibid., p.225)

The condition of existence of paper money, in Marx's analysis, involves all three monetary forms (symbolic, imaginary, and real) and multiple functions. Paper money can act means of exchange because (1) it represents real gold and (2) commodity values are expressed according to a standard of price stated in imaginary units of gold. Nonetheless, at least in the orthodox interpretation, we should not mistake the imaginary or symbolic as being on the same level of determination as real commodity money. In the last instance, the imaginary and the symbolic are determined by the real. Deviation from this logic has been viewed with great suspicion, in part due to the realist dualism in orthodox Marxism. While Marxists have increasingly sought to theorize non-commodity forms of money, the abandonment of commodity money is experienced as a threat to the link between the real economy, characterized by forces and relations of production, and the less-real sphere of distribution and exchange. The idea that the movement away from commodity money to fiat or credit regimes may undermine the labor theory of value is illustrative of this link between the ontology of the real economy, and the ontology of real money.

It would follow that alternative traditions, with their own notions of the real economy, would have different ontological concerns over money. Pigou nicely expresses the particular reality of the neoclassical economy- "In the deepest sense economic reality comprises states of mind - the satisfactions and dissatisfactions of human beings - and nothing else" (1949, p.19). A contributor to the founding of neoclassical economics and a commentator on monetary theory Jevons, exemplifies how this distinct ontological contributes to distinct monetary problems. Like Marx, Jevons distinguishes between money that is truly money, and money that stands in for, or represents, true money:

> We may pass, in fact, by gradual steps from the perfect standard coins, whose nominal value is coincident with their metallic value, to worthless bits of paper, which are yet allowed to stand for thousands, or even millions of pounds sterling. (1896, p.194)

Jevons also deploys semiotic language in making sense of money. Although he follows the tradition of defining a coin itself as a unity of the real/ignot and symbolic/stamp (1896, p.57) - he also makes distinctions between three types of coins, according to the determination of their value:

> We must further distinguish coins according as their values depend upon the metal they contain, the metal for which they can be exchanged, or the other coins for which they are the legal equivalent. (ibid., p.67)

Again, despite the triad, these types of coin are theorized through a dualism. Jevons refers to the first form as "standard" and the latter two as "token" (ibid., 74). These three bear some resemblance to Marx's monetary forms. However, despite characterizing token types of money as less-real, they do not pose the pose the problems for neoclassical economics that they do for Marxian. Neoclassical discussions of token money are not full of reminders that ultimately it is real commodity money that determines its value. This is not to say that less-real forms of money do not pose different problems for neoclassical economics. Jevons concludes his discourse on money with a policy position that exhibits one of these problems - one that has persisted to this day despite his hope for the progress of economic science:

> In my opinion, it is the issue of paper representative notes, accepted in place of coin, which constitutes an arbitrary interference with the natural laws governing the variations of a purely metallic currency, so that strict legislative control in one way leads to more real freedom in another. I am quite willing to allow, however, that questions of great nicety and subtlety arise in this subject, and that only in the gradual progress of economic science can they be finally set at rest (ibid., 342).

The language here is quite rich. Paper money is representative, in place of (not a presence but a marker of an absence), arbitrary, and issued as an interference. This spectral ontology is opposed to both a real money that is *present* (not representative), metallic, and in line with natural law, and the real economy that is the source of these laws. However, despite the rhetorical and logical privilege afforded to this physical commodity type of money, Jevons is not a metallist. Token money can relate harmoniously with the real economy, but requires a policy reversal with respect to standard money. Absent the natural laws that would operate in a regime of real money, artificial laws are needed to govern artificial money.

IV. Aristotle on Money

Many discussions of Aristotle's economic thought begin with the question of his analytical content. Does Aristotle engage in real analytical economics or are his writings mere philosophy/ethics? Are his categories economic or metaphysical? My understanding of the philosophy of monetary economics makes it impossible to answer these questions. Certainly, I am personally interested in the way in which his analysis is conditioned by a series of mutually supporting/dependent economic, ontological and ethical dualisms. However, in my reading of the history of monetary economics, the overdetermination of his monetary analysis by normative and philosophical concerns is just one example of the way supposedly innocent categorical distinctions between real and monetary processes are always connotatively and denotatively overdetermined by extra-economic conceptions of reality. Aristotle is an appealing example of the realist dualism in monetary thought for a few reasons. First, the philosophy is explicit in his work. The extra-economic dimensions I argue are ubiquitous over time in often implicit forms, are explicit here. Second, Aristotle's monetary thought is relatively well-known. Finally, despite the relative familiarity of Aristotle, our understanding of his specific monetary positions contains some ambiguities and tensions that are illustrative of the realist dualism.

For many economists, the most significant appraisal and representation of Aristotle likely comes from Schumpeter who credited him with great historical influence. According to Schumpeter, Aristotle is responsible for the metallism that "prevailed substantially to the end of the nineteenth century" (1954, p.63). Because metallism is not held in high regard, and is seen by some as an oversimplification of Aristotle's thought, this popular interpretation has been challenged. Gordon (1961, p.609) charged Schumpeter, as well as Monroe (1923), with deriving Aristotle's monetary thought primarily from a single passage, neglecting other moments that represent money as a "creature of the law" (ibid., p.611). Alter attempts to evaluate the strength of Gordon's argument and arrives at the anti-climatic conclusion that given the textual evidence we can "side with" neither Monroe and Schumpeter, nor Gordon, but that it is perhaps a "safer bet" to read Aristotle as a metallist than non-metallist (1982, p.563).

More recently, Wood (2002) identifies two streams of thought in Medieval monetary thought premised on the theory of money as an intrinsically valuable commodity and a mere conventional sign.[20] In her reading, this tension is never resolved. There is no collapse into strict metallism. Monetary thought of the period operates with "a mean between the two, and seems to subscribe to both" (2002, p.73). This challenges both Schumpeter's claim concerning the relative dominance of metallism, and the nature of Aristotle's influence. For Wood, this tension existed because, not despite, Aristotle's own ambiguities and influence.

From the perspective of the realist dualism, this ambiguity is not surprising. As we mean manifold things when we speak of the real economy, money - as in real money or as

[20]Wood (2002, p.70) describes the two tendencies in language in line with the realist dualism:

> For the scholastics, money had two distinct roles. It was, firstly, an artificial measure of value, authorized by the State, against which all things could be gauged, but which had no other use. Secondly, since it was given physical reality by coinage made of precious metal, it came to be seen as a commodity with a value that could rise and fall, like that of any other commodity. These two ideas were given practical expression in the two types of money prevalent in the Middle ages, actual money in circulation, and 'ghost' money, or money of account.

in opposition to the real economy - takes on different forms. The presumption that the presupposition of the economic real is innocent and uncontroversial prevents understanding of these complexities. In this case Aristotle's monetary thought is confusing because he (1) refers to money as a metal *thing* and (2) thinks of money as less-real, or even as a *nothing*. This is only contradictory with respect to a particular notion of real economy. To better make sense of Aristotle, a discussion of the specific manifestation of the realist dualism in his thought is useful.

The importance of dualism(s) in Aristotle's economics is hard to ignore. And while economic orthodoxy presumes to have transcended these normative or metaphysical problems, others have pointed out their continued relevance. Meikle goes so far as to claim that Aristotle's "difficulty about the nature of money is not an elementary one which can be resolved easily with the resources of modern economic thought, because the same duality is present there too" (Meikle, 2000, pp.167-168). However, for Meikle this continued dualism is not social-ontological but a political-normative "contention between the friends or foes of market economy" (168). Kozel (2006) makes a similar point concerning the continued relevance of Aristotle's economics. For Kozel however, Aristotle is relevant not so much for being either friend or foe, but for illustrating a more subtle and less reductionist approach to markets and exchange.

It is here that money enters our discussion. Aristotle's analysis of exchange centers on the telos of a set of exchanges and the subsequent role of money in the process. Money may exist as either a means or an end. In the process of C-M-C' money (M) is a mere means used to gain a necessary/desired commodity (C). In the process of M-C-M' money becomes an end in of itself. While Aristotle finds the first natural and likely beneficial to society, he finds the second unnatural and potentially harmful. What I want to stress here is that while this position involves a political claim about markets (friend and/or foe), the structural role of money goes beyond being a simple metonymy for exchange. The question of whether we should be 'friends or foes' of the market that Meikle recognizes is overdetermined by various other dualisms in Aristotle's work, including an ontologically dualist understanding of economy and money.[21]

> But again at other times money seems to be a nonsense and altogether a thing of law and by nature nothing, because of its users change the currency, the original one is not worth anything nor useful at all with a view to necessities, and someone who is rich in money will often be lacking in necessary food. Yet it is a strange thing for that to be wealth which one can abound in and still starve to death, like that fellow Midas in the fable when, because of the insatiability of his prayer, everything placed beside him changed to gold. (Politics I: 1257b5)

This passage illustrates a rather dense network of mutually supporting dualisms that overdetermine Aristotle's economics. The first sentence alone references distinctions between sense and nonsense, law and nature, something and nothing, necessity and (an implicit) contingency, riches and biological needs, insatiability and sufficiency. These dualisms constitute the difference between the natural science of household management (or oikonomikê where money is a means) and the unnatural world of business (or chrêmatistikê with money as an end).

These distinctions constitute the realist dualism in Aristotle's economy and can be used to help us make sense of Aristotle and the characteristics of the realist dualism in general. While I'm responsible for the specific language of real and less-real, I do not think it is a drastic move to read an ontological dualism privileging the realness of commodities (real wealth) over money. Money is a merely a "thing of law" and from the point of view of nature "nothing." Aristotle's use of the story of Midas suggests that in the extreme money becomes even less real - further removed from the world of biological needs and actual wealth and nourishment - the more one has of it. This means that the gap between money and actual goods and services is not quantitative. More money (Midas) does not bridge but rather

[21]This is the limitation of work like Frankel's *Two Philosophies of Money* (1977) that reduce the multiple dualisms and conflicts constituting monetary thought to a debate between proponents and opponents of the free market.

Table 1: Aristotle's Dual Economies

Oikonomikê	**Chrêmatistikê**
nature	convention
commodities	money
money as means	money as end
necessity	contingency
sufficient	unlimited
quality	quantity
use-value	exchange-value
real	less-real

accentuates the gap.[22] Furthermore, it should be quite clear that the lack of reality that marks money is completely independent of its physical materiality. The difference between gold currency (a nothing) and food, for example, is not that the latter is any more solid. Rather, they fall into "the different categories of quality and quantity"(Meikle, 2000, p.171).

Aside from this very particular notion of the real/natural economy, ambiguity over Aristotle's true money is also conditioned by the absence of any serious discussion of different monetary forms. This is not to say he does not imply true and untrue money. It is more that the question of real money (the second characteristic of the realist dualism) is directly collapsed into the problem of harmony/disharmony. Money, in whatever form, has an important, natural and beneficial role but it also always threatens the oikonomikê it was meant to serve. When it operates in the latter mode, money had the potential to be especially unnatural - it is not only a convention meant to serve a natural process, but dares going against its own nature (the 'nature' of a convention) by becoming an end itself. Aristotle is

[22]This point is crudely expressed by the classic Mtv cartoon *Beavis and Butthead.* In the 'Green Thumbs' episode they attempt to bribe a cashier into accepting poorly counterfeited cash with additional obviously-photocopied dollar bills and "coins." This is also an example of the way the real/less-real distinction is inscribed in money itself in the forms of ingot/stamp, backed/unbacked and real/counterfeit.

likely not a metallist in any strict sense, but at the same time he is only a non-metallist to the extent that his notion of real money focuses primarily on its role with respect to the real economy, and not on the particular form money can/must take.

Aristotle's model, simply expressed in Table 1, poses both a harmonious world where convention/money is subservient to the natural/real economy, and the threat to this world. It is also a model in which claims about what should be and *what is* are intimately entangled, making the abstraction of one from the other suspect. Aristotle's 'positive' understanding of money as primarily a medium of exchange is informed by his 'ethical' understanding of a good economy as one in which money serves exchange. But this ethical position itself is conditioned by his ontological assumptions about *what is*. To be clear, this positive "what is" is not a pre-theoretical objective reality, but philosophical-methodological concept produced by privileging one aspect or dimension of economic life as fundamental and natural.

V. Dualism and Macroeconomics, or, The Rigidity of Rigidity

It should be quite clear that dichotomous macroeconomic models are consistent with the tendencies of the realist dualism. They posit a logically prior, mathematically predetermined, real sector opposed to a neutral monetary side of the economy. While this is straightforward, less obvious is the ways in which variants of Keynesian economics, often introduced in direct opposition to the so-called classical model, are conditioned by a similar dualist vision. For this reason I'll discuss the existence of ontological dualisms at work within variants of Keynesian influenced macroeconomics. The principle features of Keynesian thought are subject to profound disagreement.[23] For example, the oft-cited Keynesian reliance on price rigidity is in direct opposition to the Post-Keynesian view in which price flexibility would make the economy less, not more, stable.

[23]Not surprisingly, the existence of this heterogeneity is well-known only among those belonging to the "heterodoxy" so that while Post-Keynesians critique New Keynesian interpretations, the latter largely operates as if the former did not exist.

Why has rigidity been considered so important for Keynesian economics, despite - according to the protests of Post-Keynesians (see Davidson (1974; 1998)) - Keynes himself? Ball and Romer's 1990 paper begins with a very unexceptional statement, that nonetheless suggests a link between the dualist ontologies behind modern macroeconomics, and the persistence of rigidity - "According to Keynesian economics, nominal wages and prices are rigid, and so nominal disturbances have real effects" (p.183). The whole project is motivated by the search for the real effects of nominal disturbances. This is familiar economic knowledge, but it has the familiarity that Hegel warns might impede understanding. Lest we simply take this project for granted, there are two points of interest here.

First, note that the nominal is characterized as a disturbance. The denotative and connotative content of this term is apparent. Disturbances are not only bad, but they are secondary. However annoying they may be, they are both temporary and external to the thing being disturbed. The unexceptional character of such claims is evidence of the ubiquitous condensation of normative, methodological, and rhetorical dimensions of the realist dualism.

Second, the problem concerns what we could call the performativity of the monetary sector. While orthodox economics, Keynesian or non-Keynesian, can account for the representational or constative dimension of money, it stumbles in theorizing the performative. This difficutly operates on two levels. First, there must be an explanation of how prices can do something other than reflect fundamentals. Surrounding this problem is the literature on the microfoundations of nominal rigidities. However, in the language we used earlier in characterizing linguistic models of economy, the existence of nominal rigidity remains on the level of the semantic/constative. Despite the fact that prices are in some sense wrong, they are nonetheless judged from the perspective of correspondence with a preexisting real economy (defined according to tastes, endowments, and technology). The second step is moving from the constative, but wrong, to the truly performative, where money has *real effects*.

Orthodox macroeconomics exhibits uneven development on these theoretical fronts. Modeling constative success is trivial, constative failure not terribly difficult. Performativity becomes the stumbling block. The problem is that modern macroeconomics, at least in most of its mainstream variations, is premised on a realist dualism I have described as semantic. As such, any project to theorize the performativity of the monetary-financial is frustrated by its philosophical-methodological conditions of existence.

Modigliani's Classical Models

Textbook presentations of Keynesian macroeconomics almost never begin with Keynes himself.[24] By and large Keynes is introduced in opposition to the classicals. Given this entry point, the way classical economics is understood and the character of Keynes' opposition is quite critical in the evolution and understanding of Keynesian thought. Despite the ambiguity over who these classical economists were, where this classical model came from, and the multiple ways in which this monolithic model might be opposed, the truth of Keynes is formulated as a system of equations that differs from the system of equations economists "believed in" before him.

As Darrity and Young (1995) exhaustively document, in the aftermath of of Keynes' *General Theory* there was no consensus on either the economics of the classicals or Keynes himself.[25] A variety of different mathematical presentations of the character of the two models circulated before one variation found its way into textbooks. However, once IS-LM became a pedagogical fixture, the history of its production, including both the specificity of the interpretation of Keynes and the retroactive formulation of the classical mode, was effaced.[26] An illustration of this effacement is the complete absence of references to the any

[24] To the extent that they do it is simply through reference to his famous quotable moments.

[25] See also Young (1987).

[26] Protests that Hicks *bastardized* Keynes, are also guilty of this effacement. While recognizing the existence of an other Keynes outside of the textbooks, such claims accept the singularity of Hicks' mathematization and the monolythic status of the classical model. For a useful history of macroeconomic heterogeneity during the inter-war years see Laidler (1999).

supposed classicals in these presentations.

Chapter 1 of Sargent's macroeconomic theory textbook (1987) focuses solely on the classical model. Outside of a text on differential equations from the 1940s, the earliest reference in the entire chapter is Cagan's 1956 paper.[27] Morgan (1978, Ch.2) excludes any references in his presentation, and is not exceptional in doing so. Neither of these texts are an attempt at the history of economic thought, and their respective approaches are likely legitimate given the (pedagogical) goals of each. Nonetheless, in service of these goals a certain understanding of the classics, Keynes, and the macroeconomy itself is reproduced.

While Hicks (1937) is often given credit for the IS-LM framework, De Vreoy (2000) reminds us that the IS-LM interpretation (and the nature of the Keynes-classics distinction) the discipline is most familiar with owes much more to Modigliani (1944). While the existence of rigidities are important for both, the shift from Hicks to Modigliani significantly transforms the understanding of the classical model. For Hicks, the key difference between the classical and the Keynesian model is the effectiveness of monetary policy (Vroey, 2000, p.304). The former allows an expansion of the money supply to lower unemployment, while such policy is ineffective in the latter. While the limitations of monetary policy, especially in the case of the liquidity trap, should not strike the reader as foreign to Keynesianism, Hicks' characterization of the classical model is without doubt at odds with the contemporary received view.[28]

Modigliani's models are much more familiar. Whereas unemployment existed in both of

[27]On the whole, this chapter on the classical model has 18 references, with an average publication date of 1971.

[28]Hicks is in fact quite lucid when making this point. Here he is discussing the classical model:

> An increase in the supply of money will necessarily raise total income, for people will increase their spending and lending until incomes have risen sufficiently to restore k to its former level. The rise in income will tend to increase employment, both in making consumption goods and in making investment goods. The total effect on employment depends upon the ratio between the expansions of these industries. (ibid., pp.149-150)

The distance between Hicks' classicals and ours is hardly due to any ambiguity in his exposition. Nor was this understanding unique to this 1937 paper. Two decades later in his review (1957, p.283) of Patinkin he makes the same essential point.

Hicks' models, Modigliani presents a dichotomous classical model with a full employment equilibrium and monetary neutrality, and a non-dichotomous Keynesian model in which equilibrium may not coincide with full employment. In the latter model expansionary policy can move the economy towards fully employment. But this should remind us of Hicks non-Keynesian model. As De Vreoy puts it, Modigliani "rebaptized Hickss classical model as the Keynesian model" (2000, p.307). From the perspective of the Hicks framework, Modigliani has two classical models.

Due to its influence, Modigliani's contrast between the classical and Keynesian models should be familiar. The models are exact in 7 equations and the consumption identity. They differ only in the parameters of the labor supply equation (9) that completes the model.[29]

[29] Modigliani also describes a "crude classical" model that is identical to the classical except that equation (1) is replaced by the Cambridge cash balance equation. Darrity and Young present additional equations in describing Modigliani. For example, they include both an exogenous money supply equation ($M^s = \bar{M}$) and the money market equilibrium condition ($M^d = M^d$). These two equations are certainly implicit in Modigliani's analysis, but it is also noteworthy that he does not make them explicit in his direct presentation of the two models. If their implicit existence is necessary for understanding Modigliani's construction of the IS-LM model, their explicit absence is a clue as to Modigliani's own understanding. For instance, that he takes an exogenous supply of money for granted, and not as part of the model per say, is illustrative of his notion of money.

$$(1) \quad M = L(r, Y)$$

$$(2) \quad I = I(r, Y)$$

$$(3) \quad S = S(r, Y)$$

$$(4) \quad S = I$$

$$(5) \quad Y = PX$$

$$(6) \quad X = X(N)$$

$$(7) \quad W = X'(N)P$$

$$(8) \quad C \equiv Y - I$$

$$(9) \quad W = \alpha w_0 + (1 - \alpha)F^{-1}(N)P$$

The notation is standard.[30] For classical model, the value of α is zero. In the Keynesian model it is either zero or one depending on the level of unemployment:

$$\alpha = \begin{cases} 1 & \text{if } N \leq N_0 \\ 0 & \text{if } N > N_0 \end{cases}$$

where N_0 is the level of full employment.[31] The only difference between the two models is the shape of the labor supply curve. In the classical model it is always upward sloping, and in the Keynesian case it is perfectly elastic below full employment and upward-sloping beyond.

In the space of interest rate and money income, the IS curve is downward sloping up until full employment at which point it becomes flat. Beyond that point any expansion is simply inflationary, and the interest rate remains fixed because "the 'real' value of investment that

[30] M is the demand for money, I investment, S savings, Y nominal output/income, P price level, X "physical" output, N employment, and W the wage.

[31] Modigliani actually uses a β in the second term of (9) but defines it as $(1 - \alpha)$.

it pays to undertake at any interest rate is unchanged since yields and costs change in the same proportion" (1944, p.59).

Modigliani views the determination of money income as prior to (physical) output. The IS-LM model ("IS-LL" at the time) represents what Modigliani calls the "monetary part of the system" (ibid., p.65), and at least in terms of the logic of his presentation, determines the nominal income before the level of output, as determined by the "real part" of the system, gives us a price level. Since capital is assumed fixed, the sole determinate of output for a given production technology is labor, hence the centrality of labor supply (and wages). In the Keynesian specification, the N* (below full employment) is determined by:

$$w_0 = X'(N)\frac{Y^*}{X}$$

where Y* is the nominal output determined by the monetary section (IS-LL). Because the wage is fixed, nominal output is not neutral. The neutrality of the monetary part of the economy in both the classical and Keynesian full employment case is straight forward. Equilibrium in the labor market reduces to:

$$F^{-1}(N) = X'(N)$$

where nominal output has no influence on the level of employment or real output. The link between rigidity and non-neutrality is so familiar to the contemporary economist that we might miss the novelty of Modigliani's arguments. This is not to say he was the only one advancing a rigidity interpretation of Keynes, but that amongst the multiple understanding of macroeconomy during the period this was but one. Modigiliani provides evidence of this diversity by viewing the linkage between rigidity and Keynesianism as insufficiently recognized:

> It is usually considered as one of the most important achievement of the Key-

> nesian theory that it explains the consistency of economic equilibrium with the presence of involuntary unemployment. It is, however, not sufficiently recognized that, except in a limiting case to be considered later, this result is due entirely to the assumption of 'rigid wages' and not to the Keynesian liquidity preference. Systems with rigid wages share the common property that the equilibrium value of the 'real variables' is determined essentially by monetary conditions rather than by 'real factors.' (ibid., p.65)

The basic logic of the classical and Keynesian models in Modigliani's 1944 paper are presented in Figure 1. The critical point I want to make is that while only the classical model is strictly dichotomous, they are both dualist. This dualism is apparent in a number of respects. Modigliani's language makes clear that even the monetary sectors of the model has real effects, the economy is still thought to be constituted by real and monetary "parts" whose interaction is the object of analysis. The mathematical-logical relationship between these two parts continues in this dualist direction.

Figure 1: Modigliani's Keynesian and Classical Models as of 1944

$$
\begin{tikzcd}
Monetary \arrow[r] & Y \arrow[dr] \arrow[dd, "w_0"] & \\
 & & P \\
Real \arrow[r] & X \arrow[ur] &
\end{tikzcd}
\qquad
\begin{tikzcd}
Monetary \arrow[r] & Y \arrow[dr] & \\
 & & P \\
Real \arrow[r] & X \arrow[ur] &
\end{tikzcd}
$$

As Figure 1 depicts, the difference between these two models is that in one case the dualism is strictly dichotomous, and in the other case there is a short circuit between the dual sectors. The conceptual condition of existence for this particular theory of the non-neutrality of the monetary sector is the classical model that presupposes a dichotomous dualism. The Keynesian model is the classical model that fails. The classical model is a Keynesian model that doesn't fail.

The message of the previous section is that the Keynesian break from dichotomy was not a break from ontological dualism, of which the classical model was only an exceptionally pure case of. I'll now turn to the relationship between this shared dualism and more recent macroeconomics. In particular I want to consider how the realist dualism as it exists in the old Keynesian model, has helped shape New Keynesian economics. From our vantage point there is no singular New Keynesian model. At the very least there are two New Keynesian types of models (Greenwald and Stiglitz, 1993b). The realist dualism can help us understand both the intersection and point of contention between the two.[32]

Because Mankiw has been key to both the development and presentation of New Keynesian economics, his views on Keynesianism itself are of interest. His critique of the real business cycle approach is a nice opportunity to see his own view on the distance between Keynesians and classicals, as well as New Classicals and New Keynesians. He presents the methodological choice of the macroeconomist in simple either/or terms:

> The professor of macroeconomics must in some way deal with the classical dichotomy. Given the assumptions of Walrasian equilibrium, money is largely irrelevant. The macroeconomist must either destroy this classical dichotomy or learn to live with it. Keynesian macroeconomics destroys the classical dichotomy by abandoning the assumption that wages and prices adjust instantly to clear markets. This approach is motivated by the observation that many nominal wages are fixed by long-term labor contracts and many product prices remain unchanged for long periods of time. Once the inflexibility of wages and prices is admitted into a macroeconomic model, the classical dichotomy and the irrelevance of money quickly disappear. (1989, p.80)

In my reading, this either/or is either a false choice in the sense that one can both destroy *and* live with the classical dichotomy, or Mankiw is wrong in his characterization of the

[32]Other factors have without doubt shaped the development of macroeconomics. These factors include political shifts, the economic instabilities of the 70s, methodological trends in formal theory, and empirical techniques. However, none of these are sufficient conditions alone. Simple scatter plots - think Phillips curve - do not in of themselves mandate any particular change in economic research. I simply add the dualist ontology of macroeconomics to this list of factors.

Keynesian macroeconomist's decision. Certainly the mainstream Keynesian must live with the dichotomy because his/her own model is the dichotomy with a failure. If this model was destroyed, and left behind, its Keynesian version would cease to be intelligible. The Keynesian model may undermine, critique, or challenge the classical dichotomy but it does not destroy it. This is not a mere issue of semantics and the consequences are significant. In Mankiw's framing of the macroeconomic choice, the persistence of the classical dichotomy is invisible.

Consider an innocent statement from Neary and Stiglitz - "It is well-known that, if all prices are flexible, all factors (which are not in absolute surplus) will be fully employed in equilibrium " (1983, p.199).[33] How exactly is this known? Unless price flexibility was defined so as to make this a simple truism this position is not trivial without a specific economic model in mind. Nonetheless, this *fact* is well-known because the classical model, as either a benchmark from which the Keynesian model is derived or the result of removing the failures from the latter, is itself well-known. It persists. We live with it.

With respect to Figure 1, New Keynesian economics is simply the project of theorizing the conditions of existence of the arrow that bridges the divide between the real and the monetary. As in the case of the original model, the object of New Keynesianism research is unintelligible outside of this dualist ontology. This continuity should be clear for the New Keynesian approach of associated with Romer, Mankiw, and others.[34] Here, the research objectives include (1) providing the microfoundations (required by the standards of orthodox economic methodology) for rigidity and (2) the theoretical and empirical study of the precise relationship produced by the short circuit between the real and monetary.

Less obvious is the how the New Keynesianism associated with the work of economists

[33]It is possible that the later Stiglitz might be more careful when discussing price flexibility given his interest in distinguishing his New Keynesianism from other variants.

[34]A non-exhaustive sampling of this tendency includes Mankiw (1985), Ball et al. (1988), Ball and Romer (1990), Blanchard and Summers (1986), Blanchard and Kiyotaki (1987), Mankiw (1989), Akerlof and Yellen (1985; 1990), and Gordon (1981).

such as Stiglitz and Greenwald fits into this tradition.[35] For example, Greenwald and Stiglitz (1993b) take care to distance themselves from the standard rigidity framework, claiming that given information imperfections, increased price flexibility may only make recessions worse. This New Keynesian approach seems to pose a direct challenge to the dualism we've described.

In what sense is this still New Keynesianism then? The simple answer is that both variants use microfoundations to study economic fluctuations and the non-neutrality of money. This simple answer suggests another. To the extent that they take the same object of analysis, seeking to explain the same problems, they also share the dualist presuppositions that make these concerns intelligible. Whereas the first variant attempts to produce microfoundations for the traditional linkage between the monetary and the real (rigidities), this latter version advances a new type of short circuit. In each case a failure in the real economy creates (1) broader economic failures and (2) non-neutralities.

These New Keynesians are both repetitions of the realist dualism at play in the construction of the old version. This doesn't preclude repetition with a difference. The imperfect information approach to non-neutrality is novel and an example of the way in which in appeals to the real evolve along with notions of what the real is. It does not seem to be a coincidence that models attributing inefficiency to information failures arise after the development of the efficient market hypothesis that associated efficiency with perfect information regarding the (real) fundamentals.

If rigidity, as a critical concept of Keynesian economics, persists it is because flexibility is key to making sense of the relationship between less-real monetary sector the real sector in dichotomous models. Dropping the dichotomy, while maintaining the dualism, involved finding a short circuit or failure in this logic. Similarly, the increased prominence of questions of information in later models with dichotomy-type implications, made necessary - in absence

[35]See Greenwald et al. (1984) and Greenwald and Stiglitz (1993a).

of a fundamental rethinking of the methodological presuppositions of macroeconomics - theories of information failures.

VII. Conclusion

The critique of the realist dualism does not in any way imply that abandoning its tendencies is simple. On the contrary, it is precisely the difficulty of thinking of the economy and money without a notion of a real and its other, that makes an understanding of its effect important. In the lonely last instance, it may even be impossible and undesirable to completely abolish this dualism. For example, is it really possible to abandon the concept of the real wage?

One of the misconceptions of deconstruction is that it is strictly destructive. It takes oppositions and obliterates them. This is a misconception because many of the objects of deconstruction - consider race, nation, gender, presence, nature, etc. - are quite simply not things we can just leave aside on the basis of a good philosophical argument. Critiques of nationalism, for example, can not prevent the nation from being fundamental to many individuals' worldview. At the same time, our inability to act without some reference to these concepts does not render insignificant critical evaluation of their uses and abuses. The nation is neither something we accept as is, nor simply forget about.

The same is true for the real economy. At some point, and in some sense, the distinction between a real and nominal value may be unavoidable. However, at what point this occurs, and the sense in which the terms (i.e. real and nominal) are to be applied, are important methodological questions that are precluded by the naturalizing language of the real. By denaturalizing these metaphors/models and advancing an alternative ontology, we can retheorize the problems that have characterized monetary economics - in some cases suggesting new solutions.[36] The realist dualism is productive. Economic thought of a dualist nature

[36] My dissertation focuses on this reframing of the problem of non-commodity money in Marxian economics, but similar projects are possible in other economic paradigms.

has not been sterile. Nonetheless, it has its limits - some of which may be surmounted by abandoning an ontological distinction between the real and monetary. Unfortunately, the philosophical-methodological level of this dichotomy is often overlooked, leading economists to oppose one variant of dualist thought with their own.

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