Historicising the money of account: a critique of the nominalist ontology of money

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Abstract

The article puts forward a case against the nominalist ontology of money, that is, the heterodox notion that moneyness – the quality of being money – is conferred by the money of account. From the nominalist perspective, money is essentially a balance-sheet phenomenon: a credit-debit bookkeeping entity whose origins can be traced back to ancient Near Eastern practices of accounting. This ontological position, which is often erroneously traced back to Keynes' *Treatise*, mystifies and obscures the actual history of the money of account as a regime of monetary governance and a mode of speculation that only made sense in the European late medieval context of bimetallism. The article thus provides a critique of monetary nominalism based on Keynes' reflection on the value of money in the *Treatise* and the *General Theory*. In turn, it proceeds to historicise the phenomenon of the money of account, building on the seminal contributions of Marc Bloch and Luigi Einaudi.

Keywords

Money of Account; Monetary Ontology; Monetary History; Nominalism; Keynes; Bloch; Einaudi.

Introduction – Accounting for the money of account

Heterodox scholars of money normally treat the concept of 'money of account' as synonymous with the 'measure of value' function of money. 'Money of account', 'unit of account', 'measure of value', 'standard of value' are used interchangeably to refer to money's universal nature as *the* symbol or sign of abstract economic value. As such, money consists in a metric, or accounting technology, for objectively assessing the value of things that are ontologically other than money itself – for the things measured by money are in principle commodities whereas money is not. In this respect, the money of account should not be confused with the concept of 'numeraire'. First introduced by Leon Walras in his *Elements of Pure Economics* (1954), the numeraire refers to any generic tradeable asset (or representative of a tradable asset) whose price, by virtue of a market-based auctioning process, comes to serve as the general benchmark for pricing all other tradeable assets. Unlike the Walrasian numeraire, the money of account is neither a tradeable asset nor the representative of a tradable asset. Instead, it is a language apart from the world of commodities and market exchange – a *logos*, or rational (qua rationing) principle – that makes the ordering of economic value possible to begin with.

Of course, for the market economy to 'be', this language ought to be 'spoken' – *the verb must be made flesh* – that is, value ought to be rationed and conveyed by means of some 'money thing' or 'money stuff'. Coins, banknotes, central bank reserves, bank deposits, money market instruments – all these money things today serve the purpose of communicating (transmitting) value. They are *media* of payment and exchange. This said, their function is not really to transmit value that is embodied in already-existing tradable assets but to invoke, or conjure up, value that only exists in a state of potentiality and which will not always necessarily materialise in the distant or near future – that is to say, 'on demand' (as bank panics and runs on the money market demonstrate time and again). In other words, monetary media are performative 'utterances' or 'claims' whose value rests on, and is carried through, complex institutional settings – namely *credit systems* – that weave the very financial infrastructure of the market economy.

The money of account belongs with this financial infrastructure rather than with commodity exchange per se. Indeed, unlike the numeraire – a *primus inter pares* in the world of assets – the money of account always stands as a *tertium quid* in commodity exchange: it is a 'third something' symbolising the fact that, upon receiving money, one is still owed something by

society at large. Conformingly, the heterodox view suggests that although monetary media might vary, the message that they carry is always the same transcendental truth, or script, that recites 'I Owe You'. This truth, many would argue, equally applies to both modern bank liabilities and traditional precious-metal coinages[1].

Thus, from a heterodox perspective, all monies that have ever existed appear to be instances of the same forward-looking language for making promises and, by the same token, for claiming value – a language that comes with a whole range of what John Searle calls 'deontic powers': "rights, duties, obligations, authorizations, permissions, empowerments, requirements and certifications" (Searle 2005, p.10). Conformingly, the Aristotelian idea that money exists not by nature but by *nomos*[2], which is often intended from a naive legalist perspective as a statement about the fiat or legal tender nature of money (i.e. money as a creature of the law), should be instead interpreted as the philosophical recognition that money entails the *creation* of a nomos, or normativity (Amato 2010), in the context of which the language of economic transactions can be finally codified. As the master key to unlock this normative space and 'normalise' the counting, alienation, pledging, claiming and capitalisation of property (as wealth), the money of account marks the beginning of an inherently 'non-natural' (qua 'political') economy.

This truth is today hardwired in several heterodox accounts of monetary history and prehistory. For instance, Michael Hudson's pioneering work on the archaeology of money (Hudson 2004; see also Hudson and Levine 1996; Hudson and van der Mieroop 2002; Hudson and Wunsch 2004; Hudson 2018) strongly suggests that the institution of money precedes the emergence of coinage in Archaic Greece and can be traced back to the establishment of moneys of account (such as the Akkadian *shekel* and the Egyptian *deben*) by temple and palatial authorities of the ancient Near East. In line with Hudson, other contemporary accounts of money's history have dated its institutional genesis back to as early as the third millennium BCE, several centuries

[1] For instance, Georg Simmel pointed out in his respect that "[v]iewed from the sociological perspective, there is no doubt that metallic money is also a promise and that it differs from the cheque only with respect to the size of the group which vouches for its being accepted" (Simmel 1900, 177). In the same vein, Arthur Dunning Macleod, Scottish political economist and father of credit theories of money, boldly claimed that "gold and silver money may […] be justly termed metallic credit" (Macleod 1883, p.40), a statement that echoed George Berkeley's famous query: "whether all circulation be not alike a circulation of credit whatsoever medium – metal or paper – is employed: and whether gold be anymore than credit for so much power" (1737, part III, query n.10). As appealing as they may sound from a heterodox perspective, these proto-chartalist arguments about the ontological unity of money as credit throughout history will be challenged in this article.

[2] Nicomachean Ethics, 1133a.

before the first coins were struck in Asia Minor (cf. Ingham 2004; Henry 2004; Tymoigne and Wray 2006; Graeber 2011; Aglietta 2018). These studies have followed the lead of earlier explorations in both monetary theory and history (e.g. Mitchell-Innes 1914; Knapp 1924; Quiggin 1949; Einzig 1966; Polanyi 1968; Grierson 1978) which, despite retaining crucial differences, shared in their rebuttal of the barter myth of money's origins and at the same time shed light on a largely neglected history of money and debt beyond numismatics.

The emerging consensus is that the history of money was never about glittering minted metals trading at market value. As Georg Knapp (1924, p.1) famously argued, "[t]he numismatist usually knows nothing of currency, for he has only to deal with its dead body. […] The soul of the currency" – the ghostly (imaginary, nominal) essence of money – "is not in the material of the pieces, but in the legal ordinances which regulate their use" (Knapp 1924, pp.1-2). Once again, this does not mean that money is a creature of the law *sensu strictu* but, rather, that it embodies an all-encompassing 'constitutional project' and 'mode of governing' the economy (Desan 2014): its history is therefore the story of how social obligations were economically valuated in different contexts and how tokens were given currency (therefore catallactic value[3]) as they were consecrated as means of payments and debt settlements (including first and foremost tax settlements) by major stakeholders in the community.

The heterodox narrative certainly deserves credit for having shown that the type of market exchange theorised by orthodox economics cannot produce anything whatsoever, let alone money, if only because said sphere of sociality where "alone rule Freedom, Equality, Property and Bentham" only exists in the imagination of the "free trader *vulgaris*" (Marx 1990, p.280). Blending Schumpeterian and Minskyan institutionalist insights (cf. Schumpeter 1934; Minsky 1986) with anthropological and sociological theory that draws on underrated or less known works, such as Laum's *Heiliges Geld* (1924), heterodox scholars have offered nuanced explanations for the origins of money that are collapsing disciplinary boundaries between economics and other social sciences (see for instance Semenova 2011; Peacock 2011; Heinsohn and Steiger 2013; Decker 2015). Moreover, the emphasis on the money of account has enforced a more sophisticated understanding of money as a grammar of creditor-debtor relations (Ingham 2004), rather than a mere utterance of market exchange, and promoted a new methodological orientation– a 'money view' (Mehrling 2011) – that brings balance sheets to the forefront of socio-economic analysis (Bezemer 2016). In the context of heterodox

[3] On the catallactic character of money as a chartal means of payment, see Peacock (2004).

economics, the argument about the primacy of the money of account is thus placed in a strategic fashion to invalidate the mainstream economics' dogma of the market-driven origins of money (long questioned by anthropologists) and, by the same token, to situate political authority, fiscal power, sovereignty and, even, religion, at the foundation of the study of money.

Having said this, the heterodox methodological project has also lent support to an ontology that is premised on two assumptions that, it will be shown in the following, are highly problematic. The first assumption is that money is always a balance-sheet phenomenon – a credit, claim, or promise of payment denominated in a money of account. Conformingly, the history of money is somehow bound to start with the history of credit, which goes back to the dawn of civilisations. The second assumption is that money ought to be necessarily established by an extra-economic, state-like authority (e.g. Wray 1998; 2012). Accordingly, the institution of money logically follows the institution of states and taxes, but historically precedes the development of commerce and trade. Together, these two assumptions have led to the formulation of 'another *doxa*'[4] that accidentally reproduces those familiar dichotomies (state vs market, public vs private, nominal vs real, credit vs commodity, finance vs production) that underpin much of orthodox economics' discourses. Money, it will be argued, cannot be placed on either side of these dichotomies; quite the contrary, it is the critical point where the latter break down.

In this article, I will refer to this consolidating heterodoxy as (monetary) 'nominalism'. This dogma will be criticised on the ground that it (more or less accidentally) contributes to obfuscating and mystifying the history of money. The money of account, it will be argued, cannot offer an adequate starting point for the study of money. This is for a simple reason: the money of account is a historically-specific institution that only made sense in the context of the European late Middle Ages and early modern times. Also known as 'imaginary money', the money of account was unlike any other existing money in that it lacked 'exchange value': it was an imaginary money that priced all other monies but could not be priced by any of them. Nor could it ever be possessed, stored, or alienated. Unpossessable, unchangeable, priceless – the money of account was apart from both the world of commodities and the realm of currencies. However, it was not independent from any of the two. On the contrary, its very purpose was to enable both the stabilisation and the alteration (or mutation) of price and purchasing power of currencies in a context of anarchic bimetallism. In other words, the

[4] The word 'heterodoxy' literally means 'another dogma', from Greek 'heteros' (other) and 'doxa' (opinion).

'function' of the money of account was not to measure the value of debts and commodities and count the wealth that money could buy, but to govern, manage, underpin, exploit, arbitrage between the values of *monies themselves*. Crucially, this complex instrument of monetary governance and speculation was slowly dismissed between the sixteenth and nineteenth century.

The argument will proceed as follows: I will first shed light on the ontological foundations of the present nominalist consensus through a preliminary engagement with Geoffrey Ingham's sociology of money (in section one). I will then provide a Keynesian critique of nominalism, based on Keynes' answer to the quintessential question of what makes money valuable to us, as in the *Treatise* (section two) and the *General Theory* (section three). Keynes' overall treatment of this question casts a shadow on the nominalist assumptions that money's nature and origins could be independent from, and logically prior to, market institutions. More generally, Keynes' pragmatic approach reveals a sensitivity that sets him beyond the metallist-nominalist dispute: while he is aware that the history of money is not the history of precious metals, he nevertheless champions a type of historical inquiry that puts gold and silver on a pedestal, "not because the monetary metals are more truly wealth than other things, but because by their effect on prices they supply the spur of profit" (Keynes 1930b, p.150). This type of sensitivity is missing in Ingham's historical account of medieval money (presented in section four). The latter only offers a partial and misleading view of monetary practices in the Middle Ages. To remedy the shortcomings in Ingham's account, I will proceed to historicise the money of account by linking its institution to unique developments in monetary governance and speculation that occurred in late medieval times. Building on the seminal contributions of Marc Bloch (section five) and Luigi Einaudi (section six), I will show how the money of account, far from being prior to or independent from market dynamics, was a device for governing the double register of bimetallic circulation and for both tackling and exploiting the so-called 'problem of exchange'. In the conclusion, I will point to a number of reasons why scholars should be wary of using the money of account as an umbrella concept for discussing pre-modern practices of financial accounting and suggest why the following should be seen as more than a scholarly exercise in historicist methodology.

The nominalist *doxa* today

Nominalism finds numerous adherents in the neo-chartalist tradition of heterodox economics, in particular in Randall Wray's 'tax-driven approach' or 'modern monetary theory' (Wray 1998; 2012; see also Bell 2001; Tcherneva 2006). However, no scholar has been able to convey the nominalist consensus better than Geoffrey Ingham, a most prominent figure in heterodox and social studies of money. While Ingham's sociology of money has not been immune to critique (cf. Sgambati 2015; Beggs 2017), it has led to important developments in the field (see for instance Pixley and Harcourt 2013) and inspired debates on the ontology of money for more than two decades (Ingham 1996; 2000; 2001; 2006; 2018; Fine and Lapavitsas 2000; Zelizer 2000; Dodd 2005; Lawson 2016; 2018; Peacock 2017; Searle 2017). His most important work, *The nature of money* (2004), stands out as a manifesto of monetary nominalism. Here Ingham provides heterodox fundamentals for a sociology of money and offers a resolute dismissal of Menger's "conjectural history" (Ingham 2004, p.22) of money out of barter, which to date provides the archetypical mainstream argument for the market origins of money. Ingham's alternative history is predicated on two main assumptions. Firstly, money is "constituted by social relations that exist independently of the production and exchange of commodities" (Ingham 2004, p.12). Secondly, 'moneyness' – the quality of being money – is not borne out of universal exchangeability (the medium of exchange function) but "is assigned by the money of account" (Ingham 2004, p. 70). More specifically, "[t]he very idea of money, which is to say, of abstract accounting for value, is logically anterior and historically prior to market exchange" (Ingham 2004, p.25). Accordingly, money cannot spontaneously emerge from the 'market' but ought to be established by an authority that for practical purposes coincides with the 'state'[5].

Underlying these assumptions are two problematic tendencies: one is the propensity to ontologise the nature of money as credit (denominated in a money of account) and therefore overplay functional similarities over structural differences among historically-specific monetary regimes. Clearly a Roman solidus of the Byzantine period was not a 'credit' in the same way as a liquid money market instrument is today, nor was the minting of coins in medieval times giving shape to the type of financial relations that banking articulates today.

[5] "Both the logical and historical origins of money are to be found in the state. Only an authority can overcome the anarchy of barter and impose a uniform money of account" (Ingham 2004, p.57).

The second is a tendency to overstate the role played by states (public authorities) vis-à-vis markets (private actors) in the processes of money creation or monetisation. This tendency de facto enforces an ontological separation between states and markets as loci of distinct spheres of sociality and opposite logics of exchange – a stance that can be hardly held in the face of the overwhelming evidence suggesting that modern money flourishes at the intersection of public and private. Both banks and central banks – the modern temples of money creation – are hybrid institutions articulating normative spaces that bend our legal conceptions of private property and state sovereignty (see Kim 2014; Pistor 2017)[6].

While Ingham recognises the hybridity of modern money as a "memorable alliance" between public officials and private financiers, citing Max Weber (Ingham 2004, p.115, p.170), he nevertheless retains a hard nominalist stance, partly to invalidate the orthodox economics' narrative, but also because nominalism similarly offers an effortless and elegant, though diametrically opposite, answer to the quintessential question of "how money gets its value" (Ingham 2004, p.56). The short answer is: the state. The latter institutes money in the first place as it establishes the money of account within its sovereign jurisdiction, and then determines the value of money "by influencing what must be done in an economy to earn the income to pay the tax" (Ingham 2004, p.84) denominated in the money of account[7].

Ingham contends that such an argument can be drawn from other authoritative inquiries into the nature and origins of money, citing John Maynard Keynes among others as a most prominent advocate of monetary nominalism. Keynes was admittedly influenced by the credit and state theories of money promulgated in the early twentieth century by Alfred Mitchell-Innes (1913; 1914) and Georg Knapp (1924) and had a 'Babylonian madness' phase that partly shaped his understanding of the nature of money in the *Treatise* (Wray 2014). The opening sentence of the *Treatise*'s book I, 'The Nature of Money', seems to offer an uncompromising endorsement of nominalism: "[m]oney-of-account, namely that in which Debts and Prices and General Purchasing Power are *expressed*, is the primary concept of a Theory of Money" (Keynes, 1930a, p.3). Shortly after, Keynes (1930a, p.4) also contends that "the age of chartalist or State money" was reached four thousand years ago, "when the State claimed the right to

[6] The point should not be to establish whether money is ontologically a creature of the market or the state, but to investigate how, historically, practices of money-making have entailed at once processes of state- and market-making.

[7] For a more nuanced critique of Ingham's argument, see Sgambati 2015.

declare what thing should answer as money to the current money of account – when it claimed the right not only to enforce the dictionary but also to write the dictionary".

Having said this, Keynes' references to the nominalist tradition are quite shallow and can only be found in the Book I of the *Treatise*. More generally, while his inquiry into money is not without contradictions and limits, it shows a sensitivity to the question of what makes money valuable that, besides casting a shadow on the nominalist ontology hitherto discussed, also sheds new light on the historical specificity of modern money as an institution that is not simply bound up with credit but is entangled with the existence of markets that are exclusive to capitalism – i.e. financial markets for debt. Before moving to a discussion of how and why nominalism fosters an essentialising account of money's history, in the next two sections I will provide a conceptual critique of nominalism based on Keynes' reflection on the value of money, as in the *Treatise* and the *General Theory*.

Against nominalism (I): Keynes on the value of money

In the *Treatise* (1930a, p.3) Keynes formulates his famous distinction between 'money of account' and 'money itself', which he also calls 'money proper':

> Money-Proper in the full sense of the term can only exist in relation to a Money-of-Account. Perhaps we may elucidate the distinction between *money* and *money-of-account* by saying that the money-of-account is the *description* or *title* and the money is the *thing* which answers to the description.

To properly grasp the rationale for such a formal distinction between the 'title' and the 'thing', it should be foremost noticed that Keynes' understanding of money resembles to a great extent Saussure's theory of the linguistic sign[8]. Saussure's semiotics had paramount influence over social sciences in the twentieth century and played a key role in the development of continental philosophy. Keynes was not immune to its ascendancy. As a Cambridge fellow, he was exposed to the ideas of Bertrand Russel, Ludwig Wittgenstein and other distinguished representatives

[8] For a summary of Saussure's semiotics, see Silverman and Torode 1980, pp. 249-256.

of analytic philosophy. However, he distanced himself from Russell's logical atomism (an implicit metaphysical foundation of neo-classical economics) and veered towards a more continental approach to the question of the economy as a system, inspired by Durkheimian sociology and Saussurean structuralism (see Hishiyama 2011).

It would not be inaccurate to say that Keynes' view of money in the *Treatise* reflects a continental (structuralist, phenomenological), rather than analytic (atomistic, logical), orientation. Here Keynes argues that money comprises both money-proper (the signifier or material utterance) and the money of account (the signified or abstract idea). In turn, in line with Saussure's semiology, he suggests that the meaning of the money sign *as a whole* is indicated neither by the money-proper (signifier) nor by the money of account (signified), but *by the relation between the two*. This meaning, we learn in the Treatise's book II on 'The Value of Money', is purchasing power: "the Money-of-Account is the term in which units of Purchasing Power are *expressed*. Money is the form in which units of Purchasing Power are *held*" (Keynes 1930a, pp.55-6).

The analogy does not end here. As in Saussure's semiology, so in Keynes' scheme we find that the value (meaning) of money is context-bound, connected to all other values (meanings) and therefore susceptible of mutability. Hence purchasing power is never an 'abstract' entity, for it cannot be separated from its context of applicability, assessed and analysed as such. The fact that a one-pound coin is nominally worth 'one pound' literally means nothing – what matters is how much one pound can buy and one can only get a proxy measure of the pound's purchasing power as the "index number of the price of the composite commodity representative of consumption" (Keynes 1930a, p.56). Pace nominalism, this value is not at all independent from market dynamics.

In this respect, it is also worth mentioning that, although Keynes argues for the primacy of the money of account, he shows little interest for this concept per se. Indeed, as soon as he distinguishes between the money of account, as the description, and money-proper, as the thing that answers to it, he immediately points out that "if the same thing always answered to the same description, the distinction would have no practical interest. But if the thing can change, whilst the description remains the same, then the distinction can be highly significant" (Keynes 1930a, p.4). For Keynes, it is the distinction, *therefore the inherent relation*, between monetary function (money of account) and monetary form (money itself) which is significant, not the function per se, and the significance of this distinction can only become manifest through a change in the *value* of money – whence Keynes' remarkable effort to formulate equations for

the value of money (in the *Treatise*'s book III) and uncover the dynamics of the price level (book IV).

Far from ontologically prioritising the money of account over the concrete forms that money has historically taken, Keynes suggests that the assessment of what constitutes *a priori* the idea or the quality of being money is a purely intellectual exercise devoid of practical meaningfulness (Wittgenstein would adopt a similar anti-essentialist and anti-reductionist view of language in his *Philosophical Investigations*). In conformity with this pragmatist stance, no sooner has Keynes clarified the relationship between money of account and money-proper in the first two pages of the *Treatise* that he moves on to investigating 'the thing itself' in its many shapes and forms – indeed a multitude of signifiers among which bank money stands prominent. Before we know it, the money of account has disappeared from the discussion: from being the primary concept for a theory of money, by the beginning of Book II it has become no more than a semantic expedient "devised long ago in order to satisfy the need for a term in which to *express* general purchasing power" (Keynes 1930a, p.55). In the end, "a man does not hold money for its own sake, but for its purchasing power – that is, for what it will buy. Therefore, his demand is not for units of money as such, but for units of purchasing power" (Keynes 1930a, p.53) – a power that is logically contingent upon market exchange and which, most importantly, can be privately *owned* and *stored*.

Against nominalism (II): Keynes on the liquidity of modern money

> "Money, it is well known, serves two principal purposes. By acting as a money of account it facilitates exchanges without its being necessary that it should ever itself come into the picture as a substantive object. *In this respect it is a convenience which is devoid of significance or real influence*. In the second place, it is a store of wealth. So we are told, without a smile on the face. But in the world of the classical economy, what an insane use to which to put it! For it is a recognised characteristic of money as a store of wealth that it is barren; whereas practically every other form of storing wealth yields some interest or profit. Why should anyone outside a lunatic asylum wish to use money as a store of wealth?" (Keynes, 1937 pp.215-6, emphasis added)

Keynes' inquiry into the value of money reaches new depths in the *General Theory* (1936), where he develops a novel explanation as to why people wish to store money – i.e. what kind of premium they earn for retaining a preference for liquidity. His point of departure lies in the

recognition that the rate of interest does not represent the remuneration for being parsimonious – "a return to saving or waiting as such", a cornerstone of orthodox economics – but "is the reward for parting with liquidity for a specified period" (Keynes 1936, p.166). More specifically, the rate of interest is the product of a relationship of exchangeability that only occurs between money and a specific class of commodities that, like money, are "non-producible" (cf. Davidson 2003): debts[9]. The significance of this relationship is captured by Keynes' liquidity preference theory, which seeks to explain why people choose *not to spend or invest* money, but instead enjoy their liquidity premium, in spite of the fact that money, as a store of value, is barren "whereas practically every other form of storing wealth yields some interest or profit" (Keynes 1937, p.216).

Keynes identifies three motives for wishing to hold money (and, reciprocally, for being willing to pay a price to borrow it). The first one, which he termed the 'transactions motive', refers to the desire to hold money for the purpose of meeting anticipated expenditures. The second one, the 'precautionary motive', refers to the desire to hold money to meet unanticipated expenditures and/or unforeseen opportunities. The third one, the 'speculative motive', refers to the desire to hold money in a strategic fashion as a hedge against fundamental uncertainty concerning the future course of interest rates in financial markets (Keynes 1936, p.168; see also Fantacci 2010). Significantly, of the three motives, only the speculative motive is 'interest-elastic', that is, susceptible to variations in interest rates and, therefore, to changes in the money supply (Keynes 1936, pp.196-7; see also Conard 1959, p.164).

Once again, Keynes adopts an anti-essentialist, pragmatic stance as he suggests that the modern desire to hold money as a store of value cannot be universalised but ought to be understood in conjunction with the historical fact that modern money exists in a state of potential exchangeability with interest-earning debts. Provided that there is an organised market for debts, the economic cost of partying with, or borrowing money, as expressed by the money rate of interest, will be preponderantly determined by the prospect of making financial gains and "securing profit from knowing better than the market [for debts] what the future will bring forth" (Keynes 1936, pp.169-170).

[9] The rate of interest is "nothing more than the inverse proportion between a sum of money and what can be obtained for parting with control over the money *in exchange for a debt* for a stated period of time" (Keynes 1936, pp.166-7, emphasis added).

It goes without saying, Keynes' liquidity preference theory points to the fact that the value of modern money is entangled with practices of speculation and forms of monetary governance that transcend purely 'fiscal' imperatives of monetary budgeting. Indeed, when interest-earning debts can be readily bought and sold in organised markets, the liquidity premium comes at the implicit cost of missing the opportunity for a *prospective profit*. In other words, hoarding money always implies a form of disinvestment – whence Keynes' rejection of Say's Law. At the same time, the act of investing money in financial markets entails risks that cannot be fully discounted, therefore the possibility of making a *prospective loss*. It is in this forge of uncertainty that money acquires value as the "barometer of the degree of our distrust of our own calculations and conventions concerning the future" (Keynes 1937, p.216).

A foremost implication of Keynes' liquidity preference theory is that money "allows us to operationalise our lack of knowledge" (Esposito 2011, p.51) and to defer investment decisions to a later day: it is the embodiment of one's *lack of confidence* in the economy and the measure of a radical uncertainty that one can only truly experience in a world where financial markets are the norm. Accordingly, the modern desire for money is symptomatic of pathologies that are exclusive to capitalism: holding onto money "lulls our disquietude" (Keynes 1937, p.216), and yet the more money gets accumulated beyond the threshold of what is required for transaction and precautionary motives, the greater is the pull for holders of money to embrace a speculative mentality demanding that they routinely choose between making a certain loss in the present and a potentially greater loss in the future. Hence, for the moneyed interests – those who *have* money – money has value (qua liquidity premium) not so much because it enables the *accounting* and *extinguishment* of debts (as liabilities) for fiscal-budgetary purposes, but because it gives access to financial markets and entails the *discounting* and *accumulation* of debts (as assets) for speculative purposes (see also Sgambati 2016; 2019).

Would Keynes endorse the nominalist *doxa*? The answer is no. Most likely, he would argue that the old-fashioned, orthodox view that markets in principle entail the institution of money, though incomplete and misleading, is formally sounder than the new-fangled view that there can be money (of account) without markets, or that money could be created independently from price dynamics and speculative calculations that inhere to market practices[10]. Keynes'

[10] I am here paraphrasing Keynes' dismissal in the *General Theory* of "the new-fangled view that there can be saving without investment or investment without 'genuine' saving'" (Keynes 1936, p.83). For Keynes "the old-fashioned view that saving always involves investment, though incomplete and misleading, [remains] formally sounder" (ibid.).

understanding of monetary history – of which we get glimpses in the *Treatise* – is permeated by similar 'realist' considerations. In chapter 30 of the Treatise, vol. II, on 'Historical Illustrations', Keynes states that "[i]t will be better to illustrate the ideas of [his] Treatise if, instead of applying them to hypothetical cases, we consider, very briefly, in their light, certain well-known episodes in the *history of prices*" (Keynes 1930b, p.148). Keynes thus proposes that the history of money be rewritten considering the role played by precious metals as a 'stimulus' for the economy and a major driver of market dynamics (Keynes 1930b, pp.150-1).

> It would be a fascinating task to re-write economic history, in the light of these ideas, from its remote beginnings; – to conjecture whether the civilisations of Sumeria and Egypt drew their stimulus from the gold of Arabia and the copper of Africa, which, being monetary metals, left a trail of profit behind them in the course of their distribution through the lands between the Mediterranean and the Persian Gulf, and, probably, farther afield; in what degree the greatness of Athens depended on the silver mines of Laurium – not because the monetary metals are more truly wealth than other things, but because by their effect on prices they supply the spur of profit; […] whether it was a coincidence that the decline and fall of Rome was contemporaneous with the most prolonged and drastic deflation yet recorded; if the long stagnation of the Middle Ages may not have been more surely and inevitably caused by Europe's meagre supply of the monetary metals than by monasticism and Gothic frenzy.

De-historicising the money of account: Ingham's ontogeny of modern money

While Keynes champions a type of historical inquiry that focuses on gold and silver, *not because the monetary metals are more truly wealth than other things, but because by their effect on prices they supply the spur of profit*, Ingham minimises the significance of precious metals in the shaping of monetary practices and institutions, turning coins into a particular (and rather incidental) instance of the means of payment in general – a common motive in the chartalist tradition. Underlying his history of money is a methodological principle of inquiry that expurgates the materiality of past currencies from the account of what 'matters' in monetary affairs: "[a]s the logical foundation of money is to be found in the money of account, it is here that we should attempt to locate its historical origins, not in the excavation and dating of money-stuff" (Ingham 2004, p.89). From the nominalist perspective, nothing can be learned from the unique materiality of early coins struck in Asia Minor – they are not unlike any other

means of payment, "whether of metal or of paper" (Knapp 1924, p.2) and the fact that these first coins were made not of gold or silver, but of a naturally occurring alloy of gold and silver, i.e. electrum, seems to present no puzzle in itself[11]. Conformingly, the 'invention' of coinage – the practice of coining metals and putting a stamp on them – does not seem to involve a conceptual revolution (for a different view see Schaps 2004) but on the contrary represents the end of a "developmental sequence" (Ingham 2000, p.27) that started with the conception of abstract monies of account in a far more ancient world.

The history of money is therefore recast as a trans-historical ontogeny[12] whereby the symbiotic institutions of the money of account and the state come first, followed by the development of disparate means of payments and stores of value, the concomitant development of a credit infrastructure and, lastly, the consolidation of a general medium of exchange together with organised markets. This is, in short, the 'creation story' of how the abstract idea of money, as the money of account, came to be embodied into money things or stuffs. Ingham identifies two main developmental sequences: one, pre-modern, goes from the rise of ancient Near East civilisations to the collapse of the Roman Empire. The other, modern, goes from medieval down to contemporary times. Modern money, in particular, is conceptualised as a hybrid of private credit and public currency, first split in the "dual system of precious metal coinage and credit-money (fifteenth to early twentieth century)", at last unified as a "pure capitalist credit-money system (mid-twentieth century onwards)" (Ingham 2004, p.78).

Unsurprisingly, the creation story of modern money as credit incarnate starts *by fiat*, lowered down by the *deus ex machina* Charlemagne. After a long interregnum of monetary anarchy and politico-economic disintegration, "[i]n order to establish a degree of fiscal coherence across the loosely integrated Holy Roman Empire", the Frankish emperor established a duodecimal monetary metric "derived from the Roman system" (Ingham 2004, p.110). The Carolingian metric, or money of account, was based on the following equivalence:

1 lira (pound) = 20 soldi (shillings) = 240 denari (pence)

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[11] Interestingly, alchemists used to refer to electrum as *tertium quid*, a third something. For a discussion of why early coins were made of electrum, see Wallace (1987), Schaps (2004, pp. 93-110) and Seaford (2004, pp.121-122).

[12] An ontogeny, or ontogenesis, is a discourse on the origins and development of being. The suffix -geny in ontogeny, from the Greek *geneia*, stands for 'genesis' or 'mode of production'.

Ingham contends (erroneously, as we shall see) that "the money of account, based on pounds, shillings and pence, did not correspond to any of the actual minted coins in use" (Ingham 2004, p.110). The Carolingian metric "was a pure abstraction for monetary calculation. Payment could be made in kind, or in the freely circulating coins from the different jurisdictions that were given value by the abstract money of account – not by their metallic content" (Ingham, 2004, p.110). Charlemagne's reform allegedly ratified what Marc Bloch termed "*le decrochement de la monnaie de compte*" (cited in Ingham 2004, p.110), namely a 'de-linking' of the money of account from the means of payment that fostered a consciousness of money as a fully imaginary entity and "firmly re-established the abstract monetary calculation that had been practiced in ancient Babylon" (Ingham 2004, p.110).

Conformingly, Ingham stresses time and again that the material substance of medieval coins played no factor in determining their value: "the exchange relations between the values [of coined monies] were purely abstract monetary relations, in the sense that the money of account, not their metallic content, determined the relative values of coined money" (Ingham 2004, p.111). Precious metals appear as a mere cultural survival outliving the previous stage of money's development, an old testament withered together with the Romans. Ingham for instance attaches no significance to the resumption of the minting of gold in the Late Middle Ages and fails to recognise its inherent relation to innovations in monetary governance starting from the thirteenth century – what Bloch (1953; 1981) referred to as the "monetary revolution" of the thirteenth century and Le Goff more recently (2012) termed "the Glorious Thirteenth Century of Money". In an ill-conceived effort to affirm the superiority of the nominalist doctrine over a naïve metallism that no contemporary historian of money would dare to defend, Ingham omits to discuss crucial monetary developments, de facto turning the medieval institution of the money of account into a rather uninteresting reiteration of monetary practices that were already in place in the third millennium BCE.

To bring clarity to the question of the money of account and to properly *historicise* its significance, in the next two sections I build on the seminal works of Marc Bloch and Luigi Einaudi to show how the money of account was part and parcel of a distinct regime of monetary mutations that only made sense in the context of late medieval history. More specifically, the money of account was meant to address a problem that only arose *four centuries after the Carolingian reform*, following the recovery of gold and silver minting and the re-establishment

of a double circulation of precious-metal currencies across Europe: the so-called 'problem of exchange'.

Historicising the money of account (I): the medieval phenomenon of monetary mutations

In his *Esquisse d'une Histoire Monetaire de l'Europe*[13] Marc Bloch (1981; see also 1953) analyses the phenomenon of 'monetary mutations' in the Late Middle Ages and, in this connection, discusses the institution of the money of account, which Bloch also refers to as 'imaginary money'. For Bloch imaginary money constitutes a distinct regime of monetary governance that specifically arose in the thirteenth century in conjunction with profound institutional transformations of the time. These transformations were responsible for producing no less than a monetary revolution encompassing: the recovery of gold minting across Europe, starting from Italy (e.g. the gold florin) and quickly spreading to England and France; the minting of new, higher-denomination silver coins (i.e. the grossi); the escalating depreciation of existing types of silver deniers and their demise as a general standard of value; the concentration of minting prerogatives under central authorities after centuries of private usurpation, comital monetisation and monetary fragmentation. Altogether, these late medieval transformations caused the *decrochement* of the money of account and the consolidation of what Bloch calls the 'pure' or 'absolute' regime of imaginary money (Bloch 1981, p.50).

In this respect, Bloch (1981, p.55) laments that historians often use the notions of 'money of account' and 'imaginary money' equivocally, as Ingham does, also to refer to the monetary regime of the silver denier formally instituted by Charlemagne towards the end of the eighth century (between 794 and 802), which prevailed across Europe for more than four centuries – that is, *until* the monetary revolution of the thirteenth century. As Bloch explains, there was nothing 'imaginary' about the denier standard of the Early and High Middle Ages. The denier (or denarius) began its existence as an actual silver coin of high weight and fineness in the Roman High Empire[14]. In the Low Empire, the denier progressively lost value to the point that,

[13] Given the importance of this work, it is quite unfortunate that Bloch's *Esquisse*, originally published in 1954, was never translated in English. Regrettably, the original French edition is out of print and the few remaining copies are highly expensive. The in-text quotations from Bloch are the author's own translations from the Italian edition, *Lineamenti di una storia monetaria d'Europa*, published in 1981 by Giulio Einaudi.

[14] Both Bloch (1981) and Spufford (1988, pp.413-4) thought that the names of medieval monies of account were derived from, and in some cases still attached to, material coins that pre-existed them.

following the fall of Rome, during the early Merovingian times (mid-fifth century circa), it ceased to be coined and became purely a money of account (Bloch 1981, p.23). It was only in the seventh century that the denier began to be coined again (Bloch 1981, pp.26-7). This time, however, it no longer showed the effigies of the Empire, now moved to Byzantium, but bore the name of private moneyers. Indeed, during the barbarian period, the imperial monopoly over mints was gradually taken over by barbarian kings and, in time, was usurped by private agents. As Le Goff (2012, p.9) reports, in Gaul, at the onset of the seventh century, more than 1,400 moneyers including local officers, goldsmiths, bishops and landowners, were minting coins and carving their names on them.

By the eighth century, the privatisation of mints and the fragmentation of monetary circulation across former regions of the Roman Empire was a fait accompli. In an effort to resume the old vestiges of the empire, the Carolingians tried to revert this process. To this purpose, Charlemagne's monetary reform did more than simply enforcing by decree the adoption of an imperial metric based on Roman weights and numeration (a metric that was already informally rooted in the accounting customs of the time, according to Bloch): he also re-established the mint as a royal prerogative and, what's more important, he proclaimed the termination of gold minting across the Carolingian Empire, thus marking the transition in medieval Europe from the anarchic bimetallism of Late Antiquity to the lordly monometallism of the High Middle Ages.

The monetary regime inaugurated by Charlemagne was monometallic to the extent that: (a) silver became the only coined metal; (b) the denier was the only type of coin in circulation, struck in different indigenous types of varying weight and fineness (Bloch 1981, p.54). To argue in this respect that the Carolingian reform firmly re-established and fostered "the abstract monetary calculation that had been practiced in ancient Babylon", and to refer to the metrological system of the denier as 'imaginary money', is nothing short of mistaken. For in this system "solidus and lira are monies of account in the sense that they are not represented by any piece; however, they constitute a *real matter* insofar as multiples of the denarius" (Bloch 1981, p.30).

This said, the most striking evidence for the materiality of the Carolingian monetary system is not to be found in the fact that it was safely anchored to coinage via the 'link-coin' and real standard of value provided by the denier (Weber 1996, p.479). Rather, it is evinced from the fact that, until the thirteenth century, circulating deniers were only subject to one type of

monetary mutation: *real* mutation[15]. Also known as 'intrinsic mutation' (Boyer-Xambeu *et al* 1994, p.52), real mutation occurred when the value of a currency was altered by reinforcing (increasing) or debasing (reducing) the material weight and/or fineness of coins via the mint. Historically, debasements prevailed over reinforcements. This trend became tangible starting from the eleventh and twelfth centuries (Spufford 1988, p.411), and it abruptly accelerated during the Late Middle Ages, from the thirteenth through the fifteenth centuries (Pamuk 2015, p.6), when currency debasement became a primary fiscal instrument of war- and state-making (Dyson 2014, p.130; Munro 2010; Allen 2016).

It was only when debasements became a consuetude that *nominal* mutation began to be practiced. The latter consisted in reforming the legal value of coins, as expressed in a money of account – usually, but not necessarily, a variation on the Carolingian metric – via the institution of the tariff (cf. Fantacci 2008; Amato 2008). When coinage was cried up, it was revaluated relative to its former legal rate; its physical substance, however, was untouched. Conversely, when coinage was cried down, it was devaluated relative to its former legal rate. In short, crying up (down) the coinage entailed overvaluing (undervaluing) the currency, or else 'weakening' ('strengthening') the money of account, within its sovereign jurisdiction.

Significantly, the use of the money of account for purposes of nominal mutations never superseded the practice of real mutations: rather, tariff and mint became a *necessary complement to one another* in the process of governing the value of precious-metal currencies. This is to say that the late medieval regime of the money of account was not at all independent from the materiality of late medieval currencies. Quite the contrary, it evolved in conjunction with: a) a structural pattern of depreciation – a "scourge of debasement" (Spufford 1988) – that plagued denier-denominated silver coinages across Europe; b) the emergence of new financial practices and opportunities for profit[16] rooted in currency exchange (cf. Knafo 2013) that were

[15] ADD NOTE ON ABSENCE OF NOMINAL MUTATION VIA TARIFF. NO RECORD OF *ORDONNANCES* in France until the late thirteenth century (see Haye 1998). When denier coins were debased, no authority would decree the new official value of deniers in relation to the money of account (the imaginary lira – soldo – denarius metric). In fact, according to Bloch, official courses (values) disappeared and coins only circulated at their commercial value (in this respect it must be noticed that minting in the early Middle Ages was a highly fragmented phenomenon. Thousands of local lords, bishops, and private moneyers coined their own monies and it is hard to imagine how they could have enforced nominal (official) values over sufficiently large sovereign spaces.

[16] Knafo points in particular to money-changing and merchant banking as two main avenues of financial innovation in late medieval times. Notably, both practices were deeply enmeshed with currency exchange as they "were associated with the rise of long-distance trade and were often born out of pragmatic solutions to the problem of dealing with multiple currencies" (Knafo 2013, p.44) in a context of anarchic bimetallism. Here moneys of

made possible in the first instance by the minting and promiscuous circulation of new gold and silver coinages.

It was in this late medieval context of deep monetary transformations that the *decrochement* took place. The latter did not consist in a separation of monetary functions (the money of account vs. the means of payment) but in a *discontinuity among monetary forms*. As deniers began to experience a *loss of value* across Europe, a rather uneasy dissociation was produced in the late medieval imaginary between the Carolingian metrological system, which was currently utilised to establish price ratios (mostly denominated in imaginary pounds and shillings) between new gold and silver species *other than deniers*, and the denier itself, once the material anchor of the monetary system, now downgraded to the rank of 'black money' (or 'billion'). Contra Ingham, it was the slow demise of the denier – whose commercial value at one point became *incommensurably* lower than the commercial value of new precious-metal currencies denominated in liras and solidi – and not its consecration under Charlemagne, that caused the 'decrochement' (Bloch 1981, p.50).

Historicising the money of account (II): the late medieval problem of exchange

Besides playing a key role in generating a cognitive dissonance in the accounting practices of the time, the return of bimetallic monetary circulation in late medieval Europe brought forth the so-called 'problem of exchange'. This was the problem of adjusting and stabilising the price ratios between gold and silver species and establishing a common denominator between the spheres of exchange that the two monetised metals came to define with their circulation. On the one hand, gold coins had become the privileged signifier of international trade, commerce and finance; on the other hand, silver coins came to function as the currency for domestic payments (especially rents and taxes) and the primary locus of political struggles among kings, landed aristocracies and peasantries. This "double architecture" (Fantacci 2008) was unstable. Due to both international speculation and trade (cf. Boyer-Xambeu *et al,* 1994; Pezzolo and Tattara 2008) and domestic politics of seigneurage, gold-silver ratios were prone to change and any substantial *dissociation* between commercial and legal courses of precious-metal

account served not only as 'public' instruments of monetary governance but also as 'private' technologies for arbitraging among currencies (see also Boyer-Xambeu *et al*, 1994). This point will be reiterated later in the article.

currencies was likely to trigger the disappearance of 'good monies', to the point of destabilising sovereign monetary spaces (Einaudi 1936, p.11). "A common measure was needed" (Bloch 1981, p.49) to govern *both* commercial and legal courses of currencies, stabilise their values relative to one another and thus tackle the problem of exchange.

In his *Teoria della moneta immaginaria nel tempo da Carlomagno alla rivoluzione francese* Luigi Einaudi makes an even more unwavering case for the historical specificity of the money of account. Far from representing a pure idea and universal function of money (Einaudi 1936, p.4), the money of account was a "technical expedient" (Einaudi 1936, p.8) that had no reason whatsoever to exist in a pure monometallic system but only made sense in a context of bimetallism (Einaudi 1936, pp.9-10). Einaudi thus explains that, logically, without a common denominator for stabilising the legal courses of currencies in relation to fluctuating gold-silver commercial ratios, bimetallic circulation was bound to trigger Gresham's Law and produce a much troublesome alternation between one monometallic standard and the other (Einaudi 1936, p.11). By contrast, the implementation of an imaginary metric made it possible for monetary authorities to play with, and improvise on, the double register of monetary circulation and activate their powers as 'market-makers' (see also Amato 2008).

The money of account, in other words, transformed the mint, previously a facility for producing coins, into a complex institution for *making markets* for currencies. The institutional transformation of the mint was for a survival reason: unless the legal and commercial value ratios among circulating coins were stabilised by means of nominal mutations, the fiscal prerogatives of seigneurage could no longer be exercised via real mutations (debasement). Hence, to preserve the proportionality between the legal courses and the market prices of gold and silver coinages and, therefore, to prevent the threat of monetary perturbations (precursors of modern capital flights), monetary authorities would typically cry up, or augment, the nominal value of higher-denomination gold coins whenever smaller-denomination silver coins were debased for seigneurage gains (Einaudi 1936, pp.15-6; see also Pamuk 2015, p.6). Nominal mutations of gold coins thus became a necessary complement to domestic politics of debasement of silver coins[17].

[17] Debasements were performed for a variety of reasons. On the politics of debasement and how they related to the international problem of exchange, see Munro 2010; Pamuk 2015; Allen 2016; Boyer-Xambeu et al 1994, pp.51-7; Dyson 2014, pp.128-133.

Because of his ethos as policy-maker, Einaudi could not resist the temptation to see in the money of account a "magnificent instrument" (Einaudi 1936, p.34) of *buongoverno,* a neutraliser of price variability (Einaudi 1936, pp.28-30) created by the legislator to achieve economic goals that were beneficial for society at large. He was only partly right, for the money of account was not only a technical expedient to tackle the problem of exchange and pre-empt the disruption of the payment system (due to Gresham's law), but also a tool of financial speculation. Exchange bankers, for instance, managed to greatly enrich themselves through the medieval system of fairs as they mastered the art of exchange by bills denominated in their own, private moneys of account (Boyer-Xambeu *et al* 1994). A key financial institution of the European Middle Ages, the fairs formed a "limited-access, extra-territorial jurisdiction" (Sgard 2015, p.174) that private bankers exploited to extract seigneurage fees from public authorities (Boyer-Xambeu *et al* 1994, pp.146-7).

In that respect, the money of account was more than a practical solution to a practical problem. As the constitutive rule of a game of money-making whose ultimate purpose was to expand the power of its players (both 'public' princes and 'private' bankers) and increase their possibilities for enrichment, the money of account brought about new problems linked to currency speculation and exchange. While it formally survived until the French Revolution (Einaudi 1936; see also Amato 2008), the regime of imaginary money began to falter starting from the mid-fifteenth century under the blows of mercantilism. Crucially, as gold coinages were nominally cried up to legally validate or anyway conform to changes in their commercial ratios with debased silver coinages, "throughout the 15th century, those who had gold were able to buy more and more commodities. It was therefore only natural that people should go out and look for gold" (Vilar 1984, p.45). The impetus that the mercantilist quest for gold gave to modern European colonialism, state-building and maritime empire building cannot be overstated. What is less appreciated is how this greed for gold – partly an unintended consequence of late medieval monetary governance – "had the most direct and obvious effects on monetary developments in Europe" (Davies 2002, p.177) and was indeed a major cause of the so-called 'price revolution' over the long sixteenth century.

A foremost symptom of the deep monetary transformations that Europe was about to undergo was the decline of Lyons and the rise of Bisenzone as the centre of the fair system, from the mid-sixteenth to the early seventeenth century. In the Lyons-centred system dominated by Tuscan finance and protected by the King of France, the enrichment of exchange bankers was predicated on their ability to wrest seigneurage gains from monarchs across Europe by setting

up a system for the deferral of payments via commercial bills denominated in the imaginary *écu de marc*, a private money of account (Boyer-Xambeu *et al* 1994; Amato 2008; Amato and Fantacci 2012, pp.197-208). Notably, this system favoured international trade. The establishment of Bisenzone, a Genoese financial centre in the service of the Spanish Habsburgs, by contrast, saw the emergence of a new logic of speculation that, instead of promoting international trade, greatly magnified the scopes of Spanish public finance at the cost of disrupting "commercial relations of France and Northern Europe" (Boyer-Xambeu *et al* 1994, p.172). Bisenzone indeed functioned as an offshore capital market for the funding of the king of Spain's long-term obligations via short-term *asientos* loans – a 'corrupted' type of exchange by bills that was no longer anchored to international trade (Boyer-Xambeu *et al* 1994, pp.182-5) and "assumed the features of a purely financial transaction" (Pezzolo and Tattara 2008, p.1103).

The Bisenzone experience proved to be a short-lived attempt at reconciling the fiscal prerogatives of an empire with the economic interests of private financiers at the expenses of monetary stability and international trade – indeed a failed transition (Amato 2008). Starting from the sixteenth century, also due to the disruptive nature of the influx of precious metals and the speculative dynamics surrounding them, monetary authorities across Europe began to experience to varying degrees growing difficulties with preserving a stable gold-silver ratio by resorting to the traditional levers of monetary mutations, whilst confronting the ever-expanding fiscal imperatives of states by the same means. Unrelenting, the regime of the money of account was fading in a context of rapid political and economic transformations that were catapulting Europe into its capitalist modernity.

Conclusion

Babylonian madness pales in comparison to the frantic practices of monetary governance and speculation in late medieval and early modern Europe. The leap between the imaginary monies that sprouted everywhere following the commercial revolution of the thirteenth century and the *shekel* and *deben* units of weight of the ancient Near East is abysmal: the latter were meant to measure the value of debts and set a minimum price floor for a basket of commodities (including silver, grain, barley, wool, sesame oil) that could be used to repay debts and fees owed to the palace; the former were designed to both stabilise and alter the value of *monies* in

a context of bimetallism. Unfortunately, the current nominalist *doxa* cannot account for the historical specificity of the money of account as a regime of monetary governance in the European late Middle Ages. More generally, heterodox economists show a tendency to reduce the complexity of monetary history to a naïve ontology of money as a balance-sheet phenomenon – a credit-debit bookkeeping entity denominated in a money of account whose primary function is to serve as a means of payment (for fiscal and/or budgetary purposes).

To avoid anachronisms, it should be noticed that a balance sheet cannot be imagined in a world that knows no arithmetical 'zero'. This was for instance the world of the ancient Near East, with its decimal and sexagesimal metrological systems in which zero only served as a placeholder – a sign to distinguish between 1 and 10. It was not until the 5th century AD (in India) that zero became a *number*, namely the average between 1 and minus 1. The concept of zero as an actual number would eventually reach Europe via the Middle East towards the end of the Middle Ages, when double-entry bookkeeping made its first appearance on the ledgers of Tuscan and Lombard bankers. The truth is that the Romans might have erected architectural wonders, compiled the most impressive body of jurisprudence in human history and inspired, among other things, the Carolingian monetary metric, but it never occurred to them that liabilities (as negative numbers) could be matched by assets (as positive numbers) and that the two could mirror each other in a double-entry balance sheet. Unsurprisingly, they never developed a terminology for expressing notions of 'net worth', 'profit' and 'capital'.

The same applies to the people of the Mesopotamian Bronze Age who, in addition to coming short of an arithmetical understanding of zero, also lacked a concept for money as the symbol of abstract economic value – a *tertium quid* that is conceptually other than, and apart from, the world of commodities. The absence of the type of abstract reasoning that is required for thinking the idea of money can be evinced from the casuistic nature of ancient law codes, "a hallmark of Mesopotamian scientific style" (Westbrook 2003, p.17). Ancient Near Eastern law "lacked two vital factors: definition of abstract concepts and vertical categorization […] Instead, it has been dubbed a 'science of lists', the concatenation of endless examples, grouped suggestively in associated sequences but incapable of ever giving an exhaustive account of a subject" (Westbrook 2003, p.20).

We must wait for the Homeric ox standard of the Greek dark ages to come across a first *symbolic* standard of economic value. Unlike the early Near Eastern units of account, the ox standard did not correspond to the *weight* of a fungible object (e.g. copper, grain, silver, etc.), therefore it did not serve the purpose of measuring a concrete quantity of something that could

be offered in exchange to settle one's obligation. Actual cattle were simply too large, cumbersome and diverse (in size, weight and age) to provide a practical means of payment (cf. Schaps 2004; Seaford 2004). Hence the ox that the Homeric heroes had in mind when they ranked the economic values of a slave woman, a bronze armour and a tripod, was not an actual bovine but a "theoretical ox": something that priced but could not be priced or exchanged, precursor of Platonic forms. The emergence of abstract (monetary) thinking during the Greek dark ages and the subsequent archaic period is further revealed by the secularisation of Greek law as a "separation of the norms from the judges" (Seaford 2004, p.178). More generally, "central to early Greek cosmology is the counter-intuitive idea of a single substance underlying the plurality of things manifest to the senses" (Seaford 2004, p.175). It is only at this point in history that a concept of money as homogenous and impersonal substance, as universal means and aim, *as something that is distinct from all else*, first comes about (Seaford 2004).

The medieval money of account represents a further step in the historical process of monetary abstraction: it is *a money that is distinct from all monies*. As Bloch, Einaudi and other historians have suggested, this imaginary money was a means for making markets for currencies, for governing and/or speculating against their variable price ratios, for enabling a double architecture of monetary relations that encompassed several intersecting sovereign spaces where multiple coins of different substance, weight and fineness could circulate at once[18]. Keeping in mind that the history of money is not the history of precious metals, and that "facile 'monetarism', and catching formulations about the 'legendary metal', are to be avoided at all costs" (Vilar 1984, p.29), heterodox scholars should be wary of historical accounts that omit to discuss the role of precious metals in the name of the nominalist *doxa*.

Keynes' pragmatic approach should be taken as an example. He was neither a theoretical nor a practical metallist: already in his *Tract* he called the Gold Standard a "barbarous relic" (Keynes 1923, p.138). His anti-metallism, however, was not predicated on a nominalist ontology but based on the practical ascertainment that the greatest economy of his time, the United States, was only pretending to maintain a gold standard whereas in fact it had already "established a dollar standard; and, instead of ensuring that the value of the dollar shall conform

[18]In the same way the monetary revolution in Archaic Greece deeply influenced the development of Greek philosophy, so the peculiar financial developments and innovations in monetary governance taking place in late medieval Europe affected its conceptual landscape, promoting a transition "from a world of fixed and absolute values to a shifting, relational world in which values were understood to be determined relative to changing perspectives and conditions; and from a philosophy focused on essences and perfections to one dominated by questions of quantification in respect to motion and change" (Kaye 2004, p.1).

to that of gold, it makes provision, at great expense, that the value of gold shall conform to that of the dollar" (Keynes 1923, p.155). Keynes understood that the cost of retaining the fiction of a gold standard was going to become even more untenable in the years to come, which prompted him to refine his ideas for reforming the international monetary system in the 1930s and devise a radical plan for the Bretton Woods conference (cf. Clary 2017; Ussher et al 2018; Kregel 2019).

If we were to find a raison d'être for the concept of money of account in Keynes' inquiry, it would not be in his theory of what money is but in his radical reform proposal of what money should be. The 'bancor' – an unpossessable, unchangeable, priceless money of account *distinct from all national currencies* – promised to promote the clearing of creditor-debtor accounts and therefore minimise global imbalances (whence the extent and depth of secondary markets for debt) thus greatly reducing the prevalence of speculative motives in the organisation and management of international monetary relations (cf. Amato and Fantacci 2012). With this in mind, this article's endeavour to historicise the money of account becomes more than a scholarly exercise: to be able to imagine a monetary architecture that is *radically other* than the current status quo, we must first of all recognise that the money of account is not a universal feature of money but the monetary grammar of a circumscribed past as well as the haunting, phantasmagorical presence of a radical monetary reform that was never actualised.

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