1 What Is Money?

Even love has not turned more men into fools than has mediation on the nature of money.

William Gladstone, quoted in Marx (1859)

Few things are as central to modern life as money. Nearly every aspect of our daily lives, from the food we eat to the homes we sleep in, is acquired by money. Money is so ubiquitous that it is nearly impossible to imagine life without it. Historically, its tenacity has been so great that even authoritarian attempts to limit or reduce its use, such as in the early days of the Soviet Union or Cambodia's Khmer Rouge, have ended in failure (Figes, 2017; Tyner, 2020). On an international scale, monetary policy holds powerful sway, with organizations such as the US Federal Reserve, the European Central Bank, and the International Monetary Fund able to set interest rates on monetary debts that can make and often break the wealth of nations. For modern society then, it is not an exaggeration to say that "money makes the world go round" (Kander et al., 1966).

But this has not always been the case. Even in the contemporary world, we find examples of people – generally mobile hunters and gatherers such as the Hadza in Africa and Ache in South America – among whom money is rarely used for day-to-day transactions. Rather than money, most such economies are based on debt and reciprocity, with the understanding that goods and services rendered will be rewarded at a later date with similar items or social prestige (Crittenden & Zes, 2015; Stibbard-Hawkes et al., 2022). Expanding our scope to cover all of human history, money is a relatively recent phenomenon that developed at particular places and times. Archaeological finds of physical money – be it metal coins, salt, shell beads, cacao beans, or any of several other forms (see Section 1.3) – generally date to the past several thousand years, as do archaeological indicators of the market-exchange systems that often correlate with monetary economies (Baron & Millhauser, 2021; Feinman & Garraty, 2010). Despite money's ubiquity today, most of the economic systems that have existed in the world have been nonmonetary. These facts pose the following question: Where, when, and under what circumstances did money start being used?

For much of the nineteenth and twentieth centuries, many economists thought they had an answer. Money was seen as one of the hallmarks of civilization, together with such innovations as the political state, urban living, and written communication. In a story advocated by economic theorists ranging from Aristotle to Adam Smith and retold in numerous economics textbooks, monetary exchange is seen as flowing naturally from more simple barter economies

(Begg et al., 2014; see also Graeber, 2011; Stevenson & Wolfers, 2020). Before the development of money, it is argued that exchanges were necessarily based on a coincidence of wants – if you were hungry and without food but had an excess of obsidian blades, you could exchange one of your blades with a successful fisher in need of a new knife. As economies grew and became more complex, it became impractical to constantly search for trading partners who needed the exact goods that one had to offer, leading to the coalescence around certain common and widely desired trade currencies. Precious metals, due to their scarcity and durability, were an obvious choice to fill this need, and goods began to be traded based on their value in weights of copper, silver, or gold (Powell, 1996). When early kings needed to pay armies and sought to control markets, metal (first in weights and later as coins) was used as a currency by the state, leading to the use of metal money as a medium of exchange and the emergence of debt- and credit-based monetary economics as we know them today.

Unfortunately for economics textbooks, this story has major faults. Recently, anthropologists have reemphasized a point long recognized by ethnographers: barter economies rarely exist in the real world. As discussed by David Graeber (2011) and others (Humphrey, 1985; Martin, 2013), most ethnographically known examples of barter-like exchange systems occur during meetings of trading partners from different regions who know that they may never meet again. In communities where every member knows everyone else (basically every village society or hunter-gatherer band), exchanges of goods stemming from the coincidence of wants simply do not take place. Instead, in small-scale societies, exchanges between group members occur within already-established social relationships and come with an expectation of reciprocity. In the previous example, if your neighbor the fisher needs a new obsidian knife and you have a spare, you would likely give one to the fisher even if you were not hungry, knowing that at some point in the future you might need fish, and they would happily share it with you. Such systems of credit and delayed or generalized reciprocity are commonly observed by anthropologists studying nonmonetary economic systems around the world and are likely to have characterized most prestate societies. In other words, money could not have been invented to alleviate burdensome barter economies, since such economies are unlikely to have been present in the ancient world.

There is another major reason why common textbook accounts of the history of money are wrong. Being cast as a characteristic of civilization makes money closely associated with the formation of ancient states. According to the chartalist school of economics first proposed by George Fredrich Knapp (1924), the origins of money were directly tied to the need of early kings to collect taxes, control markets, and pay soldiers (see Rosenswig, 2023 for a contemporary argument for the chartalist approach). Through the backing of a sovereign, the value represented by money became guaranteed, giving stability to its value and facilitating its use to pay debts. Yet descriptions of nonstate monetary systems abound in the ethnographic literature. Throughout the world, an array of objects, ranging from feathers to beans, was used to facilitate exchanges and pay debts in societies ranging from hierarchical chiefdoms to egalitarian bands (Baron & Millhauser, 2021; Earle, 2018; Gamble, 2020). These currencies may not have been controlled by the state but did fulfill many of the other functions commonly attributed to money. Recent calls within archaeology have asked us to cast aside models that place the state at the top of evolutionary typologies and instead envision the variability of experimentation with political organization that seems to have taken place across our history (Graeber & Wengrow, 2021). This Element asks us to do the same for ancient economies by taking seriously the many accounts of Indigenous monetary systems found across the world.

This brings us to shell beads. In the premodern world, shell beads were second only to metal coins in the scale and intensity of their economic use and circulation. On the Pacific coast of North America, millions of diminutive *Olivella* beads were drilled from the thickest portion of the shell and traded across the American West, where many Indigenous cultures used them as a trade currency (Gamble, 2020; Smith & Fauvelle, 2015). In the Indian ocean, cowrie shells from the Maldives were traded across Asia and Africa to the extent that the classical Chinese character for money (貝 *bèi*) represents a stylized cowrie shell (Yang, 2018). Even colonial-era European explorers saw shells as money, carrying millions of them around the world to facilitate exchanges with local peoples. Many anthropological discussions of shell beads, however, have questioned the degree to which these beads functioned as true money, arguing that, in most cases, shell beads circulated within elite political economies without impacting daily transactions (Graeber, 1996, 2001, 2011; cf. Graeber & Wengrow, 2021: 251). The rest of this section forms an overview of approaches to studying shells as money and suggests that recent calls to see money as a form of "social technology" (Felten, 2022; Peneder, 2022) help us to understand the ways that shell currencies were used in ancient economies. Within this framework, the Element compares examples of shell beads from around the world in order to determine where, when, and under what circumstances such beads came to be used as money.

1.1 Functions and Origins of Money

Why do we use money? Since the nineteenth century, economists have generally agreed that money has four functions: a medium of exchange, a measure of value, a standard of deferred payment, and a store of value (Jevons, 1875). Arguably the most important is money's role as a medium of exchange. When we use money to buy groceries, pay for a meal at a restaurant, or collect salaries in return for labor, we exploit money's ability to facilitate exchange in economic systems larger than the household. Although the idea that money developed directly from barter economies has now largely been discredited (Graeber, 2011, see previous section), the ethnographic and archaeological record indicates that many different goods and commodities were used throughout our past as media of exchange, especially in places with heavy and sustained trade across boundaries and between regions (Baron & Millhauser, 2021; Gamble, 2020; Powell, 1996; Smith & Fauvelle, 2015). Some of these commodity-exchange systems took on other functions of money, expanding the economic capacities of the societies that used them within and outside of household and village groups.

Money's function as a measure of value is related to its role as a medium of exchange. If most exchanges are denominated using a specific good or commodity, then evaluations of value will begin to be described in such units as well. Modern people, for example, use dollars, euros, yen, pounds, or other currencies to describe the value of just about anything ranging from time and labor to goods and services. Having standard units to describe wide and varied types of activities greatly facilitates economic exchange and simplifies record-keeping. Units of value need not be exclusive, as many economies use in tandem multiple standards of value. This was also true in the recent past, where coins struck from gold, silver, and other kinds of metals often circulated in the same economic systems.

A most important function of money is as a standard of deferred payment – in other words, its role in the payment of debts. Debts are delayed payments that stem primarily from social arrangements between people rather than goods exchanged or traded. Debts are used to arrange marriages, to pay for losses in gambling, or to settle disputes between aggrieved parties. The collection and payment of debts can be a major purview of the political elite, who often form alliances and solidify power through the giving of gifts that must later be reciprocated. In nonstate societies, shell beads and other commodity monies are often used to denominate such gifts that circulate through elite political-economic systems, possibly making the payment of debts one of the oldest functions of money.

In order for other functions to work, money must be a dependable store of value. In other words, the value of money cannot rapidly increase or decrease. One would not want to incur a debt or conduct long-distance trade using money that might significantly depreciate in value when one's affairs are completed. In modern economic systems, inflation is usually kept in check through the manipulation of interest rates by national banks. Coins held value due to the scarcity of metals used in their manufacture yet could lose value through time due to reduction in weight or debasement through the addition of less valuable metals, sometimes necessitating the introduction of new and more valuable coins. Other forms of money also hold their value through natural scarcity of the materials involved in their manufacture, labor costs associated with production, and removal from circulation during burials and other destructive rituals.

But what about shell money? Most scholars have long recognized that many prestate societies use a range of different goods, often termed as primitive money or commodity money, to fulfill one or more of the above functions. Yet what, if anything, distinguishes cowrie shells, dentalium beads, feather blankets, and other valuables from the dollars and euros that we use today? For most economists, the general consensus is that commodity monies fulfill only a couple of the functions of money, while "true money" fulfills all four (Dalton, 1965). Cowrie shells, for example, might be used during an exchange of bridewealth debt (deferred payment) but not always as a general unit of account. As we have seen previously, however, the different functions of money are largely interrelated. Any good that is used to denominate debts is likely to also function as a unit of account and a store of value. In general, most critiques of commodity valuables as money have fallen into two categories: claims that commodity money was not used in daily transactions and therefore does not fulfill the first function of money (medium of exchange), and arguments that commodity monies were entangled in social relationships and thus did not really function as truly fungible units of account.

David Graeber (1996, 2001, 2011) is one of the most prominent scholars to have argued that the shell beads found in prestate societies around the world should not be considered as true money. According to Graeber, shell beads are closely linked to personal adornment and have been used throughout the world to signify authority and power (Graeber, 1996). When they are exchanged, he argues, shell beads function primarily for social relations such as the arrangement of marriages or the payment of debts, not for everyday purchase of everyday goods. "Primitive currencies of this sort are only rarely used to buy and sell things, and even when they are, never primarily to buy and sell everyday items such as chickens or eggs or shoes or potatoes" (Graeber, 2011: 60). Yet these are modern examples of exchanges, and, as Graeber himself often notes, ancient economies did not really work this way. In most prestate societies, household production provided most people with food, clothes, and other items used in day-to-day lives. When goods did change hands, it was often under the purview of the elite political economy – precisely the place where we see shell-bead wealth being exchanged.

Stating that shell beads cannot have been money since they did not facilitate ordinary economic exchanges places the onus on the anthropologist to determine what such an economy should have looked like. Often, the everyday exchanges described – shoes, eggs, chickens, and the like – closely mirror things that are bought and sold in modern market economies. This sets up a circular argument where ancient and nonstate money is not seen as "true money" if it is not used for the types of interactions that modern money is used for. If we expand our concept of the "ordinary" economy to focus on the types of exchanges that ancient people were more likely to make, we might see that items such as shell beads did indeed grease the wheels of a majority of economic interactions. A more emic approach to understanding ancient economies, therefore, might find that shell or other commodity money was just as central to economic activity as modern money is to our lives today.

An argument similar to Graeber's against the use of money in prestate societies has recently been made by Rosenswig (2023), based on archaeological case studies drawn largely from ancient Mesoamerica. Embracing a chartalist position, Rosenswig defines money as "a system of accounting" and argues that it arose from the need for ancient states to collect taxes and tribute. He briefly discusses "non-state" money yet follows Graeber by arguing that such monies worked as "social accounting systems" rather than "financial accounting systems" and thus cannot be classified as true money. Leaving aside the fact that modern money also functions as a system of social accounting (see Section 1.2), this argument is prone to the same circular logic. By defining money based on its function as a unit of account, Rosenswig deemphasizes other functions of money that might be more readily observable in nonstate societies. Although ancient states needed money to function as a unit of account for the purposes of tax collection, this does exclude the use of money for other functions (for example, as a medium of exchange) in prestate societies.

Another common argument against characterizing shell beads as money is that they are socially embedded (Dalton, 1965; Gregory, 1982). True money, it is argued, is alienable and asocial. One ten-euro note is the same as any other and is of equal value regardless of who holds it. Many forms of ancient money, however, derived value in part from their own history of exchange. Certain strands of shell beads that were traded between powerful chiefs or at important feasts may be seen as more valuable than others, calling into question their fungibility. On closer scrutiny, however, we can see that modern money can also work in similar ways. Much as shell beads circulated within the prestige economies of chiefly feasts, the world of modern finance is well known to be lubricated by expensive gifts, elaborate dinners, political connections, and other forms of social connections. In less elite situations, modern money is also socially embedded, being transferred through inheritance and weddings and given as birthday presents, waiter's tips, and children's allowances (Zelizer, 2021). We even distinguish between "dirty money" and "honest money," showing that item histories still pertain to modern currency (Brück, 2015; Zelizer, 2021). To say that shell money cannot be compared to modern money due to its socially embedded nature is thus a strawman argument comparing ancient money to an imagined modern ideal that does not conform to lived experience.

These critiques, that prestate money was not "true money" because it was not used for daily exchanges and was often embedded in social relationships, stem largely from using modern money as a starting point for comparison. If we set out to find an exact analog to modern money in the past, then we are unlikely to find many matching case studies. Such a strategy, however, glosses over the great variety of complex economic formations that have existed around the world and throughout history. A more inclusive approach to money illustrates deep and long-lasting traditions of using various items to facilitate trade and pay debts, especially in locations with regular and sustained interregional trade and travel. Such an approach can also account for the multitude of different, unconventional ways in which money is also used in modern settings, which is why many contemporary economists have started to adopt a more social understanding of what money is (Felten, 2022; Ingham, 1996; Zelizer, 2021). In this Element, I draw from several contemporary economists to envision money as a social technology that enables, facilitates, and expands a society's economic capacity.

1.2 Money as Social Technology

Most orthodox approaches to money see it as objective and individualist, working in the background of modern economies to facilitate exchange, manage accounts, demark debts, and store value. Several heterodox economists, however, have long emphasized the profoundly social, situational, and innovative capacities of money to expand human economic systems (Peneder, 2022). Joseph Schumpeter, for example, wrote that "the function of money in the economy is in principle of a merely technical nature, i.e. money is essentially a device for carrying on business transactions" (Schumpeter, 1917, quoted in Peneder, 2022: 180). The connection between technology and money has perhaps never before been as evident as today, with the current proliferation of experimentation with different digital and cryptocurrencies (Peneder, 2022).

Diverse social payments, however, are just as common in the “real” economy as they are in cyberspace. As discussed by Zelizer (2000; 2021), money in modern society can take many different forms, circulating as gambling chips, lunch tickets, gift certificates, airline miles, and a plethora of other media that exist alongside state-issued currency. These social monies are not so different from the many different trade currencies that have existed throughout human history, showing that humans have long experimented with different forms of exchange in order to solve the economic problems that face them.

An excellent case study into the plural forms that money can take is Felten’s (2022) analysis of church finance in the early modern Dutch Republic. Discussing the efforts of a seventeenth-century parish community to build a new church near the border town of Bredevoort, he describes how parish officials raised funds in various forms to support constructing a new church. Parishioners paid with grains, wood, tobacco, or labor, each contribution being carefully tabulated by the church. Even equal contributions demarcated in metal coins were valued differently based on the positions of the individuals who donated them. Felten (2022: 26) argues that through raising funds to build their church, the parishioners of Bredevoort gave meaning and value both to different money-objects as well as to the people exchanging them. Drawing from Francesca Bray’s (1999: 166) discussion of technology as something that has the ability to impart meaning, contains energy, and reproduces social structures, Felten suggests that money should be seen as a social technology that connects people, money, meaning, and value. Any object could be considered as money so long as it was exchangeable across both time and social divides. The question, then, is understanding how the relationships between people and money are created and maintained.

The term “social technology” is used to describe internet applications such as social media or digital conferencing (Peneder, 2022). Building on Felten (2022), I see social technology as broadly encompassing all material and nonmaterial innovations that expand the capacity of human societies to build meaningful connections between people. Examples of social technology include concepts such as writing, legal codes, mathematics, or the Internet, all of which had wide-reaching effects on the societies that developed them. Social technology might be associated with a suite of material artifacts – for example, clay tablets and reed styluses in the case of Mesopotamian writing – but exists independently from such artifacts as a social phenomenon. As such, social technology exists somewhere between the “techniques” and “sociotechnical systems” described by Pfaffeberger (1992) as different levels of technology. Unlike the wheel, the plow, or other critical material-technological innovations, money takes many different forms yet provides the same important functions