MONEY AND THE CONSTITUTION OF VALUE: ON THE LIMITS OF THE MENGERIAN APPROACH TO HUMAN ACTION AND INSTITUTIONAL CHANGE

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ABSTRACT

The paper examines Carl Menger's understanding of the nature and evolution of the institution of money. Menger's narrative on the origins of money is based on the hypothesis that agents have always compared the goods and services in the economy as values. And yet, as this paper demonstrates, the category of value itself cannot be fully developed in the absence of money. The paper shows that, in non-monetized economies, agents usually do not regard the myriad of goods and services as quantitatively comparable values. It then develops the hypothesis that it is through the use of money that agents learn to equate their many needs and wants as particular instantiations of need in an abstract sense, and thus also to compare the means of satisfaction of their needs and wants as values. Based on this hypothesis, the paper suggests that the problems in Menger's model can be (partially) solved by the introduction of an extra-economic authority capable of enforcing compulsory payments on private agents and of fixing the instruments by means of which such obligations can be discharged.

Key words: Value theory, money, institutions.

JEL Classification: B13, E42, N20

1. Introduction

Neoclassical economics aims at understanding the functioning of market economies on the basis of the aggregate behavior of autonomous individuals. The explanation of the functioning of the economy in terms of the purposeful behavior of atomistic individuals, in turn, requires 'the dissolution of social aggregates into acts of choosing done by the individual' (Kauder, 1965: 226). And, since '[e]very decision arrived at by anyone respecting a commodity is based upon his subjective judgment of value' (Wieser, 1891: 118–9), economic theory must necessarily start from subjective valuations: it is only by knowing how individuals value goods, services and assets that economists can determine how prices are formed and resources allocated.[1]

Among the three key figures behind the marginalist revolution that gave rise to neoclassical economics,[2] Carl Menger was by far the one who dedicated most attention to the category of value.[3] Menger's work had a profound influence over modern economics. His reflections on value spurred the contributions of Friedrich von Wiser (1891) on the problem of imputation and of Eugen von Böhm-Bawerk (1930) on the phenomenon of interest, both of which must be seen as crucial steps in the constitution of the modern theory of distribution. Moreover, Menger's analysis of the genesis and evolution of money, which posits the latter as the evolutionary outcome of a decentralized social process propelled by the interaction of utility maximizing agents in the market, shaped not only the views of latter economists on the emergence of money[4] itself, but also their understanding of the process of institutional development more broadly.[5]

This paper examines Menger's writings on value and money, and finds them wanting both conceptually and empirically. It demonstrates that Menger's theories of value and money rely on unsustainable tacit assumptions: whereas his narrative on the origins of money relies

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[1] 'Prices are a consequence of [subjective] value' (Menger, 2007: 174). '[E]xchange-value ... can only find its explanation in the laws of subjective value ... [W]ithout the subjective influences of the estimation of values, no dealings in price would ultimately be conceivable, nor could the law of price be maintained' (Wieser, 1891: 119).

[2] The other two well-known founders of the marginalist school are Stanley Jevons and Léon Walras. It should be pointed out that the first consistent version of the marginalist, subjective theory of value was developed in the 1850s by Hermann Heinrich Gossen. But his work was practically unknown until after the works of Walras, Jevons and Menger were published and the marginal utility theory became widely accepted. See Kauder (1965, chapters IV and V).

[3] 'Menger searched for the nature of value, Jevons and Walras for its function. Menger tried to find the correct definition by deduction and by a general appeal to observation. Jevons and Walras were interested in the interdependence of marginal utility and the market economy' (Kauder, 1965: 70).

[4] See for instance Howitt and Clower (2000).

[5] See for instance North (2005).

on the hypothesis that agents have always compared goods and services as values, the category of value itself cannot be fully developed in the absence of money. More precisely, the paper shows that quantitative comparisons of qualitatively different goods and services as values must rely on a process of abstraction that renders the agents' needs and wants as qualitatively equivalent; and that such a process of abstraction, in turn, can only take place in the presence of an instrument that functions as general means of exchange. Relying on historical, anthropological and etymological research, the paper shows that, in non-monetized economies, agents usually do not regard the many available goods and services as quantitatively comparable values. It then develops the hypothesis that it is through the use of money as general means of exchange that agents first learn to equate their many needs and wants as particular instantiations of need as such, and thus also to compare the means of satisfaction of their needs and wants as values. In so doing, the paper demonstrates that, contrary to Menger's understanding of the nature and evolution of money, money cannot have emerged as the unintended outcome of the interaction of maximizing agents.

The paper then explores the solution to the shortcomings of Menger's model put forward by chartalist scholars. The latter contend that money arises in societies where an extra-economic authority (e.g. religious temples or the state) is able to enforce compulsory payments on private agents and fix the instruments by means of which such obligations must be discharged. According to this view, it is the imposition of monetary taxes that drives individuals to engage in transactions in the market; in this sense, widespread market exchange should be regarded less as the presupposition of money's emergence than as its outcome. Some neo-chartalists go even further (see in particular Peacock, 2003, 2012, p. 42-4), contending that it is only by engaging in widespread monetary exchange that humans have *learned* to evaluate heterogeneous goods and services as commensurable values. As argued below, the chartalist explanation of the origins of money is superior to Menger's both conceptually and empirically. Yet, as we shall also see, the chartalist approach is not free from shortcomings. In particular, it does not account for the fact that early forms of monetary exchange were dynamically unstable: they tended to give rise to debt dynamics whose outcome was the transformation of debtors into serfs or slaves, thus undermining the very conditions which monetary exchange requires to flourish. If this is so, then the imposition of taxes and the fixation of the means of tax payment do not suffice to establish the conditions for the full development of monetary exchange. Indeed, as noted by Marx (1990), it is only in societies where production relations have predominantly acquired a capitalist character that monetary exchange can fully flourish –

and that money, in turn, can become a universally accepted medium of exchange and payment and generally adopted unit of account. This, however, does not mean that money can emerge and become fully developed in the absence of extra-economic authorities; for, as history shows, the widespread separation of direct producers from the means of production cannot be obtained without the violent intervention of a centralized state.

The remainder of the paper is organized as follows. The first section succinctly presents Menger's theory of value, and the second, his theory of money. Section 3 contrasts Menger's understanding of value with the available evidence, and argues that the latter contradicts the former. Section 4 reflects on how these findings relate to the problem of the origins of the institution of money. Section 5 presents the chartalist explanation of the origins of money, highlighting both its strengths and its shortcomings. The paper ends with a brief conclusion.

2. Menger's approach to value

According to Menger (2007 [1871]: 116), '[v]alue is … nothing inherent in goods, no property of them',[6] but an attribute that human beings attach to objects based on the latter's respective capacities to satisfy their needs. 'The value of goods', claims Menger (ibidem: 120), 'arises from their relationship to our needs'. More precisely, '[v]alue is … the importance that individual goods or quantities of goods attain for us because we are conscious of being dependent on command of them for the satisfaction of our needs':[7] 'the value of all goods is merely an imputation of this importance to economic goods' (ibidem: 115, 122).

'In the value of goods, therefore, we always encounter merely the significance we assign to the satisfaction of our needs'. In fact, according to Menger (2007: 121), 'only the satisfaction of our needs has importance to us directly'. It follows that the values of goods depend on the importance of the needs they can satisfy, and that the differences in the magnitudes of value arise from '[d]ifferences in the magnitude of importance of different satisfactions' (ibidem).[8] As Menger (2007: 122) puts it:

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[6] '[V]alue does not exist outside the consciousness of men … the entities that exist objectively are always only particular things or quantities of things, and their value is something fundamentally different from the things themselves' (Menger, 2007: 121).

[7] '[Value] is a judgment made by economizing individuals about the importance their command of the things has for the maintenance of their lives and well-being' (Menger, 2007: 121).

[8] As emphasised by the translator of Menger's *Principles* (op. cit.: 126), '[t]he economizing individual [as conceived of by Menger] is able not only to rank his satisfactions but also to assign cardinal indices to their relative degrees of importance' (on Menger's belief on objective standards of value, see Kauder (1965: 191)). Yet, at least

> the differences we observe in the magnitude of value of different goods in actual life can only be founded on differences in the magnitude of importance of the satisfactions that depend on our command of these goods. To reduce the differences that we observe in the magnitude of value of different goods in actual life to their ultimate causes, we must therefore perform a double task. We must investigate: (1) to what extent different satisfactions have different degrees of importance to us (subjective factor), and (2) which satisfactions of concrete needs depend, in each individual case, on our command of a particular good (objective factor).

Yet, goods there exist (such as the air) that undeniably satisfy human needs, but which nevertheless do not possess any value. The reason, as Menger explains (ibidem: 99), is that such goods are 'available [in] quantities [that] are larger than [our] requirements for them': because they are abundant relative to our needs, the magnitude of their value is zero. This points out to two important characteristics of subjective value. First, value does not arise solely from a good's relationship to our needs, but also from its scarcity.[9] Second, the magnitude of value of a good does not express the absolute importance of the needs it can satisfy, but rather the magnitude of importance of the least important need it satisfies:

> [I]n every concrete case, of all the satisfactions secured by means of the whole quantity of a good at the disposal of an economizing individual, only those that have the least importance to him are dependent on the availability of a given portion of the whole quantity. Hence the value to this person of any portion of the whole available quantity of the good is equal to the importance to him of the satisfactions of least importance among those assured by the whole quantity and achieved with an equal portion (Menger, 2007: 132).

In other words, the magnitude of a good's value depends on what Wieser would later call its 'marginal utility':

> The value of commodities is derived wholly from their utility, but the utility they afford is not wholly convertible into value ... the value should express, not the total utility, but only a part of it, 'the final degree of utility', as Jevons said, the 'marginal utility' [Grenznutzen] as we say. ... All the utility above the margin, all 'surplus utility' [Übernutzen], including precisely that which

since Fisher (2012 [1925]), most economists have accepted the view that modern economics does not require that economising individuals be able to assign cardinal utilities to the available options; rather, they only need to order them in terms of preference. For a review of the debate between cardinalists and ordinalists in the first half of the 20th century, see Kauder (1965, chapter XIX). For discussions on the problem of the measurability of utility, see von Neumann and Morgenstern (1955), Alchian (1953) and Schoemaker (1982).

[9] 'The value of goods … is a phenomenon that springs from the same source as the economic character of goods – that is, from the relationship … between requirements for and available quantities of goods' (Menger, 2007: 115).

> relieves necessity in the highest degree, is neglected and finds no place in value at all (Wieser, 1891: 109).

Hence, the value of a good is determined by its marginal utility; and its price, in turn, is determined by its value:

> Value is, in the first instance, estimated by everyone from a personal standpoint as 'value in use'. In the exchange of commodities, however, these individual estimates join issue, and thence arises price or 'value in exchange' (ibidem: 116).

In the market, therefore, we find 'value with all the principal laws revealing themselves in price' (ibidem: 121). Given that rational individuals act so as to obtain the highest possible value from their actions, they will engage in exchange with each other until the point where no further value can be gained from this relation. In other words, as proposed by Walras (2010 [1874]) – and accepted, albeit with a few modifications, by contemporary economics[10] – in equilibrium, the ratios of the goods' prices equal the ratios of their marginal utilities.[11]

To be sure, values do not *necessarily* give rise to prices. Only goods that are transformed into commodities can have prices. And, as stated by Menger (2007: 240), the:

> commodity-character is nothing inherent in a good, no property of it, but merely a specific relationship of a good to the person who has command of it. With the disappearance of this relationship the commodity-character of the good comes to an end. A good ceases to be a commodity, therefore, if the economizing individual possessing it gives up his intention of disposing of it.

An economizing individual will not dispose of a good if the latter has a higher subjective value than the goods possessed by other individuals; if transaction costs are too high; or if institutions impose limits on the agent's capacity to commodify goods. Given that at least

[10] In contemporary economics, which adopts an ordinal conception of utility, the price ratios correspond (in equilibrium) to the goods' marginal rates of substitution (see Hausman, 2012).

[11] Walras and Menger are not in agreement on this point. Menger never accepted the crucial (but questionable) assumptions that goods are infinitely divisible and that utility functions are continuous. Accordingly, he thought that subjective values do not give rise to unique equilibrium prices; rather, they only set the limits within which prices can move (see Menger, 2007: 196). Hence, subjective values only set the space of possible prices; the actual prices, in turn, are determined by a process of bargaining: 'since there is an opportunity for both economizing individuals to exploit a much larger economic advantage, each of them will direct his efforts to turning as large a share as possible of the economic gain to himself. The result is the phenomenon which, in ordinary life, we call *bargaining*' (idem: 195, emphasis in the original). On Menger's position on equilibrium, see Gloria-Palermo (2002). On his polemics with Walras, see Kauder (1965, part II).

some of such conditions often hold (Menger, 2007: 236), it is not hard to find situations where goods are not priced. This, however, does not mean that such goods have no (subjective) value. Contrary to prices – which only emerge in particular material and social conditions – value, in Menger's view, is a *transhistorical* category: insofar as human beings have needs, and as long as nature is not generous enough to provide for the complete satisfaction of *all* of them – which, according to Menger (ibidem: chapter 2), is generally the case – goods will have positive subjective values.

3. Menger's approach to money

As seen above, Menger's theory states that values precede prices both logically and chronologically. The same applies to the relation between prices and money: in Menger's framework, values and prices are pre-monetary phenomena, and thus can exist in the absence of any monetary instrument. According to, Menger money was created to solve the well-known problem of the double coincidence of wills, reducing transaction costs and making the circulation of already priced goods more efficient. In other words, money emerged as an instrument that facilitates exchange, and must therefore be defined as primarily a means of exchange.[12] Accordingly, the other monetary functions – i.e. money's role as unit of account, means of payment and store of value – are seen, both from a historical and logical point of view, as derivatives of money's operation as medium of exchange.[13]

Now, by saying that money originated as a medium of exchange, one still says nothing about the process from which it emerged. The question then arises: how exactly has this instrument of indirect exchange been created? As is well known, from Aristotle (1932) to Locke (2010 [1689]) and Adam Smith (1977 [1776]), many great thinkers have argued that, in order to overcome the inconveniences of barter, exchanging individuals created money by establishing, through mutual consent, a commodity as a generally accepted means of indirect exchange. This explanation, however, is not accepted by Menger. To be sure, he does not dispute that barter preceded monetary exchange (Menger, 1892: 242). Nor does he disagree with the propositions that money is primarily a means of exchange and that the object that

[12] This view is echoed by Samuelson: '**Money** *is anything that serves as a commonly accepted medium of exchange'* (Samuelson and Nordhaus, 2009: 458, emphasis in the original).

[13] '*[T]he logical derivation of money is identified with its historical evolution*' (Polanyi, 1968: 195, emphasis in the original). Polanyi refers here to the classical approach, but his considerations also apply to Menger and most contemporary economics.

originally served as money was a commodity. Rather, what he criticizes is the notion that money was created by means of *convention*. As Menger points out:

> An event of such high and universal significance and of notoriety so inevitable, as the establishment by law or convention of a universal medium of exchange, would certainly have been retained in the memory of man, the more certainly inasmuch as it would have had to be performed in a great number of places. Yet no historical monument gives us trustworthy tidings of any transactions either conferring distinct recognition on media of exchange already in use, or referring to their adoption by peoples of comparatively recent culture, much less testifying to an initiation of the earliest ages of economic civilization in the use of money (Menger, 1892: 241).

In Menger's view, money was not instituted once and for all; rather, it arose slowly, as the product an evolutionary process. In his conjectural reconstruction of the origins of money, the emergence of a universal medium of exchange appears as 'the spontaneous outcome, the unpremeditated resultant, of particular, individual efforts of the members of a society' (Menger, 1892: 250).

But what were the underlying forces behind this slow and unintended creation of money? According to Menger, the origins of money are to be found in '*the different degrees of saleableness (Absatzfiihigkeit) of commodities*' (1892: 242, emphasis in the original) – or, as we would put it today, in their different degrees of liquidity. The different degrees of saleableness are due to many factors, which shall not occupy us here (ibidem: 246–7). For our purposes, it suffices to notice that the owners of the most saleable commodity in the economy enjoy a key advantage in relation to other agents:

> the person who wishes to acquire certain definite goods in exchange for his own is in a more favorable position, if he brings commodities of this kind [i.e., the most saleable commodity] to the market, than if he visits the markets with goods which cannot display such advantages, or at least not in the same degree. Thus equipped he has the prospect of acquiring such goods as he finally wishes to obtain, not only with greater ease and security, but also, by reason of the steadier and more prevailing demand for his own commodities, at prices corresponding to the general economic situation-at economic prices (ibidem: 247–8).

The owner of the most saleable commodity is thus more likely to exchange her good at its *true* exchange value than the owners of less liquid commodities. Due to the problem of the double coincidence of wills, the owners of the less saleable commodities are, under barter, likely to be forced to dispose of their commodities at a discount, i.e. at a price that is lower than

their true exchange value. To avoid that outcome, some individuals devised a second-best strategy: instead of exchanging the commodities they own for the goods they actually want to consume at a unfavorable rate, they started to exchange the latter for goods that they did not wish to consume, but which were more saleable than the commodities they originally held. In Menger's words:

> when anyone has brought goods not highly saleable to market, the idea uppermost in his mind is to exchange them, not only for such as he happens to be in need of, but, if this cannot be effected directly, for other goods also, which, while he did not want them himself, were nevertheless more saleable than his own. By so doing he certainly does not attain at once the final object of his trafficking, to wit, the acquisition of goods needful to *himself*. Yet he draws nearer to that object. By the devious way of a mediate exchange, he gains the prospect of accomplishing his purpose more surely and economically than if he had confined himself to direct exchange (ibidem: 248, emphasis in the original).

As more and more individuals realized that they could acquire their objectives more easily by exchanging the commodities they already owned for a more saleable commodity, the most saleable commodity in the economy progressively acquired the character of an universally accepted means of exchange. This, in Menger's view (1892: 248), 'seems everywhere to have been the case':

> Men [sic] have been led, with increasing knowledge of their individual interests, each by his own economic interests, without convention, without legal compulsion, nay, even without any regard to the common interest, to exchange goods destined for exchange (their "wares") for other goods equally destined for exchange, but more saleable (ibidem).

Hence, according to Menger, money – an instrument whose main function is to serve as a means of indirect exchange – was the unintended outcome of an evolutionary process propelled by the self-interested actions of uncoordinated economic agents.

4. On the role of money in the constitution of subjective values

Menger conceives of value as a transhistorical and asocial category: in his view, human beings have always compared scarce goods and services as values, regardless of the institutional conditions in which their actions are embedded. The understanding of value as asocial and transhistorical is closely related to another characteristic of Menger's

conceptualization of value: the view that the latter's existence precedes money both logically and chronologically. In Menger's view, both the acts of exchange and the exchange-ratios among goods and services can be directly derived from subjective value judgements: individuals engage in exchange whenever the goods possessed by others have a higher value for them than the goods they already own, and exchange-values are mere expressions, at the market level, of the subjective valuations performed by isolated individuals. In other words, *Menger conceives of values and prices as pre-monetary phenomena*.

Yet, despite being broadly accepted by contemporary economics (e.g. Hausman, 2012; Varian, 2014), this view is generally not supported by the evidence. Take Menger's insistence on the transhistorical character of the category of value. Whereas the Austrian economist takes for granted that human beings have always regarded goods and services not only as generally exchangeable, but also as quantitatively comparable in terms of their capacities to satisfy human needs, ethnographic research shows that, in many social formations, individuals have instituted 'an arrangement where material objects are assigned to different spheres for transactional purposes' (Sillitoe, 2006: 1). Within each of these spheres:

> People freely exchange items within the same sphere and readily calculate their comparative values. But things in different spheres are not immediately exchangeable against one another, such that between spheres there is no ready conversion (ibidem).[14]

Spheres of exchange vary significantly across societies in terms of their numbers, the goods they encompass, and their mutual permeability. It should be noted, however, that they are not arbitrarily designed. Although they acquire peculiar characters in each different social setting, spheres of exchange tend to express a general principle.

> The common point in all of these sphere arrangements, is that they separate the exchange of subsistence products from the exchange of valued objects. … they distinguish between "activities concerned with the production of subsistence goods . . . and the complex arrangements for trade and ceremonial exchange." One sphere covers one domain, encompassing everyday food and utensils, and another sphere the other, whatever the local wealth (be it seashells or brass rods), with various intergradations between them (Sillitoe, 2006: 6).[15]

[14] See also Dale (2010: 148) and Gregory (1982).
[15] See also Peacock (2006: 641) and von Reden (2003: 3-4)

This basic notion – that subsistence goods cannot be qualitatively equated to prestige goods, since they serve completely different purposes – leads to an outcome unpredicted by Menger's theory of value. The latter presupposes that, in all places and at all times, individuals have compared every existing good and service in terms of their respective capacities to satisfy human needs. Yet, in societies where spheres of exchange have been instituted, instead of being regarded as universally commensurable values, objects tend to be *ranked*.

> Among the Mae-Enga for example … there are six different ranks of objects. The most exalted category includes only two sorts of things: live pigs and cassowary birds. One can exchange a pig for a cassowary, or two pigs, or two cassowaries for each other; but one cannot exchange a pig or cassowary for objects of any other category. The next category includes pearl-shell pendants, plume headdresses, and stone axes, which again can only be exchanged for each other, and not for anything higher or lower—and so on, down to the lowest sphere, which consists of ordinary foodstuffs. Thus, while one could perhaps say in the abstract that pigs are worth more than axes, this is all one can say (Graeber, 2001: 41).[16]

In societies where goods and services are ranked, individuals do not regard all forms of wealth as commensurable values. As noted by Graeber (2001: 41, emphasis in the original), 'to speak of value, one would have to be able to say how *much* more: to establish just how many axes it would take to reach the value of one pig; and in the absence of exchange, such comparisons simply do not take place'. In other words, the representation of goods and services as values implies their general commensurability, whereas the classification of goods in terms of ranks implies that they are irreducible to a common standard, and thus cannot be quantitatively compared to each other in any economically meaningful way.

Note that, even if it were true that humans had always valued goods and services in terms of their capacity to satisfy their needs, this would not necessarily imply that value judgements have always determined their material behavior. From Menger's perspective, value-judgements can only shape human behavior when goods and services have a value greater than zero. That this will be the case, however, cannot be taken for granted. The magnitudes of value, after all, depend on a quantitative relation between human needs and their means of satisfaction; and, if the former are smaller than the latter, the magnitudes of value will be equal to zero. Menger himself recognizes that, in conditions of such abundance that the

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[16] Similar considerations apply to Homeric Greece, where the sphere of gift exchange (restricted to prestige goods) was explicitly separated from the circulation of subsistence goods. See von Reden (2003, part I).

‘requirement for goods [is] smaller than their available quantities’, so that ‘no satisfaction depends on our control of any one of the units of a good’ (Menger, 2007: 116), goods ‘have no value to us’ (idem: 117). Yet, he regards abundance as an exception, and scarcity as the rule.[17] This allows him to conclude that goods and services usually have a positive value; that value-judgements normally precede the economic actions of rational individuals; and that, exceptional circumstances aside, the law of value has always been the organizational principle behind the reproduction of human material life.

These views are hardly consistent with the existing evidence. As ethnographic studies have repeatedly shown (Bird-David et al., 1992; Dale, 2010: 111–2; Kaplan, 2000; Sahlins, 1974; Suzman, 2019), the natural and technical conditions faced by individuals living in stateless societies with hunting-gathering economies – a mode of living which, as pointed out by Scott (2017), characterized by far the largest part of human history – have often been adequate to satisfy their wants and needs relatively easily: ‘[e]xcept for abnormal environmental perturbations’, all members of the community usually ‘meet their livelihood needs according to their customary expectations’ (Sillitoe, 2006: 7). Hence, exceptional circumstances aside, individuals living in such conditions tend to experience their material conditions not as one of scarcity, but rather as one of abundance.[18] Similar considerations apply to other stages of human history. In his analysis of ancient societies, Applebaum (1992: 16–7) notices that, ‘[i]n nonmarket cultures … [s]ubsistence is often seen as a gift of nature, from the earth and in the form of animals’. Such, indeed, is the view expressed in Aristotle’s (1932: 33–8) reflections on wealth and economic activity in the *Politics*, where it is argued, on the one hand, that human needs – and thus also ‘riches in the true sense’ (ibidem: 38) – are limited, and on the other that nature provides more than enough to satisfy these needs – a notion that can hardly be reconciled with Menger’s view of scarcity as the natural condition of human life.[19]

It is important to emphasize that the issue at hand has not only a quantitative, but also a qualitative dimension. The view that nature provides more than enough to satisfy human requirements relies not only on a particular view of the magnitudes of human needs, but also on a particular conceptualization of need – one based on a clear distinction between what is necessary and what is luxurious or superfluous. Such distinction, which constitutes the rationale for the institution of the spheres of exchange in the stateless societies referred to above

[17] This assumption has been axiomatized by the contemporary theory of preferences in the form of the non-satiation clause (see Hausman, 2012: 19).
[18] See also the views of the 16th century Tupinambás on wealth and abundance as expressed in Caldeira (2015).
[19] For a detailed analysis of Aristotle’s thoughts on wealth, see Meikle (1997).

(Sillitoe, 2006), is strange to those who consider the 'art of wealth-getting … [as] without limit in respect of its ends' (Aristotle, 1932: 48). The notion that wealth has no limits builds upon the idea that human needs are in and of themselves unlimited; and the latter view, in turn, relies on a conception of human needs that is completely strange to Aristotle and the hunter-gatherers described above: one in which needs and wants are represented as essentially indistinguishable.

The latter is precisely the conception embraced by Menger. To understand this point, let us look at Menger's explanation of how the magnitudes of value are determined. As a commentator (Gloria-Palermo, 2002: 43; see also Kirzner, 1992: 82–3) points out, before choosing among the available goods and services, the Mengerian valuating agents need 'to attribute value ... to their needs, and only then [can] the set of needs [be] related to the set of goods'.[20] Hence, if goods and services are commensurable as values, it is because individual needs are commensurable among themselves.[21] Menger, it should be emphasized, took the commensurability of needs for granted as a *natural fact*. As he puts it (2007: 128, emphasis added, translation modified):

> The different importance that the satisfaction of individual [einzelne] concrete needs has for men [sic] is not foreign to the consciousness of *any* economizing man, however little attention has hitherto been paid by scholars to the phenomena here treated. *Wherever men live, and whatever level of civilization they occupy, we can observe how economizing individuals weigh the relative importance of satisfaction of their various needs in general [im Allgemeinen], how they weigh especially the relative importance of the individual [Einzelnen] acts leading to the more or less complete satisfaction of each need, and how they are finally guided by the results of this comparison into activities directed to the fullest possible satisfaction of their needs (economizing).*

[20] '[T]his weighing of the relative importance of needs ... is the very part of the economic activity of men [sic] that fills their minds more than any other, that has the most far-reaching influence on their economic efforts, and that is exercised almost continually by every economizing individual. But human knowledge of the different degrees of importance of satisfaction of different needs and of separate acts of satisfaction is also the first cause of differences in the value of goods' (Menger, 2007: 128).

[21] One could argue that this statement does not apply to contemporary economics, which rejects the notion of cardinal utility (Hausman, 2012, chapter 2). The harmful effects of this rejection over the very intelligibility of the modern choice theory have already been stressed by Georgescu-Roegen (1954: 512). As he points out, 'even though the postulates of the theory of choice do not use the terms "utility" or "satisfaction", their discussion and acceptance require that they should be translated into the other vocabulary. Otherwise, one is forced to admit that the postulates have neither a rational explanation nor an experimental justification' (for a similar argument, see Kauder, 1965: 133). Yet, even if we accept the view that the distances between each two indifference curves do not express any precise amount of utility (Kauder, 1965: 193–4), and that therefore '[t]he "utility" of an alternative merely indicates the alternative's place in an agent's preference ranking' (Hausman, 2012: 14), the fact still remains that the infinite points within each indifference curve express an equal level of satisfaction of needs, i.e. that certain amounts of a good (or bundle of goods) X and a certain amount of good (or bundle of goods) Y produce the same *amount* of satisfaction. Clearly, this implies that the different needs satisfied by these different goods (or bundles of goods) are commensurable.

Now, as noticed by Georgescu-Roegen (1954: 515), there is nothing trivial about this assumption. The commensurability of needs requires 'the existence of a common denominator for all needs'; and this, in turn, requires that the many needs can be reduced to a unique need 'into which all [needs][22] can be merged' (Georgescu-Roegen, 1954: 515). Put differently, a common denominator can only exist insofar as one can abstract from what makes each concrete need qualitatively different from one another, that is, if one can reduce all concrete needs to different manifestations of one's need in general. Qualitative equality between different concrete needs – one could say, paraphrasing Marx (1990: 166) – can only consist in an abstraction from their effective inequality, i.e. in the reduction of the different kinds of need to their common character as need in general. It follows that, if value judgments are to explain economic behavior, then the process of abstraction characterized above must embrace both needs and wants. More precisely, the general representation of wealth as a collection of values presupposes that need is seen as *any* feeling of lack, without restriction to any *a priori* fixed content. And this, in turn, implies that there can be no substantial distinction between needs and wants: Menger's theory of value presupposes the collapse of the concept of need into the concept of want, and vice-versa.

This view, however, is at odds with human experience in most historical periods. Whereas modern economists are used to considering needs and wants as synonyms (Yamamori, 2017), this conflation was not familiar to most human beings living in non-market economies. Historical evidence suggests that the conceptualization 'of "need" [Bedarf] as any missing … thing, without any restriction to what is necessary for a livelihood', was an outcome of recent historical developments. As etymological studies reveal, '[t]he emergence of the use [Verwendung] of "need" [Bedürfnis] in the sense of "aspiration" [and] "desire"', which marked a radical and 'crucial' break in 'the conceptual history of need' (Kim-Wawrzinek, 1972: 444, my translation), took place firstly in Europe, and only around the 18th century. It was then that the concept of need began to lose its concrete, given content, and to be equally used 'in a subjective sense – as a feeling of want, combined with the pursuit of its elimination – and in an objective sense – as a means of eliminating a perceived deficiency' (Müller, 1972: 467, my translation).

[22] Georgescu-Roegen speaks here of want, not need. But this changes nothing in the meaning of his statement, since, as we shall see, the very notion that the many needs/wants are reducible to one need/want presupposes the conflation of needs and wants.

Such transformation was closely connected to the 'the expansion of ... trade' (Kim-Wawrzinek, 1972: 444, my translation) that took place in Western Europe. The commodification of goods and services associated to this expansion promoted a crucial change in the way individuals relate to their material requirements. As is clear, a particular good or service can only directly satisfy particular needs and wants. A good or service that is produced for the market, however, can only satisfy its producer's needs indirectly, by being exchanged for goods and services produced by others. More than that: because now they are produced for the consumption of others, goods and services produced as commodities must serve as a means of obtaining all of the items the producer will consume. Because the development of a market economy promotes the deepening of the division of labor, a good that is produced for the market must be at one and the same time a means of satisfaction of the particular needs of its non-owners and a means of satisfaction of the various needs of its owner. In this sense, it performs simultaneously the role of a *particular* and a *general* means of satisfaction; but whereas it plays the first role directly, it can only play the second one indirectly, i.e. by being exchanged.

Now, it is a well-known fact that the historical development of a market economy and the deepening of the division of labor which it brings forth are inherently associated with the monetization of economic exchange (Ingham, 2004). The emergence of an instrument that serves as general medium of exchange, however, has a profound effect on the way human beings relate to their own material requirements. Whereas a regular commodity serves as the means of satisfaction of a particular need or want, a general means of exchange is directly convertible into any other good or service, and thus functions as a means of satisfaction not merely of particular needs, but of human needs in general. In other words, a fully developed means of exchange functions as the universal representative of every good and service in the economy.

It should be noted, however, that the quantity of money an individual can own is always limited. Thus, although a general means of exchange appears, from a qualitative point of view, as the immediate representative of every good and service, it does not give its owner access to all of them. This means that, in a monetized economy, individuals are constantly *forced to compare* all the available goods and services in the economy, so as to be able to choose among them; and, in so doing, they indirectly compare the needs and wants these goods and services satisfy. In other words, in a monetized economy, agents are induced to *practically* equate their many needs and wants as qualitatively equal, regardless of their immediate qualitative

differences.[23] It is thus not an accident that the historical constitution of the abstract concept of need presupposed by Menger's theory of value coincides with the full development of a market economy. For a market economy is necessarily a monetized economy; and it is only through the monetization of the economy that the reduction of concrete needs to need in general presupposed by Menger's theory of value can take place.[24]

Two inferences can be drawn from the considerations above. First, the abstraction of the concrete character of the multiple human requirements and the correlate reduction of all needs to need in general – a reduction which Menger's theory of value uncritically takes for granted – cannot be presupposed as a transhistorical given. Rather, it is by participating in the material processes through which commodities circulate that individuals become capable of abstracting from the concrete and qualitative character of their various needs and wants, erasing the experiential and conceptual distinction between the latter and the former and learning to regard all their material requirements as particular instantiations of their need in general. This means that, contrary to Menger's assumptions, one cannot accept the proposition that value is a transhistorical category. Second, Menger's view of value and money as mutually independent elements is at odds with the historical evidence. In the absence of a general means of exchange, the process of abstraction which Menger's concept of value presupposes cannot be performed. And this suggests that a proper theory of value must be a *monetary* theory of value, i.e. a theory which, instead of regarding value and money as independent, self-standing entities, conceptualizes them as mutually constitutive categories.

5. Central authorities and the origins of money

Like other influential economists in his time and after (e.g. Jevons, 2014; Mankiw, 2015: 82; Samuelson and Nordhaus, 2009: 458), Menger contended that modern monetary market economies were historically preceded by market economies in which transactions assumed the form of barter. Indeed, as seen above, the view that barter economies preceded monetary exchange economies is not a contingent outcome, but rather a necessary corollary of

[23] As pointed out by Marx (1990: 229, translation modified), 'in money every qualitative difference between commodities is obliterated'. '[A]s a radical leveller, [money] extinguishes all distinctions', including the distinctions between the concrete needs and wants each particular commodity can satisfy.

[24] As several authors have noticed (Meikle, 1997; Polanyi, 1957; Seaford, 2004), the effects of monetization over the socio-economic life of the Athens of his time (Peacock, 2006) played an instrumental role in motivating Aristotle to develop his famous "economic" reflections. The link between monetization and the conflation of needs and wants (which, in Aristotle's view, had deleterious ethical and political implications) was very clearly identified by the Greek philosopher (see Aristotle, 1932: 45–7; also Meikle, 2000).

his theory of value. In this sense, the finding that the value judgements from which Menger derives market prices cannot be performed in the absence of money, and that therefore the pre-monetary prices presupposed by a barter economy are a logical impossibility, implies that Menger's reasoning is based on unjustifiable presuppositions. And this puts into doubt not only the validity of his approach to value, but also of his explanation of the origins of money.

It should come as no surprise, therefore, that Menger's understanding of the history of money and economic exchange has been repeatedly disproven by empirical research. As noted by two experts in the topic, '[t]here are few if any whole economies of any sizeable scale which are known to have operated by barter alone' (Humphrey and Hugh-Jones, 1992: 6). To put it even more emphatically: '[n]o example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money; all available ethnography suggests that there never has been such a thing' (Humphrey, 1985: 48). Now, if monetary-exchange economies were not preceded by market economies in which exchange took on the form of barter, then money cannot have emerged from the type of evolutionary process envisaged by Menger. But if money did not arise as the unintended outcome of the interaction of maximizing individuals in the market, where can it have come from?

To answer this question, it is necessary to overcome an important definitional imprecision which is at the root of Menger's conceptualization of money: the conflation of the monetary functions of means of exchange and means of payment. Although Menger sees the role of medium of exchange as the defining function of money, his own understanding of what a means of exchange consists of is inaccurate both from a logical and a historical perspective. By conflating money's function as means of exchange with its role as medium of payment, Menger neglects that debt is not always and everywhere the outcome of an incomplete exchange. Due either to differences in status or legal authority, obligations to make payments may be imposed even in the absence of exchange. This means that debt – and, therefore, the use of money as means of settlement – can predate the use of money as general means of exchange. Accordingly, objects may have performed the role of means of payment before a means of exchange had ever been created.

This can be the case, for instance, when the state or other authority imposes taxes and fixes the object by means of which the latter must be settled. As has been pointed out by scholars working in the chartalist tradition (e.g. Peacock, 2003, 2013), insofar as it unilaterally imposes taxes and obliges private agents to discharge the latter with a pay token, the state also

produces the need to acquire such token for the purpose of tax payment. The persons forced into the position of debtors to the central authority must acquire the means with which they can discharge their obligations; and, to do so, they must engage in economic exchange either with the issuer of the pay token (i.e. the state itself) or with other subjects who have a surplus of such item. In other words, the need to acquire the means of settlement of their debt with the state induced private agents to exchange the products they previously consumed themselves, underpinning the progressive commodification of economic life. Concomitantly, that which the state imposed as the medium of tax payment tends to infiltrate the relations of exchange among private agents and to progressively become accepted by them as a medium of exchange. In this manner, 'the means of payment role', which 'was (usually) prior in time' to money's existence as means of exchange, 'helped to facilitate and develop the subsequent more general medium of exchange role' (Goodhart, 1998: 413).

In short, the imposition of financial obligations over agents by extra-economic authorities and the fixing of the means of settlement of such obligations may have unleashed precisely the type of dynamics which, in Menger's view, had been motivated by the differences in the degrees of liquidity of the diverse commodities in the economy. Just like Menger, the model sketched above explains the genesis of money as an unintended, evolutionary outcome of the interaction of agents. Crucially, however, it does so *without presupposing that monetary market exchange was historically preceded by barter*. Moreover, since the agents in such model are induced to engage in exchange relations by the need to acquire the means of settlement of financial obligations, the notion that money as a means of exchange was an unintended outcome of the imposition of taxes does not require that individuals already regarded goods and services as commensurable values before engaging in monetary exchanges. If money emerged in the manner suggested by the neo-chartalist scholarship, then the agents' capacity to compare goods and services that satisfy different needs and wants as values may have evolved *together* with the monetization of the economy (Ingham, 2004; Peacock, 2003). In this sense, the explanation of the origins of money laid down above avoids the conceptual problems which, as seen above, are intrinsic to Menger's approach.

Most importantly, the explanation of the origins of money sketched above is also consistent with recent empirical findings, which have repeatedly demonstrated that the emergence and development of monetary practices depends on the constitution of central authorities that are able to unilaterally enforce economic obligations over economic agents (e.g. Fox and Ernst, 2016; Ingham, 2004; Peacock, 2006). Be it in the granary empires of the ancient

Near East or in the ancient Greek world, the evidence demonstrates that the development of a widely accepted medium of exchange has always been associated with the imposition of compulsory payments and the fixing of the means by which these obligations are to be settled.

It should be noted, however, that the imposition of taxes and the fixation of the means of tax payment are not in and of themselves able to establish the conditions for the full development of monetary exchange, and thus also of money as a generally accepted means of exchange and payment and a universally adopted unit of account. As pointed out by authors such as Hudson (2019) and Graeber (2013), early forms of monetary exchange tended to give rise to debt dynamics whose outcome was the transformation of debtors into serfs or slaves – which, in turn, undermined the formal equality of economic agents on the basis of which monetary exchange could flourish. More broadly, the evidence suggests that, in societies where individuals are not 'the free proprietor[s] of [their] own labour-capacit[ies], hence of [their] person[s]' (Marx, 1990: 271), monetary exchange tends to be dynamically unstable: it eventually destroys the conditions of its own existence.

To be sure, this does not mean that the development of money as a generally adopted unit of account and a universally accepted means of exchange and payment could have taken place in the absence an extra-economic authority. Rather, what it means is that the full development of monetary exchange, and hence of money itself requires not only the imposition of taxes and the means by which they must be paid, but also another, very specific (and, from a historical point of view, much more recent) event: the separation of direct producers from the means of production and the consolidation of capitalist relations of production[25] – which, as is well known (Marx, 1990; Wood, 2016), could not have taken place without the (violent) contribution of a centralized state.

6. Conclusion

The notion that institutions are evolutionary outcomes of the interaction of maximizing agents in the market, which has profoundly influenced contemporary views on institutional

[25] Note that, if the category of value presupposes the full development of money (see above), then the fact that money can only be fully developed in capitalist societies entails that value itself should be regarded as a *specifically* capitalist form of wealth (see Marx, 1990). And, since in capitalist societies goods and services are not produced directly for consumption, but for profit, this also raises the question of whether the capacity to satisfy needs and wants is indeed the content of value. Due to lack of space, however, such topic cannot be directly addressed in this paper.

development (e.g. North, 2005), can ultimately be traced back to Carl Menger's account of the emergence and development of money. As seen above, in Menger's view, money was the unintended outcome of an evolutionary process propelled by the self-interested actions of uncoordinated agents in the face of a market failure (i.e., the lack of liquidity).

Unfortunately, Menger's conjectural reconstruction of the birth of the institution of money has been disproven by empirical research, which has revealed, on the one hand, that contemporary monetary economies were not historically preceded by barter economies; and, on the other, that the imposition of compulsory payments by state and religious authorities is at the root of the institution of money. This paper goes a step further, demonstrating that Menger's explanation of the emergence of money rests on unsustainable assumptions: it assumes that agents quantitatively compare the goods and services available in the economy as values, whereas the category of value itself cannot be fully developed in the absence of money.

The argument put forward in this paper raises doubts not only about the established view on the historical evolution of exchange relations, but also about the prevailing understanding of the forces behind historical processes of institutional development more generally. If the concept of value is not a transhistorical category of human reasoning, but rather a product of practices individuals are induced to perform by a historically contingent institutional framework, then institutional change cannot be generally understood as the outcome of the interaction of maximizing agents in the market. And this suggests that, to adequately account for the process of institutional change – and, in particular, for the evolution of monetary and financial institutions –, one needs to abandon both the conjectural approach to history which has been espoused by some of the most influential economic historians since Menger's time and the teleological view of historical development on which the latter implicitly relies.

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