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How Many People Does It Take to Make a Dollar?

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It may be a dubious and even dangerous sort of money, but even the worst sort must be included in the theory. Money it must be, in order to be bad money.

G. F. Knapp, *The State Theory of Money*, 1924

1. Introduction

How many people does it take to make a dollar? Suppose I wanted to create a new currency that was real money just as much as the dollar is. How many other people would I have to recruit to my project, and what would I have to have them do?

If the US dollar is my model, it seems I might need the help of an absolutely huge number of people to make my new currency become real money, since the US dollar is recognized and used as money by many millions (perhaps billions) of people. By contrast, the thousands of new cryptocurrencies that have emerged in the last decade or so seem like they might not count as money, precisely because there are not enough people who recognize and use them as money. Whatever the minimum threshold is for the necessary number of people, it seems it must be pretty high, since for even the most famous and popular cryptocurrency, Bitcoin, it is still an open question whether it counts as money or not (Passinsky 2020b).

So how could we determine when one of those new cryptocurrencies does or does not succeed in being money? Any attempt to establish a precise threshold of how many people are required to create money looks like it will be arbitrary: If 1,000 people are enough to make a currency real money, then why not 999?

Drawing on recent work in the ontology of money, I will argue that there is a non-arbitrary threshold number of people required to create money, and that this

[†] David G. Dick passed away suddenly in November of 2022 as he was completing his work on this chapter.

threshold is nowhere near triple digits. Instead, I will argue that the number of people required to make money is just two. This will mean that, for some communities at least, both Bitcoin and many other new cryptocurrencies do succeed in being money, since many of them have at least two people doing all it takes to turn them into money. This seems to imply that there is no difference between the US dollar and an obscure cryptocurrency accepted by just two people. As an ontological matter, that may well be, if both the crypto and the dollar meet the requirements for being money. But that does not mean there is no difference between the two. While they might equally be money, the crypto and the dollar will not be equally good money for all purposes, and so we can understand the differences between them in normative terms, if not ontological ones.

To show all this, I will devote the next section to discussing the accounts of money that insist that it is attitudes that are crucial for the creation of money. Then I will examine the accounts of money that instead privilege function as the crucial element in creating money, concluding that the correct account of money will require elements of both attitude and function. Since these elements can be instantiated when there are no more than two people, I argue that this is the minimum number required to create real money. Finally, I will argue that this conclusion should be a welcome one, since it allows us to separate the ontological requirements for being money from the normative standards we may wish to apply to money.

2. Attitude Accounts of Money

Money is sometimes thought to work like Tinkerbell, the fairy in the Peter Pan story, who exists just as long as someone believes that she does. In the fictional story, Tinkerbell's existence depends on human beliefs. But in the real world, money is often thought to work in just the same way, with its existence being held up by the attitudes that humans direct toward it.

Asya Passinsky points out that the attitude holding up money cannot be belief, since humans can simply decide at will to create money, but they cannot simply decide to believe something at will. Instead, Passinsky thinks that the crucial attitude is one of "acceptance," and when the relevant agents hold this attitude toward a given material object, they can thereby turn it into a social object like money (2020a: 437–9). It is with this arrangement that Passinsky explains the "response dependence" that money has on us and our attitudes. She notes further that this is the same relationship that Euthyphro thought piety was in with respect to the love of the gods. In the Platonic dialogue bearing his name, Euthyphro thought that something was pious only because the gods loved it, and Passinsky thinks some material object can become money only because some agents accept it as such (Passinsky 2020a: 435).

Eyja Brynjarsdóttir also invokes Euthyphro to explain the way money depends on human attitudes, and even names the distinctive property it has after him:

Euthyphro's account describes the direction of dependence for subjective properties: An object has a subjective property because of a subject's attitude toward it. Thus we might as well call such properties *Euthyphronic*. (2018: 51)

What this means roughly "is that it is 'up to us' that the property is instantiated. It was not 'already there' to be discovered" (Brynjarsdóttir 2018: 50).

Both Passinsky and Brynjarsdóttir aim to capture the way people create the fact that something is money instead of merely discovering it. By holding the right sort of attitude toward something, people have the power to create money that was not there before. So, if these attitudes are powerful enough to bring things into existence, could a single person adopt the right one and thereby create money all by themselves?

Perhaps this is possible for some social objects, but not for money. This is due to the kind of attitude involved in creating money. A humble ashtray might become a beloved family heirloom if just one family member loves it, but that is because the attitude required to make it beloved can be held by just one person. By contrast, money must be endowed with exchange value in order to be money, and exchange value will always require more than one party to exist. To actually have exchange value, at least one agent must think that another agent regards something as acceptable in trade, and that other agent must think so too. Where sentimental value can be brought into the world by the attitudes of just one person, exchange value always requires another agent to recognize it in order for it to exist.

While neither Passinsky nor Brynjarsdóttir argues that the attitudes of a single agent are actually sufficient to create money, no attitude account of money is as explicitly committed to the requirement of at least two agents for the creation of money as is John Searle's. Searle's account is still the most prominent attitude account of social institutions like money, and it takes the relevant attitude that creates all social objects, not just money, to depend crucially on no fewer than two agents.

The attitude in question is "collective intentionality," which is "a biologically primitive phenomenon that cannot be reduced to or eliminated in favor of something else" (Searle 1995: 24). When it comes to money, the actual fact that makes it true that some bits of paper are really money is an "institutional fact." An institutional fact is a particular kind of social fact that agents can create by directing their intentions in a particular way. Searle defines a social fact as "any fact involving the collective intentionality of two or more agents" (2005: 6).

The creation of exchange value requires two agents because it only exists when the attitudes of at least two individuals coincide in the right way, but this coincidence might arise out of the unrelated activities of these individuals. Collective intentionality is different. It is not simply the sum of the individual

intentions of agents in a given group, and it cannot be broken down into the individual intentions of its members. Collective intentions are different in kind from individual attitudes. It is the difference between two violinists deliberately playing a piece together in an orchestra and those violinists merely happening to play their parts synchronized with each other in separate rooms (Searle 1995: 25). In the orchestra, the violinists do something together, while in the building they do separate things that just so happen to align with each other. No amount of stacking individual activities can amount to the collective decision to do something, however much they end up intertwined. The building blocks necessary to create a social object like money, Searle thinks, can be achieved only through the deliberate orchestration of a group's collective intentionality, not the accidental harmonizing of individual agents.

What agents must collectively do to create the institutional fact that constitutes money is to grant something the "status function" of money. Status functions are distinctive because they are unlike other functions that can be performed by an object "solely in virtue of the object's intrinsic physical features," such as when a log performs the function of being a bench. But a status function is performed by an object independently of its intrinsic physical features and works "only in virtue of collective agreement or acceptance" (Searle 1995: 39). For example, a high wall can perform the function of being a barrier in virtue of its intrinsic physical features alone, but even once it is worn down to nothing more than a line of stones, it can still perform the function of being a barrier if granted the status function of being a boundary by collective agreement (Searle 1995: 39–40). Money works the same way as the line of stones, according to Searle, since it performs its function simply in virtue of the fact that it is agreed to have it.

Searle's example shows the tremendous power that our attitudes can have, creating an effective barrier where there is no physical obstacle at all. But just because Searle thinks that a social object like money or a boundary can perform its function in virtue of attitudes alone, he does not therefore think that social objects must perform their intended functions in order to be what they are.

Though he does not always appear to be committed to this conclusion,¹ in at least some places, Searle seems wedded to the claim that social objects exist in virtue of attitudes alone, regardless of how they function. In a striking passage, Searle insists that a group of agents who collectively decide to have a cocktail party that somehow "gets out of hand, and it turns out that the casualty rate is greater than the Battle of Austerlitz" do not thereby alter what kind of activity they are pursuing. Despite this turn of events, "it is not a war; it is just one amazing cocktail party" (Searle 1995: 33–4).

This commitment is the logical conclusion of any attitude account that takes social objects to be determined by attitudes alone. These conceptions are "united

¹ See Guala (2016: 165–6) for a discussion of this.

in the belief that something's being money is not so much a matter of what we *do* with it...but rather a matter of how we *think* or *talk* about it" (Passinsky 2020a: 287).

On such an attitude view, the number of people required to create the specific social object of money is only two. Two people are enough to instantiate the distinctive kind of exchange value that money must have in order to count as money. Two people are probably also necessary for something to count as a store of value, though it might take only one person to use something as a unit of account. If money can be created out of nothing more than attitudes, it appears that all three of money's canonically distinctive features can be instantiated by attitudes that require no more than two people to exist. Whether this comes about through the deliberate collective intentionality that Searle requires, or through an accidental constellation of individual attitudes, it is still the case that only two agents are required to meet the necessary and sufficient conditions to create money. All it takes to create real money on this pure attitude view is for at least two people to decide to accept that something is money, and then it thereby is.

This will mean that my wife and I could capriciously decide to accept jellybeans as money, and it would be true that they were even if we were the only two people in the world to accept it. We could endow them with exchange value on this view simply by deciding that they were acceptable for payments of debts between us, and a way of keeping track of what we owe each other. We could even give the jellybeans denominations, making red jellybeans (which are obviously the most valuable) worth twenty green ones. Furthermore, on any view that creates money out of attitudes alone, this is all we would have to do. Simply making this decision and accepting that jellybeans have this status is enough to make them a currency as real as the US dollar. We would never need to trade them, hoard them, or measure values in terms of them for them to be full and genuine money.

This is clearly absurd. Something has gone wrong with any view that would let my wife and I turn jellybeans into money in this way. There could be several diagnoses of the error here, but one thing is clear and that is that attitudes alone, unconstrained by any requirements on behavior or function are not enough to create a social object like money. To put it in Passinsky's terms, money must also be "a matter of what we *do* with it" and *not* just "a matter of how we *think* or *talk* about it" (2020a: 287). This commitment is what drives the functional views of money, which will also permit it to be created by very small groups of people, but for very different reasons.

3. Function Accounts of Money

Building money out of nothing but the attitudes of agents leaves us with the absurd entailments of Searle's cocktail party and my jellybean money. These

results are not only intuitively absurd, they also make social objects opaque and epistemically inaccessible to anyone who cannot read the minds of the agents creating them. Thinking that social objects consist solely in how we think and talk about them disregards the crucial feature of how they function, and so will mislead us in understanding and categorizing all manner of social objects.

Insisting that social objects like money depend on our thoughts about them is what Francesco Guala calls “the dependence thesis,” which asserts that “institutional entities depend for their existence on our representations” (2016: 163). This would mean that in order for something to be money, we would have to represent it to ourselves as money, and think and talk about it as such. But such representation is neither necessary nor sufficient to make something function as money, and so will leave out a crucial feature required for something to successfully become money.

Guala illustrates that recognizing and identifying something as money will not ensure it is treated as money with the case of the now dead Roman *sestertii* coins:

Perhaps when people see a coin, they say “it’s money,” even though they do not actually use it for trade. Suppose that they prefer to use shells as a medium of exchange instead. When asked what that thing they hold in their pockets is, they say “this is a shell,” not “this is money.” But functionally speaking, the shells are money and the coin is just copper.

The point is that one thing is to be recognized as money in a system of folk classification; quite another is to be money. (2016: 169–70)

To be money, something must not just be thought and said to be money, it must function as money, at least some of the time. In his solo work and in work with Frank Hindriks, Guala makes it clear that the function that money must have is conceived of in two distinct but related ways (Guala 2016; Hindriks & Guala 2015). First, something must function as money in the sense that it must behave like money. That is, it must actually be used in exchanges, accounting, and storing value. But it further must function as money in the sense that it must behave this way because that is its function, in the sense of its purpose or explanation for existence. Money, like all institutions, according to Hindriks and Guala, must behave like money because it serves the purpose of solving a distinctive kind of coordination problem. In the case of money, this constituting coordination problem is the double coincidence of wants. This is just the problem that if you are to successfully trade with someone, they must want what you are offering in exchange if you are to get what you want in exchange for it. When it comes to specific goods, wants may often not coincide, and trade will thereby not occur. Money is the solution to this coordination problem because it is generically appealing to nearly everyone in trade. Not having to depend on the specific

charms of its use value, like bread or beer must, money can be traded far more widely since it carries more generic exchange value instead. Those who take money in trade can be confident they will be able to trade it to someone else later on, since money is appealing to pretty much everyone.

This kind of function is described as an “etioloical function” by Hindriks and Guala, and they note that those sorts of functions:

are widely used for classificatory purposes. A particular *type* of institution is defined by the particular coordination or cooperation problem it solves. We illustrate this for the case of money. As compared to monetary economies, barter economies are notoriously inefficient. To the extent that an economy involves some division of labor, it faces the problem of the double coincidence of wants . . . [money solves this problem]. Thus, money confers considerable cooperative benefits on a society. One of its functions is to solve the problem of the double coincidence of wants. It does this by serving as a means of exchange.

(2021: 2033)

Thus, in order to be money, this kind of functional view demands not only that it behave in a particular way, but that it also behaves that way for a particular reason. It is not enough to make something money simply for it to be used as a medium of exchange, it must also be used this way because doing so confers cooperative benefits and solves the problem of the double coincidence of wants.

J. P. Smit, Filip Buekens, and Stan du Plessis describe the existence of this problem in terms of incentives, and stress how it can explain the phenomenon of money without positing an extra ontological level, as Searle’s account does. That ontological excess is their primary target, claiming “that Searle’s theory, while ingenious, is wrong on all counts” (Smit et al. 2011: 1).

In particular, they “deny that institutional facts are irreducible” and provide an account that “explains the same facts, but without postulating a new ontological realm, and hence should be preferred” (Smit et al. 2011: 3–4). Where Searle thinks money is an instance of a group of agents collectively accepting it to be money in a given context, Smit et al. instead think that money exists whenever a particular subject is incentivized to treat it as money. Their formulation for all institutional objects, money included, is therefore “S is incentivized to act in manner Z toward X” (Smit et al. 2011: 5). An X counts as money on this view when someone (S) is incentivized to treat it as a medium of exchange (manner Z), rather than as valuable for consumption or some other reason.

Thus, something like mackerel tins can become money without any group of people collectively accepting them as Searle envisions. Instead, such a process:

can start with some individual realizing that such tins are both generally popular and durable. This then leads the person to acquire them with the intention of

exchanging rather than consuming them. Other individuals, either independently, or by picking up the idea from others, then realise that the incentives operative in the local economy are such that they have good reason to act similarly. (Smit et al. 2014: 1827)

Crucially, this all comes about through “a series of individuals being incentivized to act in a certain way” and so can be explained in terms of actions and incentives of a group of individuals, without needing to appeal that group’s collective agreement about anything (Smit et al. 2014: 1827).

In later work, Smit et al. propose a view of money on which it is, strictly speaking, a sophisticated mathematical object, but they describe the things we ordinarily point to and take to be money (bills, coins, etc.) as having a distinctive functional role, which is to serve as a medium of exchange. More precisely, they describe what we ordinarily think of as money as just whatever “is typically acquired in order to realise the reduction in transaction costs that accrues in virtue of such agents coordinating on acquiring the same thing when deciding what thing to acquire in order to exchange” (Smit et al. 2016: 330–1).

Smit et al. think something becomes money when a particular agent is incentivized to treat it as having exchange value. If one agent notices that the only other agent on the island is willing to trade for mackerel tins, this is to notice the incentive to treat mackerel tins as having exchange value, which is what is required to make them count as money. To be clear, it is the presence of these incentives, not the recognition of them that Smit et al. think is necessary for the mackerel tins to become money. The one agent was incentivized to treat the mackerel tins as having exchange value before the other agent noticed that she was. (How else could she notice?) But the more agents who notice and act on these incentives, the stronger they become. Widespread acceptance of something as money “is simply the end of a continuum that starts with a point where one person recognizes the existence of an incentive to act in a certain way” (Smit et al. 2014: 1828). But this acceptance is not what makes the money, it is the incentives instead that do. Smit et al.’s account allows people to create money without ever deliberately intending to and without ever really understanding that they have, since the processes and attitudes that create it need not be deliberate or transparent to the agents on whom the money depends.

Both Smit et al. and Hindriks and Guala present accounts of money on which it can be created unintentionally, without anyone thinking or talking about something as money, but only in response to a distinctive kind of problem. The problem of the double coincidence of wants is what generates the incentives that Smit et al. take to be constitutive of money, and so their view can be understood in largely the same way as Hindriks and Guala’s. Both views require the existence of the same coordination problem in order to create money, so both views will also require a group of people large enough to generate this problem in

order to create money. Therefore, to determine how many people are required to create money, we must determine how many people are required to generate the problem that defines it. So, how many people does it take to face the problem of the double coincidence of wants? It will depend on how we understand the contours of the problem, and different conceptions track a development across Smit et al.'s work.

If the problem occurs just whenever an agent has an incentive to gather and keep something for trade rather than consumption (as Smit et al. claim in their earlier work), then it can arise in systems as small as those with only two agents. Suppose I found myself on an isolated island with just one potential trading partner. Had I been alone on this island, I would have had no incentive to gather any of the coconuts on it, since I hate their texture (and assuming I had other things to eat). But if I have a potential trading partner on this island who loves coconuts and is willing to trade with me for them, I have thereby become incentivized to treat these coconuts as having exchange value, whether this fact consciously occurs to me or not. The mere presence of these incentives is enough to make the coconuts money on Smit et al.'s earlier view. And if all that is required is that an agent is incentivized to treat something as a medium of exchange, then this could occur between just two people, since incentives to exchange require at least one other trading partner, but not more than that.

But notice that in this system my trading partner might not have an incentive to also gather and keep coconuts to use as trade objects with me. Perhaps since I detest them so much, I would not accept them in trade and would be eager to rid myself of them in exchange for things I value more immediately as soon as I can. In this case, my trading partner would not be incentivized to treat coconuts as having exchange value when trying to appeal to me in trade, though they might be incentivized to treat something else that way. Suppose they were allergic to the mangoes I loved to eat, they would then have reason to treat mangoes as having exchange value, though I would not. In a system with only two agents, the problem of double coincidence of wants can be faced and solved without ever converging on the same thing as having exchange value.

This is not the case in any system with more than two agents, and it might seem wrong to think of the use of coconuts and mangoes in this two-agent system as the creation of money, rather than a kind of specialized barter. So, we might insist, as Smit et al. do in later work, that money requires convergence on “the same thing” to “realise the reduction in transaction costs” as part of the solution to a coordination problem (2016: 330–1). To be incentivized to treat something as having exchange value only requires one other person with whom you can exchange, but there is no pressure for both traders to converge on the same thing if each only has to worry about trading with one other partner. There, each could just keep a supply of what the other is willing to trade for. The pressure to coordinate and converge on the same thing can only begin to arise in a group of three, where there

are inefficiencies and transaction costs in keeping exchange objects that appeal to each of your potential trading partners. Such a coordination problem can only arise when an agent has more than one potential partner to trade with, and these coordination problems are constitutive of what creates money on both Smit et al.'s later account and on Hindriks and Guala's as well.

Guala explicitly builds on the work of Smit et al. and presents an account that follows their later work in terms of how many people are required to get something to successfully function as money. Only when there are multiple potential trading partners is there pressure to converge on something appealing to all of them. Obviously, these pressures can intensify as the number of trading partners increases, but Guala explicitly allows them to exist in groups as small as three. In his chapter discussing money, Guala tells a simplified version of the commodity theory of money using only three agents (Alice, Bob, and Carol). They begin by producing meat, vegetables, and fruit, respectively, and end up converging on gold as a medium of exchange equally appealing to all of them (Guala 2016: 36–7). A group of three like this is the minimum size of a group where convergence on a single thing is the equilibrium solution to the coordination problem of the double coincidence of wants, since a system with two agents might be solved just by each gathering what the other one tends to desire, and those might well be different.

Should we therefore conclude that the smallest possible group that can create money is therefore three instead of two? No, and not because we should think that the problem of the double coincidence of wants can coherently be faced by groups as small as two. Instead, we should not be led to think that real money requires at least three people, because we should reject the idea that it can only arise in the context of a distinctive sort of problem. Of course, money can arise in response to the existing inefficiencies and other economic pressures, but that is no reason to think that it must always do so.

First of all, defining money as the solution to a specific problem will mean that it cannot arise where that problem is already solved. If money depends for its existence on being the solution to the problem of the double coincidence of wants, this will mean that when apparently new kinds of money or currency arise to replace the old, they cannot count as real money. In such cases, there is no problem of the double coincidence of wants for them to solve. This will bring the troubling conclusion that the only real monies are those that originally arose out of barter, and any that came after that are not money at all. This conclusion gets worse if, as Alexander X. Douglas (2015) and David Graeber (2012) argue, it turns out that as a matter of historical fact no money actually ever arose out of the inefficiencies of barter. This would mean that, contrary to appearances, our world contains no actual money at all.

Beyond this worry about making etiology part of the ontology of money, there is the further and deeper concern that it leaves out a distinctive feature of money, and that is our ability to create it at will. Passinsky calls this “creation by fiat” and

takes it to be a defining feature of social objects in comparison with ordinary material objects. As she puts it, “under appropriate circumstances, social objects can apparently be created by acts of agreement, decree, declaration, or the like” (Passinsky 2020a: 439). This is something that cannot be done with ordinary material objects, but it can certainly be done with money. In the twentieth century, the United States, United Kingdom, and Canada all took their currencies off the gold standard, and so by decree changed what counted as money for political and economic reasons, not because the problem of the double coincidence of wants had not been solved.

What this indicates is that money can be created for many reasons and not only as the solution to a single, distinctive kind of problem. Whether the move off the gold standard was done for *good* reasons is a matter of considerable debate, but the new fiat currencies did not fail to be money, because the reasons they arose were in response to political and economic pressures beyond the simple inefficiencies of a barter economy.

This is not to say that function plays no role in the ontological requirements for money, but it is function in the sense of behavior, not in the sense of purpose. Since money can be created by fiat, it can be created for any number of reasons, not just as a response to a single kind of economic inefficiency. The problem with the jellybean money mentioned earlier was not that it was created on a whim in a context where the problem of the double coincidence of wants was already solved; it was that my wife and I decided that jellybeans were money but then never behaved in any way that treated them as such. Social objects unmoored from any behavioral constraints lead to absurdities like cocktail parties that act like wars but are still just cocktail parties. Function matters in creating money, but only in terms of the way the institution behaves, not in terms of the purpose for the institution, as Hindriks and Guala claim.

But this does not mean that money requires only a distinctive kind of behavior and nothing more. Insisting on that will also generate problems. As Sarah Vooys and I have argued, money involves a distinctive motivation, as well as a distinctive behavioral pattern. In order to distinguish barter transactions from monetary transactions, which could be behaviorally identical, they point to the “sake” for which the object is gathered or traded. Barter objects are traded for the sake of their use value, while monetary objects are traded for the sake of their exchange value, and consequently something can only count as money, according to Vooys and myself, when the party either giving or receiving it does so for the sake of its exchange value (Vooys & Dick 2021: 3448–9). An account that attempts to build money out of nothing more than behavior will not be able to distinguish money from barter, just as an account that builds it out of nothing more than attitudes will mistake a battle for a cocktail party. The correct account of the ontology of money, then, will be one that requires both attitudes of the right sort and behavioral patterns of the right kind.

Even without providing the complete and final account of what these attitudes and behaviors are, and what the balance between them must be, it still seems clear given all we know from work done in the ontology of money that they can be instantiated by groups of people no larger than two, since only two people are required to both accept and behave as if something is a medium of exchange, unit of account, and a store of value. Whenever at least two people have both these attitudes and behaviors, there is money. Whether this comes about by accidental coincidence or deliberate design, as the response to urgent economic pressures or just on the whims of these two agents, this is all that is needed to create real money.

4. Bitcoin and Bad Money

To answer our original motivating question, it takes just two people to make a dollar, since just two people are enough to instantiate the attitudes and exhibit the behaviors that money consists in. This will mean that Bitcoin is almost certainly real money, as are a great many other cryptocurrencies, since it is safe to assume that they have at least two people holding the attitudes and exhibiting the behaviors necessary to turn them into money. This is enough to make them money no less real than the US dollar, since the US dollar is money just because at least two people do the same thing for it. This might seem like a troubling conclusion for the view I am promoting here, because it flies in the face of both strong intuitions and recent scholarship. The intuition is the one that we began with, namely, that it is simply obvious that money must have a great many adherents in order to be real money. The scholarship focuses on Bitcoin specifically, but it can be applied to all cryptocurrencies or other candidate monies.

David Yermack (2013) concludes that Bitcoin is not a real currency, because, *inter alia*, it is not widely used as a medium of exchange and functioning as a medium of exchange is a condition for being a bona fide currency. Likewise, Smit et al. conclude that Bitcoin is not money, because it is not typically used as a medium of exchange. In their later work, they require both convergence on a single thing, and that the “typical” use of that thing be a medium of exchange (Smit et al. 2016: 330). Their statement on this is nuanced, however, and is worth quoting at length:

This question now becomes the question as to whether bitcoin is generally used as a medium of exchange, i.e., is mainly used in order to realise the reduction in transaction costs that arises in virtue of social coordination. The data is murky, but it is reasonably clear that the answer is no. At present, the vast majority of bitcoin is traded as a speculative investment, not as a means of lowering transaction costs. We could say that bitcoin may become money at some point,

and we could say that bitcoin is already money among those who use it to transact. If asked, however, whether bitcoin as such is money at present, the least misleading thing to say is that it is not. (Smit et al. 2016: 333)

This passage neatly encapsulates two ways to approach the question of whether something is money or not, and it allows us to see that only one of these approaches is correct. When Yermack and Smit et al. consider the question of whether Bitcoin is money in terms of its “worldwide commercial” or “typical” use, they approach it from the wrong direction. The question of whether something is money is always the question of whether there is someone *for whom* it is money, and simply examining the sum total of all the uses of something obscures this matter. If the ontology of a social object must account for all the thoughts about and uses of it, then it will be extraordinarily difficult for anything to count as any particular social object, given all the thoughts and uses possible for any given thing. If this is what is required for an ontology of money, then perhaps not even gold counts as money, if it turns out that too much of it is filling teeth or being worn as jewelry instead of being used in exchange. Approaching the question in this way also obscures the fact that something only ever counts as money in some contexts and among some populations. Even the mighty US dollar is not accepted everywhere, and the currencies of small nations, like the Icelandic króna, can only be spent among a smallish group of people, but both are still money nevertheless. If, in order to be money, something must be accepted as money everywhere, then nothing can be money anywhere.

Smit et al. are aware of the other, correct way to approach this question, which is to ask if there are any groups of people who have turned this thing into money. That is how their own theory explains how the Americans have turned their dollar into money and how the Icelanders have turned their króna into money, and it is how their own theory can acknowledge that relative to some populations, Bitcoin and other cryptocurrencies are absolutely money. To their credit, they acknowledge this by saying “we could say that bitcoin is already money among those who use it to transact,” but then go on to answer the more common, albeit mistaken version of the question as it is usually asked (Smit et al. 2016: 333).

Distinguishing these two different ways of approaching the question of whether Bitcoin or another small cryptocurrency can be money addresses the scholarship that rejects the idea that two people are enough to create money, but it may not unseat the nagging intuition that surely something must be wrong with a money accepted by only two people in comparison with a currency accepted by as many people as the US dollar is.

This intuition can be explained as a response to a failure relative to a normative standard rather than to an ontological requirement. A money accepted by only two people may be money as much as the US dollar is, but this does not entail that it is money equally as good as the US dollar is. A standard goal we might hope for in our money is for it to enable exchange with as many potential trading partners

as possible. Relative to this standard, a money accepted by only two people is much worse money than one accepted by many millions.

This is not to say, however, that the best money is always the money with the widest scope of acceptance.² Just pragmatically, the fact that many millions of people accept the US dollar in trade is no help to you if you are in a country that does not include any of those people. A currency that is only acceptable in a small locality can be far preferable in some cases to a currency with a much wider scope of application, so supposing that the single normative standard for money is “widest acceptance” is a mistake.

Other philosophers have noted that there can also be moral and political reasons to prefer such limited currencies, beyond just immediate pragmatic ones. Nations might have good reasons for their currencies to have smaller scopes of application, and to not be usable beyond their national borders. This could permit them greater control of their national economies and shield them from volatility in the global economy. As Tobey Scharding (2019) argues, Johann Fichte saw such exclusively national currencies as morally necessary for a nation to fulfill its obligations to its citizens. Furthermore, advocates for even smaller local currencies that might only be usable inside a single city or town see them as ways to support initiatives that the outside economy would not, and to keep wealth from being removed from the local community (Hudon & Meyer 2019). It is therefore very plausible to think that there are many scenarios where having a smaller group of people recognize and use a currency is better than a larger one.

This is all to say that there can be a great many differences between a tiny cryptocurrency and a giant national currency like the US dollar, but as long as at least two people do what it takes to make them into money, these will be normative differences, not ontological ones.

We ought to be careful not to conjoin the ontological requirements for money with the various normative standards that we might apply to it. Yermack does this when he rejects Bitcoin as a currency because it fails to behave in the way a “successful currency typically functions” (2013: 9). But if something must line up to the normative standards we apply to money in order to count as money at all, then all money is good money, and the category of “bad money” becomes conceptually impossible. This commits us to both the ontological error of misclassifying all bad money as no money at all, and to the normative limitation of not being able to criticize bad money. If bad money simply fails to be money, on what grounds can we insist it live up to the normative standards for money?

All the recent work in the ontology of money discussed here permits it to be created by very small groups of people, and this should be seen as a virtue of all these accounts, rather than as a drawback. This is because it allows each of them to

² See Dick (2020) for a detailed version of the argument that money should not be thought to be automatically governed by a single normative standard.

easily identify something that counts as money but that can nevertheless be criticized as bad money, relative to the normative standards we should apply to money. This is as it should be, since as the great chartalist G. F. Knapp observed almost one hundred years ago, “Money it must be, in order to be bad money” (1924: 1).

Acknowledgments

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