

Regulation as Retrospective Ethnography: Mobile Money and the Arts of Cash

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Often, we ask: how can regulation mitigate risk? What might happen if instead we ask: what does regulation tell us about socially situated action? This article poses a thought experiment along these lines. The emerging conversation about regulation and the risks of mobile financial services has been relatively silent on a ubiquitous set of things people do with cash and coin not limited to the strictly economic functions of these media. Adding mobile into the mix of people's existing, highly complex monetary practices has the potential to create new risks — but also new opportunities for product design and smarter regulation. This paper describes the social uses of mobile phones and cash from different cultural contexts, including proscriptions regarding the disclosure of certain transactions, and multi-person sharing of money and mobiles. It then reflects on how we might understand regulation as an account of people's practices and experiences, an account we might set alongside other forms of data on use cases for mobile and money. It argues that the risks identified by the regulators, rather than hindering innovation or frightening off developers, might instead inspire user-oriented solutions for mobile money, and for mobile money as part of, not a replacement for, the user's world of diverse social currencies.

On se demande souvent comment la réglementation peut réussir à atténuer les risques. Que se passerait-il si on s'interrogeait plutôt sur ce que la réglementation nous apprend au sujet des interventions inspirées par des motifs sociaux? L'auteur suggère de réfléchir en ce sens. Les discussions en cours sur la réglementation et les risques associés aux services financiers mobiles ont relativement peu porté sur la façon dont les gens se servent, sur une base quotidienne, de billets de banque et

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de pièces de monnaie autrement que dans le cadre de fonctions strictement économiques. L'ajout de la technologie mobile aux pratiques monétaires existantes et hautement complexes des gens peut donner naissance, d'une part, à de nouveaux risques et, d'autre part, à la conception de nouveaux produits et à la mise en place d'une réglementation plus adéquate. L'auteur décrit sur un plan sociologique l'utilisation des téléphones mobiles et de l'argent comptant, dans différents contextes culturels; il traite des interdictions frappant la divulgation de certaines opérations et du partage d'argent et de téléphones mobiles entre plusieurs personnes. Puis, il se penche sur la façon dont on peut interpréter la réglementation comme un compte rendu des pratiques et des expériences humaines, en établissant un parallèle avec d'autres types de données sur l'utilisation de téléphones mobiles et de l'argent. L'auteur fait valoir que la réglementation, plutôt que de nuire à l'innovation ou de décourager les développeurs, pourrait favoriser l'utilisation de l'argent mobile, dans l'univers des monnaies sociales, et non provoquer son remplacement.

Help BAIL ME OUT!!!! Use "good old" cash on purchases below \$10.

— Sign in coffee shop, Austin, Texas, February 2011

1. INTRODUCTION

It was the week before Christmas. I was shopping at a stationery store, the kind that specializes in products representing a bygone era of hand-written correspondence and invitations on sturdy card stock. Despite the quaint offerings — rough-edged, handmade paper, blank books whose pages have to be cut by hand, materials for silhouette art — this was a large chain store in an enormous shopping center, a destination mall in southern California. I had made my selections and was at the cashier, ready to pay. "That's twenty-seven forty-five," the young woman said. I handed her two paper bills: a twenty and a ten.¹ She fumbled for a bit at the cash register, took out some coins and bills as change, put them back again, re-counted, and started again for a third time to produce the exact change. "Cash," I said apologetically, "it's a bit of a pain, huh?" Her response, with a smile, a shrug and a cheerful intonation: "It's a dying art!" The change returned and the items bought, I left the store and thought about the irony of the dying art of paper currency brought to a head in a store devoted to the nostalgic preservation of other paper arts.²

Promoters and media observers of new payment technologies always announce new developments in this domain as the death knell of paper cash and metal coin. Plastic cards were to end the era of cash, as were Internet payments, smart

cards or plastic fobs embedded with near-field communications (NFC) and radio-frequency ID (RFID) chips, and, most recently, mobile phones.³ Mobile has most captured the imagination of industry, philanthropy, and development actors thanks to widespread diffusion of mobile telecommunications technology, especially among the poor in the global South.⁴ After witnessing the success of Safaricom Kenya's now-famous M-PESA money transfer service, aid agencies and philanthropic organizations are trying to accelerate the launch of "mobile money" around the world. An example of such acceleration taking place at the time of my writing is the joint USAID/Bill and Melinda Gates Foundation effort to incentivize mobile banking in Haiti by offering a series of prizes to the first mobile operators that reach certain milestones in mobile banking.⁵

Those involved in promoting mobile money, whether in the private or non-profit sector (let us call them mobile money intellectuals⁶) have in fits and starts

³ See e.g., Joanne Enoch, "Credit Card Pushes Word 'Cash' Around" *Chicago Daily Tribune* (May 17, 1959) A9 (credit cards may lead to a decline in the use of the word "cash"); John Cuniff, "Theory blown: credit cards don't make cashless society" *Sarasota Journal* (March 9, 1972) 16-D; The Associated-Press, "New Card Could Leave You Cashless" *Newsday* (March 23, 1994) A47 (on smart cards); Steven Levy, Marc Levinson & Adam Rogers, "Technology — The End of Money?" *Newsweek* (October 30, 1995) (on internet payments).

⁴ See e.g., Claire Alexandre, Ignacio Mas & Daniel Radcliffe, "Regulating New Banking Models that can Bring Financial Services to All" (August 2010), online: Mobile Money for the Unbanked <<http://mmublog.org/global/regulating-new-banking-models-that-can-bring-financial-services-to-all/>>. The GSMA's Mobile Money for the Unbanked blog contains a wealth of material on the global penetration of mobile and the development of mobile banking.

⁵ The Institute for Money, Technology and Financial Inclusion, which the author directs, is currently supporting research on the rollout of mobile money in Haiti. See Espelencia Baptiste, Erin Taylor & Heather Horst, *Haitian Mobile Money Blog: Watching Mobile Banking Unfold*, online: Institute for Money, Technology and Financial Inclusion <http://www.imtfti.uci.edu/imtfti_haiti_blog>. For an overview of the Bill and Melinda Gates Foundation/USAID initiative, see Claire Alexandre & Salah Goss, *Mobilizing Haiti's Recovery* (June 8, 2010), online: Bill and Melinda Gates Foundation, Foundation Blog <<http://www.gatesfoundation.org/foundationnotes/Pages/alexandre-goss-100608-mobilizing-haiti-recovery.aspx>>.

⁶ I use the term intellectuals instead of professionals to mark the vast amount of scholarly and quasi-scholarly output they produce. Between 2006 and 2011, there were several key centers of mobile money intellectual activity: the Consultative Group to Assist the Poor's (CGAP) technology program; the GSMA's Mobile Money for the Unbanked unit; the Bill and Melinda Gates Foundation Financial Services for the Poor program; and the consultancy firm Bankable Frontier Associates each took the lead early on in recognizing and promoting the potential of the mobile channel for providing access to banking and other financial services for the poor. Professionals in the payments industry were slower to recognize the potential of mobile but are rapidly catching up. There is also a "diaspora" of professionals formerly employed by several major payments industry actors, such as PayPal, VISA, MasterCard, as well as some of the larger banks and telecommunications companies. Some members of this diaspora have their own consultancy firms; others circulate among some of the organizations listed here. In the

¹ All references are to the U.S. dollar.

² The etymology of cash helps open up some of the black boxes of this concept, quite literally: the term derives from Latinate words referring to "a chest or box for storing money," not the money itself. The term originally indexed practices of storage and the objects used to store items of value as well as the act of going to those storage devices to receive money (to "cash" a bill of exchange, for example). I am grateful to Stefan Helmreich for this observation. See *The Oxford English Dictionary*, 2nd ed., online: Oxford English Dictionary, <<http://www.oed.com:80/Entry/28425>>. Earlier version first published in *New English Dictionary*, 1888.

been piecing together a philosophical, legal and moral program that crystallizes in an attack on cash. They view paper money and coin as part of the root of the problem of global poverty and other social ills.⁷ This may at first seem peculiar: surely the plight of the poor around the world has to do with a lack of cash, a lack of access to cash or the ability to turn one's other stores of value like land and livestock into cash as needed, and not with cash itself. Yet by documenting and underscoring the negative externalities associated with physical currency objects, mobile money intellectuals make a strong case against cash and in favour of electronic money ("e-money"), which can be stored and exchanged via mobile phone.⁸

In making the case for e-money, however, mobile money intellectuals are only beginning to appreciate some of the social uses of cash and coin. These social uses already interact with mobile telecommunications technology and shape how people view and use mobiles and money together. The "dying arts" of cash are resilient indeed, in no small measure due to their role in maintaining, solidifying, and extending social relationships and obligations. At the same time, many of these same arts of cash can have quite negative consequences. Mobile might be able to mitigate some of these consequences, but not by abandoning the socially grounded uses of cash and the history of practice we can find in the regulatory record of those uses.

This article looks to regulation for one means of finding a balance between the downsides of cash and the potential negative effects of eliminating it altogether. It does so by suggesting we read regulation in a new way. Rather than seeing regulation as proscriptive or restrictive of human action and market experimentation, this paper suggests that we view regulation as a kind of *retrospective ethnography of potential*. Those involved in regulation look backwards, learning from past problems, ranging from small inconveniences to systemic failures. They attempt to

U.S., Europe and Japan, there is a vocal subset of mobile money intellectuals promoting NFC payments solutions, expected to take off once several major mobile device manufacturers integrate NFC into their handsets. The U.S. federal government, USAID and several research centers of the Federal Reserve System (notably, the Atlanta Federal Reserve Bank's Retail Payments Risk Center and the Boston Federal Reserve Bank's Consumer Payments Research Center) have also contributed important research and reflection pieces on mobile money. The World Economic Forum has also been doing important work on mobile financial services readiness. There are a handful of researchers involved in mobile money at industry research centers around the world, and a small cohort of university-based mobile money researchers, as well. This list is only partial. Still, until the end of 2010, it would have been relatively easy to produce a comprehensive list of experts in mobile money, and their networks overlapped and interconnected quite considerably.

⁷ Critics of cash also argue that it: carries disease; is environmentally damaging to produce, transport, recycle, and reissue; and spurs crime.

⁸ See Andrew Zerzan, "A perspective on e-money in Central Africa" (30 November 2010), online: Citigroup <http://www.citigroup.com/transactionsservices/home/sa/2010q2/mobilemoney/docs/emoney_paper.pdf>. See also Michael Tarazi & Paul Breloff, "Nonbank e-money issuers: regulatory approaches to protecting consumer funds (July 2010), online: CGAP <<http://www.cgap.org/p/site/c/template.rc/1.9.45715>>.

prevent such issues in the future and thus also look ahead to potential future contexts. These potential contexts will be unleashed by new actors, new technologies, and new situations — some possibly resulting from the regulation itself.⁹

Regulation's temporal orientation is complicated. It involves a backward glance and a foreshadowing, a simultaneous analepsis and prolepsis. It is also both apart from and a part of the worlds it describes — a second-order description of human activity that becomes the foundation for future human activity. Regulation has the quality of ethnography: the anthropological practice of attempting to describe, qualitatively, the complexity and texture of all the contextual factors that presuppose and entail human activity, meaning-making, and imagination. Ethnography describes how people make the world as they make their way through it. Ethnography, like regulation, has a way of becoming a part of what it purports to explain, especially as more and more anthropologists engage meaningfully with those whose lives they document. Viewing regulation as retrospective ethnography of potential acknowledges that regulation provides a guidebook to people's past and present practices, their understandings, aesthetics, and even politics, all while looking ahead to the future. With money and mobiles, this guidebook can be used to inform future action, design, and possibility.

I first review some of the negative externalities of cash and coin. I then look at the innovation of e-money in mobile-money services and the issues it has raised for mobile money regulation. Next, I explore the social uses of money and of mobiles that predate their collision with one another and briefly examine the regulatory issues that those social uses raise, treating the regulatory archive as an ethnographic record. In the conclusion, I develop more fully the notion of regulation as retrospective ethnography and provide further reflections on the resilient arts of cash.

2. NEGATIVE EXTERNALITIES OF CASH AND COIN

The materiality of physical currency guarantees a certain ease of use but also comes with a number of risks. There is nothing linking currency to its chain of owners or to its history of exchange and transaction. This anonymity represents a kind of freedom: one's currency does not in and of itself bind one to a system of rank or social hierarchy.¹⁰ I can use my currency to buy anything from anyone who has something to sell. My payments are not circumscribed by the currency I use. Of course, this universality of acceptance is due to the fact that paper and coin are

⁹ See Donald MacKenzie, *An Engine Not a Camera: How Financial Models Shape Markets*, (Cambridge, MA: MIT Press, 2006). My analysis departs slightly from MacKenzie, who sees financial models driving inquiry and practical action in the world (an engine) rather than deducing principles from empirical facts (taking a snapshot, as with a camera). Here, I view the engine of regulation as formatting future action but also as resting on the snapshots of previous modes of practice: the sedimentation and layering of human and non-human activity provide the muddy grounds on which regulatory and technological futures grow. Thanks to Stefan Helmreich for pushing me toward this reflection.

¹⁰ Georg Simmel's *Philosophy of Money* famously articulated this position on money's ability to liberate, noting, at the same time, the danger of such liberation: free to fend for oneself, separate from relations of fealty to overlords, one is also free to fall.

state-issued and state-backed. Hence, national boundaries are significant barriers to the exchange of cash in a way that they are not for electronic transfers.

Cash can easily be used to hide the proceeds of crime: think of the archetypal suitcase full of unmarked bills with nonsequential serial numbers employed in many a potboiler.¹¹ And when a national currency is devalued, one might find one's store of banknotes, hidden in a hole under the floorboards, suddenly rendered worthless. One might also be forced to start dealing in large bundles or even wheelbarrows full of banknotes (as were many in Zimbabwe in the first decade of the 2000s). An electronic version of a devalued currency would not have any added transport or storage costs, and at least its conversion during the moment of devaluation would be automatic: one would not need to bring one's old bills to the bank to exchange them for new ones. One would also be spared the risk that a forgotten bundle of old notes, recently rediscovered, would be refused several years later. In tropical climates and in poor communities where banknotes and coins circulate rapidly among many millions of hands, physical wear and degradation interfere with people's everyday transactions when a recipient refuses a too-worn banknote.¹² Physical degradation also presents a cost to national governments that have to recover and replace worn instruments.¹³

Cash and coin are also difficult to store for those without bank accounts. People around the world have a number of storage practices, from variations on the piggy bank to special articles of clothing with hidden pockets. Some of these storage techniques expose the currency instruments to other risks: storage in the roof rafters does you little good when rain saturates your dwelling or wind lifts off the roof. Storage in a hole in the ground is good only insofar as no one else discovers your stash or accidentally digs it up while engaged in tending the garden or plowing the field. Termites, mice, and even elephants have a way of finding bundles of banknotes when they are hidden in the home, in a cupboard, or — in the case of elephants — a granary.¹⁴ Since it is the physical stuff of cash and coin that war-

rants the stored value, the consumption of that physical stuff by the elements or by animals destroys that value.

One's claim on currency instruments is always tenuous once those instruments change hands. This is both a curse and a blessing. Physical currency's anonymity means that theft and loss can be difficult to redress. It is hard to prove that a particular banknote is "mine" if it has been taken from my hands or my stash under the mattress. But if I receive, as an innocent third party, cash that had previously been obtained illegally, it should still be current, that is, I should still be able to redeem it for its value. In the classic 18th Century case of *Miller v. Race*,¹⁵ an innkeeper received a stolen banknote in payment for lodging, unaware of its tainted origins. When he attempted to redeem it, the bank refused. The court found for the innkeeper on the grounds that, as Lord Mansfield stated, "A bank-note is constantly and universally, both at home and abroad, treated as money, as cash; and paid and received, as cash; and it is necessary, for the purposes of commerce, that their currency should be established and secured."¹⁶ The bank had a claim against the criminal but not the innkeeper. Central to Lord Mansfield's argument was the importance of cash to commerce, as well as the absurdity of maintaining any link to original title in a banknote, or, by extension, other currency instruments used as money. Maintaining title to property in a banknote would mean any holder of a note would have to "trace title through, perhaps, 500 hands," even those of a "feme [sic] covert, or an infant."¹⁷ The innkeeper was thus entitled to the bank's promise to pay, upholding the negotiability of currency instruments like banknotes and checks.¹⁸

3. E-MONEY TO THE RESCUE?

Mobile money intellectuals tend to discount the benefits of cash's anonymity, focusing instead on its inherent risks. The many encumbrances of cash, they argue, as well as the ease by which it can slip through one's fingers in impulsive purchases (or incessant requests from relatives or friends) make replacing it with something more secure and less liquid a priority. Taking the lead from the early successful mobile money business models like that of M-PESA, and with the benefit of the experience of pre-paid card services in the industrialized North, they propose replacing cash with an electronic account that holds notional value and only distributes cash as needed at specific points in the payment chain. They also note, correctly, that for many in the developed world, the bulk of their stored value is already electronic, not material: paychecks are digital and electronically deposited; bill payment can take place automatically online, without the use of physical checks or bills; and the widespread availability of credit and debit cards means that for many people today cash is only used as a last resort, when no other options are

¹¹ For example: "That governess of yours won't argue when I tell her to leave a fat roll of unmarked bills under a stone at the Autoville entrance tonight. She won't notify the police either.' He reached up a grimy hand and touched one of Honey's shoulder-length curls. 'Not when I send her a lock of your pretty hair with the note, eh?'" Julie Campbell, *Trixie Belden and the Red Trailer Mystery* (New York: Random House Children's Books, 1950) at 180.

¹² On other issues regarding wear, and wear as an index of the social use of money, see Bill Maurer, "Mobile money, money magic, purse limits and pins: tracing monetary pragmatics" (2011) 4:3 *Journal of Cultural Economy* 349-359.

¹³ These are called "wear costs." In 2009, for example, the Reserve Bank of India began replacing paper notes with polymer notes, less susceptible to wear and especially damage from moisture. The RBI estimated that polymer banknotes would last on average five years, compared to one year for paper notes and would be more "hygienic." See "RBI to introduce Rs10 plastic notes" *Hindustan Times* (8 September 2009), online: *Hindustan Times* <<http://www.hindustantimes.com/RBI-to-introduce-Rs-10-plastic-notes/H1-Article1-451588.aspx>>.

¹⁴ I am grateful to Sirimevan Colombage of the Open University, Sri Lanka, for alerting me to the tragedy of elephant attacks in Sri Lanka. See e.g., "Farmers helpless in the face of elephantine fury" *The Sunday Times* [of Sri Lanka] (12 December 2010).

¹⁵ *Miller v. Race* (1758), 1 Burr. 452, 457, 97 E.R. 398, 401 (K.B.).

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ See Curtis Nyquist, "A spectrum theory of negotiability" (1995) 78 *Marq. L. Rev.* 897 at 902; Walter Effross, "Putting the cards before the purse? Distinctions, differences, and dilemmas in the regulation of stored value card systems" (1997) 65 *UMKC L. Rev.* 319, n. 218.

available. In such instances, people access their electronic value by requesting cash at a point of sale terminal or an automatic teller machine. What if the millions of poor, unbanked people around the world had the same access to electronic stored value?

Mobile money intellectuals outline an e-money model based on mobile money pilot projects and a few large-scale deployments, as well as idealized post-hoc explanations of how these deployments work (which then become templates for how to create a mobile-money service, or, at least, to present one to a regulator). A merchant starts by depositing cash via a mobile network operator (MNO) into a pooled account at a bank that is partnered with the MNO. The MNO next creates for the merchant an e-money account equivalent to his share of the pooled account on deposit with the bank, which he can access via his mobile phone. He now has a store of electronic credits with the MNO. When a customer wants to send money to another person, the customer can come to the merchant and provide cash in the amount to be transferred to another person, plus a commission. The merchant receives the cash and transfers to the customer's mobile phone some of his own e-money on account with the MNO. The MNO records the transfer of e-money to the merchant's customer. The merchant can then deposit the cash in his bank account, which will top up his supply of MNO-issued e-money. This maintains a one-to-one correspondence between the money on deposit in the bank and the e-money in the system.

The customer next sends the e-money in his mobile account to his friend. She receives a notification on her phone that she has been sent money (really, credited with e-money). She goes to another merchant who is participating in this system and "cashes out" the e-money she has been sent. The second merchant accepts her e-money, adds it to his e-money account, and provides her with cash in exchange. In reality, the e-money has not changed in any way except to have been attached to a different account. This second shopkeeper has become a "cash merchant," selling cash to the customer in exchange for her e-money.

As more and more merchants participate in such a system, the bank in partnership with the MNO starts to accumulate a large, pooled account, made up of the funds backing the e-money of hundreds and even thousands of small merchants, each serving as agents of the mobile-money service and as cash-in/cash-out points. They are like so many human ATMs, each trucking in cash and e-money and earning a small commission, much like card network companies and banks earn small fees on each ATM transaction. The merchants are e-money traders: they are exchanging e-money for cash and vice versa, much as they exchange any other commodity for cash. The MNO is the supplier of e-money and of the service and systems that make the whole thing possible.¹⁹

There are several benefits to such a system, particularly in resource- and infrastructure-poor contexts. First, instead of customers coming to a bank, the bank comes to the customer, through an existing network of retail shops. Second, because it leverages existing retail shops and existing mobile phone service, no new physical plant need be constructed: merchants with mobiles are already in place in

villages and towns around the world, and adding the e-money/cash trade to their business is just like adding a new kind of soap or other commodity to their inventory of items for sale.²⁰ Third, customers need not add another activity or destination to their normal routine: they already shop at the local store for other goods, and they can now use that same infrastructure for banking and funds transfer. Fourth, because merchants are initiating the process by investing their own capital in their initial store of e-money, there is a built-in safeguard against the merchant running off with people's small deposits intended for savings or transfer. There are numerous other potential and actual benefits, as well. Trucking in electronic value almost always leaves electronic records that can be traced if anything goes awry or any suspicious activity is detected.

There are also risks, some which are discussed by other contributors to this issue.²¹ Among them is the integrity of the pooled account, which is, in theory, always dynamic as merchants add and subtract cash to sell or redeem e-money. That very dynamism poses technological, regulatory, clearance and settlement challenges. In addition, as the system gets bigger, care must be taken to ensure that the funds in the pooled account are safeguarded, not intermediated or used to support bank or MNO operations, and restricted in order to preserve liquidity and prevent a run on the mobile-money service.²² In some countries, the pooled account is structured as a trust; others also require the e-float holdings to be held in several banks in case one should fail.²³ Although not intermediating the pooled funds may safeguard them, it also holds a downside for the customer, as it deprives the mobile money account holder one of the supposed benefits of modern banking: interest, the benefit to be derived from letting the bank use your money when you do not need it, and compensating you for that use.²⁴

But consider the weirdness of the idea of "selling" cash like rice or soap. Cash is not an ordinary commodity. It is a state-issued instrument with specific properties and functions. Many regulators and commentators have worried over the potential risks mobile money poses to consumers, but there is also the potential not just for disintermediation of banks but a privatization of currency and an enclosure of the commons and culture of payments. I say this not just as a caution, but also, more importantly, as a prod to better understand regulation as well as the resilience of cash, and of payments as social and cultural phenomena. Such understandings may help inform better mobile-money services and a different perspective on regulation. To get there, we need to understand the social uses of money, mobiles and

¹⁹ This description of the prototypical e-money system is derived from Andrew Zerzan, *supra*, n. 8. See also Tarazi & Breloff, *supra*, n. 8.

²⁰ Claire Alexandre, "Banking beyond branches: bringing financial services to every community" (delivered at the Mobile Money Policy Forum, Nairobi, Kenya, 1 December 2010) [unpublished].

²¹ See USAID & Booz Allen Hamilton, "Mobile Financial Services Risk Matrix" (23 July 2010), online: BIZCLIR <<http://bizclir.com/galleries/publications/Mobile%20Financial%20Services%20Risk%20Matrix%20July%202010.pdf>>.

²² See Tarazi & Breloff, *supra*, n. 8.

²³ *Ibid.*, at 3.

²⁴ See Michael Tarazi, "E-money accounts should pay interest — so why don't they?" (17 March 2009), online: CGAP Technology Blog <<http://technology.cgap.org/2009/03/17/e-money-accounts-should-pay-interest-so-why-dont-they>>.

mobile moneys, as well as some of the interesting unintended consequences of mobile money.

4. SOCIAL CURRENCIES AND THE IMPACT OF E-MONEY

Since the introduction of mobile money in places like Kenya and the Philippines, researchers and other observers have noted some of the unintended consequences of mobile financial services. Mobile money intersects with some of the supposedly dying arts of cash. If a service does not allow a longstanding practice of its intended users to continue, those users will very quickly find a way around whatever barrier the service puts in their path. For example, despite credit card network rules forbidding them to do so, many small merchants in the United States have offered discounts to customers who pay in cash; others have refused to accept cards for low-value purchases. They accepted the convenience and increased foot traffic that payment by credit card afforded, yet at the same time tweaked the system to their own advantage by informal means, like asking, "Do you want to enter your PIN?" to encourage a debit rather than credit transaction, or posting a small sign. The Durbin Amendment to the *Frank-Dodd Act* now obliges card networks not to forbid such practices; hence, the epigraph to this article.²⁵

Mobile money represents a collision of two ubiquitous technologies, each with similar but internally contradictory sets of symbolic associations and social practices. Mobiles and money both represent modernity. Mobiles index technological savvy; their use marks a person as part of the modern world, as fashionable, hip, urban, important, connected.²⁶ Modern money does much the same: flashing banknotes instead of or alongside gold, displaying coins as jewellery, elaborate means of counting bills and coins or dramatic means of secreting the counting — under a cloth, say. These kinds of counting practices make the counting itself a symbol of a person's importance, wealth, and standing in the community, all conveying connection to the modern world and distance from land, livestock, and manual labour.²⁷

At the same time, mobiles and money also represent tradition. Mobile phone sharing can mark the boundaries of a family or a close community.²⁸ Mobiles en-

²⁵ *Dodd — Frank Wall Street Reform and Consumer Protection Act*, Pub. L. No. 111-203, 124 Stat. 1376-2223 (2010).

²⁶ See e.g., M. Ito, D. Okabe, & M. Matsuda, eds., *Personal, Portable, Pedestrian: Mobile Phones in Japanese Life* (Cambridge: MIT Press, 2005); J. Katz, *Magic in the Air: Mobile Communication and the Transformation of Social Life* (New Brunswick, NJ: Transaction Publishers, 2006).

²⁷ D. Akin, D. & J. Robbins, eds., *Money and Modernity: State and Local Currencies in Melanesia* (Pittsburgh: University of Pittsburgh Press, 1999); Paul Bohannan, "The Impact of Money on an African Subsistence Economy" (1959) 19 *Journal of Economic History* 491; Keith Hart, *Money in an unequal world: Keith Hart and his memory bank*, (New York: Texere, 2001); Bill Maurer, "The Anthropology of Money" 35 *Annual Review of Anthropology* (2006) 15; Bill Maurer, "Finger counting money" (2010) 10 *Anthropological Theory* 1.

²⁸ Jenna Burrell, "Evaluating Shared Access: social equality and the circulation of mobile phones in rural Uganda" (2010) 15 *Journal of Computer-Mediated Communication*

able new forms of adherence to traditional strictures: witness the large number of *adhan* (call to prayer) applications for the mobile phone, permitting a fusion of the traditional with the modern, marking one as both pious and posh.²⁹ Similarly, currency instruments are employed in all manner of ritual and religious performances, many associated with stages of the life cycle. From the throwing of coins at baptism or marriage to the placing of money with the dead and the exchange of specially-annotated or wrapped currency objects at new year's or other ritual celebrations, money's magical qualities, its embodying of abstract value in a physical object, provides fodder for ritual action the world over.³⁰

Take the following very common practices involving mobile phones and cash: cell phone sharing or SIM-card swapping and the disclosure or non-disclosure of monetary gifts. For many readers of this journal, the mobile phone is a personal device. Unlike a landline telephone, where it was assumed that every member of the home shared the same phone and phone number, the mobile, for many of us, is linked to the person at the individual level. Mobile phone address book applications and people's habits reinforce this association. One usually saves a phone number in an address book with at least one personal name attached to it. When the phone rings, up pops that person's name.

This is not the experience of mobile communications for everyone, however (including more people in the U.S. and Canada than many realize). Researchers exploring the use of mobiles in a variety of communities in the global South have documented a rich array of phone-sharing practices. Phone use is often intermediated by others. If I am illiterate, I might ask my son to dial the phone for me or to text a message for me. He, in turn, might text a message not to my intended recipient, but to another person who ultimately delivers the message. Families frequently share one mobile, as do close friends or work associates. In many places, small-scale entrepreneurs make a living selling access to their phone to others.³¹

As the phone is not always linked to one person, it is also not always linked to one service provider. In parts of the world where people cannot afford their own phone, or where they use multiple networks in order to save on airtime expenses — calling people who use Service A only over that network, for example — people hold multiple SIM cards, inserting and removing them into their phone or their

230; Jan Chipchase, *Mobile Phone Practices & The Design of Mobile Money Services for Emerging Markets* (1 December 2009), online: Future Perfect <<http://janchipchase.com/content/publications>>; Jonathan Donner, "Research Approaches to Mobile Use in the Developing World: A Review of the Literature" (2008) 24 *The Information Society* 140; N. Sambasivan, E. Cutrell, K. Toyama, & B. Nardi, "Intermediated technology use in developing communities" (10 April 2010), online: ACM Digital Library <<http://portal.acm.org/citation.cfm?id=1753326.1753718>>.

²⁹ For example, a suite of Islamic applications for the iPhone is available at the iTunes store: <<http://itunes.apple.com/us/app/islamic-compass-prayer-times/id321378482?mt=8>>.

³⁰ Researchers supported by the Institute for Money, Technology and Financial Inclusion are producing a rich archive of such ritual uses of money. See <www.imtffi.uci.edu>.

³¹ Sambasivan, *et al.*, *supra*, n. 28; Donner, *supra*, n. 28.

friend's phone as needed to make a call.³²

Shared use and multiple SIM phones function analogously to shared money and multiple kitties of cash. When people around the world pool money, either formally or informally, each participant is allowed (according to set rules) to dip into the pool as needed or depending on a set sequence or ritual practice. People also separate distinct pots of money, distinct kitties, from their larger stores of value. While some may maintain multiple bank accounts for this purpose, or use one credit card for one type of purchase and another for a different set of expenses, many do so by using physical currency instruments and segregating them according to intended use into distinct physical buckets.³³ One can even purchase special bill organizers or coin vaults to help one do this. Perhaps the most common technique, taught in many American home economics classes in the early part of the 20th Century, is the use of separate paper envelopes for separate funds.³⁴

Gifted money is a special form of sequestration. People often physically mark or segregate gifted money. Persian communities in the United States go to banks to acquire two-dollar bills to give to each other as gifts for the Persian New Year, sometimes inscribing well-wishes on the bills. Chinese the world over place gifted money in special envelopes for the Chinese New Year. Gifted money often has another feature, as well: depending on the occasion of the gift, the value is either recorded and made public for all to see or is kept secret, the privileged knowledge only of a select few. In the Cambodian community of Long Beach, California, gifts to support the temple are publically recorded and displayed. In many Ethiopian communities, by contrast, gifts to the church are never recorded: "God says when your right hand gives, your left hand does not see it."³⁵

What happens when mobile practices like shared-use and multiple SIMs encounter money practices like pooled funds, earmarking, and public or secret gifts? One can use the mobile device and money to facilitate just about any combination of these practices. Yet, there are some limits: one benefit frequently touted by mo-

bile money intellectuals is the traceability of mobile transactions. What will happen to secret gifts with mobile money? They will certainly not go away. They might be maintained in cash. They might be grafted onto multiple SIM use — using one SIM for public gifts and another for non-public gifts.

There is already anecdotal evidence that mobile money's intersection with the arts of cash does not always proceed according to the designers' plans. In Kenya, participants in savings and credit cooperatives missed the social interaction provided by their regular meetings when payment and withdrawal via M-PESA became possible. There may be similar situations where "high touch" interactions beat convenience, despite whatever savings the latter may bring in terms of cost or travel times. In the United States, the disbursal of social welfare benefits via prepaid card is transforming "check-day rituals."³⁶

From the regulatory point of view, all of these practices involve various risks. It is not surprising that the response has at times been conflicted. South African authorities early on took the lead by allowing for proportionate Know Your Customer (KYC) procedures for verifying the identities of poor clients of mobile-money services. South Africa's Guidance Note No. 6 on mobile banking, together with Exemption 17 of its *Financial Intelligence Center Act (FICA)* allow mobile banking customers to register for the service over their phones without having to appear in person at a bank branch to provide proof of identification. The exemption is subject to low-value daily and monthly transfer limits and a low-value account balance. If any of these thresholds are passed, stricter KYC kicks in, and the customer must appear with valid identification at a bank branch. South Africa has thus been hailed in mobile money circles for its proportionate approach to KYC and anti-money laundering guidelines.³⁷

Yet the telecommunications regulator, worried about the criminal use of phones, recently required registration of all SIM cards. A 2009 amendment to the *Regulation of Interception of Communications and Provision of Communication-related Information Act (RICA)* means that even customers with prepaid service now need to register. This accounts for over 85 percent of South African mobile subscribers. As Marina Solin of the GSMA's Mobile Money for the Unbanked unit noted, "RICA re-introduced some of the classic financial inclusion barriers by linking the heavy identification requirements of RICA to the right to use a mobile phone. . . . This negates the benefits of Guidance Note 6 and Exemption 17."³⁸

³² The SIM (subscriber identification module) chip is linked to the mobile service and, in some legal environments, to the individual subscriber. Jan Chipchase reports that Chinese counterfeit smartphones frequently have slots for multiple SIMs, innovating based on user practices. Nokia's own dual-SIM phones (the C1 and C2), released in the summer of 2010, responded to such consumer demand. See Bobbie Johnson, "Shanzai!" *Wired Magazine UK* (16 December 2010), online: [Wired UK <http://www.wired.co.uk/magazine/archive/2011/01/features/shanzai?page=all>](http://www.wired.co.uk/magazine/archive/2011/01/features/shanzai?page=all).

³³ On earmarking and social currencies, see Viviana Zelizer, *The Social Meaning of Money* (New York: Basic Books, 1995).

³⁴ See e.g., Bertha M. Terrill, *The Library of Home Economics: Household Management* (Chicago: American School of Home Economics, 1907) at 44 (describing "the envelope method" of household budgeting).

³⁵ For the Cambodian community example, see Thomas J. Douglas, *Crossing the lotus: Race, religion and rationality among Cambodian immigrants in Long Beach and Seattle* (Ph.D Dissertation, UC Irvine, 2004) [unpublished]. The Ethiopian example is provided by Woldmariam Mesfin Fikre, "The impact of new technologies on social payments: the case of Ethiopia" (Paper presented to the Institute for Money, Technology and Financial Inclusion Annual Conference, University of California, Irvine 30 September 2010) [unpublished].

³⁶ Christine Hauser, "As benefits go paperless, check-day rituals vanish," *The New York Times* (29 January 2011) B1.

³⁷ See Marina Solin, "Industry's favorite regulatory solution: South Africa's AML regulation" (30 March 2009), online: [GSMA Mobile Money for the Unbanked <http://mmublog.org/africa-south/industrys-favourite-regulatory-solution-south-africa-aml-regulation/>](http://mmublog.org/africa-south/industrys-favourite-regulatory-solution-south-africa-aml-regulation/).

³⁸ Marina Solin, "New regulatory change in South Africa affects mobile money" (14 August 2009), online: [GSMA Mobile Money for the Unbanked <http://mmublog.org/blog/new-regulatory-change-in-south-africa-affects-mobile-money/>](http://mmublog.org/blog/new-regulatory-change-in-south-africa-affects-mobile-money/).

5. REGULATION AS RETROSPECTIVE ETHNOGRAPHIC POTENTIAL

The case of the conflict between RICA and FICA is instructive: looking back, retrospectively, at how criminals were using cell phones and aware of practices like mobile phone sharing, the regulator responded by requiring SIM registration. This has the unintended consequence of interfering with the previously adopted risk-based approach to Know Your Customer, embodied in FICA. What is interesting here is not so much the paradox posed by these two separate regulatory interventions, or their distinct assessments of and approaches to risk, or whatever the eventual outcome of this particular regulatory contradiction might be. Instead, it is important to pay attention to the implicit ethnography in regulatory accounts, to read regulations as narrative descriptions of social life. Doing so sheds light on actual social practices of technology, of phones as well as currency objects, and thus provides a window into user experiences of new mobile and money technologies.

Regulations designed to protect people from one kind of activity derive from insight into past and present experience, thereby providing a map of the world right now and in the recent past. Let us call that ethnography: a description of a way of life, a richly contextual account of people's diverse efforts to make a life for themselves as they make, and make their way through, the world. It is a second-order description of models of behaviour which are extant in the social milieu.³⁹ This ethnography is also forward-looking: projecting out into the future the potential that technologies (both money and mobile) hold for new kinds of action and contexts. To the extent that regulations are part of the world they attempt to regulate, they also provide new models of behaviour, attempting to channel action but also generating strategies for escaping that canalization. Indeed, regulation's projection of the future might be indistinct, flawed, and fuzzy, like the shadows cast by silhouette art. Indeed, absent the manifestation of crisis, there is no way to be certain, since the future is always unknowable.

Seeing regulation as ethnography interrupts a certain behaviourist approach to regulatory activity. Even if regulators realize the paucity of rational actor models of human behaviour, increasingly popular behaviourist models still reduce action to individual motivations and drives. Ethnography's purpose is not to derive universal behavioural principles or psychological motivations from an underlying action.⁴⁰

³⁹ The classic statement of cultural symbols providing models for and models of behaviour is Clifford Geertz, *The Interpretation of Cultures* (New York: Basic Books, 1973) at 92–94.

⁴⁰ Thus, I agree with Ronald Mann's scepticism of behavioural economics approaches to regulation. His concern "comes not from departures from rationality, as I am sure that consumer use of financial products falls far short of the perfection of the rational actor. Rather . . . departures from rationality are so unpredictable and contextually specific that intervention designed to remedy one departure without accounting for the others has little chance of a beneficial result." For me, however, the unpredictability and contextual complexity and specificity call for a different kind of knowledge project: an ethnographic one. Ronald Mann, "Nudging from debt: the role of behavioral economics in regulation" *The Lydian Journal* (February 2011), online: *The Lydian Payments Journal* <<http://www.pymnts.com/nudging-from-debt-the-role-of-behavioral-economics-in-regulation>>.

Rather, ethnography gives a feel for other ways of being, knowing and acting. It provides an understanding for the supra-individual level contexts — and the assemblage of things and relationships they create and use — within which people make meaning for their lives.

In what way might it make sense to think of regulation as retrospective ethnography? To the extent that regulations address risks and seek to reduce those risks or mitigate harm, regulations provide a document of people's actions. Often, these are actions that have not happened yet — regulation seeks to head them off before they take place. But the assessment of which actions to prevent depends on the regulator's prior understanding of what people might do, which in turn comes from looking backward at people in context: for example, the context of risky heavy machinery, or potentially deadly toxins created by bacteriophilic conditions in the food supply, or bad street planning and design. In many instances, regulations follow actual cases of harm caused by people's actions in a specific context. In other instances, regulations follow from analogy to what the regulator deems a similar situation in the past. Another way of putting this is: whatever issues regulators raise now will be the ground from which people will create their worlds later. I can flip a light switch without worrying about getting electrocuted. I can use paper currency in an exchange with the assumption that I will (eventually) get the correct change.

Calling regulation a "retrospective ethnography of potential" is a deliberate provocation. Too often, mobile money practitioners and intellectuals dismiss regulation outright; they see it as holding back the market and lying in the way of true innovation and, ultimately, the goals of financial inclusion and economic development.⁴¹ If we see regulations as a kind of ethnographic account of the past with an eye toward the future, we then have at our disposal a resource for reimagining those peoples-in-contexts that result from the introduction of any new system, technological or otherwise.

⁴¹ When Lois Quinn of the U.S. Department of Treasury posed a hypothetical question to the audience at a mobile money event sponsored by the U.S. State Department (August 2, 2010), "Yea or nay: Regulation is the biggest barrier to mobile banking," the "Yea's" came before she had even finished the question, and the response was thunderous.