

5 The Archaeology of Money

Debt vs. Barter Theories of Money's Origins

by Michael Hudson

MONEY HAS evolved from three traditions, each representing payment of a distinct form of debt. Archaic societies typically had wergild-type debts to compensate victims of manslaughter and lesser injuries. It is from these debts that the verb 'to pay' derives, from the root idea 'to pacify.' Such payments were made directly to the victims or their families, not to public institutions. They typically took the form of living, animate assets such as livestock or servant-girls. Another type of obligation took the form of food and related contributions to common-meal guilds and brotherhoods. This is the type of tax-like religious guild payment described by Laum (1924), who in turn was influenced by G. F. Knapp. Neither of these types of payment involved general-purpose trade money.

The kind of general-purpose money our civilization has come to use commercially was developed by the temples and palaces of Sumer (southern Mesopotamia) in the third millennium BC. This chapter describes how these institutions introduced money prices (and silver money itself) mainly for their own administrative purposes. Their large scale and specialization of economic functions required an integrated system of weights, measures and price equivalencies to track the crops, wool and other raw materials distributed to their dependent labour force, and to schedule and calculate the flow of rents, debts and interest owed to them. The most important such debts were those owed for consigning handicrafts to merchants for long distance trade, and land, workshops, ale houses and professional tools of trade to 'entrepreneurs' acting as subcontractors.

Accounting prices were assigned to the resources of these large institutions, expressed in silver weight-equivalency, as were public fees and obligations. Setting the value of a unit of silver as equal to the

monthly barley ration and land-unit crop yield enabled it to become the standard measure of value and means of payment, although barley and a few other essentials could be used as proxies as their proportions were fixed. Under normal conditions these official proportions were reflected in transactions with the rest of the economy.

In positing that individuals engaged in trucking and bartering developed money to minimize their transaction costs, the private enterprise model does not take account for the historical role played by public bodies in organizing a commercial infrastructure for bulk production and settling the debt balances that ensued, and hence for money and credit. This objective obliged the large institutions to design and oversee weights and measures, and to refine and supply monetary metals of attested purity. This occurred more than two thousand years before the first coins were struck.

Most economists assume that modern ways of organizing production, money and fiscal policy are so natural as not to need much explanation. The anthropologist Marcel Mauss (1925) viewed debt practices and the charging of interest as so general that the practices of surviving tribal communities could be taken as proxies for early Greece and Rome and plugged into Western civilization's early continuum. Economists have speculated about how money and interest might have originated under barter exchange and primordial private enterprise. 'If we were to reconstruct history along hypothetical, logical lines,' posits Paul Samuelson in his *Economics* textbook (1967:54), 'we should naturally follow the age of barter by the age of commodity money.'

When it comes to such theorizing about the early development of money and other social institutions, the economics discipline has yet to experience the shakeout that led philologists and assyriologists to drop the assumption of universal practices leading equally naturally to modern usages. There is no evidence that money evolved 'naturally' out of barter or for that matter in an agricultural or pastoral context. Such a world has been imagined on the ground of abstract logic at odds with the archaeological and historical record.

Criticisms of this intolerantly modernist 'universalist' approach have come mainly from philologists examining the development of language, and assyriologists dealing with Mesopotamia. The philologist Emile Benveniste (1971:224) has warned: 'We are always inclined to that naïve concept of a primordial period in which a complete man discovered another one, equally complete, and between the two of them language was worked out little by little. This is pure fiction.' By 'complete man' he means an independent professional such as a weaver with his (or her) loom or a blacksmith with his forge, presumably cast back in a time

machine to the epoch when exchange was just originating. Being intelligent individuals, they quickly figured out how to exchange their commodities for the crops and other raw materials they needed by deciding on common denominators in the form of the modern monetary metals – silver, gold and copper. In this way markets were ‘worked out little by little,’ without the need for catalysts, detours or quantum leaps and mutations.

Such autonomous individuals and markets are more a product of modern ideology than of civilization ‘in its infancy.’ How did society accumulate tools and capital in the first place if not in ways that involved market exchange and monetary payments? One hardly can imagine neolithic or Sumerian communities leaving specialized professions requiring expensive capital investment to autonomous individuals or guilds seeking to maximize their own economic advantage. Such a society would have polarized quickly, impoverishing large parts of the citizenry and therefore losing their armed forces. It seems to have been to avoid this polarization that most economic life outside of primary agriculture and food production was centralized in (or at least coordinated by) Mesopotamia’s large public institutions.

Among the early social processes requiring monetary means of settlement other than for the market exchange of commodities were wergild-type fines for personal injury – hardly ‘commodity transactions’ in which broken noses and manslaughter were negotiated through the marketplace. Another example are the in-house transfers for Mesopotamia’s temples and palaces, the largest economic institutions of their day and the prototype for modern corporations. Their internal flows of food, rations and raw materials required transfer prices for account-keeping and forward planning purposes. In Karl Polanyi’s terminology wergild fines would have been part of the reciprocity and gift-exchange economy, for in classical Greece compensation for a wrong, *apoina*, was counted as a category of gift (Finley 1983:241). Mesopotamia’s temples and palaces were redistributive institutions. Their internal accounting and transfer prices were not market prices set by private barter exchange, although under normal conditions these public prices tended to provide a model for prices in the economy at large.

Attempts to trace modern practices only back to early Greece and Asia Minor fail to realize the degree to which classical antiquity was influenced by commercial prototypes whose roots extend back to Mesopotamia. It is to this region that civilization’s early monetary and commercial institutions are to be traced (Hudson 1992 and 1996), for

they shaped the practices of classical antiquity and, via Greece and Rome, the modern world.

Exchange in Bronze Age Mesopotamia (4500-1200 BC) was conducted along lines similar to those that anthropologists have found in many parts of the world: not by payment on the spot but by running up debt balances. From gift exchange through redistributive palace economies, such balances typically were cleared at harvest time, the New Year, the seasonal return of commercial voyages or similar periodic occasions. The most important debts were owed to the chiefs in tribal communities or to the public institutions in redistributive economies. These authorities also typically were charged with mediating trade in prestige goods and imports, including the monetary metals, as well as performing their communities' basic welfare functions. Similar phenomena have been found in tribal chiefdoms, but were hyperdeveloped in Mesopotamia's large institutions.

In light of Mesopotamian precedence in developing the economic practices that led to the modern world, Benveniste's observation (1971:5) that ancient languages were 'just as complete and no less complex than those of today' applies equally to archaic economic structures. These were as complex and systematic as modern practices but different, as Polanyi's group made a start in tracing half a century ago. But there is no reason to assume that modern modes of economic organization are natural and universal. Along these lines Benveniste also made an observation that might just as well be made with regard to financial historiography: 'Certain types of problems have been abandoned. One no longer yields as easily as formerly to the temptation to erect the individual characteristics of a language or a linguistic type into universal qualities.... At no moment of the past and in no form of the present can one come upon anything 'primordial.''

MONEY, DEBT AND DISTRIBUTIVE JUSTICE

The fact that words for debt in nearly all languages are synonymous with 'sin' or 'guilt' reflect an origin in reparations for personal injury. German *Schuld* (debt, sin) bears the meanings both of offense and the obligation to make restitution. Conversely, *lösen* (cognate to English 'loosen') and *einlösen* mean to atone for a sin or to redeem or dissolve a liability, perhaps even literally in the sense of untying one's livestock left as pledges in the public pound to insure payment of the fine/debt. Likewise mediaeval Swedish used *sakir* or *saker* mostly as meaning 'obliged to pay a fine' and only a few times in the sense of 'punishable, guilty,' notes Springer

(1970:41ff.). ‘We find in Old Norse the weak verb *saka* in the sense of “to accuse, blame, harm, scathe,” as well as *sekta*, “to sentence to a fine, penalize, punish,” and the nouns *sok* for “offense charged, accusation, suit (in court)” and *sekt* for “guilt, penalty.”’ Outside of the Germanic languages Benveniste (1973:147) finds that, ‘In Armenian “*partk*,” “debt,” designates also “obligation” in general, the fact of “owing,” just like German *Schuld*,’ applicable both to moral and commercial debts.

According to Masing (1974) the Akkadian word for the *miksu* duty paid on trade passed from Aramaic into Armenian, Arabic and (like a number of other Akkadian terms) into the Baltic-Finnish language of the Lapps. He believes that the Sperrings, a people who once lived on the east coast of the Black Sea, carried this word and its associated idea when they migrated to the Baltic region during the second millennium BC. The Lapp cognate *makso* is defined primarily as ‘payment, retaliation, revenge,’ and has the secondary meaning of ‘value, importance.’ The related term *maksumush* means ‘something which has to be paid; (money) liability,’ while the verb *mavsatit* is defined as ‘1. Want, demand, payment for, ask to be paid; 2. Repay, retaliate, take vengeance.’ Such examples suggest that in the archaic epoch the words ‘debt,’ ‘sin,’ ‘injury,’ ‘payment’ and ‘man-price’ represent linguistically comparable ideas, but over time became generalized to connote payments of any kind. (A transitional meaning apparently was ‘tax obligation.’)

Wergild fines and taxes reflected social status, as can be seen in the metonymy of Greek *timê*. At first the word connoted ‘worth,’ ‘esteem’ or ‘valuation,’ and subsequently ‘wealth’ and hence, ‘tax assessment.’ Used as a legal term it signified the penalty deemed appropriate in law – death, exile or a monetary liability to compensate a victim. The latter was not a ‘creditor’ in the modern sense of the term, but a party to whom a liability was owed. The Homeric usage of *timê* as associated with valuation referred to the assessment of ‘damages with a view to compensation, and so compensation, satisfaction, especially in money’ (Liddell and Scott, *Greek-English Lexicon*). The verb *timoreo* meant to avenge or to help by way of redressing injuries. Perhaps the most lasting economic impact of personal injury debts was to bring into being debt collection practices that in time would be spliced onto the idea of interest-bearing commercial and agrarian debts.

In the classical period *timê* came to denote ‘the nominal value of which an Athenian citizen’s property was rated for the purposes of taxation, his rate of assessment, rateable property’ (Liddell and Scott), forming the root for the word *timocracy* – rule by property holders or other wealthy persons. The Athenian *timêtês* was an official charged with appraising

damages, penalties or taxes, similar in function to the Roman censor in charge of taking the census and rating the property of citizens.

Bernard Laum, a follower of Knapp, traced the root practice back to the contributions of food and other commodities to guild organizations of a religious character. In his view, their root is to be found in the communal sacrifice. Members of temple brotherhoods were obliged to make ceremonial contributions or kindred payments to the temples or other redistributive households. Laum (1924) interpreted these payments as early food money, for whose value the monetary metals later were substituted. But although food contributions bore an administered price in the sense of being standardized in amount, it would be a quantum leap to deem them 'money.' Along with injury fines these formalities represent personal liabilities, mainly for restitution or, in time, tax assessment, but not yet the freely negotiated market exchange of commodities.

The media for tax payments would seem to be the bridge concept. The German word for money, *Geld*, derives from Gothic *gild*, 'tax,' but an early connection to paying fines is indicated by Old Icelandic *gjald*, 'recompense, punishment, payment,' and Old English *gield*, 'substitute, indemnity, sacrifice' (Benveniste 1973:58). The idea combines the ethic of mutual aid with the idea of a standardized equality of contributions. In the first instance religious institutions would have sanctified these contributions and given them the connotation of fixed obligatory payments. Such payments to the community's corporate bodies appear to have been transformed into tributary taxation when cities were conquered by imperial overlords and turned these institutions into collection agents. This inverted the traditional relationship of voluntary gift givers or sacrificers gaining status by their contributions reflecting openhandedness and wealth. As taxes were coercive levies, their payers lost status by submitting to a tributary position.

Among Indo-European speakers and earlier in Mesopotamia injury payments were owed to individuals under common law. They were not yet settled by money as such, however, but in cattle or servant girls. The root of the word *wergild* is *wer* (Latin *vir*), 'man,' hardly an article of commerce. The value of such debt was a 'head price' determined by the payer's status and typically denominated in movable assets such as livestock.

Money in the form of standardized weights of metal emerged out of the large public institutions in the mixed 'public/private' economies of Mesopotamia independently from the payment of such injury debts. The public institutions were the loci through which individual 'entrepreneurs' operated within the temple and palace hierarchies. The term reflects a

root meaning of sacred (Gk. *hieros*), reflecting the degree to which administrative status was built into the archaic social order, just as weights, measures and even prices were sanctified in the first instance.

Mesopotamian temples and palaces existed alongside the family-based rural economy, endowed with their own land, herds of cattle and dependent labour rather than taxing the community's families for their means of support. The written laws that have come down to us deal mainly with these institutions, and Kozyreva (1991:115f.) notes their limited scope: 'The ancient Mesopotamian law books certainly were not codes of law in the *modern* sense,' for rather than applying to the entire society, they were limited to the public sector in its interface with the rest of the economy. Laws such as those of Hammurapi were not a society-wide code but a set of laws governing public sector relations. 'Cases that seemed obvious and indisputable are not mentioned in the Laws of Hammurapi at all; for example, murder, theft, and sorcery. Such cases were decided in court according to custom,' evidently by oral common law. The court cases that have come down to us do not refer to his laws or follow their prescriptions. (For instance, there are no 'eye for an eye, tooth for a tooth' rulings.)

Under feud law, fines were not owed to the temples, palaces or the state but to victims of personal injury and their families. Wergild-type fines for manslaughter and lesser offenses typically were denominated in cattle or servant girls, not monetary commodities. The financial role of such penalties was not to create a monetary base, but to bring into being the means of enforcing debt collection. They were not taxes, and played no fiscal role and indeed no monetary role as such. Being paid to the victims, they belong to the sphere of oral common law used by society at large prior to the written royal laws that governed the large institutions. The monetary metals stem from a different tradition, associated with debt, interest and rent payments to the large institutions of Mesopotamia for commercial advances, leasing workshops and renting land.

THE HISTORICAL SOURCE OF MONEY SHOULD NOT BE SOUGHT IN LIVESTOCK

Cattle, slave girls and wives were pledged as collateral or paid as wergild-type fines. But these roles hardly were the same thing as being media of commercial exchange. Some confusion also has developed around the fact that money's seemingly inherent role as a store of value and means of satisfying debts (including those for manslaughter and other personal injury) has fostered a tendency to conflate it with capital.

Believing that the term ‘capital’ derives from ‘cattle’ (as in ‘pecuniary’), many popularisers have viewed cattle as primordial money. This suggests a pastoral, animate origin of money used as capital to produce offspring in the form of young animals as proto-interest. The implication is that money’s origins were individualistic and small scale, evolving from herding and farming economies to a more sophisticated use in civilization’s industrial and commercial stages.

This view fails to realize that livestock terminology was a metaphoric use of the specific for the general. The metaphor did not come into general usage until about 2000 BC (Steinkeller 1981; I discuss the metaphoric use of archaic ‘birth’ words for interest in Hudson 2000). The term for interest, *mash*, (or as it is written using the proper diacritic, *maš*) was that for kid, a baby goat. Interest was paid at particular intervals – harvest time in agriculture, or by the time the principal had doubled, in five years (that is, 60 months at the standardized commercial interest rate of 1/60th per month) for longer-term mercantile loans. A principal yielded interest much as calves gave birth, although in this case it was time itself that gave birth as interest tended to be paid seasonally (much as animals are born at particular times of the year). In classical Greece, interest on debts was payable on the birth of the new moon. Hence, capital and interest went together as cattle and calf (Greek *tokos*, Lat. *foenus*), or in Sumer goat and kid.

This metaphor seems to have diffused outside of Mesopotamia along with its financial practice and terminology, and even monetary weights, measures and contractual forms (Hudson 1992). It has now been a generation since Benveniste (1973:43) devoted a chapter on ‘Livestock and money: *pecu* and *pecunia*’ to controvert this folk etymology by pointing out that the concrete devolved from the abstract. ‘All the indications point to the fact that the sense of “livestock” is a restriction of the more ancient comprehensive term “movable wealth,” applied as it was to the principal form of property in a pastoral society.’ Elsewhere (1971:254) he traced the derivation of the Indo-European terms for livestock back to an original meaning of ‘head,’ first used abstractly also for the meaning of ‘person’ and ‘capital (financial)’ and ‘capital (of a province,’ or head of a river, or chapter.’ He concludes (1973:45) that: ‘It was only by a special development of a pragmatic and secondary kind that *peku, which meant “movable wealth” became applied in particular to an item of the real world “live-stock.”’ This occurred relatively late in German, as Gothic *faihu* (< *Vieh*) meant only ‘money’ or ‘fortune,’ as does the English cognate ‘fee.’ In time, Benveniste concludes (*ibid.*:50f.), ‘*peku came to mean “live-stock” (the first specialization), and specifically “small live-stock” (the second specialization), and finally

“sheep” (the third and last specialization). But intrinsically *peku* does not designate either the flock or any animal species.’

Many economic writers still follow the logic outlined most notoriously by Heichelheim (1958) in pointing out that livestock can reproduce themselves, ‘giving the lie to the doctrine of Aristotle that “money is barren”’ (*Politics* 1258a, Bk. I, ch. x). If livestock were the first money, the charging of interest in the form of calves born to cattle lent out would have had a productive basis. However, anthropologists have established that the livestock used in debt transactions throughout the world are pledged to creditors, not lent out. Creditors receive antichretic interest in the form of calves produced by the debtor’s own cattle. These pledges are unproductive to the debtor, who often ends up losing his means of livelihood and liberty. The general principal is that interest-bearing debt in a rural context tends to absorb the economic surplus rather than promote and finance its creation.

Whether the link between money and the means of paying debts originally consisted of animate livestock or inanimate silver will help determine how monetary prices and interest rates were determined. And this in turn will help answer the question of how payment for goods and services came to be monetized, along with tax payments, rents and other fees paid to public bodies.

If the ‘capital:interest’ principle did not derive directly from that of ‘livestock:calf,’ then it is necessary to trace how monetary interest payments did evolve. One clue is that the earliest interest is attested to have been paid in silver. There are no traces anywhere of it being paid in the form of offspring of livestock. If money is to be defined as capital that earns interest, then silver rather than livestock (or Heichelheim’s ‘seeds’) represent the first such money.

Another clue to the origins of monetary interest is the fact that its major early recipients were the temples and palaces of Mesopotamia. Like other public institutions in antiquity, but unlike governments in today’s world, these public institutions were creditors rather than debtors. Many of the credits due to the public institutions, their officials and subcontractors were charges for the advance of land, boats or workshops, or for public fees and, by the end of antiquity, taxes accruing on subject populations.

This public creditor status required a means of payment. Indeed, already in Mesopotamia we find the essential characteristics cited by Georg Friedrich Knapp’s *State Theory of Money* (1905) in place. Although at that time there was no paper debt-money, the public sector gave value to silver, and initially the public sector supplied it to the community at large via its external trade ventures. Assyriologists are not

yet entirely clear as to just how this occurred, but evidently it involved long-distance trade in which the temples and palaces supplied textiles and other handicrafts to export for foreign raw materials, including silver. The public institutions seem to have spent this silver and provided other metals to the population in exchange for crops. There are a few hints that royal distributions on ceremonial occasions also may have played a role.

What is true for today's paper money thus was true of silver. Its value was established by public institutions accepting it as payment. Silver served as the unit of account to measure the value of obligations and commodities within these institutions, and was the preferred store of value and standard of exchange vis-à-vis (and by) the economy at large. For monetary historians, therefore, the significance of these public institutions lies in their use of silver as an administrative vehicle to assign values to internal resource flows and debt service owed by merchants and other consignees within the temples and palaces and between them and the rest of the economy. Aristotle merely stated what had been long-established practice when he voiced the chartalist idea of money as being a legal institution, with the government determining its value.

INDIVIDUALISTIC MYTHS OF HOW MONEY ORIGINATED

To Adam Smith monetary commodities emerged as vehicles to help individuals 'truck and barter.' Before money, barter is said to have involved so confusing an array of cross-pricing relationships that it prompted buyers and sellers to seek a single commodity to serve as an agreed upon standard. According to this fable the monetary breakthrough lay in designating monetary commodities – silver, copper or even grain – against which merchants priced (that is, co-measured) their wares. Douglass North (1984) depicts the process as one of minimizing transaction costs, a tendency he believed was best promoted by private transactors.

This view depicts individuals as developing money on their own as a medium to purchase goods and services. Its use as a medium to pay taxes and other debts is deemed to have resulted from its convenience in such mercantile exchanges, not the other way around. Instead of recognizing public institutions as playing a positive economic role, today's monetarist ideology turns the study of economic history into an object lesson to depict the public sector as an intrusive parasite, levying taxes and causing inflation by debasing the coinage or devaluing the currency to take a rake-off from the trade and investment activities of enterprising individuals.

This ideology defines societies as consisting of individuals whose main monetary transaction was to exchange products they had made for those they wanted to consume or acquire. There seems to have been little need either for credit or for public institutions to be involved in this exchange process. Governments are not recognized as having played a productive role, but only as distorting markets by imposing coercive taxes, living off the private sector and abusing their power to issue coinage (or in later times paper credit) by their inherent lack of restraint. In stark contrast the private sector is assumed to have acted historically in a responsible and self-restrained manner, providing a democratic market check on government excesses.

This antigovernment scenario of money emerging as a convenient (North would say cost-cutting) way of conducting barter by means of refined pieces of metal does not explain where monetary and economic order came from in the first place, if not from public bodies. There is no recognition of any need for public oversight to sponsor honest weights and measures in order for exchange and payments to be conducted smoothly in a standardized, honest manner. Nor is there an awareness of the degree to which the three classical functions of money all reflect a strong interface with obligations owed to the public sector: to serve as a measure or standard of value, as a means of payment in settling transactions, and as a store of value over time.

Following Adam Smith in explaining that early traders found that the medium most widely desired was silver (followed by copper, as gold's value was too high to be convenient for retail transactions), most economic theorists note that in addition to being widely desired, these metals had the advantage of being standardized, readily portable, divisible into small denominations, and could be saved. Upon reflection, however, it should not be accepted on faith that using monetary metal was simpler than barter. To begin with, the high value of silver and gold implied that they would be used only for large transactions. In the Old Babylonian period (2000-1600 BC), notes Marvin Powell (1999:16), a shekel 'represented a month's pay,' thereby limiting the ability of most people to pay on the spot for consumer transactions. Measuring smaller quantities of monetary metal became more error-prone, with deviations rising to about 3 percent for small weights.

Samuelson (*loc. cit.*) notes that silver has the drawback of tarnishing in air, while gold is soft 'unless mixed with an alloy,' but gold and silver tended to be naturally alloyed in the ancient Near East. They thus were not intrinsically uniform in quality, but had to be refined. Babylonian loan and sales contracts typically specify silver of 7/8ths (that is, 21-carat) purity, and gold was alloyed in more varying proportions (Powell 1999).

This condition may sound easier in principle than it was in practice, for Babylonian ‘wisdom literature’ and the Old Testament are full of denunciations of merchants using false weights and measures or adulterating their products. To cope with this problem public bodies were needed to attest to and legitimize their purity and weight, and to declare fraudulent monetary practices sacrilege.

It would take more than two thousand years after the use of weighed pieces of metal (*Hacksilber* or *ponderata*) for this drawback to be addressed by standardizing coinage around the 8th century BC, and ultimately for coins to be milled along the edges to prevent clipping. The fact that the word ‘money’ derives from Rome’s Temple of Juno Moneta, where silver and gold coinage was struck during the Punic Wars, shows how deeply the link between money, the refining of precious metals and religious sanctification was grounded in civilization’s earliest epochs (Eliade 1962).

Polanyi (1957) put the ‘convenience for truck and barter’ approach in perspective by distinguishing three modes of exchange. First came the reciprocity of gift exchange and mutual aid. Then, in the Bronze Age, came the redistributive mode, characterized by prices administered by the large governing institutions, the palace and temples.¹ At the end of this process came price-making markets responding flexibly to shifts in supply and demand.

All three types of exchange and pricing have tended to coexist in any given epoch. Most palace-dominated economies had room for private transactions (Edzard 1996). For instance, when crops failed late in the Ur III period c. 2100 BC, the price of grain supplied by independent producers rose sharply (Jacobsen 1953). Most economies throughout history have been ‘mixed economies’ in which public and ‘private’ sectors have coexisted in a symbiosis. Gift exchange still applies to many interpersonal transactions, even as market exchange in one form or another is found in archaic Mesopotamia.

Monetary historians thus find themselves dealing with shifts of emphasis within mixed economies. Early money was becoming a common denominator as more goods were sold than were exchanged as gifts, but payment typically was delayed until a convenient time for the payer, often an annual calendrical date such as harvest time. Each crop tended to have its own particular harvest date. The tendency was for delays in payment beyond this point to begin accruing interest, and here too one finds a counterpart to Polanyi’s three stages of commodity pricing. Babylonian loans might be extended without interest among family members, business partners and other colleagues whose professional relations created family-type bonds. In classical antiquity it

was normal for aristocrats to extend interest-free loans to each other through *eranos* clubs (a corollary to the 'gift exchange' mode). Babylonian interest rates were administered, with the normal commercial interest rate remaining stable at the equivalent of 20 percent per annum for many centuries. In the agricultural sphere, however, creditors (often public officials) are found demanding as high an interest rate as the market would bear (the 'modern' or free-market mode of lending). Even in the modern world, interest rate regulation has been lifted only quite recently. The lesson is that all three modes of debt tend to coexist in each epoch, although each epoch has its dominant mode of exchange and lending.

Each epoch also has its distinctive means of financing the public sector. The modern fiscal mode is to leave profit-making activities to the private sector and then tax its income, but antiquity viewed such taxation as a form of tribute reflecting a subjugated and hence unfree status. Mesopotamia's temples and palaces were endowed with their own land, herds of cattle and dependent labour to make them self-supporting. Their large scale and specialization of labour obliged them to develop account-keeping as a vehicle to help plan and regularize their basic economic rhythms. This account-keeping required money as a standard of value (pricing) and as a means of quantifying and settling balances among the various departments of the temple or palace households, as well as their balances with the rest of the economy.

HOW PUBLIC INSTITUTIONS WERE LED TO DEVELOP MONEY

To provide a plausible scenario for how precious metals were adopted as money, it is necessary to explain where the silver and other monetary metals came from and how they were put into circulation (and also how broadly they circulated). It was not simply a case of a miner spending his time finding and digging up silver ore, refining it and then trading it with some other person who spent a co-measurable amount of time and effort weaving cloth, growing crops or herding and shearing sheep for their wool. For one thing, these metals had to be imported into Mesopotamia from across the Iranian plateau to the east, and west to Cappadocia in central Turkey. The colonization effort to find such raw materials is attested in the Uruk expansion c. 3500 BC (Algaze 1993). Throughout the third millennium, long-distance trade appears to have been sponsored by the temples, which acted as the major backers and organizers of the trade that brought the monetary metals and other raw materials into the economic system.

Obtaining these metals was only the first step in making them usable for monetary payments. The first characteristic of any exchange system must be the creation of weights and measures, for the essence of monetary exchange is co-measurability between the monetary medium and the commodities, assets (land and tools) or labour time being paid for. Inasmuch as the major resource flows within the public institutions were rations to feed their dependent labour, while the major payments from communities to the palace and temples consisted of crops, silver was made co-measurable with barley. The idea was to administer prices for the essential transactions in which the various departments of the temples and palaces interfaced with each other and with the economy at large – the value of crops, rents, fees and commodity purchases.

Recipients of rations were not obliged to buy their food with money wages, for 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’ (30 kur = 1 gur) of barley, the major commodity being disbursed. The silver shekel was assigned the same accounting value as that for the gur of barley. These two measures became equal standards of value against which other commodities were measured, creating a bimonetary price ratio that was the first step in administering prices. It enabled accounts to be kept interchangeably in silver and barley so as to coordinate production and land rents, trade and services, debt and its interest charges in a single overall system.² Rural obligations such as public fees and user costs for tools, draft animals, seeds or water as well as fines could be paid in barley or other products assigned a silver/barley price.

By the end of the third millennium royal proclamations had established the use of silver money as a tool to allocate the flow of resources and leasing of productive assets. As an adjunct to their specialization of labour and the debts owed to the public institutions, the primary role of money was to denominate obligations within and between the temples and palace. In an epoch when trade was sponsored by these large institutions, the main commercial role of money was to denominate the debts owed for handicrafts advanced to Sumer’s mercantile *damgar* officials. In some cases these merchants received temple rations, ‘certain proof that he was in the service of the community. Moreover, he had the use of a team of donkeys belonging to the temple, no doubt in view of his travels,’ notes Henri Frankfort (1951:67). ‘The fact that Enlil, the chief god of Nippur, bore the epithet “trader of the wide world,” and that his spouse was called “merchant of the world,” is an indication of the role of the Babylonian temples in the exchange of goods.’

A specialization of labour already had to be in place to mount the colonization and trade program needed to bring silver and other raw materials into Mesopotamia. The accounting records that appear around 3000 BC show a complex administrative hierarchy. Barley and dates produced on land leased out by the temples were distributed as rations to non-agricultural labour employed in their workshops to weave cloth from the wool produced by the herds with which these institutions were endowed. These handicrafts were then consigned to temple merchants. General-purpose money in the form of silver as the designated common denominator did not bring this specialization into being, but was designed to facilitate it.

To quantify these resource flows a measurement system had to be developed and prices assigned. On the broadest level 'money' represented the overall schedule of interlocking price ratios. This enabled flows of commodities, rents and fees to be quantified, allocated and made fungible, so that land rents and related rural debts could be paid in crops at the official price equivalencies.

The economy's defining monetary transactions occurred as accounting entries on tablets within the large institutions. Money's role was to provide the price dimension needed to quantify and administer these activities on a monthly and annual basis. These accounting prices were an intrinsic part of the system of weights and measures, with weighed silver designated as the common denominator, it being also the sanctified store of value. Prices were not determined by shifts in market supply and demand or in the supply of silver, or even of barley. Like our acre, bushel or pound they were supposed to provide stability by being uniform and unchanging. That is the essence of any reference point – standardization, not variability.

To standardize the forward-planning process, the basic measures were made calendrical so that they could be disbursed on a regular basis. This was a precondition for making the distribution of rations and materials automatic. An administrative calendar was created on the basis of a year divided into months of identical length. The traditional lunar calendar would not do, for its average month was $29\frac{1}{2}$ days, produced by alternating durations ranging from 28 to 30 days. To avoid this variability the temples created artificial 30-day months and a 360-day administrative year. This left $5\frac{1}{4}$ days over at the end, a period that was made part of the extra-calendrical New Year (whose celebration spanned the 11-day gap between the 354-day lunar year and the normal 365-day solar year). In this way the administrative calendar took its place alongside the lunar 'festival' calendar that had been followed since the Palaeolithic.

The 30-day administrative month was reflected in the gur of barley used to divide monthly rations of food into daily units. It was divided into 60 parts (kur), enabling two meals to be eaten each day out of the monthly ration quota. In a similar fashion the mina of silver was divided into 60 shekels. And just as silver and barley were made co-measurable on a 1:1 basis, the designated ratios for other key products to be disbursed were administered in conveniently round numbers so as to keep account-keeping as simple as possible.

This system of calendrical measures provided a unified set of standards and reference points. The rate of interest was set at the unit fraction, a shekel per mina (that is, $1/60^{\text{th}}$) per month. The sexagesimal division of monetary weights attests to their development within the temples. It was calendrical, just as our division of the hour into 60 minutes reflects the originally institutional demarcation of time.

It was natural enough for officials to adopt these measures, prices and interest rates in their personal dealings. Under normal conditions such transactions followed the price leadership of the institutions to which the officials belonged. To be sure, price variability did occur in Mesopotamia's 'mixed economy,' mainly in times of crop failure for sales by non-institutional cultivators or by sellers in other cities. These price variations represented a deviation from the fixed order administered by the large institutions. Likewise in the case of interest rates, members of the royal bureaucracy lent money on their own account, especially to cultivators on institutional lands. This 'privatization' of public practice became more characteristic as production and trade shifted away from the large institutions to personal households, especially outside of Mesopotamia where the role of centralized public institutions was not as pronounced, e.g., in tax farming.

In classical Greece the word for the monetary unit – the *stater* – meant 'weight' (semantically cognate to *shekel* in Akkadian) and also took on the meaning 'lending out at interest' (Lysias 10, cited in Kroll 2001). This indicates a feature that ultimately favoured silver as the general-purpose money: its key role in denominating interest payments, as well as payments to the public sector.

Kroll finds silver mentioned in eleven parts of the laws attributed to Solon, 'such as payments of fines in drachms into the public treasury for libel, for the rape or the procuring of a free woman, and for an archon's refusal to discharge one of his legal responsibilities; payments by the state for sacrificial animals, to bounty killers of wolves, and to victors in the Olympic and Isthmian Games; and sums collected and disbursements paid out by officials known as the *naukraroi*, whose fund was called the naukraric silver, *naukrarikon argurion*.' These laws are dated c. 594 BC,

over half a century before coinage was introduced to the region. Kroll also notes that Lysias (12.19) remarked that the payment 'need not have been in silver, since even in the late 5th century the public treasury would accept anything of value, including slaves.' Silver functioned as a measure of value and also a store of value, above all to denominate debts, starting with those owed to the public institutions. Only gradually did its role develop as a medium of personal trade and exchange.

MONEY'S ROLE IN SETTLING DEBTS TO THE LARGE INSTITUTIONS

The large public institutions were essential catalysts in organizing the commerce that modern critics of government planning assume to have been developed spontaneously by individuals. The use of silver in their transactions was economized by the system functioning largely on the basis of debts mounting up as unpaid balances due. For small retail sales such as occurred when ale women sold beer, the common practice for consumers was not to pay on the spot but to 'run up a tab,' much as is done in bars today.³

Such debts now are settled on payday, but Mesopotamia's rural payday occurred at harvest time. Crops were taken in and debts owed to the royal collectors for rent, draught animals, tools or water were paid on the threshing floor. The palace and temples were the first claimants, followed by officials in the royal bureaucracy who had acted on their own account to extend loans to strapped individuals.

Conducting transactions by running up debt balances enabled money (that is, silver) *not* to be used as a means of payment. Indeed, to the extent that money indeed emerged out of exchange transactions, it was as a means of settling debts, mostly to the large institutions and their official 'collectors.' As noted earlier, it also was through the commercial role of these institutions in long-distance trade that the monetary metals were imported and put into circulation. The major way most families obtained silver evidently was to sell surplus crops produced on their own land or land leased from these institutions on a sharecropping basis. The palace also may have distributed silver to fighters after military victories, or perhaps on the occasion of the New Year or royal coronation as suggested by the anthropologist Arthur Hocart (1927).

Silver's use in exchange derived from its role as a unit of account. This is what gave it a general character beyond that of just another commodity. Inasmuch as it emerged via the planning process that spread from the economy's temples and palaces, advocates of the State Theory of Money

will note that these public institutions were the ultimate guarantors of the value of silver, by accepting it in payment of obligations owed to them.

However, while the public sector guaranteed the value of silver as general-purpose money, it did not uphold the sanctity of debt claims. Just the opposite. Babylonian rulers annulled the accumulation of debts periodically, most notably at the outset of their first full year on the throne. It was these debt annulments that kept Mesopotamia's volume of debt carry-overs within the economy's ability to pay.

What distorted Babylonian economic life was not a 'monetary problem' as such, but a rural debt problem. Bumper crops did not lead to a collapse of prices as occurs today. However, crop debts could not be paid when the harvest failed. There was no notion that market shifts in prices or interest rates might have restored equilibrium. Commercial interest rates remained stable at customary levels century after century, regardless of the supply of silver. (However, the borrower's degree of distress was a factor in rates charged for barley debts, which varied much more than rates charged on commercial silver debts.) Monetary adjustments were unnecessary because royal 'debt management' annulled the debts that accrued when crops failed and debts grew too large for the rural economy to pay, especially in times of military conflict.

MODERN MONETARIST IDEOLOGY AT ODDS WITH EARLY HISTORICAL REALITY

The idea that money originated as a vehicle to settle debts rather than paying for goods on the spot as quasi-barter causes cognitive dissonance to modern monetarists. The thought that public institutions acted as civilization's monetary catalysts creates an even greater ideological distress. Putting these two ideas together – the origins of money as a means to pay commercial and rental obligations to public bodies – stands the individualistic antigovernment view of monetary origins on its head. Matters are further aggravated by the fact that as rulers were charged with maintaining the rhythms of nature, they proclaimed Clean Slates to restore balance by annulling debts owed to the palace, its collectors and other creditors.

Sensing these threats to modern libertarian creditor-oriented values, many economists either ignore early economic history or, more often, misrepresent the public context for early monetary relations to fit their preconceptions. Fritz Heichelheim's *Ancient Economic History*, first published in 1938 and greatly expanded in a 1958 English translation, is perhaps the most notorious compendium of such misreading. It has

confused the history of money, debt and interest partly because it was the earliest general survey to appear. The author's libertarian antipathy to government intervention, above all in the monetary sphere, prompted him to ignore anything positive about public institutions. Attributing mercantile innovations to individuals acting on their own, he reconstructed civilization's early economic history along individualistic lines. He attempted to defend his error by seeking to censor alternative views, responding intolerantly to *Trade and Markets in the Early Empires* by Polanyi's group by decrying the fact that it had been published at all! Such is the path to intellectual serfdom led within academia by the Free Market school of individualists.

Sidestepping the dominant role of Mesopotamia's public institutions, Heichelheim (1958:111, 184) cited barley, copper, wool, sesame oil and about a dozen other commodities as examples of how 'in the earliest city cultures every form of exchangeable goods could be used as money.' He based this approach on an ideologically motivated logic that failed to recognize that the commodities he cited as 'exchangeable goods' were produced in the large public institutions and hence fell under their administered pricing. The designated crops were used to settle debts at the silver-price equivalency, so as to enable cultivators to pay rent-in-kind in situations where they lacked silver. In this sense 'money' was more than a commodity; it was the overall schedule of price equivalencies, created along with weights and measures to form a system of interlocking parts able to coordinate resource flows and denominate debts owed to the public institutions.

Trade outside the large institutions was less regulated. In times of scarcity, prices for commodities might rise for sales by individuals. Commodities that fluctuated in price were relatively rare or were not an intrinsic part of the institutional core activities. Free-market advocates such as Foster (1995) and Powell (1999) point to examples of trade outside of these institutions at higher prices as demonstrating the ineffectiveness of public price controls, but this does not seem to have been the aim of administered prices.

Taking matters out of context, Samuelson (1967:54f.) views money as a means of payment for what essentially are barter deals among individuals. 'Even in the most advanced industrial economies,' he writes, 'if we strip exchange down to its barest essentials and peel off the obscuring layer of money, we find that trade between individuals or nations largely boils down to barter.' Yet the specialization of labour meant that different production cycles could not be handled in this way! All societies have run up debts to bridge the gap between planting and harvesting, the consignment of goods to traders and their seasonal return

from their sea voyage or caravan, or advances of raw materials to craftsmen to make finished products.

Beneath what Samuelson dismisses as ‘the obscuring layer of money’ is credit, that is, debt. And it is the dynamics of debt that led to economic crises that deranged antiquity’s economic balance, just as it disturbs today’s domestic and international relations. It was one thing to manage money, another to manage interest-bearing debt, although each sphere affected the other. The analysis of economic relations in terms of barter unrealistically separates monetary from debt analysis. Yet most monetary discussion assumes that trade always has needed to be financed by full immediate payment, either in bartered goods or in money. Neither Heichelheim, Samuelson or other neoclassical economists have acknowledged the problem of debts mounting up in excess of the means to pay or the role played by royal ‘debt management’ in the form of Clean Slates designed to restore balance and equity to the monetary/debt system.

The essential point to recognize is that the early monetary system was a more complex phenomenon than the monetary commodity itself. Its major initial application was to facilitate settlement of the debts that ensued from Mesopotamia’s specialization of production as between the large institutions and families on the land. The debts owed by traders to the temples and palaces for commercial advances were part of this system, as were rent debts. Viewing trade as barter obscures these debt relations between public and private enterprise.

The underlying problem is one of ideological blinders. The individualistic theory has been expounded in the form of an antigovernment fable of how money might have originated among individuals, or at least among modern individuals transplanted five thousand years into the past and paying cash on the barrel. Such speculation describes a world that hypothetically might have developed, but without regard to how civilization’s early economic institutions actually evolved. Its criterion for acceptability has become simply whether its assumptions are logically consistent, not whether they are grounded in historical reality.

Perceiving monetary silver and gold to be nothing more than commodities, economic liberals strip away money’s institutional role and its association with debt, and hence with the need for public regulation. The banker’s view sees money as a hard commodity (or backed by such, and whose value derives from exchange), not a social institution. Bankers argue that governments should leave money and credit to the private sector, except to bail them out of their own bad loans. Just as Britain’s goldsmiths saw the Bank of England as representing a threat and South

African gold mining companies promoted the virtues of gold as a monetary asset, so bankers insist that only they can behave with sufficient responsibility to create credit. Yet to do this is to create debt, from which social problems have arisen throughout history.

Hoping to limit money and credit creation to their own deposits, modern financial institutions have a vested interest in denouncing government regulation, not to speak of discouraging the public sector's rival ability to create its own money and credit. They are pleased to believe that their own forerunners created civilization's money and credit system on a sound basis until governments got into the act and ran down economies by onerous taxation, over-regulation, inflationary over-issue of money and general financial and commercial mismanagement. But this view hardly has found empirical confirmation.

Examining the records of Mesopotamia and its neighbours, assyriologists have found that most records describe debt arrangements for thousands of years before coinage emerged. Agrarian balances were paid upon harvest, and commercial advances on the return of merchants from their travels by sea or overland caravan. The line of development is just the reverse of what the German Historical School more than a century ago imagined to be the three-stage sequence from barter to a monetized economy (whose watershed occurred with the development of coinage), culminating in modern credit systems. (I review the pedigree of this theorizing in Hudson 1995 and 2000b.) The primordial mode of exchange was neither barter nor the use of money for on-the-spot settlement, but debt. If anything, barter appears only as the final stage of debt-ridden economies, most notably in the wake of the monetary breakdown of the Roman Empire after the 4th century of our era, when the landed oligarchy caused the state's fiscal bankruptcy and society succumbed to a prolonged debt crisis.

THE STATE THEORY OF MONEY AND THE NEW ECONOMIC ARCHAEOLOGY

Innes (1913) was one of the first observers to recognize the extent to which early exchange was conducted by running up debt balances rather than by settling transactions on the spot. In this respect he anticipated the anthropological studies of gift exchange in communities where mutual aid is the norm. But like Mauss his point of reference was not the Bronze Age Near East but subsequent classical antiquity. Had he known about Mesopotamia's monetary development he would have been able to make

his case more strongly, for it puts in perspective obligations such as wergild-type fines and contributions to religious festivals.

Neither of these two types of non-commercial obligation involved the kind of payment for commodities usually analysed by monetary historians. It has been assyriologists that have revealed a system of payments to the public institutions in which the specialization of labour first developed, including the sponsoring of long-distance trade and the exchange of specialized commodities with the population at large. User costs paid to these institutions have become the essence of assyriological studies of the cuneiform records that reveal how money developed historically.

These accounting records appear in the context of Mesopotamia's large public institutions whose price equivalencies initially gave value to silver and other monetary metals. The flow of resources within these institutions involved transfer prices, not payments. But community members made payments to these institutions, and reciprocal purchases were made from cultivators. The picture is a complex one involving many social dimensions, of which commodity exchange among individuals acting on their own account plays only a small role. For instance, in her survey of the various sources of debt records as late as the 7th and 6th centuries BC, Cornelia Wunsch (2002) finds that a large proportion of debts did not involve monetary advances at all, much less commodity exchange.

Assyriologists have taken care to stay clear of economic ideology, precisely because the lines of their research are not helped by modernist individualistic preconceptions. For this reason most economists have steered clear of assyriology, electing to pick up the history of money only in classical antiquity when coinage developed, as if Near Eastern civilization's monetary and legal institutions had not been providing a context for two or three thousand years.

Monetary historiography based on the cuneiform record stands in contrast to the deductive approach of modern economic individualism. That school starts with the assumption that individuals seeking their own self-interest must have developed nearly all modern social institutions. In this view such individuals hit upon the fortuitous invention of money as a means of economizing on the transaction cost of their commercial exchanges in the context of what had been barter trade. Commodity prices traded by individuals are the focus, not the economic context of production by professions organized by the temples, palace or other public agency, or payments to the public sector, or even payments to other individuals for non-commodity transactions such as compensation

for personal injury. Credit and its interest charges are viewed only as occurring at the margin, not as the starting point of monetary analysis.

Inasmuch as assyriologists start with the actual documentation in the form of tablets, letters and public inscriptions describing the workings of the temples and palaces that mediated the specialization of labour and exchange in Early Bronze Age Mesopotamia, it is appropriate to summarize this chapter by reviewing the findings of what has come to be known as the New Economic Archaeology.

The power to create money and expand the credit supply historically has tended to be in the hands of public bodies. Ever since its Bronze Age inception, money's power has been established by the public sector's willingness to accept it in payment for public fees and taxes. Today it no longer is just a commodity, nor is it backed by a commodity, but by the government's obligation to pay the bearer.

Early monetary power was based on the precious metals as the ultimate monetary means of settlement, above all for international payments as what James Steuart called 'the money of the world.' But in time the real monetary power became the ability of designated banking institutions to create paper credit on the monetary base. But this base has progressively shifted from gold and silver bullion to government debt – promises to pay either out of tax power or, as a last resort, simply printing the money.

In analysing the evolutionary paths culminating in modern economies, Polanyi and his colleagues traced how modes of exchange proceeded from reciprocity to redistribution within the large public institutions. More recently the International Scholars' Conference on Ancient Near Eastern Economies (ISCANEE), a transnational group of philologists, archaeologists and economists, has set out to avoid the anachronisms of modern categories in creating an economic history of civilization prior to classical antiquity.

Since the 1990s the ISCANEE has issued a series of monographs published by Harvard University's Peabody Museum that carry on the tradition started half a century ago by Polanyi's working group at Columbia University. The group contains philologists from nearly every region and period of the Bronze Age Near East, including Robert Englund and Dietz Edzard (early Sumer), Piotr Steinkeller and Mark Van De Mierop (Ur III), Johannes Renger (the Old Babylonian period), Carlo Zaccagnini (Nuzi), Muhammed Dandamayev, Michael Jursa and Cornelia Wunsch (the neo-Babylonian period). Baruch Levine and William Hallo have focussed on how Israel and Judah transformed Mesopotamian debt practices in a new context.

By tracing the evolution of royal laws and related inscriptions, myth and ritual, commercial documents and private letters, these philologists have reconstructed civilization's formative Bronze Age period from the actual records, tracing how economic categories were transformed from Mesopotamia to the Torah, especially with regard to money, debt and land tenure. The archaeologists Giorgio Buccellati, Carl Lamberg-Karlovsky and Alexander Marshack have interpreted the shadow of archaic societies as reflected in the material record of their remains. As the group's economist, I have specialized in the history of debt and money, the subject that drew Polanyi to undertake his own investigations into civilization's economic origins.

The colloquia convened by this group of scholars are published by Harvard's Peabody Museum and the Institute for the Study of Long-term Economic Trends (ISLET). The initial colloquium on privatization in the ancient Near East and classical antiquity (Hudson and Levine 1996), was followed by a set of meetings at New York University and St. Petersburg's Oriental Institute tracing the early evolution of urbanization, land use and the emergence of real estate markets (Hudson and Levine 1999). The 1998 Columbia University colloquium on *Debt and Economic Renewal in the Ancient Near East* (Hudson and Van De Mierop 2002) traced how interest-bearing debt was developed in Sumer and Babylonia thousands of years before coinage, and how Bronze Age societies coped with the economic instability stemming from debt bondage and monopolization of the land by proclaiming Clean Slates. These royal edicts restored 'economic order' by cancelling rural debts, liberating bondservants and restoring land-rights to cultivators who had forfeited them.

The group met in November 2000 at the British Museum to discuss the origins of accounting in the ancient Near East from early Uruk c. 3200 BC down through Seleucid Babylonia. This colloquium found that coinage was relatively unimportant for the monetary and debt processes. Nineteenth-century theorists believed that coinage played a major catalytic role in monetizing the economies of classical Greece and Rome, and led quickly to the debt crises culminating in widespread forfeitures of subsistence lands to foreclosing creditors. But an analysis of Mesopotamian records shows that these dynamics developed already in the third millennium and became serious already by the mid-second millennium – as part of the debt process, not the monetary process as such.

By contrast, Samuelson (1967:52) reflects the general confusion among economists by conflating money with debt. 'Along with capital and specialization,' he writes, 'money is a third aspect of modern

economic life.’ But where is the role of debt? General-purpose money arose essentially for the purpose of paying the debts that arose as a result of society’s specialization of professions, and this occurred initially in the large public institutions.

With these questions and observations we are brought back to Innes’s early intuitive contributions.

CONCLUSION

Rather than originating with private individuals trucking and bartering, money was created as a medium to denominate and pay obligations to the large public institutions. The Mesopotamian breakthrough lay in creating a system of price equivalencies that gave a sense of proportion. The value dimension was provided by accounting formalities that enabled temples and palaces to coordinate their internal resource flows and dealings with the rest of the economy.

Silver was used more as a unit of account than an actual means of settlement. Rent for land leased out by temple and palace collectors in exchange for a share of the crop was estimated in advance of the harvest, based on what the land was expected to yield under normal conditions. This rental charge was recorded as a debt, to be paid at harvest time. Crop shortfalls led to debts, along with debts owed to the temple and palace for water, advances of tools and animals, and emergency borrowings, as well as debts to public ale women for beer provided during the year, to be paid at harvest time.

Modern bank money is not a commodity but is a form of debt, while government paper money is nominally a public debt, albeit one that is not expected to be paid. What the government does is promise to accept its money in payment to itself. The holder of such high-powered money is in a position to exchange it for the taxes or other public payments owed.

The essence of modern financial systems is that one party’s debts are paid by transferring claims on other parties, so that the means of payment represent the promise of some party to pay. The money in our pockets is government debt, at least nominally. The money in our checking accounts is backed by government bonds held by the banking system as ‘high-powered money,’ supplemented with private sector debts. Our deposit is itself the bank’s debt (liability) to us as the depositor. Such credit is a monetization of the economy’s debt functions. Interest-bearing securities and other debts are potential credit-money, as they can be borrowed against and hence monetized by the banking system.

But antiquity's debts only rarely were transferable (e.g., among Assyrian traders who were closely associated). Money was not yet potential credit, but simply the means of denominating debts in terms of weighed pieces of metal to which a value was assigned. It is true that debt brought money into being as a means of settlement, but the debts themselves were the primary cause; money was the response, the designated general means of payment. The public sector's administered prices, interest rates, rental charges and crop estimates provided the context within which economies grew accustomed to operate on a stable basis. Only thereafter could price flexibility begin to make headway.

The monetary breakthrough was one of standardization. The essence of money is not to be sought in the material from which it was made, but in the fact that it provided a common denominator to co-measure prices. As a measure of value, silver was intended to remain as constant as the weight itself. Monetary inflation did not exist, nor did shortages of silver create a debt problem. What enabled debts to be paid and goods exchanged for each other was the fact that money's role as a unit of account enabled a price schedule to be created for the commodities that could be used to pay debts to these institutions. Book prices were designated to provide a stable context for production, land rental, and the consignment of merchandise to traders. Exchange took place by running up floating balances (debts) that were denominated in the monetary standard.

Why were individuals willing to accept silver in exchange? No doubt silver jewellery had a symbolism that gave it value in conspicuous consumption in the form of prestigious ceremonial gifts for burials to honour one's ancestors and for one's relations on the occasion of marriage or for other ceremonial rituals, as well as to make prestigious contributions to the temples. As antiquity's public institutions were creditors, not debtors, people were led to accept it as a general means of settlement at the point where temples and palaces accepted it in payment for public fees.

Monetarists depict money as reflecting private dealings, with little necessary interface with public institutions. But as the currency system and debt overhead become unstable, questions now are being raised as to whether money and debt once again should be regulated in a way designed to minimize economic polarization. It is beginning to be recognized that what most people deem to be monetary problems are basically debt problems. These are deemed 'monetary' because they involve banks. If bank debts go bad, their depositors' checking and saving accounts are wiped out (although the government may bail them out by deposit insurance programs). But in antiquity there were no banks

engaged in credit creation. The debt problem did not involve a ‘monetary’ problem in the modern sense of the term.

NOTES

1. See Diakonoff 1982, Archi 1984 (especially Renger’s article) and Hudson and Levine 1996 regarding palace exchange.
2. Hammurapi’s laws (c. 1750) maintained this central monetary pivot in order to stabilize crop-rental relationships by ruling that silver rental debts and other fees could be paid in barley at the official rate. Other administered prices served to stabilize public/private leasing arrangements and the sale of commodities to the rest of the economy. The laws of Eshnunna c. 2000 BC start by establishing such equivalencies. Assurbanipal’s coronation prayer (668 BC) cites the prices of barley, oil and wool that one could buy for a shekel of silver. See Hudson in press.
3. We know this because §§16-17 of the Edict of Ammisaduqa (1648 BC) annulled debts to ale women as part of the royal Clean Slate. (The Edict is translated in ANET II:40.) For a general discussion see Hudson 2002.Chapter Five

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