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Title

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Permalink

<https://escholarship.org/uc/item/5s10z4n0>

ISBN

9780719096259

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Publication Date

2014-08-20

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Channels and codes, rails and freight: can you hear me now?

Bill Maurer

When you care about transmission, the question of value recedes—that is, the question of what value is, where it comes from. All you care about, if you care about transmission, is how it gets from A to B to C without degrading, evaporating, how it endures over time and space. This is a very particular kind of problem. Guided by payments industry professionals, as well as by social scientists and theorists concerned to elucidate the material infrastructures of the economy, this is how I have begun to see the market. I see channels and codes, rails and freight carried over those rails. This is what I see when I see money: a series of interlocking infrastructures for the acceptance and transmission of value.

Nota bene: the question of infrastructure does not enter into the realm of representation, that old saw that has occupied commentators, philosophers and artists of money forever and ever. When the focus is on how money gets moved around, then how money 'represents' value is irrelevant. Infrastructure is about pipes and tubes, 'rails', in the words of my interlocutors in payments, how they are built, the switches that connect them, the portals into them. And the noisiness, the cacophony, of the freight train.

The modal payment rails since the 1950s have been the interbank card networks (those associations that grew into Visa and MasterCard) as well as the publicly mandated infrastructures that sit alongside them (in the United States, the Automated Clearing House, majority-owned by the US Federal Reserve). But there are new rails being built as we speak. For one thing, entire swathes of large continents – central Africa! – not yet connected into the global electronic network facilitating payments, are seeing a new race to build, to own and to toll the channels that would carry money. The race is on. Will it be Citi? Visa? A public entity? China's UnionPay? Payments rails are not merely metaphorically associated with trains: their wires often follow the tracks. If China is building a road network through central Africa, will it lay the payment rails alongside?

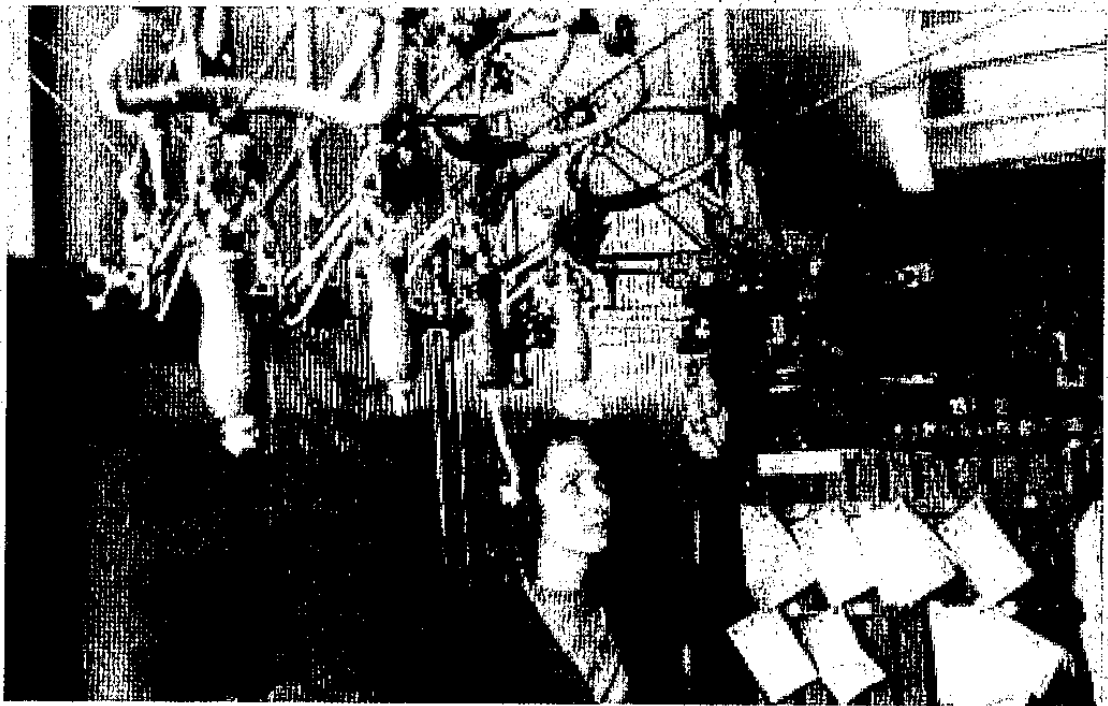
For another thing, entirely new kinds of rails are being built, with professionals and regulators alike having to pause and ask, 'Wait. Is *this* a new payments rail? Is *that*?' Here is an example: mobile phone airtime. Imagine one box consisting of the servers, fibre optic and copper cables, software and database architecture that keep track of electronic credits, and retail shops that accept paper currency in exchange for paper cards with numeric codes on them. Those codes activate credits usable for voice and data communication. These connect to another box, the mobile network communications towers that transmit information between their servers and that take in these electronic credits in exchange for bandwidth and time in their channel. Both connect to a third box, the financial system, the banks, when the airtime distributor settles up with the mobile network operator. Now, as long as that connection to the third box is there, then – a payments expert would say – this is just a system for distributing a product paid for in money, and it is not in itself a new channel for the transit of money.

We have known for several years now that people use airtime itself as a currency, however. They do not have to 'cash out' or turn airtime back into state-issued money in order to

Figure 1

*Anscombes Cash Railway,
Anscombes Department
Store, Harpenden,
1974.*

Image courtesy of St Albans
Museum. With thanks to Jane
Guyer and her work on cash
railways for inspiring the
image selection.



exchange airline credits with each other, or use them in something we can call barter if it makes us feel better but really is basically the use of airline in lieu of state-issued currency.

In lieu of. This is a regulator's words. If the freight carried over a system is used in lieu of money, then the system is 'dangerously close' in form and function to a payment rail. Dangerously, because in that case, the state has an obligation to treat it as a regulated entity, make sure it is licensed, and levy fines or prison time or both if it is operating in violation of statute.

The state continues to do a very good job of ensuring its currency's place in the hierarchy of money. (Dwolla, for a time the only payments company that allowed a person to trade US dollars for Bitcoins, 'rides the rails' of the Automated Clearing House. Its Bitcoin account was seized in May 2013 by the US Department of Homeland Security for being an unlicensed money service business. As I said: the state continues to do a good job indeed.)

Now, let's say you are trying to set up an alternative rail. What do you have to do to comply with the state's desire to control its position in that hierarchy? Aside from registration and payment of fees for licensing, your chief obligation is to create and maintain records. Records-keeping. Transactional databases.

That starts to make things interesting.

Payment regulations in the global North suture any potentially alternative currency riding any potentially alternative rail into the rest of 'the economy' by requiring transactional records. In the United States, you are even supposed to report barter income, in a US dollar equivalent, on your federal income tax returns. Says the Internal Revenue Service: 'it's never too soon, or too late, to start good recordkeeping habits. You should keep all receipts, payment information and tax information in one location to make filing your taxes easier when the time comes.'⁴

Money, of course, is nothing but a bookkeeping operation.

So what happens if people, systems, infrastructures start up their own set of transactional databases? And then seek to trade against the obligations represented in those databases

with their own token? In that situation, the distinction between network infrastructure maintaining the transactional database and the token built on the obligations recorded therein – also maintained in the same network infrastructure – starts to collapse.

When I see the market today, I see a proliferation of such transactional databases, privately held though – it turns out – subject to government scrutiny, not as entirely walled off as we might have thought. When Edward Snowden revealed that the US National Security Agency had entered into agreements with the main internet service and telecommunications companies like Google and AT&T to view information in their databases, the big news was privacy, surveillance, government abuse of power. As I write, some companies are fighting the US government in court so that they may disclose government data requests.

The sleeper story is the potential for money making in these networked systems of transactional data. Not monetisation of the data, or profit-making; but the making of a set of alternative, private currencies carried over closed-loop, alternative rails.

The gatekeeper – the regulator – would say: you can make alternative tokens using Facebook or set up a currency based on your reputation in an online marketplace or connections in a computer-mediated social network. I don't care about whether that new token actually serves as a store of value – that's not my job. You are free to speculate on and trade with anything you like. But as soon as you have a secondary market in that token – trading tokens for US dollars or trading tokens for other tokens – then you're entering my domain. Then you are a payment system. Then I want to see your records because then, and only then, you have become an infrastructure for the transmission of value. A rail.

From the regulator's point of view, such a system would be merely a new channel. Ultimately, no matter what you call it, the code going through that channel remains the same, even if it looks different: if it is traded with other codes, state-issued or otherwise, it is serving in lieu of money. Payment is therefore the choke-point for the definition of money.

The problem is – and we know this from semiotics, we know this from communications theory, we know this from Actor Network Theory and from civil engineering – the channel never just carries the code. It is not a simple intermediary or bridge. There are holes in it, portals and switches and connections all over the so-called system. There are also toll-seekers and toll-takers at every junction. There is noise on the line. Rails and channels work as intermediaries only when they can filter out that noise and transit freight or fluid seamlessly, smoothly, silently.

Ever heard a silent railway or aqueduct?

Perhaps we need to hear rather than see the market and money.

Notes

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- 1 IRS Video, *Do You Barter?* (with transcript) available at <http://www.irsvideos.gov/SmallBusinessTaxpayer/BusinessIncome/DoYouBarter>, accessed 21 September 2013.



SHOW ME THE MONEY

The image of finance, 1700 to the present

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Manchester University Press
Manchester and New York

distributed in the United States
exclusively by Palgrave Macmillan