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HA-JOON CHANG

FELIX MARTIN

# money



*THE*  
UNAUTHORISED  
BIOGRAPHY

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## About the Book

### **What is money, and how does it work?**

The conventional answer is that people once used sugar in the West Indies, tobacco in Virginia, and dried cod in Newfoundland, and that today's financial universe evolved from barter.

Unfortunately, there is a problem with this story. It's wrong. And not just wrong, but dangerous. *Money: the Unauthorised Biography* unfolds a panoramic secret history and explains the truth about money: what it is, where it comes from, and how it works.

Drawing on stories from throughout human history and around the globe, *Money* will radically rearrange your understanding of the world and shows how money can once again become the most powerful force for freedom we have ever known.

## About the Author

Felix Martin was educated in the UK, Italy and the US, and holds degrees in Classics, International Relations and Economics, including a D.Phil. in Economics from Oxford University. He worked for the World Bank and for the European Stability Initiative think tank, and is currently a partner in the fixed income division at Liontrust Asset Management plc.

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To Kristina

# Money

The Unauthorised Biography

Felix Martin



THE BODLEY HEAD  
LONDON

# 1 What is Money?

Everyone, except an economist, knows what ‘money’ means, and even an economist can describe it in the course of a chapter or so . . .

A.H. Quiggin, *A Survey of Primitive Money: the Beginnings of Currency*, p. 1

## THE ISLAND OF STONE MONEY

THE PACIFIC ISLAND of Yap was, at the beginning of the twentieth century, one of the most remote and inaccessible inhabited places on earth. An idyllic, subtropical paradise, nestled in a tiny archipelago nine degrees north of the equator and more than 300 miles from Palau, its closest neighbour, Yap had remained almost innocent of the world beyond Micronesia right up until the final decades of the nineteenth century. There had, it is true, been a brief moment of Western contact in 1731 when a group of intrepid Catholic missionaries had established a small base on the island. When their supply ship returned the following year, however, it discovered that the balmy, palm-scattered islands of Yap had not proved fertile ground for the Christian gospel. The entire mission had been massacred several months previously by local witch doctors aggrieved at the competition presented by the Good News. Yap was left to its own devices for another one hundred and forty years.

It was not until 1869 that the first European trading post – run by the German merchant firm of Godeffroy and sons – was established in the Yap archipelago. Once a few years had passed, with Godeffroy not only avoiding summary execution but prospering, Yap’s presence came to the attention of the Spanish, who by virtue of their colonial possessions in the Philippines – a mere 800 miles to the west – considered themselves the natural overlords of this part of Micronesia. The Spanish laid claim to the islands, and believed that they had achieved a *fait accompli* when in the summer of 1885 they erected a house and installed a Governor in it. They had not counted, however, on the tenacity of Bismarck’s Germany in matters of foreign policy. No island was so small, or so remote, as to be unworthy of the Imperial Foreign Ministry’s attention if it meant a potential addition to German power. The ownership of Yap became the subject of an international dispute. Eventually, the matter was referred – somewhat ironically, given the island’s track record – to arbitration by the Pope, who granted political control to Spain, but full commercial rights to Germany. But the Iron Chancellor had the last laugh. Within a decade and a half, Spain had lost a damaging war with America for control of the Philippines, and its ambitions in the Pacific had disintegrated. In 1899, Spain sold Yap to Germany for the sum of \$3.3 million.

The absorption of Yap into the German Empire had one great benefit. It brought one of the more interesting and unusual monetary systems in history to the attention of the world. More specifically, it proved the catalyst for a visit by a brilliant and eccentric young American adventurer, William Henry Furness III. The scion of a prominent



New England family, Furness had trained as a doctor before converting to anthropology and making his name with a popular account of his travels in Borneo. In 1903 he made a two-month visit to Yap, and published a broad survey of its physical and social make-up a few years later.<sup>1</sup> He was immediately impressed by how much more remote and untouched it was than Borneo. Yet despite being a tiny island with only a few thousand inhabitants – ‘whose whole length and breadth is but a day’s walk’, as Furness described it – Yap turned out to have a remarkably complex society. There was a caste system, with a tribe of slaves, and special clubhouses lived in by fishing and fighting fraternities. There was a rich tradition of dancing and songs, which Furness took particular delight in recording for posterity. There was a vibrant native religion – as the missionaries had previously discovered to their cost – complete with an elaborate genesis myth locating the origins of the Yapese in a giant barnacle attached to some floating driftwood. But undoubtedly the most striking thing that Furness discovered on Yap was its monetary system.

The economy of Yap, such as it was, could hardly be called developed. The market extended to a bare three products – fish, coconuts, and Yap’s one and only luxury, sea cucumber. There was no other exchangeable commodity to speak of; no agriculture; few arts and crafts; the only domesticated animals were pigs and, since the Germans had arrived, a few cats; and there had been little contact or trade with outsiders. It was as simple and as isolated an economy as one could hope to find. Given these antediluvian conditions, Furness expected to find nothing more advanced than simple barter. Indeed, as he observed, ‘in a land where food and drink and ready-made clothes grow on trees and may be had for the gathering’ it seemed possible that even barter itself would be an unnecessary sophistication.<sup>2</sup>

The very opposite turned out to be true. Yap had a highly developed system of money. It was impossible for Furness not to notice it the moment that he set foot on the island, because its coinage was extremely unusual. It consisted of *fei* – ‘large, solid, thick stone wheels ranging in diameter from a foot to twelve feet, having in the centre a hole varying in size with the diameter of the stone, wherein a pole may be inserted sufficiently large and strong to bear the weight and facilitate transportation’.<sup>3</sup> This stone money was originally quarried on Babelthup, an island some 300 miles away in Palau, and had mostly been brought to Yap, so it was said, long ago. The value of the coins depended principally on their size, but also on the fineness of the grain and the whiteness of the limestone.

At first, Furness believed that this bizarre form of currency might have been chosen because, rather than in spite of, its extraordinary unwieldiness: ‘when it takes four strong men to steal the price of a pig, burglary cannot but prove a somewhat disheartening occupation’, he ventured. ‘As may be supposed, thefts of *fei* are almost unknown.’<sup>4</sup> But as time went on, he observed that physical transportation of *fei* from one house to another was in fact rare. Numerous transactions took place – but the debts incurred were typically just offset against each other, with any outstanding balance carried forward in expectation of some future exchange. Even when open balances were felt to require settlement, it was not usual for *fei* to be physically exchanged. ‘The noteworthy feature of this stone currency,’ wrote Furness, ‘is that it is not necessary for its owner to reduce it to possession. After concluding a bargain which involves the price of a *fei* too large to be conveniently moved, its new owner is

quite content to accept the bare acknowledgement of ownership and without so much as a mark to indicate the exchange, the coin remains undisturbed on the former owner's premises.'<sup>5</sup>



The stone currency of Yap as photographed by William Henry Furness III in 1903, with people and palm trees for scale.

When Furness expressed amazement at this aspect of the Yap monetary system, his guide told him an even more surprising story:

[T]here was in the village near by a family whose wealth was unquestioned – acknowledged by everyone – and yet no one, not even the family itself, had ever laid eye or hand on this wealth; it consisted of an enormous *fei*, whereof the size is known only by tradition; for the past two or three generations it had been and was at that time lying at the bottom of the sea!<sup>6</sup>

This *fei*, it transpired, had been shipwrecked during a storm while in transit from Babelthuap many years ago. Nevertheless:

[I]t was universally conceded . . . that the mere accident of its loss overboard was too trifling to mention, and that a few hundred feet of water off shore ought not to affect its marketable value . . . The purchasing power of that stone remains, therefore, as valid as if it were leaning visibly against the side of the owner's house, and represents wealth as potentially as the hoarded inactive gold of a miser in the Middle Ages, or as our silver dollars stacked in the Treasury in Washington, which we never see or touch, but trade with on the strength of a printed certificate that they are there.<sup>7</sup>

When it was published in 1910, it seemed unlikely that Furness' eccentric travelogue would ever reach the notice of the economics profession. But eventually a copy happened to find its way to the editors of the Royal Economic Society's *Economic Journal*, who assigned the book to a young Cambridge economist, recently seconded to the British Treasury on war duty: a certain John Maynard Keynes. The man who over the next twenty years was to revolutionise the world's understanding of money and finance was astonished. Furness' book, he wrote, 'has brought us into contact with a people whose ideas on currency are probably more truly philosophical

than those of any other country. Modern practice in regard to gold reserves has a good deal to learn from the more logical practices of the island of Yap.’<sup>8</sup> Why it was that the greatest economist of the twentieth century believed the monetary system of Yap to hold such important and universal lessons is the subject of this book.

#### GREAT MINDS THINK ALIKE

What is money, and where does it come from?

A few years ago, over a drink, I posed these two questions to an old friend – a successful entrepreneur with a prospering business in the financial services industry. He responded with a familiar story. In primitive times, there was no money – just barter. When people needed something that they didn’t produce themselves, they had to find someone who had it and was willing to swap it for whatever they did produce. Of course, the problem with this system of barter exchange is that it was very inefficient. You had to find another person who had exactly what you wanted, and who in turn wanted exactly what you had got – and what is more, both at exactly the same time. So at a certain point, the idea emerged of choosing one thing to serve as a ‘medium of exchange’. This thing could in principle be anything – so long as, by general agreement, it was universally acceptable as payment. In practice, however, gold and silver have always been the most common choices, because they are durable, malleable, portable, and rare. In any case, whatever it was, this thing was from then on desirable not only for its own sake, but because it could be used to buy other things and to store up wealth for the future. This thing, in short, was money – and this is where money came from.

It’s a simple and powerful story. And as I explained to my friend, it is a theory of money’s nature and origins with a very ancient and distinguished pedigree. A version of it can be found in Aristotle’s *Politics*, the earliest treatment of the subject in the entire Western canon.<sup>9</sup> It is the theory developed by John Locke, the father of classical political Liberalism, in his *Second Treatise of Government*.<sup>10</sup> To cap it all, it is the very theory – almost to the letter – advocated by none other than Adam Smith in his chapter ‘Of the Origin and Use of Money’ in the foundation text of modern economics, *An Inquiry into the Nature and Causes of the Wealth of Nations*:

But when the division of labour first began to take place, this power of exchanging must frequently have been very much clogged and embarrassed in its operations . . . The butcher has more meat in his shop than he himself can consume, and the brewer and the baker would each of them be willing to purchase a part of it. But they have nothing to offer in exchange, except the productions of their respective trades, and the butcher is already provided with all the bread and beer which he has immediate occasion for . . . In order to avoid such situations, every prudent man in every period of society, after the first establishment of the division of labour, must naturally have endeavoured to manage his affairs in such a manner, as to have at all times by him, besides the peculiar produce of his own industry, a certain quantity of some one commodity or other, such as he imagined few other people would be likely to refuse in exchange for the produce of their industry.<sup>11</sup>

Smith even shared my friend’s agnosticism as to which commodity would be chosen to serve as money:

Many different commodities, it is probable, were successively both thought of and employed for this purpose. In the rude ages of society, cattle are said to have been the most common instrument of

commerce . . . Salt is said to be the common instrument of commerce and exchange in Abyssinia; a species of shells in some parts of the coast of India; dried cod in Newfoundland; tobacco in Virginia; sugar in some of our West India colonies; hides or dressed leather in some other countries; and there is to this day a village in Scotland where it is not uncommon, I am told, for a workman to carry nails instead of money to the baker's shop or the alehouse.<sup>12</sup>

And like my friend, Smith also believed that in general, gold, silver, and other metals were the most logical choices:

In all countries, however, men seem at last to have been determined by irresistible reasons to give the preference, for this employment, to metals above every other commodity. Metals can not only be kept with as little loss as any other commodity, scarce any thing being less perishable than they are, but they can likewise, without any loss, be divided into any number of parts, as by fusion of those parts can easily be re-united again; a quality which no other equally durable commodities possess, and which more than any other quality renders them fit to be the instruments of commerce and circulation.<sup>13</sup>

So I told my friend he could congratulate himself. Without having studied economics at all, he had arrived at the same theory as the great Adam Smith. But that's not all, I explained. This theory of money's origins and nature is not just a historical curiosity like Ptolemy's geocentric astronomy – a set of obsolete hypotheses long since superseded by more modern theories. On the contrary, it is found today in virtually all mainstream textbooks of economics.<sup>14</sup> What's more, its fundamental ideas have formed the bedrock of an immense body of detailed theoretical and empirical research on monetary questions over the last sixty years. Based on its assumptions, economists have designed sophisticated mathematical models to explore exactly why one commodity is chosen as money over all others and how much of it people will want to hold, and have constructed a vast analytical apparatus designed to explain every aspect of money's value and use. It has provided the basis for the branch of economics – 'macroeconomics' as it is known – which seeks to explain economic booms and busts, and to recommend how we can moderate these so-called business cycles by managing interest rates and government spending. In short, my friend's ideas not only had history behind them. They remain today, amongst amateurs and experts alike, very much the conventional theory of money.

By now, my friend was positively brimming with self-congratulation. 'I know that I'm brilliant,' he said with his usual modesty, 'but it does still amaze me that I – a rank amateur – can match the greatest minds in the economic canon without ever having given it a second thought before today. Doesn't it make you think you might have been wasting your time all those years you were studying for your degrees?' I agreed that there was certainly something a bit troubling about it all. But not because he had hit upon the theory without any training in economics. It was quite the opposite. It was that those of us who *have* had years of training regurgitate this theory. Because simple and intuitive though it may be, there is a drawback to the conventional theory of money. It is entirely false.

STONE AGE ECONOMICS?

John Maynard Keynes was right about Yap. William Henry Furness' description of its curious stone currency may at first appear to be nothing more than a picturesque footnote to the history of money. But it poses some awkward questions of the

conventional theory of money. Take, for example, the idea that money emerged out of barter. When Aristotle, Locke, and Smith were making this claim, they were doing so purely on the basis of deductive logic. None of them had ever actually seen an economy that operated entirely via barter exchange. But it seemed plausible that such an arrangement might once have existed; and if it had existed, then it also seemed plausible that it would have been so unsatisfactory that someone would have tried to invent a way to improve on it. In this context, the monetary system of Yap came as something of a surprise. Here was an economy so simple that it should theoretically have been operating by barter. Yet it was not: it had a fully developed system of money and currency. Perhaps Yap was an exception to the rule. But if an economy this rudimentary already had money, then where and when would a barter economy be found?

This question continued to trouble researchers over the century after Furness' account of Yap was published. As historical and ethnographic evidence accumulated, Yap came to look less and less of an anomaly. Seek as they might, not a single researcher was able to find a society, historical or contemporary, that regularly conducted its trade by barter. By the 1980s, the leading anthropologists of money considered the verdict to be in. 'Barter, in the strict sense of moneyless market exchange, has never been a quantitatively important or dominant mode of transaction in any past or present economic system about which we have hard information,' wrote the American scholar George Dalton in 1982.<sup>15</sup> 'No example of a barter economy, pure and simple, has ever been described, let alone the emergence from it of money; all available ethnography suggests that there has never been such a thing,' concluded the Cambridge anthropologist Caroline Humphrey.<sup>16</sup> The news even began filtering through to the more intellectually adventurous fringes of the economics profession. The great American economic historian Charles Kindleberger, for example, wrote in the second edition of his *Financial History of Western Europe*, published in 1993, that 'Economic historians have occasionally maintained that evolution in economic intercourse has proceeded from a natural or barter economy to a money economy and ultimately to a credit economy. This view was put forward, for example, in 1864 by Bruno Hildebrand of the German historical school of economics; it happens to be wrong.'<sup>17</sup> By the beginning of the twenty-first century, a rare academic consensus had been reached amongst those with an interest in empirical evidence that the conventional idea that money emerged from barter was false. As the anthropologist David Graeber explained bluntly in 2011: '[T]here's no evidence that it ever happened, and an enormous amount of evidence suggesting that it did not.'<sup>18</sup>

The story of Yap does not just present a challenge to the conventional theory's account of money's origins, however. It also raises serious doubts about its conception of what money actually is. The conventional theory holds that money is a 'thing' – a commodity chosen from amongst the universe of commodities to serve as a medium of exchange – and that the essence of monetary exchange is the swapping of goods and services for this commodity medium of exchange. But the stone money of Yap doesn't fit this scheme. In the first place, it is difficult to believe that anyone could have chosen 'large, solid, thick stone wheels ranging in diameter from a foot to twelve feet' as a medium of exchange – since in most cases, they would be a good deal harder to move than the things being traded. But more worryingly, it was clear that the *fei* were



not a medium of exchange in the sense of a commodity that could be exchanged for any other – since most of the time, they were not exchanged at all. Indeed, in the case of the infamous shipwrecked *fei*, no one had ever even seen the coin in question, let alone passed it around as a medium of exchange. No, there could be no doubt: the inhabitants of Yap were curiously indifferent to the fate of the *fei* themselves. The essence of their monetary system was not stone coins used as a medium of exchange, but something else.

Closer consideration of Adam Smith's story of commodities chosen to serve as media of exchange suggests that the inhabitants of Yap were on to something. Smith claimed that at different times and in different places, numerous commodities had been chosen to serve as the money: dried cod in Newfoundland; tobacco in Virginia; sugar in the West Indies; and even nails in Scotland. Yet suspicions about the validity of some of these examples were already being raised within a generation or two of the publication of Smith's *Wealth of Nations*. The American financier Thomas Smith, for example, argued in his *Essay on Currency and Banking* in 1832 that whilst Smith thought that these stories were evidence of commodity media of exchange, they were in fact nothing of the sort.<sup>19</sup> In every case, these were examples of trade that was accounted for in pounds, shillings, and pence, just as it was in modern England. Sellers would accumulate credit on their books, and buyers debts, all denominated in monetary units. The fact that any net balances that remained between them might then be discharged by payment of some commodity or other to the value of the debt did not mean that that commodity was 'money'. To focus on the commodity payment rather than the system of credit and clearing behind it was to get things completely the wrong way round. And to take the view that it was the commodity itself that was money, as Smith did, might therefore start out seeming logical, but would end in nonsense. Alfred Mitchell Innes, the author of two neglected masterworks on the nature of money, summed up the problem with Smith's report of cod-money in Newfoundland bluntly but accurately:

A moment's reflection shows that a staple commodity could not be used as money, because *ex hypothesi* the medium of exchange is equally receivable by all members of the community. Thus if the fishers paid for their supplies in cod, the traders would equally have to pay for their cod in cod, an obvious absurdity.<sup>20</sup>

If the *fei* of Yap were not a medium of exchange, then what were they? And more to the point, what, in fact, was Yap's money if it wasn't the *fei*? The answer to both questions is remarkably simple. Yap's money was not the *fei*, but the underlying system of credit accounts and clearing of which they helped to keep track. The *fei* were just tokens by which these accounts were kept. As in Newfoundland, the inhabitants of Yap would accumulate credits and debts in the course of their trading in fish, coconut, pigs, and sea cucumber. These would be offset against one another to settle payments. Any outstanding balances carried forward at the end of a single exchange, or a day, or a week, might, if the counterparties so wished, be settled by the exchange of currency – a *fei* – to the appropriate value; this being a tangible and visible record of the outstanding credit that the seller enjoyed with the rest of Yap. Coins and currency, in other words, are useful tokens to record the underlying system of credit accounts and to implement the underlying process of clearing. They may

even be necessary in an economy larger than that of Yap, where coins could drop to the bottom of the sea and yet no one would think to question the wealth of their owner. But currency is not itself money. Money is the system of credit accounts and their clearing that currency represents.

If all this sounds familiar to the modern reader – even obvious – it should. After all, thinking of money as a commodity and monetary exchange as the swapping of goods for a tangible medium of exchange may have been intuitive in the days when coins were minted from precious metals. It may even have made sense when the law entitled the holder of a Federal Reserve or Bank of England note to present it on Constitution Avenue or Threadneedle Street and expect its redemption for a specified quantity of gold. But those days are long gone. In today's modern monetary regimes, there is no gold that backs our dollars, pounds, or euros – nor any legal right to redeem our banknotes for it. Modern banknotes are quite transparently nothing but tokens. What is more, most of the currency in our contemporary economies does not enjoy even the precarious physical existence of a banknote. The vast majority of our national money – around 90 per cent in the US, for example, and 97 per cent in the UK – has no physical existence at all.<sup>21</sup> It consists merely of our account balances at our banks. The only tangible apparatus employed in most monetary payments today is a plastic card and a keypad. It would be a brave theorist indeed who would try to maintain that a pair of microchips and a Wi-Fi connection are a commodity medium of exchange.

By a strange coincidence, John Maynard Keynes is not the only giant of twentieth-century economics to have saluted the inhabitants of Yap for their clear understanding of the nature of money. In 1991, seventy-nine-year-old Milton Friedman – hardly Keynes' ideological bedfellow – also came across Furness' obscure book. He too extolled the fact that Yap had escaped from the conventional but unhealthy obsession with commodity coinage, and that by its indifference to its physical currency it acknowledged so transparently that money is not a commodity, but a system of credit and clearing. 'For a century or more, the "civilized" world regarded as a manifestation of its wealth metal dug from deep in the ground, refined at great labor, and transported great distances to be buried again in elaborate vaults deep under the ground,' he wrote. 'Is the one practice really more rational than the other?'<sup>22</sup>

To win the praise of one of the two greatest monetary economists of the twentieth century may be regarded as chance; to win the praise of both deserves attention.

#### MONETARY VANDALISM: THE FATE OF THE EXCHEQUER TALLIES

The economic worldview of Yap which both Keynes and Friedman applauded – of money as a special type of credit, of monetary exchange as the clearing of credit accounts, and of currency as merely tokens of an underlying credit relationship – has not been without its own forceful historical proponents. Amongst those who have had to deal with the practical business of managing money – especially *in extremis* – the view of money as credit, rather than a commodity, has always had a strong following. One famous example is provided by the siege of Valletta by the Turks in 1565. As the Ottoman embargo dragged on, the supply of gold and silver began to run short, and the Knights of Malta were forced to mint coins using copper. The motto that they stamped on them in order to remind the population of the source of their value would have

seemed perfectly sensible to the inhabitants of Yap: *Non Aes, sed Fides* – ‘Not the metal, but trust’.<sup>23</sup>

Nevertheless, it is undoubtedly the conventional view of money as a commodity, of monetary exchange as swapping goods for a medium of exchange, and of credit as the lending out of the money commodity, that has enjoyed the lion’s share of support from theorists and philosophers over the centuries, and thereby dominated economic thought – and, for much of the time, policy as well. But if it is so obvious that the conventional theory of money is wrong, why has such a distinguished canon of economists and philosophers believed it? And why does today’s economics profession by and large persist in using the fundamental ideas of this tradition as the building blocks of modern economic thinking? Why, in short, is the conventional theory of money so resilient? There are two basic reasons, and they are worth dwelling on.

The first reason has to do with the historical evidence for money. The problem is not that so little of it survives from earlier ages, but that it is virtually all of a single type – coins. Museums around the world heave with coins, ancient and modern. Coins and their inscriptions are one of the main archaeological sources for the understanding of ancient culture, society, and history. Deciphered by ingenious scholars, their graven images and their abbreviated inscriptions give up vast libraries of knowledge about the chronologies of ancient kings, the hierarchy of classical deities, and the ideologies of ancient republics. An entire academic discipline – numismatics – is devoted to the study of coins; and far from being the scholarly equivalent of stamp collecting, as it might appear to the uninitiated, numismatics is amongst the most fruitful fields of historical research.

But of course the real reason why coins are so important in the study of ancient history, and why they have dominated in particular the study of the history of money, is that coins are what have survived.<sup>24</sup> Coins are made of durable metals – and very often of imperishable metals, such as gold or silver, which do not rust or corrode. As a result, they tend to survive the ravages of time better than most other things. What is more, coins are valuable. As a result, there has always been a tendency for them to be squirrelled away in buried or hidden hoards – the better to be discovered decades, centuries, or even millennia later by the enterprising historian or numismatist. The problem is that in no field so much as the history of money is an approach fixated upon what physically survives likely to lead us into error. The unfortunate story of the wholesale destruction of one of the most important collections of source material for the history of money ever to have existed shows why.

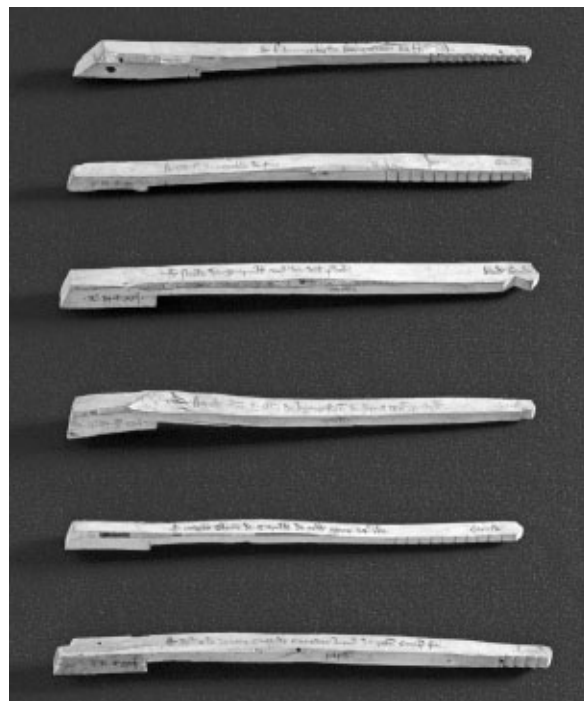
For more than six hundred years, from the twelfth to the late eighteenth century, the operation of the public finances of England rested on a simple but ingenious piece of accounting technology: the Exchequer tally. A tally was a wooden stick – usually harvested from the willows that grew along the Thames near the Palace of Westminster. On the stick were inscribed, always with notches in the wood and sometimes also in writing, details of payments made to or from the Exchequer. Some were receipts for tax payments made by landowners to the Crown. Others referred to transactions in the opposite direction, recording the sums due on loans by the sovereign to prominent subjects. ‘9£ 4s 4p from Fulk Basset for the farm of Wycombe’ reads one that has survived, for example – relating a debt owed by Fulk Basset, a thirteenth-century Bishop of London, to Henry III. Even bribes seem to have been



recorded on Exchequer tallies: one stick in a private collection bears the suspicious-sounding euphemism ‘13s 4d from William de Tullewyk for the king’s good will’.<sup>25</sup>

Once the details of the payment had been recorded on the tally stick, it was split down the middle from end to end so that each party to the transaction could keep a record. The creditor’s half was called the ‘stock’, and the debtor’s the ‘foil’: hence the English use of the term ‘stocks’ for Treasury bonds, which survives to this day. The unique grain of the willow wood meant that a convincing forgery was virtually impossible; while the record of the account in a portable format – rather than just inscribed in the Treasury account books at Westminster, for example – meant that Exchequer credits could be passed from their original holder to a third party in payment of some unrelated debt. Tallies were what are called ‘bearer securities’ in modern financial jargon: financial obligations such as bonds, share certificates, or banknotes, the beneficiary of which is whoever holds the physical record.

Historians agree that the vast majority of fiscal operations in medieval England must have been carried out using tally sticks; and they suppose that a great deal of monetary exchange was transacted using them as well.<sup>26</sup> A credit with the Exchequer, as recorded on a tally stick, would after all have been welcomed in payment by anyone who had taxes of his own coming due. It is, however, impossible to know for certain. For although millions of tallies must have been manufactured over the centuries, and though we know for sure that many thousands survived in the Exchequer archives up until the early nineteenth century, only a handful of specimens exist today. The ultimate culprit for this unfortunate situation is the famous zeal of England’s nineteenth-century advocates of administrative reform.



A collection of English Exchequer tallies: rare survivors of one of the great episodes of historical vandalism of the nineteenth century.

Despite the fact that the tally-stick system had proved itself remarkably efficient over the preceding five hundred years, by the late eighteenth century it was felt that it was time to dispense with it. Keeping accounts with notched sticks – let alone using

wooden splints as money alongside the elegant paper notes of the Bank of England – was by then considered little short of barbaric, and certainly out of keeping with the enormous progress being made in commerce and technology. An Act of Parliament of 1782 officially abolished tally sticks as the main means of account-keeping at the Exchequer – though because certain sinecures still operated on the old system, the Act had to wait almost another half-century, until 1826, to come into effect. But in 1834, the ancient institution of the Receipt of the Exchequer was finally abolished, and the last Exchequer tally replaced by a paper note.

Once the tally-stick system had finally been abolished, the question arose of what to do with the vast archive of tallies left in the Exchequer. Amongst the partisans of reform the general feeling was that they were nothing but embarrassing relics of the way in which the fiscal accounts of the British Empire had been kept, ‘much as Robinson Crusoe kept his calendar on the desert island’, and it was decided without hesitation to incinerate them.<sup>27</sup> Twenty years later, Charles Dickens recounted the unfortunate consequences:

It came to pass that they were burnt in a stove in the House of Lords. The stove, overgorged with these preposterous sticks, set fire to the panelling; the panelling set fire to the House of Lords; the House of Lords set fire to the House of Commons; the two houses were reduced to ashes; architects were called in to build others; we are now in the second million of the cost thereof . . .<sup>28</sup>

The Houses of Parliament could be rebuilt, of course – and were, to leave the splendid Palace of Westminster that stands on the banks of the Thames today. What could not be resurrected from the inferno, however, was the priceless record of England’s fiscal and monetary history constituted by the tallies.<sup>29</sup> Historians have had to rely on a handful of tallies that survived by chance in private collections, and we are fortunate that there are a few contemporary accounts of how they were used.<sup>30</sup> But as for the immense wealth of knowledge that the Westminster archive embodied about the state of England’s money and finances throughout the Middle Ages, it is irretrievably lost.

If this is a problem for the history of money in medieval England, the situation is infinitely worse for the history of money more generally – and especially in pre-literate societies. All too often, the only physical trace of money that remains is coins: yet as the example of the English tally-stick system shows, coinage may have been only the very tip of the monetary iceberg. Vast hinterlands of monetary and financial history lie beyond our grasp – simply because no physical evidence of their existence and operation survives. To appreciate the seriousness of the problem we have only to consider what hope the historians of the future would have of reconstructing our own monetary history if a natural disaster were to destroy the digital records of our contemporary financial system. We can only trust that reason would prevail, and that they would not build their understanding of modern economic life on the assumption that the pound and euro coins and nickels and dimes that survived were the sum total of our money.

THE BENEFIT OF BEING A FISH OUT OF WATER

The second reason why the conventional theory of money remains so resilient is directly related to a still more intrinsic difficulty. There is an old Chinese proverb: ‘The fish is the last to know water’. It is a concise explanation of why the ‘social’ or ‘human’ sciences – anthropology, sociology, economics and so on – are different from the natural sciences – physics, chemistry, and biology. In the natural sciences, we study the physical world; and it is – at least in principle – possible to get an objective view. Things are not so simple in the social sciences. In these fields, we are studying ourselves, as individuals and in groups. Society and our selves have no independent existence apart from us – and by contrast to the natural sciences, this makes it exceptionally difficult to get an objective view of things. The closer an institution is to the heart of our daily lives, the trickier it is to step outside of it in order to analyse it – and the more controversial will be attempts to do so. The second reason why the nature of money is so difficult to pin down, and why it has been and remains a subject of such controversy, is precisely *because* it is such an integral part of our economies. When we try to understand money, we are like the fish of the Chinese proverb, trying to know the very water in which it moves.

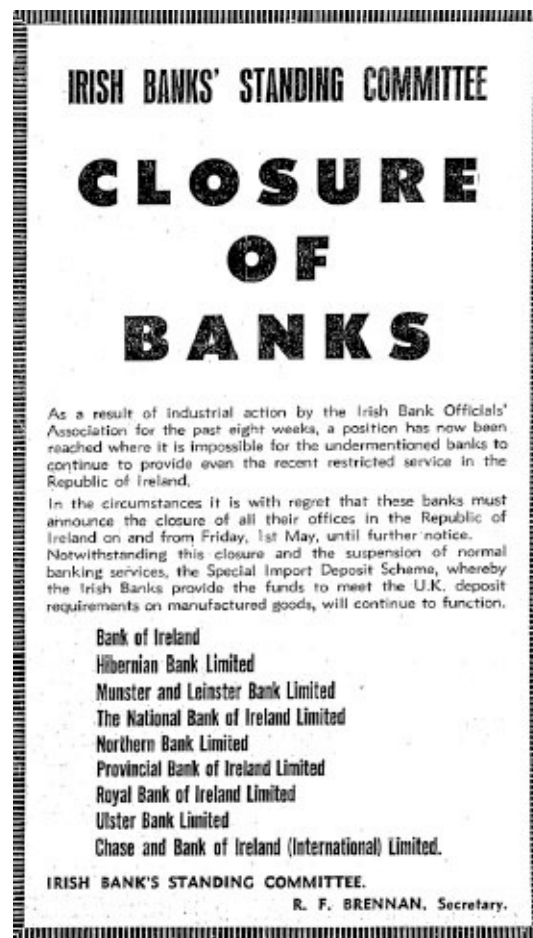
This doesn’t mean that all social science is a waste of time, however. It may not be possible to get an absolutely objective view of our own habits, customs, and traditions; but by studying them under different historical conditions we can get a more objective view than otherwise. Just as we can use two different perspectives on a point in the distance to triangulate its position when out hiking, we can learn a lot about a familiar social phenomenon by observing it in other times, in other places, and in other cultures. The only problem in the case of money is that it is such a basic element of the economy that finding opportunities for such triangulation is tricky. Most of the time money is just part of the furniture. It is only when the normal monetary order is disrupted that the veil is snatched from our eyes. When the monetary order dissolves, the water is temporarily tipped out of the fishbowl and we become for a critical moment a fish out of water.

So it is precisely to occasions when disorder erupts in society and the economy that we must look in order to learn what money really is. And since, as the fate of the Exchequer tallies shows, we are at the mercy of scant evidence in investigating the history of money, we would be better off learning from recent history, where evidence is easiest to come by. If we want to understand the nature of money, in other words, our best bet is to study episodes of acute monetary disorder in modern times. Fortunately, there is no shortage of those.

#### MONEY IN AN ECONOMY WITHOUT BANKS

On 4 May 1970, a prominent notice appeared in Ireland’s leading daily newspaper, the *Irish Independent*, with a simple but alarming title: ‘CLOSURE OF BANKS’. The announcement – placed by the Irish Banks’ Standing Committee, a group representing all of Ireland’s main banks – informed the public that as a result of the severe breakdown in industrial relations between the banks and their employees, ‘a position has now been reached where it is impossible for the undermentioned banks to provide even the recent restricted service in the Republic of Ireland’. ‘In these circumstances it is with regret,’ the notice continued, ‘that these banks must announce the closure of all

their offices in the Republic of Ireland on and from Friday, 1st May, until further notice.'



It may come as a shock to learn that virtually the entire banking system in an advanced economy could have shut down overnight as recently as in 1970. At the time, however, this development was widely expected – not least because it had happened once before, in 1966. The matter of dispute between the banks and their employees was a familiar one in the Europe of the late 1960s: the extent to which pay was keeping up with prices. High inflation throughout 1969 – by the autumn, the cost of living had risen by more than 10 per cent over the previous fifteen months – had prompted a demand by the employees' union for a new pay settlement. The banks had refused, and the Irish Bank Officials' Association had voted to strike.

From the beginning, it was expected that the banks' closure would not be short-lived, so preparations were made. The first reaction of businesses was to stockpile notes and coins. The *Irish Independent* reported that:

There were massive withdrawals of cash throughout the country as firms built up their reserves in anticipation of a shutdown. Insurance companies, safe dealers, and security firms are expected to do brisk business while banks remain closed. Factories and other concerns with large payrolls have arranged to obtain ready cash from large retailers such as supermarkets and department stores to meet wage bills.<sup>31</sup>