For a Non-Money Economy

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Introduction

One purpose of money is to distribute goods and labor. In the future, we will be able to solve these tasks differently, without money, instead relying on the help of networks, algorithms, and artificial intelligence.

Why do without money? The medium of money combines three functions: payment, value, and storage. In every money economy, the function of storage tends to overshadow the other functions. This tendency is unavoidable because it is inherent to money. The command "More!" is inscribed in it from the very start. The command drives toward a state in which all economic activity is forced to pay tribute. Each valuation of goods and professions shifts in favor of assets and their accumulation. Increasingly, income and property are distributed unequally. This should come as no surprise, since the measures taken by central banks after the crisis in 2008 were limited to the continuous salvaging of assets.

Designing a non-money economy would pose a fundamental utopia in opposition to the money economy. This economy would do without money, abolish the storage of value and assets, and replace the functions of value and payment with the algorithmically supported distribution of things and activities. Technically speaking, this is possible because all transactions are already digitally recorded and enough data can be calculated to enhance and replace the market's information function. In this sense, the concept of the non-money economy represents a radical leftist utopia: an economy that strives toward equal economic distribution by changing the current system in a fundamental way, because it pertains to money's nature as a medium.

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1. Distribution

The task of the economy is to distribute money and labor. But money is not necessary for this task. Historically speaking, the medium of money came to be used to bundle necessary economic information and to communicate it. Today, almost the entire economy runs under a money regime. But neither the end of history nor an optimal solution for distribution has been achieved with this scenario. Since data and computers are now large and fast enough, we can envision alternative, moneyless, and probably better techniques of distribution. We need to begin with questions of distribution and allocation and not with markets and their monetary orientation.

The task of distributing many different things among many different participants represents a typical problem for networks, which is how to deal with a variety of connections. The core element of these connections is to form a social relation, be it through a gift or help or communication. Whenever something is distributed, a link is activated.

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With the increasing amount and density of information, the relationship between prices changes radically. Prices only retroactively express what we already know about the behavior of consumers in the market. Whenever we book a flight, we can see how prices are set using algorithms. This data head-start applies not just to final consumers, but also to large sites of trading. Sporadic flash crashes show what happens when algorithms speculate on stocks and other securities.

When our profiles, our likes, and our consumer histories are used to calculate who will buy what and where, the entire market becomes condensed to a singular moment for each transaction—that is, if a profiling algorithm can determine the price one is willing to pay for a specific product at a given time and place, there exists exactly one marketplace for that sale. In that case the price of the item conveys no additional information outside of this single market. Formally speaking, distribution is still depicted in prices and calculated in terms of money, but data currents today already represent the technological foundation of a non-money economy.

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2. Transactions

Transactions form the foundation of every economy. The simplest of all transactions is a gift. One person (A) gives something (x) to another person (B)—noted as a tuple (A, B, x). The term "person" here refers to any kind of active agent, not just human beings, but also robots, programs, machines, or other living beings.

A gift is anything at all that can be given, not just commodities, but also information, events, access, actions, assistance, and the like. Giving, rather than labor, should be considered the foundation of economic relations, for the simple reason that one can indeed work without being part of the economy—that is, entirely for one's own good and without any effect on others. In contrast, a transaction always represents a social relationship of some kind. This means that, with the division of labor, the foundational act is that of division, not labor. We need to take a closer look at what economic activity means. Labor is part of the money economy and relies on the concept of paid, productive activities. In a non-money field, the economic value of an activity would be decided by whether and how it is shared.

All formats and structures of giving and exchange, like payments, prices, values, purchasers, consumption, supply, demand, and markets, can be traced back to simple transactions. The entirety of all economic relationships can be understood through the elementary transaction of giving. The act of purchasing, today seen as something quite ordinary, emerged rather late in the long history of economic relationships and the advent of money. Previously, simple transactions were the rule: gifts, even forced ones, in the form of taxes, for example. Measuring and noting gifts in numeric form began not with money, but with systems of inscription that were usually linked to temples. All the stories of money that suggest the economy began with exchange are not just historically incorrect; they also refuse to recognize that an economy before money existed, and thus are not suited to conceive of an economy without money today.

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3. Media and Networks

Reaching the point when data can take over the tasks of money depends on the relationship of computing capacities to transactions. As soon as computer networks are large and fast enough to process all acts of payment, technically speaking it is possible to algorithmically emulate the function of money. We have now reached this very threshold, and are likely to cross it in the course of a few years.

As mentioned, economic forms without money are not entirely new. Before the rise of money, larger economic units were administered by systems of inscription. Their remains are not only found in the ruins of temples, but also in the myths of guilt or debt (*Schuld*) in many religions. In one of the most famous of all prayers, Christians demand, day in and day out, millions of times over, an end to all debt: "And forgive us our debts, as we also have forgiven our debtors." But they have forgotten the economic core of these lines. With the shift from a centralized system of inscription to a decentralized one —i.e., using money—forgiving debts went out of fashion. This was no coincidence, for the many creditors who had taken the place of a central power were then more interested in collecting debts than in forgiving them. Christianity reacted by replacing debt with sin and replacing the forgiveness of debt with individual confession—that is, through a form of control.

Historically speaking, economic relationships did not begin with exchange and certainly not with payment. What came first was giving, helping, and lending. Property was unknown. In small village communities, memory was sufficient to keep track, more or less, of who gave what to whom.

It was only with the introduction of writing that larger economic units began to be organized over a longer term. Recordings of gifts and debts can be found at many excavation sites of ancient civilizations. Ultimately, the invention of writing can be traced back to such archives of gifts and tributes. Together with the first general medium and

system of inscription, new economic units grew. The dominance of these economies of inscription, usually around temples and in cities, could expand as far as their power to collect tributes extended.

Money only came later. In a strictly technical sense, money is not a medium but a technique that uses all sorts of media to make notes transportable—and the process is read-only. For the economy, this meant that money was a fundamental innovation, for it converted the simple transaction of the gift into a symmetrical exchange. If somebody paid to acquire something, there was nothing left over. Nothing needed to be noted. Money saves data.

The expansion of money ran in parallel to war and expansive state forms that, with money's help, established a cycle of taxes for paying and feeding soldiers.

By way of the circulation of goods and labor, a complex structure evolved of money-like forms of notation for payments and promises of payment, from the coin to the promissory note, from paper money to digital currencies.

In the end, we have returned to a system of inscription that not only notes all payments, but also constructs the wildest derivatives and wagers on promises of payment. But the fact that money condenses data is no longer of interest, since we are able to process enough data.

Peer-to-peer currencies and crypto-currencies are nothing fundamentally new to this system. Bitcoins are still a form of money, even if separated from a central institution. On the path towards the abolition of money, they merely represent a detour. The principle of payment itself is maintained by digital and peer-to-peer payment systems. They simply reproduce old money on the new-media foundation of a distributed network. This corresponds to the first step of a media transformation.

In media theory since Marshall McLuhan, it has been a commonplace to state that newly developed media are first used to reproduce old content. Media transformations often take place in two phases. First, there is a reproduction of the old in the new: in the case at hand, Bitcoin is the internet's replication of money. Only in the second phase will it become clear what kind of new life the new medium can develop. This step is still to come for money. It will lie in the takeover of economic functions of money by way of intelligent networks.

The most important thing about peer-to-peer currencies is the architecture in the background, the so-called blockchain. This represents the foundation for a decentralized technique of administration by which transactions can be communicated anonymously and examined by anyone. The technique works for money just as well as for other moneyless and decentralized systems of notation. Therefore, the blockchain represents a possible building block for an economy after money.

The second phase of a media transformation applies to the question of how a moneyless economy can emerge and how it could replace money. But technological development

leaves many possibilities open here. At issue is not a fixed, defined path that follows deterministically set media guidelines. Technological progress opens possibilities for future activities, in terms of the ecology of information affordances. As a rule, these are achieved by way of a chaotic process full of contradictions. What drives transformation are not plans or impact assessments but rather the misuse of possibilities, the counterculture, hacking, and taking advantage of mistakes and gaps. This applies to the non-money economy as well. We will not be able to plan it. It will emerge in the niches and obscure corners of various networks and spread from there.

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4. Matching

Matching is an important operation in a money-less economy. It takes on functions that are otherwise controlled by prices and by the market. "To match" means to classify, assign, or link.

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The process of matching serves to integrate all participants and their desires, needs, possibilities, and abilities. It offers to mediate between transactions, to advise participants in their decisions, to accompany negotiations, and to note the results.

Theories of algorithms and networks use the term matching to refer to every cross-classification of elements from two different sets. For our purposes, these elements can be things or people or events or points in time or locations or objects of any kind. Elements of the same set may be matched with one another—such as in the case of two people connected by a dating agency, a team of programmers brought together for the development of a project, or trucks or containers coordinated for shipping purposes.

Formally, in a network-based environment, matching performs a gift based on conditional constraints. The result of a match can be described as the difference between before and after, whereby each matched transaction has effects beyond all immediate participants, no matter how small. The environment encompasses all links and information that go into the matching, that are processed along the way, and that are noted in the final conclusion. In the process, all decisions made along the way are accounted for, both on the giving side and the taking side, on the side of the good itself that is given, and on the side of the affected third party. The factors that go into making a match include comparable transactions, the history of transactions in the participants' profiles, and the participants' desires, needs, and capacities.

Matching processes all of these parameters to suggest one or several possible solutions. The function is not that of an auctioneer, but of a mediator. This means that it is not the goal to calculate the best solution for an ideal price and to leave things at that, but to communicate among a series of interests. Matching is scaled depending on need. Not all options have to be taken. When it comes to daily use, matching would become a

formality and take less time than paying does today. If matching were to be applied to a more extensive political process, it would affect all the committees, authorities, and interested parties involved, and would thus unfold similarly.

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Matching procedures would make suggestions on the path towards a decision, show opportunities, and accompany the process of negotiation. It might well be the case that the algorithm becomes active before we even think of wanting something particular. Some suggestive apps already do this, by evaluating our desires and predicting them. Whether we want this influence or not is perhaps a hypothetical question. The more advantages people see in algorithms, the more they will take recourse to them. In this way, socially recognized patterns of behavior arise all on their own. The future, present, and past of media transformations are never foundationally subject to social intention, but driven by a technological dynamics all their own.

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Seen from the users' perspective, every process of matching begins with a desire or a need. The algorithm then suggests various solutions. If one of them fits, the other participants—producers, suppliers, inventors, machines, or algorithms—are contacted. If an agreement is reached, the transaction is carried out and noted. The impulse to make a match can emerge from each of the four participating sides: from those interested, from those offering, from the product itself, or from the algorithm. Most steps in a match are basically familiar to us already. We carry them out all the time, looking for something online or offering and selling something of our own.

The matching process encompasses an entire bundle of functions around a transaction. Whether these functions are encounters in a unified framework or are divided among a variety of apps is of no relevance in terms of a currency-less economy. The decisive feature is that matching does not operate with money, but organizes distribution directly. This also means that transactions are noted and stored, but not valued with fixed prices and calculated as such.

Matching is also omnipresent within an economy like the current one that operates with money. When we buy things or somebody pays us for our labor, matching is also taking place. But this usually follows different rules than it would in a moneyless world. Without money, the selection criterion of simple and one-dimensional value would fall by the wayside. Instead, an entire series of various decision-making factors become available.

Consider for a moment how matching works under conditions of money. Let's say we go into a store and purchase something. The product already has a history behind it. Somebody designed it, others made it, and the store has it in its assortment because it could count on customers like us. Our purchase is thus preceded by several decisions that are all linked to the exchange of information. But before we take the product and pay for it, we undergo a more or less intense process of deliberation: weighing the costs,

our budget, our desires, and our needs. This internalized matching can take place in very different ways depending on the person and the situation. Some have to consider every single cent they spend, whereas others are largely free of this concern. In a moneyless economy, there is no guarantee that all will be freed of such concerns.

There will continue to be unfulfilled—and unfulfillable—wishes. Even in an economy without money, we won't be able to possess all that is denied us under a regime of money. Only the conditions and procedures will change, fundamentally, and for the better.

Whether with or without money, our personal decisions are integrated into a broader cycle of information. In today's economy, a purchase sends the information that more of the same product is needed. It combines with similar information at the point of sale and reaches the producer from there. Parallel to the flow of money and payment, there is always a second current of information that controls how paths of production are organized and goods are distributed. Matching without money would dock directly onto this secondary flow of information.

Translated from the German version by Brian Currid.

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