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An Alternative Story**

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## MONEY: AN ALTERNATIVE STORY

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### Overview.

To be sure, we will never “know” the origins of money. First, the origins are lost “in the mists of time”—almost certainly in pre-historic time. (Keynes, 1930, p. 13) It has long been speculated that money predates writing because the earliest examples of writing appear to be records of monetary debts—hence, we are not likely to uncover written records of money’s “discovery”. Further, it is not clear what we want to identify as money. Money is social in nature and it consists of complex social practices that include power and class relationships, socially constructed meaning, and abstract representations of social value. (Zelizer 1989) As Hudson (2004) rightly argues, ancient and even “primitive” society was no less complex than today’s society. Economic relations were highly embedded within complex social structures that we little understand today. (Polanyi 1971) There is probably no single source for the institution of modern capitalist economies that we call “money”.

More importantly, trying to uncover “the” origins of money is almost certainly an impossible or at least misguided endeavor unless it is placed within the context of a theoretical framework. When we attempt to discover the origins of money, we are identifying institutionalized behaviors that appear similar to those today that we wish to identify as “money”. This identification, itself, requires an underlying economic theory. Most economists focus on market exchanges, and begin with the hypothesis that money originated as a cost-reducing innovation to replace barter. They highlight the medium of exchange and store of value functions of money. The ideal medium of exchange is a commodity whose value is intrinsic, and the value of each marketed commodity is denominated in the medium of exchange through the asocial forces of supply and demand. While this approach to money is consistent with the neoclassical preoccupation with market exchange and the search for a unique equilibrium price vector, it is not so obvious that it can be adopted within heterodox analysis.

If money did not originate as a cost-minimizing alternative to barter, what were its origins? It is, of course, a difficult task to develop an alternative story that recognizes a variety of forms of social organization—that is, an analysis that is historical. As Grierson notes,

Study of the origins of money must rely heavily on inferences from early language, literature, and law, but will also take account of evidence regarding the use of ‘primitive’ money in modern non-western societies. Such evidence, of course, has to be used with care. (Grierson, 1977, p. 12)

Grierson also recognizes that there may be a difference between societies that appear to use money incidentally, and those whose economies are organized around the use of money: ‘Some systems, while employing shells or other commodities frequently used as ‘money’, may not necessarily be monetary at all’<sup>ii</sup> (ibid., p. 13).

It is possible that one might find a different ‘history of money’ depending on the function that one identifies as the most important characteristic of money. While many economists (and historians and anthropologists) would prefer to trace the evolution of the money used as a medium of exchange, our primary interest is in the unit of account function of money.<sup>iii</sup> Our

alternative history will locate the origin of money in credit and debt relations, with the unit of account emphasized as the numéraire in which credits and debts are measured. The store of value function could also be important, for one stores wealth in the form of others' debts. On the other hand, the medium of exchange function and the market are de-emphasized with regard to money's origins; indeed, credits and debits can exist without markets and without a medium of exchange.

Innes (1913, 1914, 1932) suggested that the origins of credit and debt can be found in the elaborate system of tribal wergild designed to prevent blood feuds. (See also Grierson, 1977; 1979; Goodhart, 1998; and Wray, 2004) As Polanyi put it: "the debt is incurred not as a result of economic transaction, but of events like marriage, killing, coming of age, being challenged to potlatch, joining a secret society, etc." (Polanyi, 1957 (1968), p. 198). Wergild fines were paid by transgressors directly to victims and their families, and were established and levied by public assemblies. A long list of fines for each possible transgression was developed, and a designated "rememberer" would be responsible for passing it down to the next generation. As Hudson (2004) reports, the words for debt in most languages are synonymous with sin or guilt, reflecting these early reparations for personal injury. Originally, until one paid the wergild fine, one was "liable", or "indebted" to the victim. It is almost certain that wergild fines were gradually converted to payments made to an authority. This could not occur in an egalitarian tribal society, but had to await the rise of some sort of ruling class. As Henry (2004) argues for the case of Egypt, the earliest ruling classes were probably religious officials, who demanded tithes. Alternatively, conquerors required payments of tribute by a subject population. Tithes and tribute thus came to replace wergild fines, and eventually fines for "transgressions against society" (that is, against the crown), paid to the rightful ruler, could be levied for almost any conceivable activity. (See Peacock, 2003-4.)

Later, taxes would replace most fees, fines and tribute (although this occurred surprisingly late—not until the 19<sup>th</sup> century in England). (Maddox, 1969) These could be self-imposed as democracy gradually replaced authoritarian regimes. In any case, with the development of "civil" society and reliance mostly on payment of taxes rather than fines, tithes, or tribute, the origin of such payments in the wergild tradition have been forgotten. A key innovation was the transformation of what had been a debt to the victim to a universal "debt" or tax obligation imposed by and payable to the authority. The next step was the standardization of the obligations in terms of a unit of account—a money. At first, the authority might have levied a variety of in-kind fines (and tributes, tithes, and taxes), in terms of goods or services to be delivered, one for each sort of transgression (as in the wergild tradition). When all payments are made to the single authority, however, this became cumbersome. Unless well-developed markets already existed, those with liabilities denominated in specific goods or services could find it difficult to make such payments. Or, the authority could find itself blessed with an overabundance of one type of good while short of others. Further, in-kind taxes provided an incentive for the taxpayer to provide the lowest quality goods required for payment of taxes as shown below in the case of tobacco.

Denominating payments in a unit of account would simplify matters—but would require a central authority. As Grierson (1977, 1979) realized, development of a unit of account would be conceptually difficult. (See also Henry, 2004.) It is easier to come by measures of weight or length—the length of some anatomical feature of the ruler (from which, of course, comes our term for the device used to measure short lengths like the foot), or the weight of a quantity of grain. By contrast, development of a money of account used to value items with no obvious similarities required more effort. Hence, the creation of an authority able to impose obligations

transformed wergild fines paid to victims to fines paid to the authority and at the same time created the need for and possibility of creation of the monetary unit.

Orthodoxy has never been able to explain how individual utility maximizers settled on a single numéraire. (Gardiner, 2004; Ingham, 2004a) While use of a single unit of account results in efficiencies, it is not clear what evolutionary processes would have generated the numéraire. According to the conventional story, the higgling and haggling of the market is supposed to produce the equilibrium vector of relative prices, all of which can be denominated in the single numéraire. However, this presupposes a fairly high degree of specialization of labor and/or resource ownership—but this pre-market specialization, itself, is hard to explain. (Bell, Henry, and Wray 2004) Once markets are reasonably well-developed, specialization increases welfare; however, without well-developed markets, specialization is exceedingly risky, while diversification of skills and resources would be prudent. It seems exceedingly unlikely that either markets or a money of account could have evolved out of individual utility maximizing behavior.

It has long been recognized that early monetary units were based on a specific number of grains of wheat or barley. (Wray, 1990, p. 7) As Keynes argued, “the fundamental weight standards of Western civilization have never been altered from the earliest beginnings up to the introduction of the metric system” (Keynes, 1982, p. 239) These weight standards were then taken over for the monetary units, whether the livre, sol, denier, mina, shekel, or later the pound. (Keynes, 1982; Innes, 1913, p. 386; Wray, 1998, p. 48) This relation between the words used for weight units and monetary units generated speculation from the time of Innes and Keynes that there must be some underlying link. Hudson (2004) explains that the early monetary units developed in the temples and palaces of Sumer in the third millennium BC were created initially for internal administrative purposes: “the public institutions established their key monetary pivot by making the shekel-weight of silver (240 barley grains) equal in value to the monthly consumption unit, a ‘bushel’ of barley, the major commodity being disbursed”. (Hudson, 2004, p. 111) Hence, rather than the intrinsic value (or even the exchange value) of precious metal giving rise to the numéraire, the authorities established the monetary value of precious metal by setting it equal to the numéraire that was itself derived from the weight of the monthly grain consumption unit. This leads quite readily to the view that the unit of account was socially determined rather than the result of individual optimization to eliminate the necessity of a double coincidence of wants.

To conclude our introduction, we return to our admission that it is not possible to write a definitive history of money. We start from the presumption that money is a fundamentally social phenomenon or institution, whose origins must lie in varied and complex social practices. We do not view money as a “thing”, a commodity with some special characteristics that is chosen to lubricate a pre-existing market. Further, we believe that the monetary unit almost certainly required and requires some sort of authority to give it force. We do not believe that a strong case has yet been made for the possibility that asocial forces of “supply and demand” could have competitively selected for a unit of account. Indeed, with only very rare exceptions, the unit of account throughout all known history and in every corner of the globe has been associated with a central authority. Hence, we begin with the presumption that there must be some connection between a central authority—what we will call “the state”—and the unit of account, or currency. In the next sections, we will use our alternative approach to examine specific historical cases—many of these are well-known and have already been the subject of analysis by orthodox economists. We will show that a different interpretation can be given that is more consistent with a Keynesian/Institutionalist view of economics. First, however, we will lay out the scope of the conceptual issues surrounding the term “money”.

## What is money? Conceptual issues.

Before telling any story about the history of money, one should first ask what are the essential characteristics of a monetary system. The five essential elements of any monetary system are:

- 1- The existence of a method for recording transactions, that is, a unit of account and tools to record transactions.
- 2- The unit of account must be social, that is, recognized as the unit in which debts and credits are kept.
- 3- The tools are monetary instruments (or (monetary)<sup>iv</sup> debt instruments): they record the fact that someone owes to another a certain number of units of the unit of account. Monetary instruments can be of different forms, from bookkeeping entries to coins, from bytes in a hard drive to physical objects (like cowry shells). Anything can be a monetary instrument, as long as, first, it is an acknowledgement of debt (that is, something that has been issued by the debtor, who promises to accept it back in payment by creditors) and, second, it is denominated in a unit of account.
- 4- Some monetary instruments are money-things that are transferable ('circulate'): they must be impersonal from the perspective of the receiver (but not the issuer) and transferable at no or low discount to a third party. A check is a monetary instrument but not usually a money-thing because it is not transferable (it names the receiver).<sup>v</sup> Currency is a money-thing because it is transferable and impersonal from the perspective of the receiver but it is a debt of the issuer (treasury or central bank).
- 5- There is a hierarchy of monetary instruments, with one debt issuer (or a small number of issuers) whose debts are used to clear accounts. The money instruments issued by those high in the hierarchy will be the money things.

These five characteristics imply that a history of money would be concerned with at least three different things: The history of debts (origins of debt, nature and type of debts before and after the emergence of a legal system), the history of accounting (origins, unit(s) used, evolution of units, purpose), and the history of monetary and non-monetary debt instruments (forms, issuers, name, value in terms of the unit of account) and their use (emergency,<sup>vi</sup> special types of transactions like shares, daily commercial transactions, etc.)). Behind each of these histories lie politico-socio-economic factors that are driving forces and that would also need to be studied carefully.

In addition, while telling the story of money one has to avoid several pitfalls. First, the dangers of ethnocentrism are always present when one studies societies that are totally different from current modern societies.<sup>vii</sup> (In his criticism of Amstrong's study of Rossel Island, Dalton (1965) provides a wonderful example of these dangers.) Second, one should not concentrate the analysis on specific debt instruments: as Grierson (1975, 1977) notes, the history of money and the history of coins are two different histories. Focusing on coins would not only limit the study to one type of debt instrument, but would also avoid a detailed presentation of units of account—and, indeed, could be highly misleading regarding the nature of money.<sup>viii</sup> Third, the nature of money cannot be reduced to the simple functions of medium of exchange or means of payment. Using a physical object for economic transactions does not necessarily qualify it as money-thing, and one risks confusing monetary payment with payment in kind. This point is developed below. Fourth, and finally, the existence and use of money does not imply that an economy is a

monetary economy, i.e. an economy in which the accumulation of money is the driving force of economic decisions.

Thus, looking at the history of money is a gigantic and very difficult task. In addition, it is an interdisciplinary subject because it involves, among others, the fields of politics, sociology, anthropology, history, archeology, and economics (in addition to requiring ability to read many different languages). There is no doubt that progress in all those disciplines will bring new light to the dark story of money.

### **Money in primitive, archaic, and modern societies.**

A brief history of money can be begun by dividing the history of humanity into three analytically different types of society, along the lines posed by Polanyi, Dalton, and others: primitive, archaic, and modern economies (Dalton 1971, Bohannan and Dalton 1962). This analytical framework does not exclude the possibility that, in reality, some of the characteristics of one type of society were mixed with others in any given society. However, such a division is useful for telling a story about the evolution of money.

In primitive societies, there is no notion of private property<sup>ix</sup> in the sense of ownership of the means of production (agricultural land, forests, fisheries) and so no possibility of a society based on barter (in the economic sense of the term) or commercial exchange: these are marketless economies. Redistribution (in the sense of a central institution that collects and allocates resources) is also nonexistent as the products of hunting and gathering are provided to everybody according to custom on the basis of needs and social status (the latter not being inherited but varying with age and gender, the eldest having a central role in the management of tribe (Simons, 1945)). In this type of society, there are no laws defined by a legal code. However, there is a well-defined system of obligations, offenses and compensations. Obligations are “pre-legal obligations” (Polanyi, 1957 (1968), p. 181), defined by tradition (marriage, providing help, obtaining favors, making friends, etc.). These obligations are personal, and magic and the maintenance of social order play a central role in their existence. Their fulfillment can be qualitative (dancing, crying, loss of social status or role, loss of magical power, etc.) or quantitative (transfer of personal objects that can be viewed as a net transfer of wealth) (Ibid., p. 182).<sup>x</sup> In addition, payment of compensation is not standardized but rather takes the form of in-kind payment, with type and amount of payment established socially.

In primitive societies there is, therefore, no economic or social need for accounting, even if debts are present, because they are egalitarian societies in which exchange is usually reciprocal (the purpose of exchange is not to better one’s position, but rather to bring members of the society closer together—often by redistribution), accumulation of wealth is repressed<sup>xi</sup> or nonexistent (Schmandt-Besserat, 1992, 170), and the fulfillment of obligations is not standardized. Some methods of computing existed, for example, to record time (Ibid., 160) in order to calculate the phases of the moon, the seasons, and other natural phenomena, or to count numbers and measure volume. That is why one can find notches on different objects like bones that date at least back to 60000 B.C. (Ibid., p. 158). However, there was no need to keep detailed records of debts.

One can date the emergence of money to the development of large archaic societies between 3500-3000 B.C. in the Ancient Near East. In this type of society, market transactions exist but are peripheral and mostly developed for external commercial transactions. Given the relatively low importance of trade (and/or its control by the ruling authorities) and the minimal power of merchants, one should not search for the origins of money in this direction. Trade was

included in a larger socio-economic framework based on the redistribution of the economic output (mainly crops but also handicrafts tools, and other finished products (Hudson and Wunsch 2004a)). This centralization emerged as the rules of primitive tribal societies were progressively weakened, bringing profound social changes (Henry 2004). A highly organized and stratified society with a religious upper class (king, princes and high rank priests) was progressively formed. Reciprocity was progressively weakened and social ranks emerged. Religion replaced magic and led to the emergence of sacral obligations, i.e. obligations under the sanction of religion (Polanyi, 1957 (1968) p. 198).

With the emergence of a powerful administration, a legal system also developed, and, with it, legal obligations. The latter are not customary obligations even if they may include the latter in a modified way. Indeed, the essential differences between pre-legal customary obligations, and sacral and legal obligations, are that the latter are generalized, compulsory and standardized. These obligations, by allowing the concentration of a large portion of the economic output, were essential to the redistributive nature of the economic system. If one takes Babylonia during the late Uruk period (3100 B.C.) as an example, there were at least three different kinds of obligations: gifts to gods that became “regularized, standardized, and obligatory for the general populace” (Schmandt-Besserat, 1992, p. 172, p. 180), duties in terms of provision of a portion of the production goal determined by Royal standard (Nissen et al., 1993, Chapter 11), and tributes from cities conquered by southern city states (Schmandt-Besserat, 1992, pp. 182-183).

With the progressive standardization and generalization of compulsory obligations, several innovations had to be developed to enforce them. Among them, the counting and recording of debts was essential and it apparently took several millennia to develop a uniform numerical system: starting from 8000 B.C. with concrete counting via plain tokens used as calculi, to 3100 B.C. with the creation of abstract counting (and writing) via pictographic tablets (Schmandt-Besserat 1992, Nissen et al. 1993, Englund 2004). This transition from concrete counting (each thing is counted one by one, with a different method of counting for different things) to abstract counting (a number can represent heterogeneous items) was central to development of the unit of account. Several units of account might exist in the beginning:

Depending on the economic sector, the means of comparison or the measure of standardized norms and duties could be silver, barley, fish, or ‘laborer-day,’ that is, the product of the number of workers multiplied by the number of days they worked. (Nissen et al., 1993, pp. 49-50).

But the units were progressively reduced to two (silver and barley), and apparently silver eventually became the single unit of account. Archeologists are still not sure why silver was chosen (Hudson and Wunsch, 2004, p. 351), maybe because it played a central role in the gift giving to the palace and temple (Hudson 2004). Some of the earliest records of debts come from Babylonia, inscribed on clay shubati (‘received’) tablets; these indicated a quantity of grain, the word shubati, the name of the person from whom received, the name of the person by whom received, the date, and the seal of the receiver or of the king’s scribe (when the king was the receiver). The tablets were either stored in temples where they would be safe from tampering, or they were sealed in cases which would have to be broken to reach them. All the inscriptions listed above would be repeated on the case, but the enclosed tablet would not contain the name and seal of the receiver. Thus if the case were broken, the tablet would not be complete. Only when the debt was repaid would the case be broken (allowing the debtor to observe that the inscription on the case matched that of the enclosed tablet). Unlike the tablets stored in temples, the ‘case tablets’ could have circulated without fear of tampering. However, we do not know whether the shubati could have circulated as payments made to third parties. In any case, “money



things” were not needed, even though these early societies used markets. Rather, purchases were made at prices set by the authorities on the basis of credit. The merchants would keep a running tally for customers, which would be settled later (usually at harvest). For example, tallies of debts for beer consumed would be kept, with the tally settled at harvest by delivery of barley at the official price and measured in the money of account. Hudson (2000, 2004) documents widespread use of money for accounting purposes as well as sophisticated understanding of compound interest on debt in these archaic societies.

To sum up the argument to this point, early money units appear to have been derived from weight units which may have developed from the practice of wergeld. Palaces created the money units to simplify accounting. They also had to establish price lists to value items in the money of account. Initially all of this may have been only to facilitate internal record-keeping, but eventually use of the internal unit of account spread outside the palace. Commercial transactions, rent payments, and fees, fines, and taxes came to be denominated in the money of account. Use of the money of account in private transactions might have derived from debts owed to the palaces. Once a money rent, tax or tribute was levied on a village, and later on individuals, the palace would be able to obtain goods and services by issuing its own money-denominated debt in the form of tallies. Coins came much later, but were, like the tallies, evidence of the Crown's debt. Use of precious metals in the coins may have been adopted simply to reduce counterfeiting, however, as we explain below, use of precious metal had far reaching consequences both for operation of monetary systems as well as for the development of the theory of money.

Historical evidence suggests that most ‘commerce’ from the very earliest times was conducted on the basis of credits and debits—rather than on the basis of coins. Innes writes of the early European experience: ‘For many centuries, how many we do not know, the principal instrument of commerce was neither the coin nor the private token, but the tally<sup>xii</sup>’ (ibid. p. 394). This was a ‘stick of squared hazel-wood, notched in a certain manner to indicate the amount of the purchase or debt’, created when the ‘buyer’ became a ‘debtor’ by accepting a good or service from the ‘seller’ who automatically became the ‘creditor’ (ibid.). ‘The name of the debtor and the date of the transaction were written on two opposite sides of the stick, which was then split down the middle in such a way that the notches were cut in half, and the name and date appeared on both pieces of the tally’ (ibid.). The split was stopped about an inch from the base of the stick so that one piece, the ‘stock’ was longer than the other, called the ‘stub’ (also called the ‘foil’). The creditor would retain the stock (from which our terms capital and corporate stock derive) while the debtor would take the stub (a term still used as in ‘ticket stub’) to ensure that the stock was not tampered with. When the debtor retired his debt, the two pieces of the tally would be matched to verify the amount of the debt.

Tallies could circulate as ‘transferable, negotiable instruments’—that is as money-things. One could deliver the stock of a tally to purchase goods and services, or to retire one’s own debt. ‘By their means all purchases of goods, all loans of money were made, and all debts cleared’ (Innes, 1913, p. 396). A merchant holding a number of tally stocks of customers could meet with a merchant holding tally stocks against the first merchant, ‘clearing’ his tally stub debts by delivery of the customers’ stocks. In this way, great ‘fairs’ were developed to act as ‘clearing houses’ allowing merchants ‘to settle their mutual debts and credits’; the ‘greatest of these fairs in England was that of St. Giles in Winchester, while the most famous probably in all Europe were those of Champagne and Brie in France, to which came merchants and bankers from all countries’ (ibid.). Debts were cleared ‘without the use of a single coin’; it became common practice to ‘make debts payable at one or other of the fairs’, and ‘[a]t some fairs no other

business was done except the settlement of debts and credits', although retail trade was often conducted at the fairs. While conventional analysis views the primary purpose of the fairs as retail trade, Innes postulated that the retail trade originated as a sideline to the clearing house trade.<sup>xiii</sup> Boyer-Xambeu et al. (1994) concur that 12<sup>th</sup> and 13<sup>th</sup> century European medieval fairs were essential in the trading and net settling of bills of exchange, the latter being done in several ways, from the (rare) use of coins, to bank transfers, the carrying forward of net positions to the next fair (one of the most frequently used techniques), and the use of transferable bills of exchange (Ibid., p. 34, pp. 38-39, p. 65). These bills of exchange (that were at first not transferable and used exclusively in intra-European trades) were, along with debenture bills for intra-nation trade between cities, the preferred debt instruments used by merchants in commerce. Coins were rarely used.

Even if one accepts that much or even most trade took place on the basis of credits and debts, this does not necessarily disprove the story of the textbooks. Perhaps coins existed before these tallies (records of debts), and surely the coins were made of precious metals. Perhaps the debts were made convertible to coin, indeed, perhaps such debt contracts were enforceable only in legal tender coin. If this were the case, then the credits and debts merely substituted for coin, and net debts would be settled with coin, which would not be inconsistent with the conventional story according to which barter was replaced by a commodity money (eventually, a precious metal) that evolved into stamped coins with a value regulated by embodied precious metal. In the orthodox story, credits and debits follow the invention of coin, and paper "fiat" money is a late invention. There are several problems with such an interpretation.

First, the credits and debts are at least 2000 years older than the oldest known coins—with the earliest coins appearing only in the 7<sup>th</sup> century BC.<sup>xiv</sup> Second, the denominations of most (but not all—see Kurke 1999) early precious metal coins were far too high to have been used in everyday commerce. For example, the earliest coins were electrum (an alloy of silver and gold) and the most common denomination would have had a purchasing power of about ten sheep, so that 'it cannot have been a useful coin for small transactions' (Cook, 1958, p. 260). They might have sufficed for the wholesale trade of large merchants, but they could not have been used in day-to-day retail trade.<sup>xv</sup> Furthermore, the reported nominal value of coins does not appear to be closely regulated by precious metal content but rather was established through official proclamation (see below). Note also that the value of coins was set by public proclamation—and was not usually stamped on coins until quite recently.

And, finally, it is quite unlikely that coins would have been invented to facilitate trade, for 'Phoenicians and other peoples of the East who had commercial interests managed satisfactorily without coined money' for many centuries (Cook, 1958, p. 260). Indeed, the introduction of coins would have been a less efficient alternative in most cases. While the textbook story argues that paper 'credit' developed to economize on precious metals, we know that metal coins were a late development. In other words, lower-cost alternatives to full-bodied coin were already in use literally thousands of years before the first coins were struck. Further, hazelwood tallies or clay tablets had lower non-monetary value than did precious metals, thus it is unlikely that metal coins would be issued to circulate competitively (for example, with hazelwood tallies) unless their nominal value were well above the value of the embodied precious metal.<sup>xvi</sup>

What then are coins, what are their origins, and why are they accepted? Coins appear to have originated as 'pay tokens' (in Knapp's colourful phrase), as nothing more than evidence of debt. Many believe that the first coins were struck by government, probably by Pheidon of Argos about 630 BC (Cook, 1958, p. 257). Given the large denomination of the early coins and uniform

weight (although not uniform purity – which probably could not have been tested at the time), Cook argues that ‘coinage was invented to make a large number of uniform payments of considerable value in a portable and durable form, and that the person or authority making the payment was the king of Lydia’ (ibid., p. 261). Further, he suggests ‘the purpose of coinage was the payment of mercenaries’ (ibid.).<sup>xvii</sup> This thesis was modified ‘by Kraay (1964) who suggested that governments minted coins to pay mercenaries only in order to create a medium for the payment of taxes’<sup>xviii</sup> (Redish, 1987, pp. 376–7). Crawford has argued that the evidence indicates that use of these early coins as a medium of exchange was an ‘accidental consequence of the coinage’, and not the reason for it (Crawford, 1970, p. 46). Instead, Crawford argued that ‘the fiscal needs of the state determined the quantity of mint output and coin in circulation’, in other words, coins were intentionally minted from the beginning to provide ‘state finance’ (ibid.).

Similarly, Innes argued that ‘[t]he coins which [kings] issued were tokens of indebtedness with which they made small payments, such as the daily wages of their soldiers and sailors’ (Innes, 1913, p. 399). This explains the relatively large value of the coins – which were not meant to provide a medium of exchange, but rather were evidence of the state’s debt to ‘soldiers and sailors’. The coins were then nothing more than ‘tallies’ as described above – evidence of government debt.

What are the implications of this for our study of money? In our view, coins are mere tokens of the Crown’s (or other issuer’s) debt, a small proportion of the total ‘tally’—the debt issued in payment of the Crown’s expenditures.

Just like any private individual, the government pays by giving acknowledgments of indebtedness—drafts on the Royal Treasury, or some other branch of government. This is well seen in medieval England, where the regular method used by the government for paying a creditor was by ‘raising a tally’ on the Customs or some other revenue-getting department, that is to say by giving to the creditor as an acknowledgment of indebtedness a wooden tally. (Ibid., p. 397–8)<sup>xix</sup>

But why would the Crown’s subjects accept hazelwood tallies or, later, paper notes or token coins? Another quote from Innes is instructive:

The government by law obliges certain selected persons to become its debtors. It declares that so-and-so, who imports goods from abroad, shall owe the government so much on all that he imports, or that so-and-so, who owns land, shall owe to the government so much per acre. This procedure is called levying a tax, and the persons thus forced into the position of debtors to the government must in theory seek out the holders of the tallies or other instrument acknowledging a debt due by the government, and acquire from them the tallies by selling to them some commodity or in doing them some service, in exchange for which they may be induced to part with their tallies. When these are returned to the government Treasury, the taxes are paid. (Ibid., p. 398)

Innes went on to note that the vast majority of revenues collected by inland tax collectors in England were in the form of the exchequer tallies:

[p]ractically the entire business of the English Exchequer consisted in the issuing and receiving of tallies, in comparing the tallies and the counter-tallies, the stock and the stub, as the two parts of the tally were popularly called, in keeping the accounts of the government debtors and creditors,

and in cancelling the tallies when returned to the Exchequer. It was, in fact, the great clearing house for government credits and debts.<sup>xx</sup> (Ibid.)

Each taxpayer did not have to seek out individually a Crown tally, for matching the Crown's creditors and debtors was accomplished 'through the bankers, who from the earliest days of history were always the financial agents of government' (Innes, 1913, p. 399). That is, the bank would intermediate between the person holding Crown debt and the taxpayer who required Crown debt in order to pay taxes.<sup>xxi</sup> The exchequer began to assign debts owed to the king whereby 'the tally stock held in the Exchequer could be used by the king to pay someone else, by transferring to this third person the tally stock. Thus the king's creditor could then collect payment from the king's original debtor' (Davies, 1997, p. 150). Further, a brisk business developed to 'discount' such tallies so that the king's creditor did not need to wait for payment by the debtor.<sup>xxii</sup>

The inordinate focus of economists on coins (and especially on government-issued coins), market exchange and precious metals, then, appears to be misplaced. The key is debt, and specifically, the ability of the state to impose a tax debt on its subjects; once it has done this, it can choose the form in which subjects can 'pay' the tax. While government could in theory require payment in the form of all the goods and services it requires, this would be quite cumbersome. Thus it becomes instead a debtor to obtain what it requires, and issues a token (hazelwood tally or coin) to indicate the amount of its indebtedness; it then accepts its own token in payment to retire tax liabilities.<sup>xxiii</sup> Certainly its tokens can also be used as a medium of exchange (and means of debt settlement among private individuals), but this derives from its ability to impose taxes and its willingness to accept its tokens, and indeed is necessitated by imposition of the tax (if one has a tax liability but is not a creditor of the Crown, one must offer things for sale to obtain the Crown's tokens).

In the transition from feudalism (a system in which money is used, however, not a system that one would identify as a "monetary production economy", as Keynes put it) to capitalism (an economic system based on production for market to realize profits), one finds a period of the emergence and consolidation of national spaces of sovereignty during which kings progressively gained power over the multiple princes and lords of their territory, and battled with kings of other sovereign areas:

Until the seventeenth century the borders of the various kingdoms were vague and constantly disputed in a state of permanent warfare, and the politics of those days were nothing but war continued by other means. (Boyer-Xambeu et al., 1994, p. 105)

This 'transition' period recorded several periods of monetary anarchy because of the lack of control (but also the lack of understanding (Boyer-Xambeu et al., 1994)) of the monetary system by the kings and their administration. For complex reasons, the value of coins became more closely associated with precious metal content. What had begun as merely a "token" indicating the issuer's debt took on a somewhat mysterious form that contained intrinsic value. Part of the appeal of precious metal coins was no doubt the fact that they would have value outside the sovereign's domain. Further, the issuer would not be able to "cry down" (see below) the value of the coins below the value of embodied precious metal (because the coinage could be melted down for bullion). Hence, while use of precious metal in coinage began for technical reasons (to reduce counterfeiting through limited access to the metal—see Heinsohn and Steiger 1983) or

cultural reasons (use of high status material—see Kurke 1999), regulation of the metal content came to be seen as important to maintain the coin's value. This created a problem, however, by producing an incentive to clip coins to obtain the valuable metal. When the king received his clipped coins in payment of taxes, fees, and fines, he lost bullion in every "turnover". This made it difficult to maintain metal content in the next coinage. And, because international payments by sovereigns could require shipment of bullion, this reduced the king's ability to finance international payments. Hence began the long history of attempts to regulate coinage, to punish clippers, and to encourage a favorable flow of bullion (of which Mercantilism represents the best known example—see Wray, 1990).

After private coinage was forbidden, the right to coin was usually delegated to private masters that worked under contract (Boyer-Xambeu et al., 1994, p. 45). The profit motive that drove the masters (but also the money-changers, who were central intermediaries in the trafficking of coins (Ibid., p. 62, p. 123)) led to conflicts between the king and the rest of the agents involved in the monetary system, and widespread infractions existed: clipping, debasement, billonage.<sup>xxiv</sup>

Billonage was a very widespread traffic with merchants (who bought the coins at a lower price to resell them at a higher one), with money changers (who put faulty coins back into circulation and kept only good ones), and even with royal agents (who collected funds in every specie and sent only the worst ones to the treasury). From the sixteenth century on, conviction for this practice systematically carried the death sentence. But its eradication was much more effectively achieved by the legal authorization to weigh coins in all kinds of transactions, which prevented coins of different weight and fineness to be considered equivalent. (Ibid., p. 55)

The coins were rude and clumsy and forgery was easy, and the laws show how common it was in spite of penalties of death, or the loss of the right hand. Every local borough could have its local mint and the moneymen were often guilty of issuing coins of debased metal or short weight to make an extra profit. [...] [Henry I] decided that something must be done and he ordered a round-up of all the moneymen in 1125. A chronicle records that almost all were found guilty of fraud and had their right hands struck off. Clipping was commoner still, and when (down to 1280) the pennies were cut up to make halfpennies and farthings, a little extra clip was simple and profitable. [...] Clipping did not come to an end before the seventeenth century, when coins were machine-made with clear firm edges [...]. (Quiggin, 196?, p[. 57-58)

Thus, kings actively fought any alteration of the intrinsic value of coins which represented an alteration of the homogenous monetary system that they tried to impose. This preoccupation also fueled the belief that intrinsic value determines the value of money.

However, kings were solely responsible for the nominal value of coins, and sometimes were forced to change that (Boyer-Xambeu et al., 1994), by crying them up or down. Crying down the coinage (reducing the value of a coin as measured in the unit of account—recall that nominal values were not usually stamped on coins until recently) was an often-used method of increasing taxes. If one had previously delivered one coin to pay taxes, now one had to deliver two if the sovereign lowered the nominal value of coins by half (also representing an effective default on half the crown's debt). In any case, any nominal change in the monetary system "was carried out by royal proclamation in all the public squares, fairs, and markets, at the instigation of the ordinary provincial judges: bailiffs, seneschals, and lieutenants" (Ibid., p. 47). The higher the probability of default by the sovereign on his debts (including coins and tallies), the more desirable was an embodied precious metal to be used in recording those debts. In other words,

coins with high precious metal content would be demanded of sovereigns that could not be trusted.<sup>xxv</sup> This probably explains, at least in part, the attempt to operate gold (or silver) standards during the transition from monarchies to democracies that occurred with the rise of capitalism and the modern monetary production economy. Unfortunately, this relatively brief experiment with gold has misled several generations of policymakers and economists who sought the essence of money in a commodity—precious metals—and ignored the underlying credits and debts.

Eventually, we returned to the use of “pure token” money, that is, use of “worthless” paper or entries on balance sheets as we abandoned use of precious metal coins and then even use of a gold reserve to “back up” paper notes. Those who had become accustomed to think of precious metal as “money” were horrified at the prospect of using a “fiat money”—a mere promise to pay. However, all monetary instruments had always been debts. Even a gold coin really was a debt of the crown, with the crown determining its nominal value by proclamation and by accepting it in payment of fees, fines and taxes at that denomination. The “real” or relative value (that is, purchasing power in terms of goods and services) of monetary instruments is complexly determined, but ultimately depends on what must be done to obtain them. The monetary instruments issued by the authority (whether they take the form of gold coins, green paper, or balance sheet entries) are desired because the issuing authority will accept them in payment (of fees, fines, taxes, tribute, and tithes) and because the receivers need to make these payments. If the population does not need to make payments to the authority, or if the authority refuses to accept the monetary instruments it had issued, then the value of those monetary instruments will fall toward their value as commodities. In the case of entries on balance sheets or paper notes, that is approximately zero; in the case of gold coins, their value cannot fall much below the value of the bullion. For this reason, the gold standard may have been desirable in an era of monarchs who mismanaged the monetary system.

With the rise of capitalism and the evolution of participatory democracy, elected representatives could choose the unit of account (the currency), impose taxes in that currency, and issue monetary instruments denominated in the currency in government payments. The private sector could accept these monetary instruments without fear that the government would suddenly refuse them in payment of taxes, and (usually) with little fear that government would “cry down” the currency by reducing the nominal value of its debts. At this point, a gold standard was not only unnecessary, but also hindered operation of government in the public interest. Through the 19<sup>th</sup> and early 20<sup>th</sup> centuries, governments frequently faced crises that forced them off gold; they would attempt to return but again face another crisis. In the aftermath of WWII, the Bretton Woods system adopted a dual gold-dollar standard that offered more flexibility than the gold standard. However, this system ultimately proved to also have significant flaws and effectively came to an end when the US abandoned gold. We thus came full circle back to a system based on “nothing” but credits and debts—IOWs. Unfortunately, substantial confusion still exists concerning the nature of money and the proper policy to maintain a stable monetary system.

This brief history of money makes several important points. First, the monetary system did not start with some commodities used as media of exchange, evolving progressively toward precious metals, coins, paper money, and finally credits on books and computers. Credit came first and coins, late comers in the list of monetary instruments, are never pure assets but are always debt instruments—IOWs that happen to be stamped on metal. Second, many debt instruments other than coins were used, and preferred, in markets. Third, even if debt instruments

can be created by anybody, the establishment of a unit of account was (almost always) the prerogative of a powerful authority. Without this unit of account, no debt instruments could have become monetary instruments because they could not have been recorded in a generalized unit of account but rather only as a specific debt.

In the next section we turn to two specific case studies that help to demonstrate the main principles we are advancing. The first case provides a negative example—the supposed **use of tobacco** as money in the early American colonies (a very similar story is told about the use of animal pelts as money in Canada). This is often used as an example of the use of a commodity as money, that can be extrapolated back through time to explain the use of money in primitive society (indeed, Adam Smith begins his “economic history” with a story about the exchange of deer for beaver). We will argue that use of tobacco does not lend credence to the view that “primitive money” took the form of a commodity. The second is a positive example, examining the creation of monetary economies in African colonies. Here the motives and processes that lead to the introduction of money into the economy are clear, and, we believe, consistent with the story we are telling about money’s origins.

### **Primitive Monies and Colonial Monies.**

The best example put forward to make the case that tobacco was a money-thing is the case of Virginia in the early 17<sup>th</sup> century:

Tobacco was an accepted medium of exchange in the southern colonies. Quit rents and fines were payable in tobacco. Individuals missing church were fined a pound of tobacco. In 1618, the governor of Virginia issued an order that directed that “all goods should be sold at an advance of twenty-five percent, and tobacco taken in payment at three shillings per pound, and not more or less, on the penalty of three years of servitude to the Colony.” [...] Virginia was using “tobacco notes” as a substitute for currency by 1713. These notes originated after tobacco farmers in Virginia began taking their tobacco crops to warehouses for weighing, testing, and storage [...]. The inspectors at the rolling houses were allowed to issue notes or receipts that represented the amount of tobacco being held in storage for the planter. These notes were renewable and could be used in lieu of tobacco for payment of debts. [...] Later, in 1755, the Virginia Assembly authorized the payment of tobacco debts in money at two pence per pound. Fines in Virginia were payable in tobacco. For example, a master caught harboring a slave that he did not own was subject to a fine of 150 pounds of tobacco. The Maryland Tobacco Inspection Act of 1747 was modeled after the Virginia statute. The Maryland statute required tobacco to be inspected and certified before export in order to stop trash from being put in the tobacco. [...] Inspection notes were given for the tobacco that was inspected. Those notes were passed as money in Maryland. The use of warehouse receipts for tobacco and other commodities would spread to Kentucky as settlers began to cultivate that region. (Markham, 2002, pp. 44-45).

Hence, it appears that in these colonies, tobacco served as money. However, what the preceding example actually shows is that the states of Virginia and Maryland were heavily involved in the trade of tobacco (and other commodities too) which was central to the economy of these states (Ibid., p. 35). By accepting tax payments (or any other dues) in tobacco at a relatively high fixed price, they could influence tobacco output by keeping prices up, and could make it easier for farmers to pay their taxes. This, however, does not qualify the payment as a monetary payment but rather as a payment in kind at an exchange ratio (or price) that was administered by authorities. This payment in kind allowed debtors and creditors to settle their debt positions. As

Markham put it clearly right after the passage quoted above:

One method for financing private transactions in the colonies was through records of account kept by tradesmen and planters. Credits and debits were transferred among other merchants and traders. This was a form of “bookkeeping barter” in which goods were exchanged for other goods, and excess credits were carried on account. The barter economy that prevailed in the colonies required “voluminous record-keeping ... to carry over old accounts for many years.” This practice would continue through the eighteenth century [...]. (Ibid., p. 46)

Note that money was present in this example in two ways: first via the unit of account (in English pounds, shillings, and pennies) and as a non-transferable debt instrument via the records on the books. Also note that the author actually makes a distinction between a medium of exchange (tobacco) and a money of account: the payment of tobacco debts is made possible “in money at two pence per pound.” This clearly shows that tobacco was not a money-thing, but rather a commodity with an administered price.<sup>xxvi</sup> The “bookkeeping barter” was a system of credits and debits kept in the money of account. While tobacco was not a monetary instrument, tobacco notes were debt instruments representing so many units of tobacco, and with these units valued in the money of account at the administered price.

The cases of creation of colonial monies offer a fairly transparent example of the purposeful introduction of money into societies that had not previously used money. We will look at the problem faced by colonizers of Africa when they tried to monetize the economy.

Mathew Forstater argues that colonial Africa offers an excellent source of examples of monetization of economies through imposition of taxes because these are recent cases with accurate records.

Colonial governments thus required alternative means for compelling the population to work for wages. The historical record is clear that one very important method for accomplishing this was to impose a tax and require that the tax obligation be settled in colonial currency. This method had the benefit of not only forcing people to work for wages, but also of creating a value for the colonial currency and monetizing the colony. [...] [A]lthough taxation was often imposed in the name of securing revenue for the colonial coffers, and the tax was justified in the name of Africans bearing some of the financial burden of running colonial state, in fact the colonial government did not need the colonial currency held by Africans. What they needed was for the African population to need the currency, and that was the purpose of the direct tax. (Forstater, 2005a, p. 55, p. 60)

Walter Neale examined the specific case of the British colonial government of Central Africa.

The immediate needs of the Pioneers were for land and the labor to make that land productive. Conquest provided the Pioneers with the land [...] Labor was another matter. Slavery, seizing local people and forcing them to work on the land, had become reprehensible in European eyes [...] In any case, in the beginning the Pioneers assumed – it seemed obvious to them – that labor would be forthcoming to work the land if wages were offered. Wages were offered, but Bantu did not come forth to work the land. The solution imposed by the Pioneers was a requirement that a head tax be paid in money, thus requiring that Bantu work to earn the money to pay the tax (Neale, 1976, p. 79)



This was a common experience throughout Africa. For example, Magubane examined the case of South Africa:

Every adult African male was required to pay a labour tax of two pounds, with another two pounds for the second and each additional wife of a polygamist [...]. (Magubane, 1979, p. 48)

As Neale notes, imposition of taxes to obtain labour ‘was not a happy solution’; the indigenous peoples ran off ‘as soon as they had earned the money required to pay the tax’; the pioneers ‘quite rightly as they saw the world, thought the Bantu shiftless, lazy, dishonest, incompetent, and irresponsible’, while the Bantu ‘quite rightly as they saw the world, thought the Pioneers threatening, brutal, and at least somewhat crazy’ (Neale, 1976, pp. 79–80). Over time, tribal life was destroyed. As Neale argues ‘to “blame it all on money” would be wrong’, but the indigenous people increasingly ‘came to need and then to want money and the things money would buy [...] money was certainly an important element in changing the lives of the descendants of both white and black in Central Africa’ (ibid., 1976, pp. 80–81).

Thus taxation in the form of money in the colonies not only assisted in the destruction of the traditional economies, but also helped in the development of monetary economies. This is not meant to imply that taxation alone would be sufficient to induce market production for money. Colonists sometimes found it necessary to eliminate alternatives to markets, for example, by destroying crops that allowed self-sufficiency. Or, colonists created a demand for luxury or status goods by destroying egalitarianism in order to create an upper class wanted goods from markets. That other means were used in addition to imposition of monetary taxes shows just how incorrect the textbook story is. Far from a ‘social consensus’ to use money as an efficient alternative to barter, development of a monetary economy in many of the colonies required imposition of taxes and use of force. As Rodney argued only a ‘minority eagerly took up the opportunity’ (Rodney, 1974, p. 157) to produce cash crops in order to obtain European goods – and this is after they had been exposed to them. It is far more difficult to believe that individuals in a traditional society would hit upon the idea of producing crops for market to obtain money in order to obtain goods which did not even exist!

In conclusion, the colonial authorities were faced with the problem of inducing indigenous populations to supply labour; they realized that simply offering money – even if in the form of gold or silver coins – would not call forth the required labour. Nor was enslavement, or other forms of compulsion, generally acceptable or successful at this time. Thus they relied on imposition of taxes, payable (usually) in the form of the European currencies that could only be obtained from the colonizers. This would not only generate the labour needed by the colonialists, but it would also help lead to the destruction of tribal society and the creation of a monetary economy.<sup>xxvii</sup> Clearly, as the European money had to come initially from the colonists, taxes could, at best, only return money the governor had spent. The origin of the tax was not to raise monetary revenue, but to provide real goods and services to the governor (and, eventually, to induce cash crop production).

Finally, the example of the colonial governors may be more important than is readily apparent, for here is a case in which taxes are imposed by an external authority whose only legitimacy in the eyes of the population might be threat of use of force. The transition might have been smoother if the state’s authority to levy taxes had been seen as derived from democratic principles. However, the power to tax and to define the form in which the tax would be paid set in motion the process of monetization of the economy. The important point is that ‘monetization’

did not spring forth from barter; nor did it require ‘trust’ – as most stories about the origins of money claim.<sup>xxviii</sup>

All this shows that reducing the study of money to the study of a medium of exchange or a means of payment can lead to confusion. It is likewise confusing to equate tribal society exchange with monetary exchange. Transactions with “primitive money” or “special purpose money” should be seen as a transfer of “treasure items, wealth, valuables, and heirlooms” (Dalton, 1965 (1967), 277), i.e. a transfer in kind, rather than as a monetary payment. The problem is that the westerner who is accustomed to use of money as a medium of exchange will try to find money in primitive society. As Grierson put it:

The nature and functioning of most ‘primitive’ currencies are known to us only through the reports of casual travellers, colonial administrators, or professional anthropologists, who will not always have realized what questions to ask, when they have been in a position to ask questions at all, or how best to interpret the answers they received. (Grierson, 1977, p. 13)

To sum up, an object can qualify as currency only if it is monetized. The monetization does not rest on the fulfillment of some specified function such as medium of exchange, store of value, or means of payment. To determine whether something has been monetized one should check if the thing is, first, an acknowledgement of debt (that is, something issued in payment, and something that the issuer promises to accept back in payment), and, second, that its nominal value is clearly defined (either by proclamation or by inscription) in terms of a unit of account. An object can also be involved in the monetary system by giving the name to the unit of account (such as a unit weight of barley or of silver). However, this does not necessarily qualify the object as currency unless it has been monetized. If the commodity has been monetized, it may have a value that differs from the unit of account, e.g. one cowry shell can be worth 2 cowries of unit of account, depending on what the issuer decides.<sup>xxix</sup>

### **Conclusion: Modern Money.**

In this chapter we briefly examined the origins of money, finding them in debt contracts and more specifically in tax debt that is levied in money form. Similarly, we argued that coins were nothing more than tokens of the indebtedness of the Crown, or, later, the government’s treasury. Significantly, even though coins were long made of precious metal, it was only relatively recently that gold standards were adopted in an attempt to stabilize gold prices to try to stabilize the value of money. We do not have the space here to examine in detail the (mostly) 18<sup>th</sup> and 19<sup>th</sup> century experiments with gold standards, however, it would be a mistake to try to infer too much about the nature of money from the operation of a gold standard that was a deviation from usual monetary practice. Throughout history, monetary systems relied on debts and credits denominated in a unit of account, or currency, established by the authority. Adoption of a gold standard merely meant that the authority would then have to convert its debts to gold on demand at a fixed rate of conversion. This did not really mean that gold was money, but rather that the official price of gold would be pegged by the authority. Hence, even the existence of a gold standard—no matter how historically insignificant it might be—is not inconsistent with the alternative view of the history of money.

In truth, we can probably never discover the origins of money. Nor is this crucial for understanding the nature of the operation of modern monetary systems, which have been

variously called state money or chartalist money systems. (Knapp 1924, Keynes, 1930; Goodhart 1998, Wray 1998) Most modern economies have a state money that is quite clearly defined by the state's 'acceptation' at 'public pay offices'. (Knapp, 1924) The operation of a state money can be outlined succinctly: the state names the unit of account (the dollar), imposes tax liabilities in that unit (a five dollar head tax), and denominates its own "fiat money" liabilities in that account (a one dollar note). It then issues its own liabilities in payment, and accepts those in payment of taxes. As Davies notes, this necessary link between public spending and money was far more obvious in the Middle Ages:

Minting and taxing were two sides of the same coins of royal prerogative, or, we would say, monetary and fiscal policies were inextricably connected. Such relationships in the Middle Ages were of course far more direct and therefore far more obvious than is the case today. In the period up to 1300 the royal treasury and the Royal Mint were literally together as part of the King's household. (Davies, 2002, p. 147)

There are two real world complications that require some comment. First, most payments in modern economies do not involve use of a government-issued (state, "fiat") currency; indeed, even taxes are almost exclusively paid using (private) bank money. Second, government money is not emitted into the economy solely through treasury purchases. In fact, the central bank supplies most of our currency (paper notes), and it is the proximate supplier of almost all of the bank reserves that are from the perspective of the nonbanking public perfect substitutes for treasury liabilities. Obviously if we simply consolidate the central bank and the treasury, calling the conglomerate "the state", we eliminate many complications. When one uses a bank liability to pay "the state", it is really the bank that provides the payment services, delivering the state's fiat money, resulting in a debit of the bank's reserves. When the state spends, it provides a check that will be deposited in a bank, leading to a reserve credit on the books of the bank. Note that payments using bank money within the private sector merely cause reserves to shift from one bank to another, thus can be entirely ignored. Leaving aside for a second actions initiated by the central bank, only payments to the treasury or cash withdrawals from banks cause a reduction of banking system reserves, while payments by the treasury result in reserve credits.

But the treasury is not the only source of reserve injections or deductions. Central banks principally provide reserves at the discount window or through open market purchases of sovereign debt, foreign currencies, or gold. They also can drain reserves by reversing these actions: unwinding loans or through open market sales. In addition, central banks engage in various transactions with their treasury, however, these internal actions have no implications for the nonstate sector. For example, a central bank might buy treasury debt and credit the treasury's deposit at the central bank, but this has no impact on banking system reserves until the treasury "uses" its deposit—perhaps by purchasing labor or output from the private sector.

Many economists misunderstand the nature of the internal accounting procedures followed by the Central Bank and Treasury—procedures that are self-imposed. For example, in the US, the Treasury spends by drawing on an account it holds at the Fed, relying on the Fed to debit its account and credit a bank's reserves. It would be more transparent if the Treasury simply spent by crediting a private bank account directly. Similarly, taxpayers send checks to the Treasury, which deposits them at the Fed, leading to a credit to the Treasury's account and a debit to the private bank's reserves. Again, it would change nothing if the payment of taxes simply led to a direct reduction of bank reserves by the Treasury. Things are made even more complex because the Treasury maintains accounts at private banks, depositing its tax receipts,

then moving the deposits to the Fed before spending. Obviously, so long as Treasury deposits are held within the banking system, there is no impact on banking system reserves, and, hence, Treasury deposits at private banks can be ignored—because the bank simply debits the taxpayer’s account and credits the Treasury’s account.

We will not pursue here any of this accounting in more detail; readers are referred to Wray (1998) and Bell (2000). The only thing that must be understood is that the state “spends” by emitting its own liability (mostly taking the form of a credit to banking system reserves). A tax payment is just the opposite: the state taxes by reducing its own liability (mostly taking the form of a debit to banking system reserves). In reality, the state cannot “spend” its tax receipts which are just reductions of outstanding state liabilities. When a household issues an IOU to a neighbor after borrowing a gallon of milk, it will receive back the IOU when the debt is repaid. The household cannot then “spend” its own IOU, rather, it simply tears up the note (this was also true with gold coins, which were government liabilities: once received in payment of taxes, coins were usually melted down to verify the gold content and ensure that clipping did not occur (Grierson, 1975, p. 123)). This is effectively what the state does with its tax “receipts.” Essentially, then, the state spends by crediting bank accounts and taxes by debiting them. And all of this works only because the state has first exerted its sovereignty by imposing a tax liability on the private sector.

We thus conclude this story about the origins and nature of money. Money is a complex social institution, not simply a “thing” used to lubricate market exchanges. What is most important about money is that it serves as a unit of account, the unit in which debts and credits (as well as market prices) are denominated. It must be social—a socially recognized measure, almost always chosen by some sort of central authority. Monetary instruments are never commodities, rather, they are always debts, IOUs, denominated in the socially recognized unit of account. Some of these monetary instruments circulate as “money things” among third parties, but even “money things” are always debts—whether they happen to take a physical form such as a gold coin or green paper note. While one can imagine a “free market” economy in which private participants settle on a unit of account and in which all goods and assets circulate on the basis of private debts and credits, in practice in all modern monetary systems the state plays an active role in the monetary system. It chooses the unit of account; it imposes tax liabilities in that unit; and it issues the money thing that is used by private markets for ultimate clearing. Any story of money that leaves out an important role for the state represents little more than fantasy, a story of what might have been, that sheds little light on the operation of real world monetary systems.

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<sup>ii</sup> We do not have the space to examine the controversy over the possible use of money and possible existence of exchange and markets in traditional or tribal society. For a summary, see Wray (1993). Further, what appears to be an economic exchange may not bear much relation at all to monetary market exchanges. As shown below, this was actually troublesome for westerners in their trade with Africans because they had to find a way to extract a monetary profit from a non-monetary equal exchange. Polanyi (1964) provides additional evidence of the methods used to extract a monetary profit.

<sup>iii</sup> This is also the direction taken by Grierson, who argues 'I would insist on the test of money being a measure of value' (Grierson, 1977, p. 16), as well as by Keynes, who noted 'for most important social and economic purposes what matters is the money of account . . .' (Keynes, 1982, p. 252) and 'Money-Property in the full sense of the term can only exist in relation to a Money-of-Account' (Keynes, 1976, p. 3).

<sup>iv</sup> Of course not all acknowledgements of debt are monetary in nature, i.e. do not respect the following characteristics. One may, for example, give to another person a piece of rock or whatever and promise to take it back, but, if no relation to a unit of account is established, the piece of rock is just a reminder that some owes something else something. This could be used to show the social status of a person in primitive societies. In this sense, the famous "stone-money", does not seem to qualify as a monetary debt instrument.

<sup>v</sup> The idea that a monetary instrument is a money-thing because it is generally acceptable is not a good criterion. Today, coins and notes can be refused in payment at stores so they are not "generally" taken in payment. Continuing with this criterion would then lead to inquire what proportion of acceptance (100%, 90%, 80%) would be the appropriate amount for "generally"—leading to more confusion about the nature of money.

<sup>vi</sup> Miller (1968) shows nice examples of "emergency money" used during the depression years in the US and notes that: "while much of the scrip was technically illegal, no government action was ever taken" (Ibid., p. 89). During sieges, this kind of emergency monetary instruments was also created.

<sup>vii</sup> Related to this is the fact that some notions, like property, redistribution or social rank, do not apply to all kinds of societies and so should be used very carefully (at least a definition of what is meant should be provided).

<sup>viii</sup> For example, early coins did not have any value in terms of unit of account written on them. They may have a name (like *écu du soleil*, real, gros tournois, ducat, penny, dime, or quarter) but this does not tell anything about the unit of account. As Grierson said, a full description of each coin requires the statement of the unit of account (main denomination and sub-denomination) like a "penny of 2 pence" or a "gros of 4 deniers" (Grierson, 1975, p. 88).

<sup>ix</sup> The importance of private property for the history of money has been put forward by Heinssohn and Steiger (2000).

<sup>x</sup> Polanyi (1957 (1965), p. 181) reserves the word "payment" for the quantitative fulfillment of obligations but in a more general sense, "to pay" means "to pacify" (Innes 1913) so even qualitative fulfillment can be called a payment.

<sup>xi</sup> If one accumulated resources s/he must consumed, destroy them, or share them with other members of the tribe. This, at the same time, increases the social status of the giver.

<sup>xii</sup> Davies (1997) also notes the 'ancient' origins of tallies and quotes Anthony Steel to the effect that 'English medieval finance was built upon the tally' (Davies, 1997, p. 147). The word tally seems to have come from the Latin *talea* which means a stick or a slip of wood; notches in sticks had long been used for recording messages of various kinds (Davies, 1997, p. 147). Note that one of the most common 'notches' was the score, which indicated 20 pounds; a one pound notch was a small groove the size of a barley grain – see the discussion below.

<sup>xiii</sup> Some merchants may have brought goods to the market to use to settle accounts, with a retail trade developing from this practice. Admittedly, the view expounded by Innes is controversial and perhaps too extreme. What is important and surely correct, however, is his recognition of the importance of the clearing house trade to these fairs. He also noted that such clearing house fairs were held in ancient Greece and Rome, and in Mexico at the time of the conquest.

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<sup>xiv</sup> It is possible that the early Egyptian empires had taxes, debts and money; however, only a few examples of papyrus paper credits and debits survived.

<sup>xv</sup> It is true that there are coins of base metal with much lower nominal value, but it is difficult to explain why base metal was accepted in retail trade when the basis of money is supposed to be precious metal.

<sup>xvi</sup> It is often asserted that coins were invented to facilitate long distance trade (as precious metal coins would have high value relative to weight). As Grierson notes ‘The evidence, however, is against the earliest coins having been used to facilitate trade of such a kind, for the contents of hoards points overwhelmingly to their local circulation’ (Grierson, 1977, p. 10).

<sup>xvii</sup> Grierson also advances this thesis: ‘The alternative view is that since coins were issued by governments – the supposed issue of the earliest coins by merchants is unproven and unlikely – it was administrative rather than economic needs they were intended to serve. Such needs would have included the payment of mercenaries . . .’ (Grierson, 1977, p. 10).

<sup>xviii</sup> Crawford suggests that ‘[c]oinage was probably invented in order that a large number of state payments might be made in a convenient form and there is no reason to suppose that it was ever issued by Rome for any other purpose than to enable the state to make payments . . .’ (Crawford, 1970, p. 46). Further, ‘[o]nce issued, coinage was demanded back by the state in payment of taxes’ (ibid.).

<sup>xix</sup> The wooden tallies were supplemented after the late 1670s by paper ‘orders of the exchequer’, which in turn were accepted in payment of taxes (Grierson, 1975, p. 34). The ‘tallia divenda’ developed to allow the king to issue an exchequer tally for payment for goods and services delivered to the court.

<sup>xx</sup> Davies similarly notes the importance of the tallies for payment of taxes and the development of a clearing system at the exchequer (Davies, 1997, pp. 146–8).

<sup>xxi</sup> This poses the interesting question of the origins of the word “bank.” The most common origin given to the word is given by Boyer-Xambeu et al. (1994, p. 62): “The origins of the term (from the Italian *banchieri*) clearly shows that the banks was dived from the money changer’s ‘bench,’ not primarily from loans.” However, Kregel (1998, pp. 15ff.) challenged this view: “It is generally believed that the English word ‘bank’ is derived from the Italian ‘banco’, which is thought to derive from the bench or long table used by money changer [...]. The similarity between the two words is misleading, and most probably mistaken. Rather, the historical evidence suggests that the origin of the English ‘bank’ comes from the German ‘banck.’ This is the German equivalent of the Italian ‘monte’, which means a ‘mound’ or a ‘store’ where things are kept for future use. [...] The modern English equivalent would be ‘fund’, which is the name used in England for the public debts of the English sovereign. [...] Thus the first Venetian ‘Banck’ or Monte, created in order to finance Venetian war expenditure also produced the first secondary market in which the certificates could be exchanged.” This alternative view of the origins of the word ‘banks’ thus clearly contradicts the first view: the first purpose of banks was to create loans. If one goes back to Mesopotamia in 3100 B.C., the relevance of the second interpretation becomes clearer. The temples and palace acted as bankers by providing loans, essentially in terms of advances of raw materials, capital assets, or barley products for consumption (monetary loans existed but were limited (Hudson, 2000, p. 25)), recorded on clay tablets (Van De Mierop, 2000): the first role of banks were to act as clearing house (matching debts and credits by establishing obligations recorded on tablets and checking if obligations were fulfilled) and providing loans.

<sup>xxii</sup> Note, also, that use of the hazelwood tallies continued in England until 1826. Ironically, the tallies went out in a blaze of glory, or of ignominy, depending on one’s point of view. After 1826, when tallies were returned to the exchequer, they were stored in the Star Chamber and other parts of the House of Commons. ‘In 1834, in order to save space and economize on fuel it was decided that they should be thrown into the heating stoves of the House of Commons. So excessive was the zeal of the stokers that the historic parliament buildings were set on fire and razed to the ground’ (Davies, 1997, p. 663).

<sup>xxiii</sup> That is, even most private transactions took place on credit rather than through use of coin as a medium of exchange. McIntosh notes in a study of London of 1300–1600:

Any two people might build up a number of outstanding debts to each other. As long as goodwill between the individuals remained firm, the balances could go uncollected for years. When the parties chose to settle on an amicable basis, they normally named auditors who totaled all current unpaid debts or deliveries and determined the sum which had to be paid to clear the slate. (McIntosh, 1988, p. 561)

<sup>xxiv</sup> Billonage is defined as: “1) sale of coins at their legal value after buying them at the price of unminted metal; 2) taking coins of a better intrinsic out of circulation.” (Boyer-Xambeu et al., 1994, 209).

<sup>xxv</sup> Indeed, the creation of the Bank of England can be traced to a default by the crown on tally debts that made merchants reluctant to accept the king’s promises to pay. Hence, the Bank of England was created specifically to buy crown debt and to issue its own notes, which would circulate (with the help of laws that effectively eliminated circulation of bank notes issued by rivals). See Wray 1990.

<sup>xxvi</sup> Grierson (1977, 16-17) used this criteria to differentiate “money” and “money substitutes”: However, this only criteria of fixed price relative to the unit of account fail to consider the other criteria of the necessity to be an acknowledgement of debt.

<sup>xxvii</sup> As Neale and others emphasize, this was not always a happy, smooth process even when colonizers might have had good intentions.

<sup>xxviii</sup> A similar story could be told about the creation of a monetary economy out of the feudal European economy. While money and markets had existed for many centuries, the feudal economy of Europe was largely ‘non-monetized’, with most production done by peasants for their own consumption or to be provided as an in kind payment of rent to feudal lords. Just as in the case of the African colonies, taxation payable in money form (and imposition of rents in money form) induced production for markets and helped to destroy the traditional economy. (See Aston and Philpin, 1987, and Hoppe and Langton, 1994.)

<sup>xxix</sup> The more familiar case for this materialization of the unit of account is of course the existence of coins that were supposed to be representative of the unit of account. But, as Innes says, “nobody has ever seen a dollar”: units of account are purely abstract concepts. Thus the disappearance of the coins supposed to represent a monetary unit did not alter in any way this unit.