UC Irvine
UC Irvine Previously Published Works

Title

'Bridges to cash'

Permalink

https://escholarship.org/uc/item/88r65468

Journal

Journal of the Royal Anthropological Institute, 19(1)

ISSN

1359-0987

Authors

Maurer, Bill

Nelms, Taylor C

Rea, Stephen C

Publication Date

2013-03-01

DOI

10.1111/1467-9655.12003

Peer reviewed

'Bridges to cash': channelling agency in mobile money

BILL MAURER, TAYLOR C. NELMS & STEPHEN C. REA
University of California, Irvine

Encountered by mobile money professionals – industry and philanthropic actors seeking to bring mobile phone-enabled financial products to poor people in the 'developing world' – the authors move together with new collaborators to inquire into a problem they had been grappling with for some time. This is the problem of agency; specifically, the agency of 'mobile money agents', the people 'on the ground' or 'in the field' who form a crucial function in permitting others to put cash into an electronic money transfer system and pull cash out of it. These 'human ATMs' or 'bridges to cash' become the object of analytical scrutiny for mobile money experts and anthropologists. This article takes that analytical scrutiny – and not mobile money agents themselves – as its object. It seeks to understand how 'agency' inflects debates over money, its meaning and its pragmatics, and its transformation in new communicative infrastructures, and how it might inform anthropology and political struggles over money and payment.

Bridges to agency

What are the implications of the analytical move away from a semiotic or materialist account of money in human society towards an account that foregrounds money's pragmatics, its uses, affordances, and entailments?[1] And what are the implications when that same move seems to be taking place in worlds where monetary pragmatics are part of a business model, development strategy, or political programme? When, for instance, that move has potentially profound consequences for those who use and innovate with, or who facilitate the use and innovation of, money? This essay takes up the problem of agency in monetary pragmatics. But it does so together with and alongside sets of actors, systems, and infrastructures similarly taken with monetary pragmatics and with agents.

Our focus is 'mobile money': the phenomenon of mobile phone-enabled means of transferring and storing value. Mobile money is a phenomenon of the so-called 'developing world' and relies on basic mobile handsets capable of voice and text, not Internet-enabled 'smart phones'. According to the mobile communications industry, over 80 per cent of the world's population have access to mobile – either through their own device or someone else's. But less than 10 per cent have access to 'safe, affordable financial services'.[2] Recognizing a potential market, but also seeking ways to address the needs of the poor, the mobile communications industry and corporate and

philanthropic actors have found in mobile money the potential to promote 'financial inclusion'. By the time of our writing in 2011, this agenda had attracted the interest and significant investment of major players in the world of poverty alleviation, economic policy, banking and financial services, and the payments industry (Maurer 2012*b*). These actors constitute global networks of 'mobile money professionals': regulators, policy-makers, and lobbyists; investors, start-up founders, and other businesspeople; design researchers and programmers; philanthropists and NGO staffers; and an assortment of others interested in the business possibilities and anti-poverty potential of mobile money. We take the concerns and debates within these networks – specifically, a conversation about agency – as our object of analysis, while simultaneously participating in these discussions.

Indeed, this article is based on what may seem an unusual form of fieldwork. Since 2007, Maurer has been involved in mobile money as an academic adviser for industry and philanthropic organizations. He did not seek them out. Rather, they found him through his work on the anthropology of money and through relationships with other anthropologists. Partly as a result of these encounters, Maurer founded the Institute for Money, Technology, and Financial Inclusion (IMTFI) at the University of California, Irvine, which, since 2008, has supported over a hundred researchers from over thirty different countries conducting independent studies of mobile money.[3] Like many mobile money initiatives, IMTFI is supported by the Bill and Melinda Gates Foundation, but operates independently from it. Its creation led to discussions with money mobile professionals and contributions to the growing 'grey literature' on mobile money (e.g. Maurer 2011; Maurer & Morawczynski 2010). Nelms and Rea have worked as research assistants at IMTFI and have developed a level of expertise in mobile money that has paralleled in time and content that of other mobile money professionals. We have grown up together in this industry, as it were, while the industry has grown around us. IMTFI has become a conduit for the transit of knowledge, practice, and design for mobile money – a bridge of the sort we discuss in this article, which offers a means to examine shared concerns and which has attracted its own ethnographer (Schwittay 2011).

Our effort here is to examine one set of questions mobile money professionals pose to themselves and for which they have sought our assistance: the problem of 'agency' in mobile money. 'Agency' and 'agents' are emic terms. Yet the distinction between emic and etic is difficult to sustain, because the professionals' question is one we might have posed (and did pose) ourselves. So, rather than follow them into what they and we call 'the field' to understand mobile money agents, we inquire ethnographically into their inquiry. We take the difficulty of separating our analytical work from our practical engagement with their inquiry as a fruitful muddle from which to write for an anthropological audience.

The proximate instigation of this article was our attendance at the 2011 Mobile Money Summit in Singapore, an industry conference at which Maurer presented the results of a collaborative project on the 'platformization' of mobile money (Kendall, Machoka, Veniard & Maurer 2012). It was in Singapore where we first began to think about the implications of debates about agency among mobile money professionals. We also draw on our ongoing discussions with mobile money professionals, which take the form of email exchanges, requests for copies of articles, assistance with data analysis, comments on drafts of working papers, policy reports, and other written products, and (usually) good-natured sparring over specific points of regulation, or interface and system design.

Mobile money professionals come from a wide range of backgrounds and countries. Most are relatively young (under 40), though a few leaders in the field are older. Practitioners in the developing world with backgrounds in business are also older as a group, and more are male. Others' backgrounds range from computing, mobile communications, and information technology to development economics and the poverty alleviation sector. More than a few are postcolonial subjects resident in England or North America, or members of extended transnational families with ties to Kenya, South Africa, Pakistan, and India. As a result, some have first-hand experience with mobile money services; some regularly remit money to their relatives and have strong moral views on the value of remittance money. There is heavy traffic between a handful of centres of expertise: the Consultative Group to Assist the Poor (CGAP), the Gates Foundation, the GSMA (the global trade association for the world's mobile telecommunication providers, which has hosted annual Mobile Money Summits since 2008) and especially its Mobile Money for the Unbanked (MMU) unit – itself funded by the Gates Foundation – the International Finance Corporation (IFC) at the World Bank, various IT and design firms, a few policy consultancies, and recently the US Agency for International Development (USAID) and payments industry firms, both large (the major card networks) and small (tiny start-ups or third-party payment service providers). Appropriately, given the name of this field, mobility is constant: few of the people Maurer first met in 2007–8 have remained in the same job since then.

It would be easy for those outside this field to imagine a prototypical set of social and cultural infrastructures underlying mobile money; that supposition would be (mostly) incorrect. The community is diverse, has strong representation by women, and is not unified by any one corporate or development agenda. If there is a common thread, it is a market-based approach to achieving the 'sustainability' of mobile money and its gains in financial inclusion and poverty alleviation. Those who question the market as a central mechanism though which to distribute such 'goods' (public and private) are responding to its centrality in the mobile money imaginary (yet such market doubters are often found in unexpected places). Moreover, mobile money is a highly self-reflexive, even self-critical field; its participants are constantly scrutinizing and seeking to adapt existing technological and social infrastructures, including their own. Even if they don't always recognize their own emplacement in a social milieu, they are well aware of their own and others' process of learning – particularly, as we discuss here, that of mobile money agents; gathering expertise in this industry involves uncovering existing technological, social, and payment infrastructures as they seek to build new ones. People in mobile money have small epiphanies all the time: when they discover how other electronic payment systems function; when they learn or re-learn about money as a means of exchange, store of value, or method of payment; as they discuss with each other and with anthropologists what money does rather than what money is, and thereby encounter anew their own commitments to money's pragmatics (Maurer 2005). We do not wish to elide important power differences among mobile money professionals or between them and their potential and actual clients. But we want to bring forward another power relationship that has emerged in mobile money, which may pose new questions for its practice, and for the practice of money itself: the relationship between private payments infrastructures and everyone and everything else. Our analysis articulates around the figure of the mobile money agent, who is supposed to provide the mechanism by which mobile money moves.

Mobile money services have been dubbed 'bridges to cash' (Eijkman, Kendall & Mas 2010), to describe the use of mobile phones together with a network of human 'agents' to replicate the functionality of the ATM or bank branch: if I don't have access to a bank or an ATM, whether for reasons of distance or poverty, I can use my phone to access basic financial services. I can upload cash into my phone by giving it to an agent, who credits my account (dubbed 'cash-in' by the payments industry). I do this for safekeeping, treating the phone like an electronic piggybank, or to transmit it to another person, using the phone as a means of value transfer. If someone else has transferred electronic value to me, I can withdraw an equivalent amount of cash from an agent who is physically closer to me using my phone ('cash-out'). This latter ability – person-to-person (P2P) money transfer – remains the primary use-case for mobile money.

P2P money transfer is, however, a misnomer: the service depends on a network of human agents who serve as cash-in/cash-out points, and so 'P2P' always entails, so to speak, other Ps – or, rather, 'As', the mobile money agents themselves. In its 2011 annual report, the GSMA's MMU programme provides this definition of a mobile money agent:

> A person or business that is contracted to facilitate transactions for users. The most important of these are cash-in and cash-out (i.e. loading value into the mobile money system, and then converting it back out again); in many instances, agents register new customers too. Agents usually earn commissions for performing these services. They also often provide front-line customer service – such as teaching new users how to initiate transactions on their phone. Typically, agents will conduct other kinds of business in addition to mobile money. The kinds of individuals or businesses that can serve as agents will sometimes be limited by regulation, but small-scale traders, microfinance institutions, chain stores, and bank branches serve as agents in some markets. *Some industry participants prefer the terms 'merchant' or 'retailer' to describe this person or business to avoid certain legal connotations of the term 'agent' as it is used in other industries* (GSMA 2011: 89, emphasis added).

The many roles mobile money agents play in the provision of mobile financial services – from managing liquidity as cash-in/cash-out points to recruiting customers and offering customer service – engender legal and practical problems as understandings of the 'agency' of mobile money agents diverge. As we will see below, a key question has emerged over whether mobile money agents act as mediators or intermediaries, bridges or channels. Reliance on mobile money agents has thus led to an agency problem – for the industry and for us as ethnographers of/in it. The goal of this paper is to provide an outline of that problem and to reflect on its broader implications. Bridges to cash, we argue, are also bridges of agency, and there is a great game afoot over the character and control of those bridges – over whether they will be mediators or intermediaries, and over why it might matter for money and meaning generally.

We have stated that our own analytical concern is a shift from money's semiotics to its pragmatics. This analytical move, thinking about monetary pragmatics, is not meant to reproduce the structure/agency divide by introducing a limited notion of human practice, or, for instance, to replace a commodity theory of money with a credit theory more reliant on human relationships. Rather it is to *participate* in the proliferation of forms of money and economy – including, perhaps, those of mobile money – that sit alongside the classic binaries of the Western tradition (thought and action, *intellectus* and *res*, sign and object). This is a proliferation that, some argue, has always 'been there', beside dominant modes (say, capitalism), and has worked itself into those modes. Recognition of this fact undermines the distinctiveness of such modes – of, for

instance, the surplus value extracted from labour power in the form of monetary profit – and their hold on the political and academic imagination (Gibson-Graham 2006). This is not simply a project of imagining alternatives or making them viable, of using difference to challenge unquestioned extant systems. This is a project of providing an account of phenomena that is simultaneously a becoming-with those phenomena (Haraway 2008), so that the experimentations going on in the world and in the analytical enterprise are of a piece with each other, partially, sometimes, in some scales or states of phase. In that becoming-with, new networks do not simply multiply, branching out from a common origin; instead, differently ramifying assemblages can result, replicating at other – not higher or lower – scales and states.

If, as Shell has argued, we can never escape 'the countinghouse of language' (1993 [1982]: 186), our modes of money being so intricately bound up with our modes of thought and our very theories of representation, we counter that we can at least place a call to another modality, another clearinghouse where things are counted differently, but with tools we have had all along (in our case, literally, with tools that lie dormant in some of our everyday technologies and with analytical tools that we share with our interlocutors). Our ability to place that call obviates the old anthropological problem of difference: the fact that it works, that the call goes through, means the chasm is not unbridgeable. This kind of anthropological analysis stands in relation to its objects not as sign to signifier (in which the goal is an adequate description of the world), but as itself a channel that brings other relations into focus as 'objects of joint attention' (Kockelman 2010: 408). A relation to a relation. A key resource in the bridge-building this essay attempts is the fact that such things as phone calls, bridges, channels, agents, and so on, are not only metaphors with analytical purchase, but are terms shared between anthropologists and interlocutors. This case brings to the fore questions of both connection and disconnection (does the call go through?) and agency and accountability (if it does, what kind of channel transmits it, what kind of receiver answers it, and who, exactly, is responsible for its effects, intended and unintended?). It also provides a perspective from which to reconsider the meaning of money and ultimately political conflicts over the infrastructures of money's movement in transfer, exchange, and payment. We think this is urgent.

In academic communities, agency entails some sense of a being who acts, often on its own accord.[4] In philosophy and social theory, an agent is any person or thing that is capable of action. 'Agency' in this sense is a description of that person or thing's capacity for action. An agent of this sort is often, though not always, understood to act primarily on its own behalf. Yet we often use the word 'agent' to mean someone who does work *on behalf of* another entity. This use of the term echoes the legal definition of agency as a relationship of liability in which the principal is held accountable for its agents' actions.[5] Government agents, sports and entertainment agents, insurance agents and stockbrokers – these agents stand in for persons or other legal entities in order to perform a task for them. These tasks often could not be performed except by the agent, owing to concerns for efficiency, efficacy, expertise, or arm's-length distance from the principal.

In this latter sense, the agent functions as an extension of the principal, as an intermediary that assists the principal in executing its will, moving from a current state or place to a desired state or place. These agents could be thought of as part of a distributed agency that both includes and supersedes them, such as toll booths on

highways. The former type of agent, however, tries to master its destiny: it inhabits an environment of multiple and various means and has the potential to move towards multiple and various ends. It is not an intermediary, then, but rather its own mediator between current and desired states, and may take multiple routes to get from one to the other, and might even change or redirect its intentions along the way. Thus, as Ahearn has noted, 'ironically enough, the commonsense notion of [agency] in English often connotes a *lack* of what scholars would call agency because the everyday definition of agent involves acting on behalf of someone else, not oneself' (1999: 12, emphasis in original).

The language of 'mediators' and 'intermediaries' comes from Latour. Intermediaries are black boxes that transfer an input to an output without changing it; the agency of intermediaries is not transformative, but merely conductive. Mediators, by contrast, transform inputs and generate multiple outputs (Latour 2005: 39). Mediators become intermediaries, and vice versa, over time or under certain conditions. Such transformations are an effect of the wider ecology of relations in which agentive entities are embedded.

Kockelman (2007; 2010) also turns to a distinction between mediator and intermediary to expand and refine the concept of agency in relation to semiotic practice. His work helps sharpen our monetary pragmatics to better understand and participate in the 'complex social networks' that money enables people to monitor (Hart 2000: 323). Following Peirce (e.g. 1955), Kockelman points to semiosis as a set of relations between relations rather than relations between signs and objects, signifiers and signifieds, or inputs and outputs. Kockelman argues that insofar as semiotic processes involve components in relation to one another (signs, objects, interpretants) such that their relations become components in subsequent semiotic processes, the agency to compose, control, and commit signs does not reside in one subject but is distributed across time, space, and unit (Kockelman 2007).[6] Such graduation of agency implies transits across space, time, person, and process. Rather than seeing these translations as codes moving through channels – or feet across bridges – thus abstracting them artificially from the 'hurly-burly of interaction' (Kockelman 2010: 408), Kockelman redirects our attention to the relations that enable us to see that relation between code and channel – how the feet came to be on the bridges, or how the bridges themselves came into being – without reducing it. 'The essence of a channel, as a relation between two beings, is really a relation to this relation' (2010: 412).

Put another way, rather than focusing on intermediaries, which are channels between entities and provide a means to an end (crossing the bridge), Kockelman, like Latour, directs our attention to mediators, which accept any manner of means towards alternative ends, including, Kockelman emphasizes, failure and noise along the way. He calls upon Serres's (2007 [1980]) notion of the parasite (and Peirce's conception of thirdness) to capture the mediatory function of channels and bridges and emphasize how other (parasitical) relations can be built on top of the excess generated by such mediation. Also like Latour, Kockelman calls for attention to instances where mediators are collapsed into intermediaries, and 'the conditions for, and consequences of, such reductions' (2010: 408). Our foray provides an ethnographic example of such phase shifts.

Further, we take up Kockelman's rubric not simply for analytical reasons, but also because we encounter the metaphors and examples he deploys in his work – 'bridges' and 'channels' – as ethnographic objects, repeatedly referred to, often self-consciously,

in the world of mobile money (Davidson 2011*a*). Moreover, agency and money, core concepts in mobile money, are Kockelman's exemplars.[7] 'Agents' are at the core of mobile money as a technological/social practice and as a topic of discussion among mobile money professionals. And whether the bridge or channel is an intermediary or a mediator – and the slippage between the two – is currently a hot topic with implications not only for how mobile money is designed, implemented, and regulated, but also for how money itself is imagined and used.

We begin with a review of the history of agency in mobile money. Second, we detail the mechanics of mobile money transfer, attending to the technological dimension as well as the transformation between cash and electronic money that mobile money agents facilitate. Third, we outline regulatory and practical problems that mobile money agents posed once the services began to be deployed worldwide. Here, the role of the agent as mediator or intermediary becomes crucial, and understanding the semiotic relationships of money and agency becomes central to our own and mobile money professionals' analyses. Fourth, and in the conclusion, we turn to how some in the industry have moved to sidestep the agency problem. Some imagine cash (not money in general) as a specific commodity and agents as cash merchants. Others – notably, new corporate entrants into the mobile money space representing traditional 'intermediaries' such as the existing private payment networks – seek to obviate the problem by eliminating agents altogether. The re-imagination or, alternately, disappearance of mobile money agents in response to the agency problem not only transforms agency, but also poses novel and we believe highly political relations among money, payment infrastructures, and public good.

The 'discovery' of the agent

Mobile money agents primarily act as cash-in/cash-out points for mobile money clients, a function that sometimes earns them the moniker of 'human ATMs'. For mobile money, a human infrastructure at least partially takes the place of clearance and settlement functions that, elsewhere, are mostly performed by electronic and automated infrastructures.[8] Agents are, in fact, referred to as 'infrastructure' in some mobile money discussions: as existing retail infrastructure, distribution infrastructure, or a retail agent network – or, again, as bridges to cash and channels for financial inclusion.

The concept of the agent in mobile money derives from microfinance institutions' efforts at 'branchless banking', originally conceived as a way to promote financial inclusion. The consolidation of a 'financial inclusion' agenda by development experts suggested that access to formal financial services could have dramatic consequences for people's well-being (but see Manji 2010). Such services – banks and the infrastructures that support them – are prohibitively expensive, especially in rural areas. The financial inclusion agenda suggests that instead of bringing people who are isolated geographically or who lack financial resources into the bank, bring the bank to them, in the form of a small microfinance institution located in a shop, post office, or kiosk, or on a bus. Branchless banking thus seizes on existing retail and transit infrastructures:

> [B]anks and other commercial financial service providers are finding new ways to make money delivering financial services to unbanked people. Rather than using bank branches and their own field officers, they offer banking and payment services through postal and retail outlets, including grocery stores, pharmacies, seed and fertilizer retailers, and gas stations, among others (Lyman, Ivatury & Staschen 2006: 1).

With the rapid and near-ubiquitous adoption of mobile phones, mobile devices became a technological platform for expanding financial inclusion even further. Realizing the potential of the mobile channel for branchless banking came hand in hand with the recognition by mobile money professionals of the financial 'portfolios' of the world's poor (Collins, Morduch, Rutherford & Ruthven 2009). That is, mobile money professionals began to notice what anthropologists have long known, that basic financial practices for saving, transferring, and borrowing often look like this:

> They store some cash in the home ... , they leave it with a trusted friend ... , they buy jewelry ... , they pile up bricks for the day when they can build an extra room in their house. They make regular contributions to a savings group with a circle of friends ... They borrow from friends, seek advances from their employers, pawn their jewelry, and borrow from a high-interest moneylender (Mas & Radcliffe 2010: 367).

The ethnographic documentation of on-the-ground practices among the poor – specifically mobile phone sharing and airtime minute transfer – provided mobile money intellectuals with a clear example of how the unbanked had already integrated the mobile channel into their monetary pragmatics. In an environment where mobile network operators (MNOs) had set up distribution networks of retail agents to sell phones and airtime,[9] unbanked mobile phone users began to 'use the airtime dealer to exchange cash for electronic value in a bank account or a virtual e-money account and to change electronic value back into cash' (Lyman *et al.* 2006: 2). The practice of exchanging airtime as a proxy for cash led some to consider the role mobile phones might play in more formal branchless banking services (Bruett & Firpo 2009; Camner, Sjöblom & Pulver 2009; GSMA 2009; Porteous 2006). Mobile money transfer, modelled around this practice of swapping airtime, was the original purpose of M-PESA, the phenomenally successful mobile money service offered by Kenya's largest MNO, Safaricom. M-PESA's success has not yet been matched by any other mobile money service provider, but it is the model for many that have come after it.[10] And with M-PESA, the signal position of the airtime dealer as an agent for mobile money came sharply into focus. Airtime sellers could become 'borrowed tellers' (Lyman *et al.* 2006: 1) for a new kind of financial service offered not by banks, but by MNOs.

Branchless banking via this 'mobile channel' or the 'existing retail infrastructure' of MNOs was an obvious linkage: an oft-repeated mantra became, 'Let's harness the existing retail infrastructure' for financial services. Or, 'If Coca-Cola can get bottles of Coke into every village through its distribution network, and if mobile operators can get airtime credit to anyone who needs it on the planet, why can't we get banking to everyone through the same channels?'[11] Using the mobile retail infrastructure for banking services also provided a new revenue model for MNOs: adding functionality to the phone would keep customers loyal to one service in a landscape where people routinely change carriers and share phones.[12]

In short, just as 'optical fibers run along old railroad lines' (Star 1999: 382), mobile money initially 'rode the rails' of airtime sellers and other retail outlets.[13] Kiosk owners and shopkeepers were no longer mere merchants; they were part of an 'agent network' performing the vital function of extending branchless banking via the mobile channel, linking the phone and financial services. A portrait of the archetypal mobile money agent emerged:

> Kareem stands behind the counter of a small general store on a bustling roundabout in the heart of Karachi. Although he sells a variety of toiletries and other products, the largest sign outside his shop advertises his role as an agent for Easypaisa, the mobile telephone funds transfer product of Tameerbank. Kareem is one of Tameerbank's 8,000 active agents – effectively serving as an extension of the bank's network by providing cash-in and cash-out services and other financial services ...
>
> All parties benefit. The bank saves the cost of building expensive branches and hiring staff ... Kareem earns a transaction fee from Tameerbank to supplement his sales. And customers save on transportation time and expense because Kareem's shop is close by, and they also enjoy the generally lower cost of the service (Tarazi & Breloff 2011: 1).

The mobile money industry effectively discovered, named, and then harnessed existing merchants of airtime or other goods, imagined them as a network of retail agents, and sought to enclose the 'social infrastructure of communicative pathways' (Elyachar 2010: 460), apprehended explicitly as an infrastructure and a channel for the delivery of financial services.

On the bridge[14]

What do mobile phones, retail agents, and the mobile network actually do to allow a client to 'move' money from A to B? Mobile money services facilitate an exchange between cash and 'e-money', an electronic representation of money.[15] In a mobile money system, an agent acquires a store of e-money, known in the industry as 'the float', by purchasing it from an MNO, transferring funds from a non-MNO account (say, his own bank account) to the MNO in exchange for e-money in an account held by the MNO.[16] E-money is, in effect, an electronic voucher for value held by the MNO. When a customer (P) 'cashes in' with the agent (A), the agent accepts cash (M) in exchange for e-money (e), transferring that e-money from his own float into the customer's account in exchange for the customer's cash. The customer then has e-money in the mobile money system, which she can direct via a series of commands on her phone to be transferred to another customer's (P′) account. The second customer can then visit another agent (A′), who 'cashes out' by taking the customer's e-money, transferring it into his e-money account, and providing an equivalent amount of cash to the customer. The transaction takes the four main steps shown in Figures 1 and 2, two via the mobile network and two in person between customers and agents. First, P gives cash to A (1), who exchanges the cash for e-money (2). P then sends the e-money via the mobile network to P′ (3). P′ goes to A′, who takes her e-money and gives her cash in exchange (4). P2P money transfer is therefore more properly P2A2A2P. A chain of conversions between cash and e-money facilitates this transfer.

Money facilitates a passage that is blocked, by time, distance, or environmental conditions. I want to send something of value to someone else. They are not close at hand, or the thing of value might rot or spoil on the way. To facilitate the transfer, I employ money. Money is a channel or bridge, an infrastructure facilitating passage or
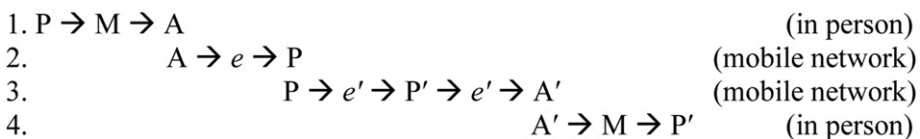
1. $P \rightarrow M \rightarrow A$ (in person)
2. $\quad\quad A \rightarrow e \rightarrow P$ (mobile network)
3. $\quad\quad\quad P \rightarrow e' \rightarrow P' \rightarrow e' \rightarrow A'$ (mobile network)
4. $\quad\quad\quad\quad\quad A' \rightarrow M \rightarrow P'$ (in person)
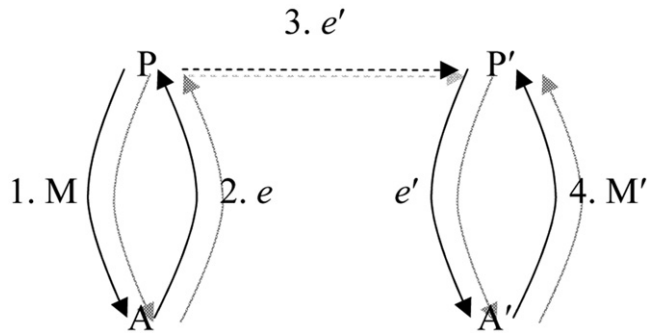
Figure 1.

Figure 2.

forestalling loss (Kockelman 2010: 406). But money in the form of cash and coin poses an analogous challenge for people without access to financial institutions. If I want to send value to another person, and have to use cash, there are risks of theft, loss, and skimming (when the courier keeps a little for himself, or when critters eat the notes). I might be isolated and lack a route by which to send cash; the train, bus, or boat might only come by once a fortnight. Perhaps I do not have access to a bank and cannot easily store my money or transfer it to another person. Exchanges of cash can sometimes draw the attention of regulators watching out for behaviour associated with money laundering or terrorist financing. Money as cash, that is, has affordances that prevent its easy motion through some environments. The technology of the mobile network has other affordances that surmount some of these barriers. As those in the mobile money space never fail to point out, it is nearly globally ubiquitous. Mobile money provides a bridge: I can convert cash into e-money, use the mobile network to transfer e-money to another person, who can, through an agent, convert e-money 'back' into cash at the other end.

Mobile money thus replicates the classic Aristotelian/Marxian money-commodity circuit. With money, I substitute one object with one set of affordances for another object with another set of affordances (C-M-C′). By turning my turnips into money, I can make the value of my turnips 'go the distance', either physical distance (I can transport value through money in a way I could not with turnips without risking their decay or ingestion by hungry critters along the way) or conceptual distance (I can convert the value of my turnips into another value, more desired by me, via money).[17] Here, *e*, enabled by a mobile network, can replicate the motion of M. Another bridge, another vector – the mobile channel – permits a person to surmount a barrier in order to realize an intention (of transmitting value across time and space).

Almost everything and everyone here forms a bridge, in relations with each other that are in a mimetic relation to other relations and are fractally recursive, replicating those same relations at different scales. Money. The mobile network. E-Money. The mobile money agents. It is not just that each bridge is a replica of the other; the relations between these replicas recur as well. Following the invention of mobile money, the enrolment of merchants, retailers, and other actors as agents of mobile money providers opened up problems of accountability and responsibility that were complicated by this multi-scalar relationality.

Problems with agents: banks, MNOs, and the hurly-burly of mediation

Some financial regulators have expressed anxiety that MNOs could potentially use mobile money to usurp banking functions. Their concerns hinge around the legal freight that the term 'agent' carries. Is the agent a legal agent, and if so, of what? Of the mobile money service, the bank 'behind' the service that holds the float, the business or franchise that owns the shop from which the agent operates? If the agent makes a mistake, who is held liable: the bank, the MNO, or the agent? Is the agent a mere pass-through, really an ATM, or is the agent a social creature whose social knowledge and tacit understanding of his social world add value to the mobile money enterprise (Elyachar 2012)?

In general, banks are prudentially regulated (the global financial crisis of 2008-present notwithstanding). There are strict rules about deposit-taking activity, including rules about conducting customer due diligence (CDD) and Know Your Customer (KYC) procedures to verify the identity of banking clients and prevent money laundering; there are rules about managing customers' deposits and what can be done with money on deposit while it 'sits' in the bank; there are rules about interest payments; and in some jurisdictions, there is deposit insurance. In some cases, existing money service businesses – for instance, pawnshops in the Philippines (Leishman 2009: 5) or retail, lottery, and postal outlets in Brazil (CGAP 2010) – could exploit local regulations to serve as agents. But it is no wonder that banks and banking regulators became concerned when agents representing MNOs started performing functions that resembled those of banks: taking money in, as if accepting a deposit, and disbursing money out, as if facilitating a withdrawal. Hence the use of scare quotes around the word and the deployment of alternative terms:

> Retail outlets are referred to as 'retail agents', because although they are not always true 'agents' in the legal sense, they are not licensed to perform cash-in (deposit) and/or cash-out (withdrawal) functions on their own behalf by banking regulation, and do this only on behalf of a bank or e-money issuer. Essentially, these retail agents are acting as 'borrowed tellers' (Lyman *et al.* 2006: 1).

Around the same time that the cash-handling activities of mobile money agents began to emerge as a potential regulatory problem, mobile money providers, often facilitated by the GSMA, started sharing information about the difficulties of operating mobile money agent networks. These practical problems demonstrate the ambiguous and shifting status of the agent. On the one hand, retail agents are contracted by a mobile money service provider to work on its behalf. Kareem (our archetypal mobile money agent) works on behalf of Easypaisa, the mobile money service provided by Tameerbank, a local Pakistani microfinance bank. Kareem serves as a cash-in/cash-out point for Easypaisa clients. In this sense, he is an intermediary for Tameerbank in the Easypaisa transaction process, a human interface in a new payments infrastructure.

Then again, agents also perform tasks that make them appear more like mediators. This aspect of the agent's role is often talked about in terms of the 'social'. This agent can use his 'social knowledge' of and 'networks' within his 'community' to do KYC/CDD and client recruitment, for instance, especially valuable wherever verifying customer identities is difficult.[18] Furthermore, agents can attract new clients and promote the mobile money brand in ways that advertising campaigns and posters cannot.

Presumably, agents have pre-existing relationships with potential clients for mobile money. Often the people who become agents are already business figures. They may operate a kiosk or gas station that sells basic goods like cooking oil, toiletries, and rice.

Once they enter into a relationship with the mobile money provider, they can add selling e-money to their stock. The agent is 'quite literally the face of the service – customers turn to agents to show them how to use the service, provide an opinion about whether the service is worth trying, and troubleshoot problems when they arise' (Flaming, McKay & Pickens 2011: xii). Hypothetically, the agent, who is embedded in myriad social relationships, is more deserving of trust than a faceless, monolithic bank or MNO that may also be associated with corruption, exploitation, discrimination, and even violence in a given locale. 'Because mobile money is a financial service, the credibility of a new service can be enhanced if agents themselves are already deemed trustworthy by consumers' (Davidson & Leishman 2011: 7). Mobile money providers are savvy to this reality and actively look to hire agents recognized for their trustworthiness.

By harnessing pre-existing social and technical infrastructures, it was thought, mobile financial services providers could easily scale up the market for mobile money, both expanding financial inclusion for the unbanked and ensuring commercial viability. One of the lessons drawn from studies of M-PESA in Kenya was the necessity of a large agent network to achieve profitability and sustainability (Camner *et al.* 2009). As Heyer and Mas explain, 'In the initial stages, backers of mobile money schemes would typically seek to patch together their agent networks by working through established retail channels' (2009: 14), especially to convert airtime resellers into mobile money agents.

Over time, however, discourse about agents shifted to the more specific concerns of how to assemble, incentivize, and manage that network. We can date this shift rather precisely to the middle of 2010-11, when CGAP issued its *Agent management toolkit: building a viable network of branchless banking agents* (Flaming *et al.* 2011) and the GSMA's MMU group published a handbook entitled *Building, incentivising and managing a network of mobile money agents* (Davidson & Leishman 2011). The titles themselves index the shift. It was also dramatically in evidence at the GSMA's 4th Mobile Money Summit in Singapore in June 2011. From the MMU working group that met the day before the main programme (during which the CEO of Safaricom's 'agent monitoring partner' spoke about the solutions her company devised for problems of agent recruitment and management), to the early-morning 'Mobile Money Accelerator Classes' (designed to bring new players up to speed on the history of mobile money), to the panel devoted entirely to 'Agent Networks: Successful Distribution for Mobile Money', to the informal discussions we had with many of the conference participants, the conversation revolved around the issues involved in building and running a mobile money agent network. The repeated lesson was that the 'infrastructure' was not, in fact, just 'there', ready-made, ready to be harnessed. Agent networks, we were told, do not build themselves, but require constant investments of money, time, and attention. Agents, all of a sudden, were not simply an important piece in scaling up a mobile money service, already present in the existing market environment, but a major cost and constant concern in making a mobile money service feasible and profitable.

This shift in the tone of the discourse around mobile money agents was propelled in part by the identification of a series of common difficulties in operating an agent network: (1) building the agent network (the profitability problem); (2) scaling the network (the proximity problem); (3) training the network (the reliability problem); and (4) regulating the network (the liquidity problem). Each has to do with a specific understanding of the agent's 'agency'. Each set of difficulties, moreover, points to the

fuzziness of the boundary between mediator and intermediary and to the gradual understanding among mobile money professionals that agents are more than cash-in/cash-out points, and must be trained and monitored to carry out tasks from customer recruitment, account opening, and customer service to e-float management and complying with basic CDD.

Agents, that is, are now often understood within the world of mobile money to be more than 'human ATMs', '[playing] a critical role in acquiring new customers, enabling them to transact, and keeping them satisfied' (Flaming *et al.* 2011: xii). Agents can provide what some describe as the 'human element' in mobile money: caring for the mobile money provider's brand, engendering trust in the technology and the company through customer education, ensuring the reliability and security of the service, performing front-end risk management and prudential regulation, and so on. But it is not always obvious which components of the agent network can 'ride the rails' of existing infrastructures, and it is not always clear if an agent is acting as an intermediary or mediator or both.

Building the network (the profitability problem). Our interlocutors stress the importance of making mobile money appear worthwhile – and profitable – to the agent. MNOs cannot take for granted potential agents' enthusiasm for mobile money. 'You've got to sell the value proposition to the agent', one of the participants in the 'Agent Networks' panel insisted, 'or else they have no incentive'. Since the business case for mobile money rests on capturing a large volume of low-value transactions, there is debate over the proper pricing and commission structure for agents, as well as the legal basis for agent compensation (Davidson 2011*b*; Tarazi & Breloff 2011). For some, concern over compensation and commissions has replaced discussion about recruiting agents. Mobile money professionals sometimes assume that as long as the profitability of offering mobile money services is clear to a potential agent, recruitment should proceed smoothly, since potential agents will self-select based on their own cost-benefit calculations. Here, the agent is imagined as a self-interested social agent – a mediator, not an intermediary, whose own intentions and desires will result in a profitable agency relationship for both the MNO and the agent.[19]

Scaling the network (the proximity problem). The central difficulty in scaling the agent network is one of proximity or ubiquity: how does a mobile money provider balance growing its agent network to increase convenience against the dangers of growing too fast, saturating the market, and decreasing the number of transactions for each agent, thus decreasing the profitability of the service for individual agents and ultimately for the mobile money service provider? A chicken-and-egg problem: which comes first, the agent network or the customer base? Moreover, it has become important to balance not simply the quantity of agents in the network, but also their strategic placement to address demand and provide convenience (Heyer & Mas 2009). Here, the social agency of the agent is bracketed while the infrastructural, intermediary capacity of the agent network is built out. The point is to extend the bridges to other territories, not necessarily to build bridges on other bridges.

Training the network (the reliability problem). But the bridge has to endure. It cannot collapse. It has to take you from here to there, consistently and reliably. Training the agent network, both the literature and our interlocutors insist, is not a one-time

problem, but requires ongoing investment to help agents resolve the disparate roles they must serve. Training involves not only teaching the technical skills necessary to perform cash-in/cash-out or float management (so that agents can serve as interme-diaries, as infrastructure), but also training for customer recruitment, education, service, brand management, and so on. Training includes ensuring that agents keep consistent hours, that they treat mobile money clients the same as other customers, that their assistants can offer the same level of service, that they can reliably accommodate customer cash-in/cash-out demands (on this particular problem, see below), and that they can adequately perform KYC/CDD. Customers must trust their transactions will be fulfilled, their money is safe when 'in' the system, they won't be defrauded, and so on. This trust is achieved primarily via social interactions with agents. Industry-orientated articles commonly note that

> [w]hen launching a mobile money service one of the greatest challenges is the new relationships that have to be established. The mobile network operator needs to enroll agents, the users have to become comfortable with agents handling their money as well as keeping electronic money on their mobile phones ... How fast the mobile money service can grow is dependent on how strong these relationships are prior to launch and how quickly they can be built (Camner *et al.* 2009: 10; see also Davidson & McCarty 2011: 43; Flaming *et al.* 2011: 54).

Trust and reliability are thus both outcomes of consistent service and key conditions of possibility for the growth of mobile money. Moreover, trust is considered both an integral pre-existing characteristic of good prospective agents and the effect of training. Here again the agents are social agents: their knowledge and social infrastructures are important to the maintenance of the bridges to cash; they add something – credibility, reliability – to the mobile channel. Indeed, the potentially messy sociality of trust and obligation is exactly what, here, allows the agent to serve not only as mediator, but also as intermediary. Trust is the mortar in-between the stones of the bridge.

Regulating the network (the liquidity problem). Perhaps the biggest problem for oper-ating agent networks is the potential for mismanagement of the e-float (CGAP 2009a; Davidson & Leishman 2011). The original and most prominent job of any mobile money agent is performing cash-in/cash-out. To accomplish this task successfully and consistently, however, agents must keep enough cash on hand to meet withdrawal demands and maintain an adequate e-money float to facilitate transfers.

> At its core, branchless banking is about having cash when and where customers want it. Agents must keep adequate stocks of both cash and electronic value (e-float) to enable clients to transact. If they cannot do so, customers may see the service as unreliable, and the provider's reputation can be quickly tarnished (Flaming *et al.* 2011: xii).

Liquidity management is thus seen as the most common and prominent reputational risk: 'In the early days of a service, even a hint of "I was not able to get my money" can jeopardize perceived trustworthiness' (Flaming *et al.* 2011: 7). In fact, one oft-cited quality of agents is their pre-existing ability to manage liquidity and meet cash-in/cash-out demands through other business activities, since in most cases agents must put up their own money as float (Merritt 2010). Here, the agent must maintain his own 'bridge' between cash and e-money to ensure that the M-*e*-*e'*-M' circuit can be completed whenever a customer demands it. The problem is almost analogous to making sure you

have enough rice or Coke on hand to meet customer demand. *Almost*: it is also much more highly charged, because the commodity here is money – and money that is always-already imagined to be owned by the customer ('*my* money') to which the customer expects access on demand. The agent must intermediate without noise or remainder – which makes the agent network more like a payments infrastructure and less like a collection of social agents or trustworthy members of a community.

The mobile money agent turns out to be multiply agentive, then, simultaneously mediator and intermediary. Just as social positioning allows an agent to act as a trust-worthy cash-in/cash-out intermediary, performing that very infrastructural capacity on a daily basis can also contribute to the trustworthiness of the agent, enhancing the social characteristics that made the individual a viable agent to begin with. As the agent slides between cash-handling and the variety of other tasks assigned to her, different qualities of agency are muddled. Agents have to be mediators as well as intermediaries. At the same time, as mediators, they allow the hurly-burly of interaction to enter into the system. Is that hurly-burly the social glue that makes the system appeal to clients and helps it to function, or is it noise interfering with profitability, allowing perhaps 'too much' agency for agents? Are they legal agents of the bank or MNO, or are they 'free agents', with the complexity, richness, and liability this might entail? After all, as free agents, they could switch allegiance to another provider or ditch mobile money altogether.

Mobile money intellectuals propose a provisional solution (or workaround) to this question: rather than call them agents, we should call them 'cash merchants'. Turning the agent into a cash merchant, it turns out, obviates their position as either legal agents or social agents, and makes cash a commodity to be bought and sold just like – as we are repeatedly told – soap or rice.

Merchants of cash

At the centre of these practical difficulties are two unresolved questions to which we and our interlocutors continually return: What, exactly, is an agent? And who or what is accountable for an agent's actions? In legal terms, an answer to the latter question resolves the former: in the strict common law sense, as we have noted, an agent is specifically that which is *not* liable for its actions, as long as those actions fall within the range of activities appropriate to its contractually defined relationship with a principal. That is, an agent is legally authorized to act for another (the principal), whose actions within the scope of the agency (e.g. contract, employment, etc.) create liability for the principal.[20]

Mobile money providers therefore seek to clarify their accountability in relation to the agents they employ. They are concerned about the regulatory and reputational risks they assume when they contract agents, and take steps to protect themselves against agent fraud and liquidity mismanagement. The Leadership Forum held at the 2010 Mobile Money Summit in Rio de Janeiro identified the key question: 'How do we create clear lines of accountability in agent-mediated mobile money offerings?' (Reed 2010, emphasis removed). Who is legally liable for clients' e-money once deposited in the float? Whose reputation is at stake in liquidity management? Who should be held accountable, and by whom, for agents' negligence, carelessness, or fraud? Such questions are most often answered situationally, depending on the particular contractual relationship between mobile money agents, providers, and regulators. Each arrangement will have effects not only on which business models become tractable, but also on

how the particulars of the 'agent problem' – profitability, proximity, reliability, and liquidity – are resolved, and thus also on the contours of 'agency' itself.

Mobile money also poses novel challenges to regulators, who must adapt existing financial rules or devise new ones to deal with questions such as whether mobile money providers should be subject to the same level of anti-money laundering regulation as banks, how e-money floats should be safeguarded, whether floats should earn interest, what consumer protections should be in place.[21] Since agents both emit and accept cash, should they be subject to the rigorous regulations around cash-handling normally imposed on non-bank entities? Should the activity of accepting customers' cash in the process of transmitting it to another account as mobile money be considered 'deposit-taking'? If so, then not only do mobile money agents' activities have potential to be greatly proscribed, harnessed to CDD standards of the legal jurisdiction in which they operate, but the question of who is allowed legally to serve as a deposit-taking agent could also be subject to regulation. These rules, as we have said, reflect concerns held by financial regulators 'over the reliability, security, and competence of such third parties' (Tarazi & Breloff 2011: 3).[22] Of course, if mobile money agents are subsumed to the common-law conception of agency, then ultimately the mobile money providers would be held responsible for agents' cash-in/cash-out activities, the proper fulfilment of CDD, and so on. Some have suggested that as long as agents are exclusive to one provider, then providers will be incentivized 'by the market' to regulate their own agents.

In light of the legal complications that 'agent' entails, some have questioned whether it is the best label for the diverse mix of retail outlets, distributors, airtime resellers, pawnshops, and government offices who can serve as cash-in/cash-out points and in all the other capacities generally attributed to these 'human ATMs'. Indeed, at IMTFI we have been admonished more than once by various parties to replace the word 'agent' in our blogs and occasional writings with ' "agent" ', in scare quotes. Tarazi and Breloff similarly point out the difficulties of the term, but suggest that

> regulators can safely permit the use of bank agents to offer financial services and verify customer identity for know-your-customer purposes with minimal restrictions on agent eligibility, compensation, and structuring – *provided that regulators hold banks liable for the provision of financial services by their agents* (2011: 1, emphasis added).

In other words, regulators and providers need not assume that mobile money agents are legally 'agents' in order to delineate liability or clarify the lines of accountability.

Perhaps, however, 'agency' is not the best way to think about mobile money agents in the first place. Tarazi and Breloff emphasize the importance of the real-time character of mobile money transactions: '[R]egulators should understand that when transactions are real time and transacted against the agent's own account, cash-in and cash-out services do not present more risk than bank deposits' (2011: 4). When an agent credits a customer's account with the value of cash deposited by the customer, or when an agent transfers electronic value between the customer's account and the agent's float and gives the customer the corresponding amount of cash, all in real time, agents are not necessarily acting simply as extensions of the mobile money provider or the formal banking system. Instead, Tarazi and Breloff suggest, such agents can be 'viewed as "*cash merchants*" – retailers who engage in the business of transferring value between electronic and physical forms' (2011: 4, emphasis added). This effectively sidesteps the legal

foundations and complications, as well as the social entailments, of agency. If mobile money agents are 'cash merchants', it is irrelevant whether they are mediators or intermediaries: 'Since these cash merchants transact against their own accounts – and because transactions are typically conducted in real time, permitting the customer to confirm receipt of electronic funds – the risks involved (such as systemic or consumer protection risks) may be less than sometimes assumed' (Tarazi & Breloff 2011: 4).

In sum: what would it mean if mobile money agents are 'agents' in the strict common-law legal sense? Does this make them simply infrastructure, 'human ATMs', extensions of a banking or telecommunications network? Does making them legal agents preclude the other roles they serve and the 'human element' they offer? Or are mobile money agents simply 'cash merchants', not selling a mobile money product but simply offering a commodity: cash. What, exactly, does it mean to be a merchant of cash? And as promoters of mobile money embrace utopian dreams of a 'cashless' world, what role can agents as 'cash merchants' play?

Conclusion: dumb pipes and disappearing agents

Recall that mobile money was originally an MNO affair. Now, however, other traditional providers of payment services are getting into the act, as are information technology companies. No longer just banks and MNOs, but payment processors, database management companies, and traditional payments providers, from the card networks (VISA, MasterCard) to remittance services (Western Union) to back-end processors like bill servicing for roaming charges – everyone wants a piece of the action. And what they want is revenue in the form of fees paid by the client, by the agents, or by other partners in the 'ecosystem'. As we heard at the 2011 Summit, no one wants to be a 'dumb pipe'. That is, no one wants to be a bridge or channel that can be passed over or through for free. Everyone wants to be a mediator, not an intermediary. Put another way, no one wants to play the role of public infrastructure or common good.[23]

In the fears over becoming a dumb pipe, one hears rumblings about agents. Where at first the agent was to be a dumb pipe, an ATM, it soon became apparent that mobile money needed the 'human element'. Agents' social infrastructures helped 'scale' mobile money, provide customer service, build trust. But allowing agents a degree of 'agency' opened mobile money to new risks and raised the incentive problem.

The idea of the 'cash merchant', and of cash as another form of merchandise, obviates this problem. Consider Figures 1 and 2. When cash is rendered merchandise, then e-money assumes the role of money itself. Cash is no longer M but Marx's C, a commodity. *e* takes the place of M. Indeed, all M is rendered *e*.

The realization that all M could be *e* articulates to the business models of payment providers. Payment providers who charge a fee for the service of moving money have a history of what credit card industry researchers call 'co-opetition' (Evans & Schmalensee 2005). VISA and MasterCard compete and co-operate because their goal is a world of plastic payments. They each benefit from the other's network effects. We are just beginning to hear similar strategies in the mobile money world. If we move toward 'cashlessness', then no one has to be a dumb pipe: If we get 'all' the money 'in the system' and create a world where *it never has to leave the system* – where everything can be bought, sold, and paid for using *e* instead of cash – then there is fee revenue for every player, and *there is no more need for agents at all*.

Does mobile money herald the end of cash? If so, does it disappear the agent, disappear agency? And what does it mean for financial inclusion agendas that seek to alleviate global poverty through mobile money if one of mobile money's effects is the creation of jobs (agents who act as cash merchants) that may then be eliminated?

Other voices strenuously object to the vision of clever pipes relentlessly skimming profits from transits of value from here to there. Some such voices come from a group of actors who have remained relatively quiet in our recounting of the story, though they have been important control-points in the making of mobile money: state agents, and, specifically, central bankers. At a regulatory workshop in Nairobi sponsored by Citibank and the US Department of State, for instance, an African central banker, incensed at the possibility that mobile money providers might simply replace money-changers, profiting from the poor by charging them fees for transactions 'within' the mobile network, proclaimed that 'payments are a public good [*bien commun*]'. Others argue not for a cashless society, but for a 'cash-*lite* society'. This proposition recognizes the limitations and costs of cash, but, at the same time, acknowledges the vital social role that physical and proximate payments serve in creating trust, maintaining relationships, and maintaining relationships to other relationships. Money as a bridge we all continually build.

Ours is an analysis of mobile money professionals' analysis of mobile money agents. We have taken inspiration from the recursive bridge-building involved in mobile money's agent networks to think about the relation between ourselves and the phenomena of our 'field'. Kockelman's work offered us a way to envision that relation as a kind of bridge-building parallel to that going on in the world of mobile money. Our ethnography, that is, effects a bridge-building alongside that which mobile money professionals seek to investigate and understand. Those involved in the world of mobile money are engaged in an analytical project strikingly similar to ethnography: they have a 'field' and do 'fieldwork', they seek to understand 'social relations' and begin from the assumption that people 'have' social relations and that those relations are or ought to be richer than mere intermediation. We are not just interested in the moments when the money in mobile money appears to have been 'de-socialized', when mobile money agents are reduced to intermediaries or disappear altogether. Rather, we are interested in the fact the mobile money professionals are worrying about this point, and in these very terms. The sociality of agents is a shared concern, although different things get foregrounded as 'social' at different times and in different places.

There is a historical reason for the confluence between Kockelman and mobile money: both were inspired by information theory. The dovetailing of Kockelman's work and mobile money provides an instance where a self-consciously theoretical practice and an unfolding domain in the world set off from the same place and come around to meet each other again. In this case, they meet each other through our encounter with them. This, too, is part of the ethnographic scene and broader domain we seek to describe and transform: our own role in bridging semiotic theory and mobile money practice – a bridge that makes arguments about infrastructures and platforms and helps shape a mobile money agenda that is precisely about, as we have seen, platformization: that is, innovating and expanding on existing ecologies and infrastructures (Kendall *et al*. 2012).

Kockelman writes that infrastructures can forestall loss: infrastructure 'ensures that words won't fade, that goods won't spoil', but also that 'personas won't wither' (2010: 406). Whatever it is that travels the channel is, ideally, thereby preserved. In the case of

mobile money, the persona of the agent – trusted guardian of one's cash, trusted guarantor of one's identity – is in danger of withering if the infrastructure of mobile money no longer permits noise along the line: here, if the infrastructure obviates cash altogether and eliminates the need for a cash merchant.

Moving toward cashlessness, to keep the money 'in the system' forever, also potentially obviates another element in this semiotic process: the state that warrants currency as a public form of payment, a *bien commun*. In one variant of a payments industry perspective, money as state-issued legal tender is rendered parasitical off 'the system'. At the same time, however, mobile money affords an opportunity to consider payments infrastructures as an 'object of joint attention': we can all now see its bridges more clearly, see how we live off of that infrastructure and give it life. 'The ground, qua conditions of possibility' for money and for payment 'becomes figured – and thereby reflexively becomes both the means and ends of economy, technology and knowledge' (Kockelman 2010: 419). Figuring the ground of this infrastructure may foster an invigorated public, set in relation to the relations between money and agency themselves. Perhaps while allowing a transaction to live, the common good would live off this transaction. The agents – us all – would not be parasites but participants.

NOTES

[1] The terms 'affordance' and 'entailment' derive from design (Norman 1988) and linguistic (Levinson 1983) sources, respectively. They are also 'native' terms among mobile money professionals.

[2] See the Bill and Melinda Gates Foundation's Financial Services for the Poor website (*http://www.gatesfoundation.org/financialservicesforthepoor/*). The actual figure depends on what counts as a formal financial service and as a safe or affordable service. The GSMA estimates that 3 billion people lack a bank account and that a third of those have a mobile phone (CGAP 2009*b*).

[3] For more on IMTFI-sponsored research, see the Institute's website: *http://www.imtfi.uci.edu/*.

[4] This is true even when, as Frank (2006) points out, researchers take their distance from the liberal philosophical tradition that envisions agents as entirely autonomous, individual decision-makers. But see Keane (1997) for an account that does not privilege autonomy or the individualism of human agents.

[5] See Berle and Means's (1933) classic treatise on principal-agent dilemmas in economic theories of the firm.

[6] Notions of distributed agency are central to the anthropological literature on agency. Gell (1998), for instance, suggests that the agency of any person is mediated by material indexes, such as artwork, which in certain contexts can even substitute for their authors. Strathern's (1988) extensive ethnographic work in Melanesia, in which she imagines an indigenous social theory of personhood and relationality, offers us a reference case for such possibilities in the figure of the 'dividual' person, who, situated in the midst of other beings that act on her, acts herself as a composite being. While we cannot do justice here to the extensive literature on agency, we take inspiration from the work of Latour, Gell, and Strathern in their various decentrings of the concept and in their accounting of its social, material, and semiotic infrastructures.

[7] Questions about agency and money are also addressed by Keane (2001; 2003), who is particularly insistent on challenging the sign-object representationalism that shapes the way we think and talk about money.

[8] Mobile money agents are in some ways analogous to settlement agents in finance. Settlement agents make the settling balances between financial institutions (or between such institutions and their clients) more

efficient by, for instance, settling payments in one netted transaction instead of several individual ones, or by providing access to a clear channel for international payments through different national regulatory environments. Like settlement agents, mobile money agents facilitate transactions between parties that would otherwise be unable to transfer funds as easily or quickly. That is, mobile money agents allow individuals to transmit remittances across spaces that are often impassable (or across time in the form of savings).

[9] The modal mobile phone operates on a pre-paid model, not a subscription model. Customers ‘top up’ their phones with airtime credit to make calls/send text messages. Often airtime selling is done through a third-party network.

[10] On M-PESA generally, see Jack & Suri (2011); Mas & Morawczynski (2009).

[11] Quotations like this one are real or reconstructed statements of mobile money professionals.

[12] On social phone practices, see Chipchase (2009); Chipchase & Tulusan (2007); Donner (2004; 2008); Horst & Miller (2006). Operators speak routinely of wanting to ‘enhance stickiness’ of their products and to ‘reduce churn’ or client turnover.

[13] To ride the rails is a phrase employed in the payments industry and mobile money to refer to layering a new service on top of existing infrastructure. It derives from the old wire services’ use of railways as routes for the laying of copper and, later, fibre-optic cable. It also, tellingly, derives from the US Depression-era practice of the itinerant poor making a living hopping on freight cars to get from one odd job to the next.

[14] Ethnography in mobile money involves lots of time ‘on the bridge’: on conference calls facilitated by telecommunications infrastructures linking different telephone lines. Originally the conference bridge was an actual junction of wires to facilitate signal transfer from each to all. Often one must ask ‘who’s on the bridge?’ or whether ‘so-and-so is still on the bridge’, because the odd pops and echoes make it difficult to ascertain who is there with you.

[15] We recognize the representational complexity of this statement.

[16] Always, we are reminded, there is a ‘bank in the background’ into which the MNO places the funds. In some cases, like M-PESA, the funds are held in a trust account, to manage another agency problem: the MNO’s fiduciary relationship to the float. This is a fractal transformation of the other agency problems we discuss in this article (see Stephens 2011; Tarazi & Breloff 2010; Zerzan 2010).

[17] While we are responsible for any misrepresentations, we owe the phrase ‘go the distance’ and much of the conceptualization here to conversations with Paul Kockelman.

[18] For the comparatively wealthy, much of this work is done technologically: via encoded information on magnetic stripe cards in combination with PIN numbers.

[19] The process of identifying existing commercial and social infrastructures best situated for mobile money is often subsumed to local market research companies, which are assumed to possess ‘local knowledge’ necessary to negotiate the diversity of actors who could serve as agents. Similarly, mobile money providers often contract a third-party company, called an ‘aggregator’ or ‘super-agent’, to recruit, train, and manage their agent networks. Here, the agency relationship is replicated on another scale, with market research firms and super-agents bridging other agents in a ramifying network. This in turn replicates the circuit of M-e-e'-M', figuratively and literally, as super-agents aggregate the M and e of their own mini-agent network. Bridges to bridges to bridges.

[20] Legal agency is rooted in the *patria potestas*: the legal oneness of husband and wife and the liability of a master for his servant/slave’s actions. Thus, Oliver Wendell Holmes:

> [I]t is plain good sense to hold people answerable for wrongs which they have intentionally brought to pass, and to recognize that it is just as possible to bring wrongs to pass through free human agents as through slaves, animals, or natural forces. This is the true scope and meaning of ‘*Qui facit per alium facit per se*’, and the English law has recognized that maxim as far back as it is worth while to follow it (1891: 347).

[21] On the development of mobile money regulation, see Maurer (2012*a*).

[22] The unique affordances of cash – its apparent anonymity, that ownership is a function of possession – worry regulators anxious about money laundering and fraud. But cash is not inherently ‘riskier’ than its alternatives, just differently so; mobile money entails a novel matrix of risks not associated with cash (see USAID 2011).

[23] Some mobile money professionals involved in the early days of the Internet bitterly complain about what they see as the expropriation of their work to create a relatively public good. Staunchly opposed to ‘network neutrality’, they do not want to repeat their past ‘mistake’ of being reduced to a ‘dumb pipe.’

REFERENCES

Ahearn, L.M. 1999. Agency. *Journal of Linguistic Anthropology* **9**, 12-15.
Berle, A.A., Jr & G.C. Means 1933. *The modern corporation and private property*. New York: Macmillan.

Bruett, T. & J. Firpo 2009. *Building a mobile money distribution network in Papua New Guinea*. Suva, Fiji: Pacific Financial Inclusion Programme, UNDP Pacific Centre.

Camner, G., E. Sjöblom & C. Pulver 2009. *What makes a successful mobile money implementation? Learnings from M-PESA in Kenya and Tanzania*. London: GSMA.

CGAP 2009*a*. Banking agents: the key to successful mobile banking services (*http://www.cgap.org/p/site/c/template.rc/1.26.5102/*, no longer available on-line).

——— 2009*b*. Mobile banking: from concept to reality (*http://www.cgap.org/p/site/c/template.rc/1.26.10806/*, no longer available on-line).

——— 2010. Branchless banking agents in Brazil: building viable networks (available on-line: *http://technology.cgap.org/technologyblog/wp-content/uploads/2010/02/agent-networks-in-brazil-cgap-fgv1.pdf*, accessed 31 October 2012).

Chipchase, J. 2009. Mobile phone practices and the design of mobile money services for emerging markets. Mobile Money Transfer Conference (December), 1-26.

——— & I. Tulusan 2007. Shared phone use (available on-line: *http://janchipchase.com/2006/12/shared-phone-use/*, accessed 31 October 2012).

Collins, D., J. Morduch, S. Rutherford & O. Ruthven 2009. *Portfolios of the poor: how the world's poor live on $2 a day*. Princeton: University Press.

Davidson, N. 2011*a*. On channels. GSMA, MMU blog, 7 November (available on-line: *http://www.gsma.com/mobilefordevelopment/on-channels/*, accessed 31 October 2012).

——— 2011*b*. Why do mobile money agents get paid less than airtime retailers? GSMA, MMU blog, 1 November (available on-line: *http://www.gsma.com/mobilefordevelopment/why-do-mobile-money-agents-get-paid-less-than-airtime-retailers/*, accessed 31 October 2012).

——— & P. Leishman 2011. *Building, incentivising and managing a network of mobile money agents*. London: GSMA.

——— & M.Y. McCarty 2011. *Driving customer usage of mobile money for the unbanked*. London: GSMA.

Donner, J. 2004. Microentrepreneurs and mobiles: an exploration of the uses of mobile phones by small business owners in Rwanda. *Information Technologies and International Development* **2**, 1-22.

——— 2008. Research approaches to mobile use in the developing world: a review of the literature. *The Information Society* **24**, 140-59.

Eijkman, F., J. Kendall & I. Mas 2010. Bridges to cash: the retail end of M-PESA (available on-line: *http://www.microfinancegateway.org/gm/document-1.9.43620/Bridging_%20the_Cash.pdf*, accessed 31 October 2012).

Elyachar, J. 2010. Phatic labor, infrastructure, and the question of empowerment in Cairo. *American Ethnologist* **37**, 452-64.

——— 2012. Before (and after) neo-liberalism: tacit knowledge, secrets of the trade, and the public sector in Egypt. *Cultural Anthropology* **27**, 76-96.

Evans, D. & R. Schmalensee 2005. *Paying with plastic: the digital in buying and borrowing*. Cambridge, Mass.: MIT Press.

Flaming, M., C. McKay & M. Pickens 2011. *Agent management toolkit: building a viable network of branchless banking agents*. CGAP (available on-line: *http://www.gsma.com/mobilefordevelopment/wp-content/uploads/2012/03/agentmanagementtg22.pdf*, accessed 31 October 2012).

Frank, K. 2006. Agency. *Anthropological Theory* **6**, 281-302.

Gell, A. 1998. *Art and agency: an anthropological theory*. Oxford: Clarendon Press.

Gibson-Graham, J.K. 2006. *A postcapitalist politics*. Minneapolis: University of Minnesota Press.

GSMA 2009. *Annual report*. London: GSMA.

——— 2011. *Annual report*. London: GSMA.

Haraway, D. 2008. *When species meet*. Minneapolis: University of Minnesota Press.

Hart, K. 2000. *The memory bank: money in an unequal world*. London: Profile.

Heyer, A. & I. Mas 2009. *Seeking fertile grounds for mobile money*. London: GSMA.

Holmes, O.W., Jr 1891. Agency. *Harvard Law Review* **4**, 345-64.

Horst, H. & D. Miller 2006. *The cell phone: an anthropology of communication*. Oxford: Berg.

Jack, W. & T. Suri 2011. Mobile money: the economics of M-PESA (available on-line: *http://www.mit.edu/~tavneet/M-PESA.pdf*, accessed 31 October 2012).

Keane, W. 1997. *Signs of recognition: powers and hazards of representation in an Indonesian society*. Berkeley: University of California Press.

——— 2001. Money is no object: materiality, desire, and modernity in an Indonesian society. In *The empire of things: regimes of value and material culture* (ed.) F. Myers, 65-90. Santa Fe, N.M.: School of American Research Press.

——— 2003. Self-interpretation, agency, and the objects of anthropology. *Comparative Studies in Society and History* **45**, 222-48.

KENDALL, J., P. MACHOKA, C. VENIARD & B. MAURER 2012. An emerging platform: from money transfer system to mobile money ecosystem. *Innovations* **6**, 4, 49-64.

KOCKELMAN, P. 2007. Agency: The relation between meaning, power, and knowledge. *Current Anthropology* **48**, 375-401.

——— 2010. Enemies, parasites, and noise: how to take up residence in a system without becoming a term in it. *Journal of Linguistic Anthropology* **20**, 406-21.

LATOUR, B. 2005. *Reassembling the social: an introduction to actor-network-theory*. Oxford: University Press.

LEISHMAN, P. 2009. *Mobile money in the Philippines: the market, the models and regulation*. London: GSMA.

LEVINSON, S. 1983. *Pragmatics*. Cambridge: University Press.

LYMAN, T.R., G. IVATURY & S. STASCHEN 2006. Use of agents in branchless banking for the poor: rewards, risks, and regulation (available on-line: *http://www.microfinancegateway.org/p/site/m/template.rc/1.9.27674/*, accessed 31 October 2012).

MANJI, A. 2010. Eliminating poverty? 'Financial inclusion', access to land, and gender equality in international development. *The Modern Law Review* **73**, 985-1004.

MAS, I. & O. MORAWCZYNSKI 2009. Designing mobile money services: lessons from M-PESA. *Innovations: Technology, Governance, Globalization* **4**, 2, 77-91.

——— & D. RADCLIFFE 2010. Mobile payments go viral: M-PESA in Kenya. In *Yes Africa can: success stories from a dynamic continent* (eds) P. Chuan-Pole & M.S. Angwafo, 353-69. Washington, D.C.: World Bank.

MAURER, B. 2005. *Mutual life, limited: Islamic banking, alternative currencies, lateral reason*. Princeton: University Press.

——— 2011. Note from IMTFI: mobile money regulation – a story arc of best practices and emerging realizations. USAID (available on-line: *http://microlinks.kdid.org/learning-marketplace/notes/note-imtfi-mobile-money-regulation-story-arc-best-practices-and-emerging-*, accessed 31 October 2012).

——— 2012*a*. Regulation as retrospective ethnography: mobile money and the arts of cash. *Banking and Finance Law Review* **21**, 299-313.

——— 2012*b*. Mobile money: communication, consumption and change in the payments space. *Journal of Development Studies* **48**, 589-604.

——— & O. MORAWCZYNSKI 2010. Mobile money's innovation crisis. CGAP, 11 August (available on-line: *http://www.cgap.org/blog/mobile-money%E2%80%99s-innovation-crisis*, accessed 7 November 2012).

MERRITT, C. 2010. Mobile money transfer services: the next phase in the evolution in person-to-person payments (available on-line: *http://www.frbatlanta.org/documents/rprf/rprf_resources/wp_0810.pdf*, accessed 31 October 2012).

NORMAN, D. 1988. *The design of everyday things*. New York: Basic Books.

PEIRCE, C.S. 1955. The principles of phenomenology. In *Philosophical writings of Peirce* (ed.) J. Buchler, 74-97. New York: Dover.

PORTEOUS, D. 2006. *The enabling environment for mobile banking in Africa*. Boston: Bankable Frontier Associates.

REED, D.C. 2010. 2010 Leadership Forum at MMS in Rio de Janeiro (available on-line: *http://www.gsma.com/mobilefordevelopment/2010-leadership-forum-at-mms-in-rio-de-janeiro/*, accessed 31 October 2012).

SCHWITTAY, A. 2011. The financial inclusion assemblage: subjects, technics, rationalities. *Critique of Anthropology* **31**, 381-401.

SERRES, M. 2007 [1980]. *The parasite* (trans. L.R. Schehr). Minneapolis: University of Minnesota Press.

SHELL, M. 1993 [1982]. *Money, language, and thought: literary and philosophic economies from the medieval to the modern era*. Baltimore: Johns Hopkins University Press.

STAR, S.L. 1999. The ethnography of infrastructure. *American Behavioral Scientist* **43**, 377-91.

STEPHENS, M. 2011. Promoting responsible financial inclusion: a risk-based approach to supporting mobile financial services expansion. *Banking and Finance Law Review* **27**, 329-43.

STRATHERN, M. 1988. *The gender of the gift*. Berkeley: University of California Press.

TARAZI, M. & P. BRELOFF 2010. Nonbank e-money issuers: regulatory approaches to protecting customer funds. *CGAP Focus Note* **63**, July.

——— & ——— 2011. Regulating banking agents (available on-line: *http://www.microfinancegateway.org/p/site/m/template.rc/1.9.50439/*, accessed 31 October 2012).

USAID 2011. *Mobile financial services risk matrix* (available on-line: *http://bizclir.com/galleries/publications/ Mobile%20Financial%20Services%20Risk%20Matrix%20July%202010.pdf*, accessed 31 October 2012).

Zerzan, A. 2010. A perspective on e-money in Central Africa (available on-line: *http://www.citigroup.com/ transactionservices/home/sa/2010q2/mobilemoney/docs/emoney_paper.pdf*, accessed 31 October 2012).

« Passeurs d'argent » : comment canaliser l'agencéité dans le secteur de l'argent mobile

Résumé

Rencontrés par les professionnels de « l'argent mobile » (entreprises et associations bénévoles qui cherchent à faire bénéficier les pauvres des pays « en voie de développement » des produits financiers sur téléphone mobile), les anthropologues s'allient à de nouveaux collaborateurs pour examiner un problème qui les préoccupe depuis quelque temps déjà. Il s'agit de la question de l'agencéité, et plus précisément de l'agencéité des « agents de l'argent mobile », ces gens « de terrain », cette « base » qui joue un rôle essentiel en permettant aux autres de placer de l'argent dans un système de transfert de fonds électronique et d'en retirer de l'argent liquide. Ces « distributeurs de billets humains », ces « passeurs d'argent », sont un objet d'étude pour les spécialistes de l'argent mobile aussi bien que pour les anthropologues. C'est cette étude analytique qui intéresse ici les auteurs, et non les agents de l'argent mobile eux-mêmes. L'article cherche à élucider comment « l'agencéité » pèse sur les débats sur l'argent, sa signification et ses aspects pragmatiques, et aussi sa transformation en nouvelles infrastructures de communication, et sur la manière dont il pourrait informer l'anthropologie et le débat politique sur l'argent et le paiement.

Bill Maurer is Professor of Anthropology and Law at the University of California, Irvine, and Director of the Institute for Money, Technology and Financial Inclusion.

Department of Anthropology, University of California, Irvine, Irvine, CA 92697-5100, USA.wmmaurer@uci.edu

Taylor C. Nelms, Ph.D. candidate in Anthropology, University of California, Irvine, is conducting ethnographic research on dollarization and social organization in Quito, Ecuador.

Stephen C. Rea, Ph.D. candidate in Anthropology, University of California, Irvine, is conducting ethnographic research in Korea on embodied practices of on-line gaming.