Money, Labour and Logic: A Critical Comparison

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Abstract

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The article seeks to promote a scholarly debate between the temporal single-system interpretation of Marx and the Value-Form school. Since they both recognize the standards required of constructive debate and seek a proper understanding of Marx's actual theory, such a debate promises to be productive. Michael Heinrich's argument, representative of the Value-Form school, is that Marx's derivation of abstract labor, value, and money is "ambivalent" and should be replaced by superior derivations of these categories. I argue that the Value-Form school's proposed replacements exhibit a tendency to eliminate contradiction from value theory. In particular, the idea that the labor in a commodity is abstract only after the commodity is sold gives rise to a quietist tendency. It confuses successful sale with the formation of a price. This stems from an ambivalence attitude towards general equilibrium theory, leading to an underestimation of the devastating effect of von Bortkiewicz's rewriting of Marx.

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Money, Labor, and Logic
A critical comparison

Alan Freeman[1]

Introduction

This article seeks to promote a scholarly debate between two schools of thinking about value. These are the TSSI (temporal single-system interpretation) of Marx, and the value-form (VF) school. I will argue that there is a mutual recognition of the standards required of constructive debate, and that this differentiates both schools from the dominant simultaneist[2] paradigm in Marxist scholarship. This promises that such a debate is not only possible and needed, but can be productive. Our shared goal of a proper understanding of Marx's actual theory cannot but lead to progress, and it offers the possibility of a timely new stage in the discussion.

I will address Michael Heinrich's argument, representative of the VF school, that Marx's derivation of abstract labor, value, and money is "ambivalent" and should be replaced by superior derivations of these same categories. I cannot but agree that Marx's reasoning can be improved, since no body of thought is ever complete; however, I am less certain that VF authors have improved it

My argument is that their proposed replacements contain a latent tendency to eliminate *contradiction* from the basic categories of value theory. In particular, a core VF idea—that a commodity must be sold before the labor in it is recognized as abstract—gives rise to a quietist tendency by confusing successful sale with the formation of a price.

I think this stems from VF's own ambivalence towards general equilibrium (GE) theory in economics, leading to an underestimation

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2 TSSI authors use the neutral term "physicalist" in place of the pejorative epithet "neo-ricardian" which rejected by physicalist writers. Our own term derives from Steedman's (1977, 72, 216–17) self-designation. Unless precision is required, I use "simultaneist" to stress the derivation of value and price, which are defined as the solution to sets of simultaneous equations. Simultaneism is conceptually wider than physicalism, including for example Walrasian General Equilibrium. The term "temporalism" refers to non-equilibrium approaches, in which magnitudes are calculated through difference or differential equations. It should be noted that simultaneist categories, unlike temporal categories, are ontologically defined by the method of calculation.

of the devastating effect of von Bortkiewicz's rewriting of Marx's value theory within a GE framework.

GE presupposes that the market perfectly reproduces itself—in short, that its object of study is free of contradiction. If imposed on the basic categories of the theory—value, labor, money, price—it becomes impossible to deduce from that theory those features of capitalism which were central to Marx's purpose: crisis, capitalism's law of motion, and transition.

GE further engenders an "ontological collapse": within it, concepts that are distinct in the real world are made mathematically indistinguishable (numéraire and money; physical quantity and labor time; the different profit rates in physical, value, and price terms; sale and price formation; and so on). This creates ambivalences which do not exist in the original and can be overcome in a strictly temporal derivation, as I will illustrate with reference to the two central categories of abstract labor and money.

Scholarly Debate: A categorical imperative

This section explains why TSSI and VF approaches to debate are compatible, and why such approaches are both possible and necessary.

The TSSI tradition is founded on engagement and pluralism.[3] Briefly speaking, pluralism means considering not just one's own theory, but the alternatives, and engagement means considering what a theory actually says, not what an author thinks it says, or "would say if corrected" according to her preconceptions.[4] In this paper, I additionally employ an approach, first defined by Althusser, of "symptomatic reading." Again briefly speaking, the idea is that when studying or critiquing a theory, we should not seek immediate grounds for accepting or rejecting it, but should first ask "how does this theory oblige or enable us to think about the world?" On the basis of pluralism, this offers a criterion of *judgment between theories*: which one, including its presuppositions and deductions, provides the best account of what we observe?

My concept of scholarly debate is, in summary, an attempt to uncover the presuppositions which each of our theories make, and the conclusions that follow from them. That is how I intend to approach VF writings.

Scholarly debate is an essential antidote to the rhetorical strategy

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3 Each, engagement and pluralism, is informed by the guidelines in the editorial mission statement of COPE at www.copejournal.org

4 See, for example, Kliman and Freeman (2006).

adopted by Steedman (1979, 1981) and accepted by all simultaneist writers—who dominate post-Sraffian Marx scholarship—whether supportive or dismissive of Marx's theories. Steedman sets out a version of "Marx's theory" derived from von Bortkiewicz's (1952) reconstruction of this theory in GE terms. Irresolvable inconsistencies arise,[5] from which Steedman concludes that "Marx's theory" should be dismissed. The error, however, lies in von Bortkiewicz's interpretation and not Marx's reasoning, which can be rendered fully consistent in a temporal framework.

This strategy has eliminated from contention one of the few economic theories that furnish viable explanations of empirical reality, by misrepresenting the original ideas within it to the point where they are no longer accessible to the public. These ideas and concepts must be recovered if informed judgments are to be made.

Where do VF writers stand on this matter? True, they are silent on whether Marx is a simultaneist, but any objective reading shows that they do not employ the simultaneist rhetorical strategy. They recognize the importance of interpretation based on evidence. They distinguish their own views from Marx's, and seek accurately to ascertain Marx's own views. All this is evident in Heinrich's (1999) book, *Die Wissenschaft vom Wert* (*Science of Value*):[6]

> The opening up and systematisation of Marx's texts … presupposes a *unified and correct discourse*, which is confined to laying bare or even "reconstructing', and which is clearly differentiated from vulgarisation and false interpretation.
>
> In question are only Marx's *explicit* methods and his understanding of his object [*gegenstandsverständnis*] and not the *theoretical coherence* of his discourse. [Heinrich 1999, 10, emphases in original]

This is very far from the post-Sraffian approach to debate. Clear common ground thus exists between TSSI and VF on *how to conduct debate* about Marx's theory: the enquiry begins by identifying what this theory really says.

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5 The most notable of these are the so-called transformation problem and Okishio's alleged refutation of Marx's tendential law of the rate of profit to fall. See Kliman (2007) for the most complete and recent presentation and refutation of the arguments involved.

6 Unfortunately, this work appears not to have been translated. The translation is mine. Apologies for any inaccuracies.

Where We Differ

Differences of method do exist. The purpose of this section is to establish their defining features.

Both schools agree that, faced with interpretative difficulties, there are objective, evidence-based criteria for deciding what is a valid interpretation. In other words, we may not agree about what Marx really said, but we agree that there is a way of finding out. There is less agreement on the criteria to be used. Kliman's (2007, Chap. 4) hermeneutic criterion is that of Stigler: faced with two interpretations of a text, one chooses that which best permits the text's conclusions to be deduced from its premises. Heinrich (1999), in keeping with German Marx scholarship, focuses on the "ambivalences" in Marx's categories, presented as the unresolved outcomes of a process of research in which the object of study consists of successive reworkings of the text. Heinrich's third section is entitled "The Ambivalence of the Foundation Categories of the Critique of Political Economy," and in it he introduces this concern: "To approach surmounting the ... difficulties in Marx's theory of money and credit, before identifying the elements of these two discourses, it is above all necessary to overcome ambivalences in the central categories, and distinguish real problems from apparent ones" (Heinrich 1999, 17).

TSSI authors do not find the ambivalences in Marx that VF authors claim to identify. I want to convince both my TSSI colleagues, and my VF co-contributor, that this is not an obstacle to the debate, but its subject.

Ambivalence, unlike inconsistency, is not a reason to reject a theory. It simply means that we are not clear about what the theory really says, because its concepts have two potential meanings. Supposing that an impartial reader were convinced that there are ambivalences in Marx's categories. Would this reader then have to reject the TSSI argument? I do not think so. On the other hand, suppose that this reader is convinced that all supposed ambivalences have been resolved by the TSSI approach. Would this reader have to conclude that value-form analysis was false? Again, I think not.

However, VF authors do need to addresss their *own* ambivalence about whether Marx has actually been proven inconsistent. It would aid the debate if they addressed TSSI proofs of consistency. Is the motivation for wanting to improve on Marx *simply* that something better is available, or—as maintained by the simultaneists—that Marx's own reasoning does not in fact work?

To sum up: the differences between the VF and TSSI approaches are not obstacles to debate, but its subject. The central issue to explore is this: are the categories of value theory, as inherited from Marx, ambivalent; and, if so, from where does this ambivalence arise?

Contradiction and Basic Categories

This section introduces the fundamental logical problem around which this article turns: it is essential, when constructing any basic category, not to introduce any presuppositions which assume away contradiction.

VF authors are centrally concerned with the derivation of Marx's basic or, as Heinrich terms them, foundational categories—abstract labor, use-value, exchange-value, money, price, circulation, production, and profit. They want to establish the ontological status of the objects to which the theory refers.

TSSI authors agree, adding that if the basic categories exclude contradiction, the resulting theory will be unable to describe capitalism as it actually exists. I will illustrate this in relation to the most well-known contradictory feature of the capitalist economy—economic crisis.

Contradiction is the most basic feature of reality. As Hegel (1989, 439, emphasis in original) notes, "as against contradiction, identity is merely the determination of the simple immediate, dead being; but contradiction is the root of all movement and vitality; it is only in so far as something has a contradiction within it that it moves, has an urge and vitality."

Capitalism, like all reality, contains contradictions within it. As we will show, it *requires these contradictions in order to exist*. We will therefore not be able to analyze capitalism if we begin by assuming them away. We may get an internally perfect theory—the theory of divine creation is, in its own way, perfect—but it will not and cannot apply empirically to the world we live in,[7] because that world really does contain the contradiction that the theory has dispensed with.

7 I am not arguing that a theory has to be inconsistent in order to be true. The point is more complex: if a theory assumes away contradictions that really exist, then it cannot apply to reality. Once abolished from the theory's categories, these contradictions cannot "re-enter" the theory by the back door after it has been constructed. This gives rise to one of the oldest problems in religion, namely, if the universe is created by a being that incarnates perfection and can do no wrong, how come it contains wrong things?

This has implications for three aspects of capitalism which were central to Marx's contribution: the origin of capitalism, the notion of its "laws of motion," and the theory of capitalist crisis. This paper focuses on the first of these.

Is crisis an accident, an imposition from outside capitalism, an outcome of bad management or misfortune? Or is it, as for Marx, an intrinsic feature of capitalism?

Capitalism and the market do not reproduce themselves perfectly. They reproduce the most abstract conditions of their existence, such as the survival of both major classes and the departments of production that supply them. But the concrete manifestation of this abstract self-identity is immensely variable. Society never reproduces itself in the detail presupposed by GE, not even from one moment to the next. Goods are produced but not sold, investments are made but not used, money is lent but not returned, enterprises are founded and go bankrupt. The price and quantities of any given commodity produced, consumed, or awaiting sale vary, contingently and incessantly. Not least, innovation brings about a constant secular change not merely in the prices and values of all goods but in the composition of output.

This fact is neither discountable or ignorable. Capitalism requires these discrepancies in order to reproduce itself. To be very precise, it reproduces abstractly by failing to reproduce concretely.[8] It is only because its details are *not* reproduced that, as a *whole*, it is reproduced. It is *because* excess demand and supply appear, because prices respond to that by rising and falling, and because the rate of profit is therefore everywhere either above, or below, the average, that capital, moving in pursuit of surplus profit, flows out of the overproducing and into the underproducing sectors, maintaining the system as a whole in existence. In this very profound dialectical sense, the capitalist economy is the contradictory unity of reproduction and non-reproduction, and any attempt to wish this contradiction away is doomed to remain "aloof from the sphere of being and truth," to lose sight of the source of movement of capitalism, and fail to explain what we see before our eyes.

Nor are these discrepancies numerically minor or qualitatively insignificant. At definite and repeated moments, large masses of capital are not just affected but liquidated—think Enron, think Argentina 2002 or, if inclined to catastrophism, 1929. Such crises are not, as Marx puts it, a "defect" that can be set aside with due care and management. They are functional and indispensable. They restore, by means of "creative destruction," imbalances which would otherwise

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8 To put it another way, it constantly redefines its abstract nature—as does every organic thing.

overturn the system. Eliminate them from your thinking, and you will cease to understand the system.

These tendencies are also of historical significance. In the very large movements assessed by Schumpeter and others, they periodically redefine and reconstruct the national territorial structure of the world. Their byproducts are war, racism, Islamophobia, ecological catastrophe, and economic genocide.

In summary, failures of reproduction—and circulation—are not superficial or external impositions on the capitalist system. They are part of what that system *is*. The real, Heraclitean problem is not "how does capitalism go wrong, assuming that it always succeeds" but "how does capitalism succeed, given that it incessantly goes wrong."

The Assumption of Reproduction

This leads us to a crucial danger which VF authors seem to ignore when deriving the basic categories of money and labor: if, in the derivation, we presuppose that capitalism "works," then those categories will not apply to any situation in which capitalism does not "work"—for example if goods are left unsold. Since such interruptions happen all the time, these categories will not be applicable to capitalism as it really exists. Most important, it will turn out to be impossible to deduce or explain crisis on the basis of these categories.

Once the basic categories are in place, one may of course consider particular, pure forms *as a special case* in order to focus attention on them. Hence, once Marx has constructed the category of value, he can consider the conditions for balanced reproduction in Volume 2, can study rent in Volume 3 by supposing that all landownership is capitalist, and indeed can deduce surplus value under the restricted assumption of exchange at prices equal to values, having shown in Chapter 5 of Volume 1 that no surplus can result from exchange at prices different from values.

If, however, these same restrictive presuppositions are applied to the basic categories themselves, they cease to be a special case and instead become a part of the definition.

This lies at the root of the failure of the simultaneist interpreters of Marx's own categories. Von Bortkiewicz reconstructed Marx *as a variant of GE*. This reconstruction shares *all* the defects of GE, starting with the most central—it eliminates contradiction.

Why did Marx put Volume 2 after Volume 1? If reproduction were *presupposed* in order to deduce the categories of value, price, exchange, etc., then reproduction would be a more basic category, and should be analyzed first: Volume 2 ought logically to come first. Given the attention that VF authors pay to the ordering of the texts in Marx's writing, this should surely be clear—as it should be clear that any interpretation of Marx which assumes reproduction in order to deduce value cannot possibly be compatible with Marx's actual textual ordering.

Marx's ordering—first the basic categories and *then* reproduction—corresponds to logical necessity. Before studying how, whether, and under what circumstances, capitalism reproduces itself through the production and exchange of value, he first establishes what these things themselves are. All simultaneist or GE schemata begin by assuming that society reproduces itself perfectly. They then ask, "what must production, circulation and exchange be like, in order that this reproduction is possible?" They write down a set of simultaneous equations expressing this condition, and solve them to yield prices or values.

This is not just a calculation; it is an ontology. It *defines* these categories to be that which will reproduce the system—that is, it logically deduces them from reproduction. Indeed, the definition does not even exist if supply and demand do not equalize at all times everywhere. The equations are then simply indeterminate.

This has three consequences. First, there is a basic paradox. In order to study how capitalism reproduces itself, the approach eliminates the mechanism by which it does so.[9] Second, no theory can employ such a category to study "out-of-equilibrium" behavior, because, by definition, the category does not apply to such situations. Crisis is then excluded by assumption. Having been excluded, it cannot be reintroduced. In GE theories, crisis is always exogenous. It is a product of bad government, poor monetary management, trade unions, market distortions, communism, Islam—anything and everything is demonized except the market itself. This is not a superficial ideological distortion, but is buried deep within the theory itself. It is logically impossible to deduce any failure to reproduce from the working of the market itself.

Third, and critically for any research into the real source of ambivalences, the construction gives rise to something which, with a more than cursory deference to Schrödinger, I term "ontological collapse." It obliterates all ontological distinctions which only exist as a result of a failure of reproduction. Thus, for example, it obliterates the distinction between sale and price formation, which I deal with shortly. If everything is sold, then the price of everything is simply the price it sells for. The very possibility that it could sell for less, or more, or not at all, is excluded. More profoundly, the GE construction eliminates the distinction between use-value and exchange-value, which is why Steedman successfully skewers all his opponents with the correct

9 See Freeman (1998) for a fuller discussion of this question.

charge that (in von Bortkiewicz's system, but not in Marx's) value is redundant. Signally important for VF authors, the construction obliterates the distinction between money as money of account and money as means of payment or store of value, reducing all to a simple numéraire. And not least, it eliminates the vital distinction between the *physical* rate of profit, the *value* rate of profit, and the *price* rate of profit—from which it deduces a conclusion in conflict with all human experience, that the rate of profit cannot possibly fall whilst productivity is rising, and proclaims it as an immense theoretical advance.

It is this ontological collapse, I will argue, which comprises the real source of the ambivalences perceived by VF authors, which are in reality a product of their own ambivalence in the face of the GE paradigm.

A Fatal Ambivalence: Value-form and general equilibrium

Apparently alone among VF writers, Heinrich does critique general equilibrium. But in my opinion, his critique contains a fatal omission: he confines it to the conceptual basis of methodological individualism, in effect identifying it with marginalism. He writes:

> With [equilibrium-based—AF] neoclassical economics, it is true, a new *problematic* for economic theory emerges. however it remained within the same *theoretical field* from which the problematic of classical economics was constructed. Marginalism, like classical economics, presupposes a definite *human essence* (Wesen des Menschen) … .
>
> As in classical theory, humans are completely *non-social*. The single Atomised individual is counterposed to nature. Starting from this isolated individual, economic relations are constructed through the maximising behaviour of these individuals. Exchange, in neoclassical as in classical theory, is not seen as the form in which social relationships are mediated, but simply as an act between two individual commodity owners. [Heinrich 1999, 77, emphases in original]

However, first of all, GE is not identical to marginalism. The GE "revolution" supplanted the original marginalism of the Austrian school which to this day vehemently rejects it. The advent of GE, which in truth dates from Marshall's rescuing of Walras from obscurity, played a far more sweeping role than merely legitimizing marginalism: it reconstructed all economics as a theological doctrine without contradiction.[10] It did this to every branch of economic theory including Marx's, converting them from their previous either scientific or merely vulgar form into a mathematically rigorous apologetic system.

Von Bortkiewicz was completely conscious of the generic character of GE. Having corresponded with Walras as an admirer since the age of 19, he set out explicitly to reconstruct Marx's value theory as a variant of GE:

> Alfred Marshall said once of Ricardo: 'He does not state clearly, and in some cases he perhaps did not fully and clearly perceive how, in the problem of normal value, the various elements govern one another *mutually*, not *successively*, in a long chain of causation'. This description applies even more to Marx … [who] held firmly to the view that the elements concerned must be regarded as a kind of causal chain, in which each link is determined, in its composition and its magnitude, only by the preceding links … Modern economics is beginning to free itself gradually from the successivist prejudice, the chief merit being due to the mathematical school led by Léon Walras. [Bortkiewicz 1952, 23–24, emphases in original]

Heinrich's enumeration of the textual sequence of the evolution of Marx's thinking omits the one text that everyone actually now reads. This was not written by Marx. It was written by von Bortkiewicz. I do not think it is possible for the VF project itself to progress without engaging with this fact. One cannot ascertain where Marx's ambivalences actually lie, until one first tests whether these are resolvable within the temporal theory he actually held (as von Bortkiewicz here acknowledges), and not the GE theory foisted on him.

Nor do I think it possible to improve or advance on value theory or indeed, on economic theory as a whole, other than on a rigorously temporal basis. This brings me to the vexed and central question of the relation between abstract labor and price.

Abstract Labor and Price

At root, crisis is a generic failure, a suspension of reproduction. It is the generalization of a specific type of event, namely, a failure to sell. It is therefore exceptionally dangerous to construct any basic category on the assumption of successful sale.

This takes us to the heart of the VF construction, which hinges on the view that in order to be "recognized" as abstract, labor must

10 See Freeman (2007) for a fuller discussion of this question

participate in sale. Taken literally, this implies that labor can only be abstract if capitalism succeeds.

In this section I show how this affects the definition of abstract labor, and how the category is derived. I will first show that the VF approach involves a crucial confusion between the *formation of a price* and the *successful completion of sale*. I will then argue that labor becomes abstract not when a commodity is sold, but when its price is formed. I will exhibit an consistent definition of abstract labor on this basis which resolves the ambivalence perceived by VF authors.

When Does a Price Exist?

Heinrich begins from a standpoint with which I agree. He writes,

> The object of Marx's enquiry is thus not simply the commodity, but the commodity as the *social form of the product of labour*, and that which is social about the commodity is its "value." The problem which Marx then poses does not consist in "proving" that labour is the substance of value, but in reconstructing, *from this social form of the product of labour, the specifically social form of labour*. [Heinrich 1999, 204, emphases in original]

This is a clear framework: Marx's categories are the social expression of a specific stage and form of society, the capitalist mode of production. The problem is therefore to understand abstract labor as the expression of social labor organized to produce socially-defined commodities for sale. I have no disagreement with this; it is the conclusion which is drawn from it that determines the terrain of discussion:

> There is a decisive structural difference between commodity production and the various forms of communal [*gemeinschaftlich]* production. Whilst in commodity production, labour is *privately* expended and receives its social [*gesellschaftlich*] character, its recognition as part of social labour, *subsequently* [*nachträglich*], in exchange, in communal production the "social character of production is presupposed." [Heinrich 1999, 204, emphases in original][11]

The key word here is "subsequently." The implication—more ambivalent in some VF texts than others—is that a commodity must be sold to qualify the labor in it as abstract. If I have read this wrong, I am happy to stand corrected, since it will show there is greater agreement than I believed.

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[11] The phrase inside quotations marks is Marx's.

Being sold is not the same as having a price. A commodity is sold when it changes hands. But all commodities have a price long before changing hands and indeed, a commodity cannot be sold *until* it has a price, otherwise, the parties to exchange do not know how much money to hand over. The focus ought to be, therefore, not on how or whether a commodity gets sold, but on how and when it acquires a price.

A commodity has a price at all stages of its existence, including immediately as it emerges from production—and in fact this was Marx's (1976a, 260) view: "This situation is not altered by placing money, as a medium of circulation, between the commodities, and making the sale and purchase into two physically distinct acts. The value of a commodity is expressed in its price before it enters into circulation, and it is therefore a pre-condition of circulation, not its result."

This price of a commodity can and of course does change over time. But it *exists,* as the monetary equivalent of the use-value concerned, for the entire time that use-values of this type exist. *Sale* at a given price is logically distinct from when the price is *formed*. In the next section, we discuss how and when this occurs.

Social Commodities vs. Individual Sale

The requirement that "a commodity" should be sold before the labor in it becomes social bypasses a prior issue: the commodity itself is social. Once we speak of "a commodity" being sold, we must be speaking of one particular commodity, namely, the one that is sold. But sale is an individual act. So we are speaking of one particular commodity-owner—the seller—and one particular buyer. This is clear from the positions of the Uno school, as outlined (and criticized) by Chris Arthur (2006). He cites Itoh as follows:

> The Uno school criticizes this expanded form. In Marx's example, the commodity A is '20 yards of linen'; it is this commodity whose value is first expressed in '1 coat', and subsequently in definite amounts of other commodities, all equivalents of each other as the value of that same twenty yards of linen.
>
> By contrast, Uno and his followers argue that the amounts of linen specified should vary on each occasion, because it has to be the value equivalent of the specific amount of each other commodity desired by the linen owner. [Arthur 2006, 14]

The Uno school thus requires that the circumstances of exchange should vary on the occasion of each sale. But this leads immediately back to the "anthropological-individualist" defects that Heinrich enjoins us to avoid. We are no longer discussing the general social characteristics of the community of linen-owners but one *particular* linen-owner with one particular set of "specific amounts" desired in exchange. The social character of the linen-owner has simply vanished. She now stands as an individual in the marketplace with her individual wants and needs as the prime starting point of value determination.

The missing point is that a commodity—for example, a sock—is also "social," along with the labor that produced it. It is one of a general type. As Marx (1976a: 57) puts it, "All the linen in the market counts but as one article of commerce, of which each piece is only an aliquot part." There are, out there in the world, literally billions of socks. For any one sock, a million other indistinguishable socks exist. It is not necessary for any particular sock to sell, for the social category of "sock" to exist. The use-value of the sock, just like its exchange-value, is not a property of one sock.[12]

For the same reason, whether or not the individual coat-owner wishes to exchange the commodity linen for 20, 10, or 10,000 yards of linen is immaterial. *Society* determines the proportions in which commodities generally exchange, abstracting from the individual characteristics of producers and purchasers alike—as is evident from the fact that no matter how much linen we may *want* for a coat, we will not find anyone to give it us at anything significantly far away from the socially established, average market price.

Abstract labor arises not because society distinguishes one sock or sock seller from another, but because it distinguishes sock-ness in general from other use-values in general—linen-ness, coat-ness, bible-ness, and so on—establishing a (time-varying) average ratio of exchange between them.[13] The labor involved in each commodity type is distinct ("concrete"), whereas the labor which forms the substance of value is abstract, undifferentiated by the type of use-value it produces. This abstraction, however, refers to socially-defined generic use-values, not to individual vendors and purchasers. The requirement that a commodity must be "sold" before its value or price are quantitatively definite, because this value or price is allegedly specific to an individual act of exchange, obliterates this vital distinction.

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12 Curiously enough, this is a major problem in quantum physics. See Bell (1981).

13 This ratio, incidentally, does not cease to be their ratio of exchange merely because money intermediates the exchange.

When is a Price Not a Price?: The temporal character of price and value formation

We now turn to the category of price. For the same reason that all use-values are social, all the ratios in Marx's derivation are themselves average, social magnitudes. Consequently, the "price" of a commodity is itself social.

This introduces a further and rather important issue. The price of a commodity is not the price of an individual, particular commodity but of the average of its type, just as the commodity itself is the abstract representative of its use-value. "Socks" are bought and sold all the time. At any moment in time, the "price of a sock" is a socially-known magnitude, even if it exists as an average of a distribution. It is what you see on the price tag when you walk into a sock shop. This is the "price of socks."

The sock producer does not even know whether a particular sock sells or not. She does not stand at a counter or in some idealized marketplace, waiting for a buyer for every sock she makes. She works in a sock factory and, as soon as the sock leaves the production line, any remaining individual relation between the sock and its maker ceased to exist. The sock goes into a general stock of socks, some in the warehouse, some in transit, some in shops, some in shopping bags and, to the extent that there is a secondhand market in socks, in charity shops. The sock receives its social characteristics—and in particular its exchange-value—from its status as part of this general stock.

It is perfectly true that the labor in the sock is abstract only through comparison in exchange between sock-ness and all other use-values. But this comparison is made the moment the sock has a price, and it is the existence of these socially-defined prices which recognizes the concrete labor in it as abstract. There is no need to wait for the sock to be sold before this occurs. Each concrete labor enters comparison with every other via the mediation of price, not via the mediation of sale.

There is therefore, also, no especial difficulty in measuring the quantity of abstract labor in a commodity at any given moment of time. Once produced, the sock enters the general pool of commodities of that same type. The quantity of abstract labor in any individual sock is then the simple average of the labor historically bestowed on all socks awaiting sale, just as the price is the simple average of their money price: "The price of the individual article then $= \frac{\textit{the total price of the product}}{\textit{the total number of products}}$, the total price divided by the total number of products as measured in the various units of measure, depending on the use-value of the product" (Marx 1976b, 969).

The above is a *temporal* definition of both the concept, and the magnitude, of value. By this I mean that the future plays no role in the definition. If the world ended tomorrow, so that no commodity now would ever be sold from midnight UCT today, nevertheless everything produced for sale up until 23:59:59 UCT would be a commodity at that time. The future sets no precondition on either the definition or the magnitude of value, which depend only on past history—including, incidentally, the past history of all values and prices.

This is not to underestimate the non-trivial problem of accounting, in value terms, for a mismatch between supply and demand. On this there is room for a valid and productive discussion. I offer only one approach, my own—though I think it is also to be found in Marx—which requires the recognition of stocks. It was laid out in Freeman (1996) and is based on the account of the formation of socially-determined demand and socially-determined supply in Chap. 10 of *Capital*, Vol. 3 (Marx 1981, 273) .

A mismatch between demand and supply manifests itself as a rise or diminution of stock. If socially-formed supply exceeds socially formed demand over a given period of time, this will give rise to an increase in inventories; conversely, an excess of demand over supply will give rise to a decrease in inventories. This incidentally leads to a fall or rise of the market prices below, or above, the value of the commodity, but this does not affect the value until and unless it brings about the entry into, or exit from, the market of producers at the top or bottom end of the range of productive efficiencies involved in making that commodity.

Calculating the commodity's value then proceeds as follows: suppose that, at any given time *t*, an amount x_t of the commodity's use-value exists, in the form of stocks having a value v_t, measured in labor-hours. The commodity's unit value is of course $\frac{v_t}{x_t}$.

A temporal definition of value specifies how, given this initial condition, to determine the unit value at a subsequent time $t+\Delta t$. This is given in the following manner: suppose that, over the period Δt, Δx new units of the commodity are produced by means of Δv hours of labor. The stock of use values has now increased to

$$x_{t+1} = x_t + \Delta x_t \qquad (1)$$

and the labor embodied in this stock to

$$v_{t+1} = v_t + \Delta v_t \qquad (2)$$

and the new unit value is

$$\frac{v_{t+1}}{x_{t+1}} = \frac{v_t + \Delta v_t}{x_t + \Delta_t} \qquad (3)$$

As Δt tends to zero, we can obtain from the above an expression for the rate, at any time, that the value of the commodity is changing, leading to a set of completely general differential equations describing the "law of motion" of the economy, and fully specifying value at any given time.

A complication arises because some of the commodity is consumed while production is in process, but this is simple to deal with: see, again, Freeman (1996).

This is fully determinate and unambiguous. It places no precondition regarding interruption or not of reproduction, and it provides an ontologically, and quantitatively, valid basis for theories which can account for and encompass *all* states and trajectories of capitalist production and circulation, most importantly those which include interruptions of circulation. Discussion may lead to a different approach or a modification of this one, but the crucial point is that it exhibits an unambivalent and consistent temporal definition of value, in which the magnitude of value is directly determined by the time of labor, demonstrating that there is no obstacle to an unambivalent interpretation of Marx's own conception of abstract labor, and without modifying his derivation of categories.

Money and general equilibrium

I conclude on a more optimistic note by addressing a category on which I think there is more agreement, namely money. My purpose is to demonstrate the same general point, however, around which this article is organized: VF will greatly benefit from a clear understanding of the distortions introduced by GE, and it needs clearly to distinguish these from the putative or alleged ambivalences in Marx.

VF authors have rightly insisted that money cannot be reduced to a veil, or to mere money of account. Money is a real thing. Periodic business crises are only possible because of it, as Marx noted. They are also an inevitable consequence of money. As soon as sale and purchase are regularly intermediated by money, it becomes possible for people to sell without buying, thereby interrupting circulation and, hence, reproduction. For precisely this reason, Marx's writings are peppered with virulent denunciations of Say's Law and Ricardo's ambivalent relation to it.

On this there is no difference at all between VF and TSSI authors. For example, Chris Arthur (2005, 111) writes, "A value form approach to money shows that money is no mere 'veil' of the 'real' material content of economic relations; it is 'of the essence' of value relations; not merely the shape in which an underlying matter is expressed."

There is a strong measure of agreement, as can be seen from a defining contribution of Ramos and Rodriguez (1996, 51, emphases in original) to the earliest collection of TSSI writings, in which they write:

> It is usual to define erroneously value as 'labour', that is, to reduce value to its substance. Actually, value is a complex concept: value is the unity of abstract labour (its substance) and money (its form) and, thus, it has an immanent or intrinsic measure (socially necessary labour time) and an extrinsic measure (exchange value or price).
>
> In capitalist society, labour is realised as social labour under the form of money. Marx always refers to value as a quantity of money because '[m]oney as a measure of value is the necessary form of appearance of the measure of value which is immanent in commodities, namely labour time.' (Marx 1976a: 188)
>
> Measuring value in labour time units shows a misunderstanding of the 'internal, necessary connection between the *form* of value, the *substance* of value and the *magnitude* of value.'

No disagreement, then, that money is not a veil. The question is: who says it is? Arthur locates the problem in the dialectical ordering of the deduction of the categories of labor and money within Marx. But there is significant semantic confusion in his sentence, which counterposes veil to *essence*.

This is in line with what I take to be his general ontological endeavor; he seeks to show that the form of appearance of value—money—may by some process of ratiocination be conceived as its essence.

That may be as it may be; space does not allow me to enter into this discussion. However, it has nothing to do with whether money is or is not a *veil*. A veil is not the shape in which an underlying matter is expressed. It is a *disguise* of this underlying matter. A veil conceals, a form of appearance reveals. It seems to me entirely misconceived, philosophically, to counterpose veil to essence.

The real issue is that money is a thing in its own right. People, having obtained money, hold onto it instead of spending it, and this is the origin of crisis. On this there is unaccessed common ground, not merely between TSSI and VF traditions, but also between the Marxist, Keynesian, and even Austrian traditions. GE has destroyed all this philosophical commonality: the real problem is to rëestablish it. Let us all agree that money has an essence, that there is a substance of money, and let us then discuss what this substance is.

In my opinion, VF authors have made a signal and brave contribution in insisting on this point, which TSSI authors should recognize. The problem is, however, to establish the "theoretical field"—as Heinrich would have it—to which the conception of money as veil belongs. Is it the field of the common ground of the classical and neoclassical paradigm as Heinrich asserts—or is it, as I believe, the field of general equilibrium?

Heinrich (1999, 70, emphasis in original) himself notes that the insubstantiality of money is a mathematical consequence of general equilibrium:

> For this equilibrium price, money plays no systematic role. This is essentially a system of relative prices, which becomes a system of absolute prices only through money ... in order to pass from relative to absolute prices, an "economic magnitude" (for example a single commodity or basket of commodities) an arbitrary quantity [has to be] assigned, which Schumpeter terms the "critical figure." Money, induced through such absurd adaptations, is a disturbance factor in an otherwise perfect economy .... The complicated equilibrium model shows itself to be, in essence, no more than a *Barter system*.

Moreover, unless equilibrium is supposed, it is actually impossible to treat money as a mere accounting standard. If one does not suppose equilibrium, one introduces the possibility that agents may hold onto money without purchasing; the thing that they hold onto must therefore be deduced in such a way as to demonstrate its real existence.

In short, the notion that money is a veil is logically identical to the notion of general equilibrium and perfect reproduction. Within economic theory, it arises here, and only here. VF authors have failed to notice that *exactly* the same considerations apply to the standard von Bortkiewicz interpretation of Marx, which is no more nor less than Marx rewritten as a GE theorist.

If one has an equilibrium interpretation of Marx, then in that system money will be a veil; if, on the other hand, one has a non-equilibrium—that is, temporal—interpretation of Marx, money will not be a veil. There are no other logical possibilities. The case, therefore, for joint discussion of the *temporal* definition of money, as a necessary logical concomitant of the temporal definition of abstract labor, is overwhelming.

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