

A Maussian bargain: Accumulation by gift in the digital economy

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Abstract

The harvesting of data about people, organizations, and things and their transformation into a form of capital is often described as a process of “accumulation by dispossession,” a pervasive loss of rights buttressed by predatory practices and legal violence. Yet this argument does not square well with the fact that enrollment into digital systems is often experienced (and presented by companies) as a much more benign process: signing up for a “free” service, responding to a “friend’s” invitation, or being encouraged to “share” content. In this paper, we focus on the centrality of gifting and reciprocity to the business model and cultural imagination of digital capitalism. Relying on historical narratives and in-depth interviews with the designers and critics of digital systems, we explain the cultural genesis of these “give-to-get” relationships and analyze the socio-technical channels that structure them in practice. We suggest that the economic relation that develops as a result of a digital gift offering not only masks the structural asymmetry between giver and gifted but also permits the creation of the new commodity of personal data, obfuscates its true value, and naturalizes its private appropriation. We call this unique regime “accumulation by gift.”

Keywords

Digital economy, personal data, political economy, social theory, sociology, gift economy

Introduction

Primitive accumulation in the digital economy—the appropriation of data about people, organizations, and things and their transformation into a form of capital—often takes place through what David Harvey (2004) calls “dispossession,” or a pervasive loss of rights buttressed by predatory practices. (Jakobsson and Stiernstedt, 2010; Thatcher et al., 2016; Zuboff, 2019) Violence—to social norms, social relations, and the law—is an essential part of the process—a feature epitomized by Facebook’s corporate motto of “move fast and break things.” Strategies mobilized to create new opportunities for profit include the enclosure of the public commons, the disregard for the legal rules that structure many industries, and the commodification of people’s lives. Google’s massive book digitization project is an example of the first. Uber’s aggressive “disruption” of the taxi market illustrates the second. The transformation of persons into bundles of commensurable (and valuable) units of information epitomizes the third. Everywhere, the basic approach involves launching “incursions into

undefended space,” pressing until “resistance is encountered,” and then “[seducing, ignoring, overwhelming, or simply exhausting] adversaries” (Zuboff, 2015: 140).

Yet, this picture is difficult to reconcile with the fact that enticement and enrolment into digital systems *presents itself, and is often experienced as* a much more benign process. People sign up for a “free” service, respond to a “friend’s” invitation, or are encouraged to “share” their views. If robbery is at stake, it is taking place with a velvet glove, working primarily—or so it seems—through sociality, reciprocity, and

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self-interest. Thus, the social logic of digital capitalism often eschews the appearance of coercion.

Its economic logic seems distinctive, too. Many of the components of this formidable economic machine—from search to social media, from mail to office tools, from games to self-tracking applications—came into our lives as handsome handouts accessible, at no cost, to everyone. Gone is the time when software was physical and expensive, or when one could access these services only through subscriptions. Crucial to the success of many web and cloud-based services is that, like the web itself, they were given away, at least initially. Billions of people and millions of organizations happily signed up for complimentary products promising universal knowledge, total freedom, unbound creativity, amazing access, great fun, or enhanced productivity.

Where, then, does profit come from? Strategies for cross-subsidization in the digital economy come in various shapes and forms, but the most common, perhaps, involves configuring people's interactions with computers so as to push the marginal cost of acquiring information to zero. Companies' seemingly disinterested favors to the world are, in fact, paid for by the surveillance, tracking, commerce, and "heteromated" labor (Ekbia and Nardi, 2017) of digital persons and organizations, made profitable through targeted advertising, predictive analytics, and the development of AI-based systems (Anderson, 2009; Cockayne, 2016; Fuchs, 2011; Ritzer and Jurgenson, 2010; Zuboff, 2015). As Shoshana Zuboff puts it, "once we searched Google, but now Google searches us. Once we thought of digital services as free, but now surveillance capitalists think of us as free, or 'free for the taking'" (cited in Naughton, 2019).

In spite of the fact that pseudo-gifts are everywhere, the significance of this particular economic form to the accumulation process in digital capitalism remains under-theorized, with a few notable exceptions. In his *Profit and Gift in the Digital Economy*, Dave Elder-Vass (2016) documents the wide range of economic forms that populate the digital economy, from Wikipedia's "cooperative peer production" to Apple's "monopoly capitalism." Restating Barbrook's (1998) important characterization of the "hi-tech gift economy" as a place where the "money commodity and gift relations [can] coexist in symbiosis," Elder-Vass (2016: 176) discusses the hybridity of digital capitalism at every level, for instance the role of "inducement gifts," by which digitally based companies seek to bring about "subsequent exchanges in the market," or the way wage labor might be gifted in the form of open-source software. Julia Velkova's (2016) analysis of the position of the Blender Institute in the field of digital media describes the obligatory sharing of software,

tutorial, and open animation as a way for the organization to accrue power and reputation, to institutionalize itself as an obligatory mediator of all creative endeavors, and to generate financial sponsorship. She reports that these practices also helped discipline the labor force, including herself, into giving more and more of their labor away for free.¹

What is missing, perhaps, is a systematic account of (and explanation for) the remarkable centrality of gifting and reciprocity to the business model and cultural imagination of digital capitalism. When we interviewed Jake Ford,² cofounder and CEO of EagleNet.com, about the harvesting of personal data by digitally based companies, he exclaimed (as if the answer was completely obvious): "Hey dilbag, you're getting it for free! They have to make money somehow!". We could of course take Jake at his word that a bona fide, fair, and voluntary economic exchange has taken place, and there would be nothing else to say about it. But why was it important to structure this "exchange" in such a particular way, as a give-to-get, in the first place? Why does the freebie play such a crucial role in the business model of so many digital companies? How does "data," which fittingly translates as "things given" in Latin,³ concretely become the way the original favor must be repaid?

To answer these questions, we must understand what it is that gifts, or pseudo-gifts, do. For anthropologists, cycles of exchanges structured around gifting and reciprocity can create economic and social dependency just as surely as market exchange. In the digital economy, gift-like relationships marked by signs of liberality, a fuzzy temporality, and an absence of commensuration have proliferated, arguably fueling the rise of immense fortunes and accumulations of power. How did this sharply asymmetric form of reciprocity establish itself as a model for the industry? What does the socio-technical infrastructure that supports it look like? How does it continue to sustain itself?

We find some answers to the first question in Marcel Mauss's (1990) classic essay, *The Gift*. Mauss's emphasis on the structural and ritualistic element in the gift offers a promising insight into the social processes that underpin a wide range of economic relations in digital capitalism. Central to Mauss's relevance here, particularly in the interpretation given by Hénaff (2010, 2013), is the insistence that gift-giving is a form of alliance-making or enrollment. Pierre Bourdieu's (1977) extension of Mauss's framework helps us understand the fundamental misrecognition at play in gift-based, or quasi gift-based, relationships—the strange combination of interest and disinterestedness, which obfuscates the economic nature of the exchange. Because the context we are analyzing is quite distant from the ceremonial gift-giving

Mauss focuses on, however, we use a different term to characterize the nature of the exchange at stake: “bargain.” This more capacious concept allows us to acknowledge that, while *structurally framed* as gift-like, relationships in digital capitalism are more ambiguous in the sense that (a) things given away are nonetheless “traded” for something (even if it is something that *did not exist* before the relationship was initiated); and (b) this trade, from the point of view of the user, is often misrecognized as no trade at all, or it may even be brushed off as a steal, a “bargain.” By embedding the obligation to repay into the original gift itself, we show, the Maussian bargain not only masks the structural asymmetry between giver and gifted but also permits the creation of the new commodity of personal data, obfuscates its true value, and naturalizes its private appropriation.

Importantly, our analytical framework came about inductively, as an unexpected byproduct of an ongoing interview- and participant-observation-based empirical project on the cyber-infrastructures of the personal data economy, which we have been conducting in the San Francisco Bay Area since April 2015. Below, we present our theory of “accumulation by gift,” and its historical origins in Silicon Valley culture and the Internet. We then draw on our empirical data to flesh out its technical features in today’s platform-centric digital economy. In other words, we show how the give-to-get works “in practice,” and why.

Markets from gifts

We are accustomed to thinking that what propels capitalism is the logic of capital, or rather, the designs of *capitalists*: people with resources (money, land, machines) at their disposal—whether earned or taken by force—who seek to multiply it by financing old and new production in anticipation of future valuations and profits (Beckert, 2016; Deringer, 2018). Much of economic science, including Marxist economic science, rests on this view (Elder-Vass, 2016).

Yet we also know from anthropologists that the roots of economic innovation and exchange are much more ambiguous. Many economic relationships often begin quite liberally, with acts of generosity—seemingly free gifts that, according to demonstrated intentions, need not be repaid. In his classic essay, Mauss (1990) argues that gifts come first; reciprocity (and thus exchange) second; calculation, money, and markets develop out of the small and large imbalances created by generous expenditures, not the other way around. A gift, particularly the first gift in a reciprocity cycle, also has a political function: it is a way to defuse possible hostility, a “fundamental gesture or procedure of public recognition between human groups [that]

establishes them as uniquely human and capable of forming alliances and conventions, thus constituting the very genesis of the political relationship” (Hénaff, 2013: 15). That is why refusing gifts is often “tantamount to declaring war” (Mauss, 1990: 13).

There is ample ethnographic evidence that many economic transactions and markets do, in fact, originate “from gifts” (Velthuis, 2018). Elder-Vass (2016: 176–177) reminds us that freebies have a long history in marketing (for instance, free recipe books to familiarize consumers with Jell-O in the early 20th century or free songs to generate interest in an album). Similarly, feelings of intimacy and obligation, generated through gifts, play an essential role in the accomplishment of a market for human eggs (Almeling, 2011), in the sale of life insurance in China (Chan, 2012), and in the circulation of organs, cadavers, and cadaver parts, which depends on a constant stream of donations (Anteby, 2010; Healy, 2006). More generally, salespeople are known to rely on reciprocal social obligations to elicit a sense of interest and loyalty among potential buyers and help them move through the stages of the sales process, all the way up to the closing of the deal (Darr and Pinch, 2013). Mears (2015) found in her research on “bottle girls” in the VIP service industry that the entire business relies on these women’s sense of reciprocal obligation to their brokers, who shower them with gifts and perks. She suggests that not making explicit the true value of these favors facilitates the extraction of potentially greater value from the girls themselves.

“Information wants to be free”⁴

The digital economy, too, is replete with the language and practice of liberality, and with a fundamental ambiguity about the values being exchanged (or rather, given and repaid). The concept of a gift economy features prominently in many early accounts of the electronic frontier and online communities (e.g., Barbrook, 1998; Kollock, 1999; Rheingold, 1993). The information technology sector of Silicon Valley arose in part out of the anti-hierarchical, socialist affinities of the 1960’s Bay-Area counterculture and anarchist hacker ethics of the 1980’s free software movement (Levy, 1984; Turner, 2006).⁵ These demanded that code be freely shared with the community of developers, without proprietary restrictions. This norm was institutionalized through the forceful socialization of successive generations of “newbies” (Bergquist and Ljungberg, 2001). The gift culture was, for instance, well established among members of the Whole Earth Lectronic Link, helping support a sense of community (Turner, 2006, 157; also see Rheingold, 1993).

In the metaphor usually attributed to Richard Stallman, code should be “free as in free speech,” it should circulate so people can use, tinker with, and improve upon it. Like their counterparts in what Mauss called “archaic societies,” the gifts of the cyber-culturalists were offered not to individuals but to the collectivity, and they contained a similar political promise: virtual processes would ignore private property, bridge social differences, foster creativity, and build community (Bergquist and Ljungberg, 2001; Frosio, 2015).

Often software—and cyber products more generally—were free in another way, however: they were shared at no cost, free as in “free beer.”⁶ But even those inventors of code who made no money from it benefited from their munificent actions in other ways, often with lucrative implications. As Fred Turner (2006) writes: “Because they are explicitly removed from systems of market exchange, gifts can come back to participants not as money, but as reputation, artistic pleasure or friendship or all three” (80). What gifts generate, first and foremost, is recognition and therefore symbolic benefits (Hénaff, 2010; Velkova, 2016). (The exaggerated gift exchanges that sustain the Burning Man festival are perhaps the most striking illustration of this culture (Turner, 2009).) Kollock (1999) argues that sharing public goods online fosters a feeling of increased efficacy, group attachment, and expectations of reciprocity (whether specific or generalized).⁷ Indeed, one of our interviewees, an AI entrepreneur, who started his career in the hacker community, captured the ethic of generalized reciprocity well: “I have always shared everything, I never expected anything. And I have always gotten it back; I have gotten back way more, in fact” (Ramsey Gordon, December 2018).

As venture capital poured into the American technology sector during the 1980s and 1990s, investors had to reckon with this culture and with the progressive-libertarian politics that went along with it. The free software movement pioneered new legal standards to prevent software from being appropriated (the GNU general public license, for example), while allowing a commercial market for services to develop. In 1991, the Finnish programmer Linus Torvalds released a kernel for the GNU operating system, Linux, which would later fuel a rapid growth of practical applications, notably for web servers and mobile. The idea that “money commodity and gift relations [can] coexist in symbiosis” (Barbrook, 1998) became more commonly accepted, and the more business-friendly term of “open source” was adopted in lieu of “free software.” Today, even mainstream companies—including Microsoft, Facebook, and Google—rely on such distributed development of code. Open source has moved from “the

counterculture” to “the establishment” (Finley, 2019), with business scholars hailing “open innovation” strategies—or the capture of sources of knowledge and innovation from organizations and developer communities that exist outside the boundaries of the firm—as a new pathway to profitability and success (Chesbrough, 2003).

With the emergence of social media and web applications that live and evolve on the Web, what was originally a dyadic relationship between companies and developers turned into a triad. Now users were included into the gift, too, a strategy not only for capturing the user-led innovations and product improvements described by Von Hippel (2005) and others, but also for generating new forms of value, like user-generated content (e.g., “likes,” ratings, social media posts), cross-site or cross-app tracking, and social networks, which enable content-creation, profiling, and the growth of mass user bases, respectively (Bechmann and Lomborg, 2013: 771–774). For example, many of Google’s signature projects—from Search to Chrome, Maps to Earth, Mail to Drive, Translate to Books—were introduced as free gifts to whomever cared to try. We must not downplay the political effects of these generous “opening gifts,” the immediate enrollment of allies through commitment, and the public recognition that ensues (Hénaff, 2013).

The attachments generated by digital gifts have a different materiality than those that stem from the gifting of physical goods, which necessitates sequential (and temporally spaced) acts of volition. By contrast, those who accepted the digital gifts found themselves enrolled in a relationship that continued on its own, every time they touched the algorithm. As users were enlisted in the production of the gifted object, the bond became more intimate—both metaphorically and literally. This was the beginning of the Web 2.0, which took advantage of people’s active engagement with digital products and sought to capitalize on it (just like developers before were encouraged to build on top of open-source code). It brought with it the recognition that these products, and in particular the algorithms that govern them, do not exist outside of the “practices that people use to engage with them” (Seaver, 2017: 4).

What Zuboff (2019) calls the “behavioral surplus”—the data produced by people using, working on, and working with algorithms and “sharing” (or being made to “share”) their labor, expertise, desires, opinions, or emotions through the infrastructures of the platform—allowed for the development of a lucrative advertising market that finally made the fortune of many previously unprofitable digital businesses. The gift could now be reframed as a valuable market strategy that everyone should follow. By and large, it was: “one entrepreneur after another [chose] to give their service away, even

though it could have been provided behind a pay wall" (Gruen, 2017). More gifts, finally, meant more economic returns.

The Maussian bargain

Accordingly, many 21st century tech companies began describing the process of data-generation as a voluntary, bilateral exchange (of code against code, or code against data). This framing was, for instance, implicit in the increasingly complex legalese that pervaded "terms of service" forms. The idea of a contractual agreement between the platform and the user (or developer) may make legal and commercial sense, but it is an enormously impoverished view of the nature of their relationship. What we call the Maussian bargain broadens the picture, to encompass *the whole economic (but also socio-technical) relation that develops as a result of a digital gift offering*. The term aims to acknowledge that users (or developers) are incorporated into something that transcends them and over which they have little control.

In today's gift-saturated digital capitalism, refusing digital freebies takes tremendous effort and exposes one to not only miss out on the enjoyment created by participation, but also to social marginalization. In many ways, the relation is obligatory, sustained by the larger social community whose existence is itself largely digital, too. In particular, platform-based companies structure reciprocity in such a way that it appears to be directed at the collectivity of users rather than themselves: people "share" their news with their "friends" and acquaintances, rather than with Facebook; they expose their professional information for potential LinkedIn connections to peruse, rather than for LinkedIn itself; and their photos are directed at other Instagrammers, rather than Instagram. Social media firms organize themselves as social collectives: you cannot belong without offering yourself to a community of users, often ceremoniously and without the expectation of immediate reward.⁸ Gifting is generally a public, sometimes spectacular, act (Mauss, 1990). Users themselves are encouraged to engage in lateral gift exchanges (by accepting each other's requests, commenting on each other, tagging, sending virtual gifts, etc.) with each other so as to progress in the network, amass more and more connections, and attain a higher social status within its ecology. In practice, people will over-extend themselves to be included in the (vertical or lateral) gifts, if only because—as Mauss suggests—they are a condition of their own (and new) social existence. To the extent that "society" has largely moved online, one is socio-technically obligated to "share" just to be part of it. "Shareability," or the crafting of social bonds through

digital gifts (links, tweets, tags) is, fundamentally, a "performance of the self" (Papacharissi, 2012), as arguably all gifts are (Hénaff, 2013). But it is double-edged: while it generates inclusion and group belonging, it also subordinates by vicariously enrolling the targets of these performances into the platform, subjecting them to new community norms and obligating them to reciprocity in the form of returned favors (Jarrett, 2015).

Much of this is *not* monetized.⁹ As in the Maussian gift, the absence of explicit calculation is an economic strength for the original giver. Because the infrastructure is itself constantly evolving, no perfect calibration of the exchange is possible on either side. So terms of service and privacy notices are, in this sense, always misleading, in addition to being often vague and ambiguous (Gluck et al., 2016). As Pierre Bourdieu (1977) observed, one of the fundamental features of any gift is the fact that it is "misrecognized" (171). It is "a game in which everyone knows—and does not want to know—that everyone knows—and does not want to know—the true nature of the exchange" (Bourdieu, 2000: 191–192). And it is precisely that very open-endedness, the gift's lack of finality and measurement, that maintains the relationship over time. Reflecting on the expectations of "sharing" her work that the Blender Institute placed on her in exchange for her access to the studio, Velkova (2016) writes: "It is impossible to say when a debt is repaid. No matter how many texts I have put online on my blog, it was hard to say when that would be sufficient."

There are good economic reasons for the centrality of gifts and gift-like bargains to capitalism: as Velthuis (2018), following Beckert (2009), argues, these kinds of exchanges help solve three crucial "market-ordering" problems: competition, coordination, and valuation. As we show below, this is especially true of digital capitalism. First, start-up companies typically have little cash to spare. Most of their resources consist in connections to users, and gifts generate attachments and habits that help stabilize the market environment, solving the problem of *competition*. (In fact, a key role of "free" is to avoid regulatory scrutiny: without a price, it is hard to document standard antitrust logics of any sort.) Second, to the extent that many digital companies are market intermediaries between users and sellers (i.e., platforms), each side of the multi-sided market can be offered as a freebie, or as collateral, to the other side, jumpstarting the reciprocity cycle through a quid pro quo. This gift-based infrastructure literally *creates* the missing commodity, the thing to be exchanged, solving the problem of *coordination* (Velthuis, 2018). Third, this coordination is non-monetary: since users do not appreciate the value of what they are putting out there, and companies do not explicitly price what they are seeking to acquire,

reciprocity (in the form of data sharing, for instance) helps circumvent both the technical difficulties of *valuation* and their possible legal complications, such as price-fixing. Fourth and most importantly, the gift-like structure allows for a constant ratcheting up of exchange, solving what we might call here the problem of *institutionalization*. As pointed out above, non-monetary “sharing” maintains enough opacity about the nature of the exchange at stake that reciprocal demands will, in effect, lock users into a perpetually renewed transactional cycle in which consent is assumed “forever” (Custers, 2016). This is in contrast with “spot” market social relationships, which have a finite horizon and dissolve once the transaction has been completed (Graeber, 2001: 151–228).

Finally, the Maussian bargain is not some academic, conceptual abstraction. It is an actual, practical achievement. First, as we discussed, digital gifts are rooted in the specific history and cultural trajectory of cyber-capitalism. Lavish handouts by digital firms must be understood in the context of the particular sociality of the hacker community, the historical-institutional configuration of financial and human capital that enabled the rise of such firms, and, increasingly, the displays of power by new actors searching for recognition. Second, we have suggested that—at least on a theoretical level—digital offerings are not anti-economic or even a-economic (as framed by Romele and Severo, 2016). In fact, they permit the materialization of personal data as an asset (Beauvisage and Mellet 2020), a thing that exists and can be circulated, while simultaneously obfuscating its true value and naturalizing the process of private appropriation as a form of obligatory reciprocity. In that sense, digital pseudo-gifts have become instruments to generate the primitive accumulation of data. But what does this process look like in practice? The next sections are devoted to an empirical exploration of the material, legal, and social infrastructures that support the culture of liberality, openness, and (especially) open-endedness in digital capitalism—ultimately allowing the Maussian bargain to do its economic work.

Research design

We rely on qualitative evidence obtained from various sources. First, we conducted in-depth interviews of 23 respondents, mainly technology company founders, employees and former employees, privacy experts, and technical researchers who work in the personal data ecosystem. This includes companies that collect and sell data they have sourced, organizations that buy and clean data, providers of “data brokerage” and “data fusion” services, applicable regulatory agencies, researchers, and consumer-rights advocates.

All of our respondents work, or have worked, in the Bay Area of California. As the historical home, and modern hub, of the technology industry, this site was strategic. We recruited respondents via email and phone. We used snowball sampling techniques, with leads generated from our professional contacts in industry and academia and gathered from interview respondents. Interviews averaged 1 hour 40 minutes. We audio-recorded interviews with participants’ written informed consent and transcribed them. Coding the interview transcripts according to categories of themes, we relied on a combination of inductive reasoning, which allowed for emergent issues and topics, and deductive reasoning, which was informed by our prior research and participant-observation fieldwork.

Our respondents represent a diverse range of backgrounds, expertise, and subfields across the personal data ecosystem, including technical, commercial, legal, consumer advocacy, journalistic, and academic concentrations. Respondents’ primary occupations broke down as follows: five data scientists/privacy researchers, four founders of data-centered technology companies, one online marketing specialist, three privacy professionals (two working for large, multinational organizations and one working for a data services firm), two academics, two software engineers, two technology journalists, two practicing attorneys (one regulator, one technology civil rights advocate), one actuarial consultant, and one entrepreneur-physician working at the intersection of health and technology.

Second, we conducted over 55 hours of participant-observation research at 13 industry and research/academic events from April 2015 to February 2018. Commercial technology industry events included four professional conferences (21 hours) and two presentations (2 hours). The research/academic events included one two-day conference (16.5 hours) and five research talks/presentations (15.75 hours). These events were publicly advertised and open for public registration and attendance. With the exception of one presentation at an east-coast university attended via phone, all events took place in the Bay Area. This observational research allowed us to better understand the technologies, business models, products, and governance issues involved in this space and observe participants in action.

Third, using the Wayback machine of the Internet Archive, we systematically reviewed the changing terms of the Application Programming Interfaces (APIs) for Facebook and MySpace, going back to these companies’ founding. As we show below, our interview material revealed the relevance of these APIs to understanding the socio-technical infrastructure of the Maussian bargain. Finally, we supplemented this

information with publicly available sources about data sharing agreements, such as the British Parliament inquiry into Facebook in the wake of the Cambridge Analytica scandal (Collins, 2018).

Engineering reciprocal obligations

We have suggested that the centrality of digital give-aways in cyber-capitalism evolved from within the early hacker ethic, which emphasized the free (and often gratis) circulation and fixing of code. Nissenbaum (2004) argues that these kinds of strategies were, in fact, critical to attract the community of skilled laborers who came of age within that culture and upon which Internet and software companies critically depended. But while the hackers celebrated it, the cyber-gift (for example, in the form of open-source licensing) did not seem to hold much promise as a business strategy. Venture capitalists were not convinced and neither was the media, at least early on (Moore, 2001).

Fast forward three decades, and digital firms see cyber-gifts as a key to the primitive accumulation process—a crucial means by which to extract valuable troves of personal or organizational data. What follows is an effort to give an account of the various forms of obligatory reciprocity that cyber-gifts generate and firms benefit from: sharing data as a right of entry into a community, as a form of organic solidarity between users and firms, as generalized reciprocity, and as social ritual.

Free materials: Inciting to share

Where the hacker culture framed its ideology around principles of free circulation and democratic control, corporations in this sector came to understand their business model through the metaphors and practices of “openness” (Chesbrough, 2003) and, later, “sharing” (Karger, 2017). The words have a pleasant and fuzzy connotation. Openness conjures images of freedom, transparency, unchartered spaces. Sharing evokes not only a relationship of mutual advantage, but also the pleasures of community, a “communism of the senses” (Graeber, 2014: 69). In fact, users are often incited to think of their contribution as an act of selflessness, a voluntary donation that will benefit a noble cause, for instance medical research in the case of shared genetic material (Harris et al., 2013; Van Dijck and Poell, 2016).

Of course, what happens in practice is that most of the gains accrue to the intermediary (or platform), which enables the valuable exploitation of this collective wealth. Jake Ford, founder of a business intelligence platform, explained his vision in the following way:

The big picture is that our goal at EagleNet is to have tens of millions of business professionals using the EagleNet

platform for free, or some form of free, providing the data. And then we go and then sell that data and those insights to enterprise customers. That's our business model. (Interview with Jake Ford, November 2017)

Max Buck, co-founder of the start-up ContactInfo, had a similar way of describing his company's philosophy:

ContactInfo is basically a free, crowd-sourced [individual] database. So the way that it works is that it's a completely free product. And users sign up in order to get free [contact information] from our database. (...) Essentially, it's a give-to-get model. In order to get [others' contact information] from our database, you need to anonymously share your [information] with us. (Interview with Max Buck, October 2016)

Both of these entrepreneurs emphasize the gift-like language of the “free” and open service. For both, however, accepting the gift comes with an obligation of reciprocity on the part of users—the obligation to “share,” to “give” in order to “get.” Users’ collective involvement in this reciprocity cycle is key to generate a return both to them and the community as a whole. Importantly, the logic is not bilateral but holistic. Without a large number of people giving their information away to the community, it (and the firm that “represents” it) has no future. In fact, the community does not exist without the software that processes this obligation. The promise of new social bonds is what jumpstarts the reciprocity cycle.

Social media platforms are particularly skilled at performing the cultural work necessary to actualize these obligations and normalize the practice of exposure in the process. With machine-learning driven personalization, apps that promise to unlock the mysteries of the self *to itself* are in a position to demand much more data “sharing”—contacts, photographs, locations, likes, etc. The re-interpretation of one’s life by way of an anonymous algorithm elicits the affirmative pleasures of both self-crafting and of being looked at (Sartre, 1956: 234–236). The first achievement of the digital economy, then, is to have institutionalized what Finn (2017) calls a “mirrored glass pavilion” and Harcourt (2015) an “expository society,” a “space where we exhibit ourselves and become the voyeur to others” (114; also see Fourcade, 2017).

Free labor: Growing the intelligence

The second form of the reciprocal, obligatory, gift-like relationship—free labor—is related to but distinct from the gift of free materials. Companies dealing in data, whether collecting, labeling, cleaning, etc., often enlist users in the process on the grounds that doing so will

provide access to, or otherwise improve, the product or service being provided. Users in that sense do not simply share materials; they perform a labor. Terranova (2000)—who critiqued both traditional Marxist accounts of the late 1990s Internet-based digital economy as capitalist appropriation of cultural production as well as overly optimistic depictions of a flattened, liberated knowledge economy—was early to recognize the value of the “free labor” provided by Internet users to web-centric technology companies. This was exemplified by activities like participation in mailing lists, chat rooms, and open-source software communities. In today’s era of behavioral targeting, predictive analytics, and massive ad networks, simply by trafficking and navigating “free” digital platforms, services, and websites, Internet users are akin to “produsers” (Bruns, 2008) or “prosumers.” The latter, a term originally coined by Toffler (1980), has been updated for today’s Internet media era to refer to a hybrid species of consumer-producers whose consumption of a service or product also entails producing content that companies and platforms exploit to capture attention and affective value or to repurpose toward new uses (Cockayne, 2016; Fuchs, 2011; Ritzer and Jurgenson, 2010).

As Sam Kumar, an engineer, explained: “Industry’s first shot at these things is not automation but just massive manpower” (Interview with Sam Kumar, July 2017). Another entrepreneur respondent, Bill Hall, founded a company that operates as both a mobile app that provides information about a particular type of food/beverage product after a user uploads a photo of it, as well as a sort of broker between the user-consumer and local retailers.¹⁰ In doing so, he emphasized the importance of capturing users’ taste preferences and purchase intent above all else. As if to underscore that point, he described how the company focuses the user on-boarding process around the labor needed to get at those preferences and intent:

We’re trying to classify people as they come in. So when you sign up, you don’t even have to actually create an account. But we’ll ask you a few questions about the styles of [the product] that you’re interested in. (Interview with Bill Hall, September 2015)

The reciprocal obligation of free and disinterested labor is ubiquitous in the digital economy: providing content (as in Wikipedia), commenting, rating, etc. all of which often (not always) serve to power the development of advertising services, predictive analytics, and, increasingly, artificial intelligence systems. Tag your own photos, and Apple makes giant steps in facial recognition. Correct the translation, or identify objects in the CAPTCHAs, and you help Google develop automated translation or improve computer-vision

systems. Indeed, for many of our respondents the ideal business model looks like Emile Durkheim’s “organic solidarity,” but on steroids—everyone, including users, doing their part to fix the machine, making it ever more precise and efficient. This is a process that Ekbia and Nardi (2017) have called “heteromation.”¹¹

Many of these activities tread a fine line between freedom and obligation. Coercion, however, becomes most obvious when the free labor that powers the digital economy bleeds into sites of traditional labor. People applying for a position, for instance, may find it impossible to refuse to be video-recorded during the employment interview. That recording will not only serve to develop new algorithmic products, but it will be processed and categorized in such a way that the interviewee might feel the repercussions for their entire career. Similarly, workers simply doing their job (e.g., answering customers’ inquiries) may soon realize that they create the data (e.g., conversations) that feed the AI, which may, one day, replace them.

The workplace also sometimes becomes the site of collecting valuable supplementary data on employees. As interview respondent Tim Brown, a data scientist himself, discussed with regard to a former employer:

All the employees [at my prior company] got issued a Jawbone fitness tracker to wear. That was just, ‘Oh, it’s free, whatever.’ But it’s all rolled up into their systems. I mean it was all collected by—you can see where this is going, right? … It was publicly shown which teams were doing worse and which were doing better. (Interview with Tim Brown, March 2016)

Employee data may be deployed, as here, to evaluate job performance or motivate workers. Employers and third-party vendors use such data for a host of other applications, including to optimize tasks or predict the likelihood of employees quitting their position. Finally, the data may be transmitted or sold to third parties (like insurance companies or data brokers), following people in other realms of their lives.

Generalized reciprocity: Data sharing agreements

We now turn to the gift-like economic practices that power what economists call “network effects” (Rochet and Tirole, 2003). Platform-based companies, in particular, cater to two audiences simultaneously: end-users and third-party content providers (primarily application developers in our case). To appeal to users, the platform must be attractive. This often results in companies offering discounted or even free access to the price-sensitive market side (Parker and Van Alstyne, 2005). In the case of services like Google search and Facebook’s social network, this

side of the market is the end-user. But to further attract users, companies also rely on developers to produce additional functionalities layered into the platform—typically, third-party applications, many of them free to users and built through the company’s APIs (“open” APIs, often free to use, but with proprietary source code, see Qiu, 2017). Developers, in turn, increasingly commit to the platform as the number of users increases; more users mean more opportunity to obtain something of value from the collaboration.

In practice, since source code is really off-limits (Galloway, 2004), users themselves are often the return gift that the company offers for developing for the platform, a gift made under the polite term of “data sharing agreement.” Indeed, for everyone involved, “the users are the product.” Our respondents repeated this phrase, popularized by technology critic Bruce Schneier but with origins as a critique against the dominance of 1970s-era broadcast television companies (Oremus, 2018), on numerous occasions. What this means is that users (or various slices of them) are the gift that gets passed along to other users, to developers, and to the platform itself. The circuit (in Figure 1) includes both direct (1) and indirect forms of reciprocity, where the original giver (the platform/app) gifts third parties (developers) (2), who then gift users (3) whose data then funnels back both to the developer and to the platform/app (and sometimes to the manufacturer of the device as well). The whole circuit defines what anthropologists call a form of “generalized exchange” (see Bearman, 1997; Lévi-Strauss, 1969).

The Cambridge Analytica scandal is an almost-textbook example of the (potentially harmful) symbiosis between platform, developers, and users: a simple personality test application, installed by about 270,000 people on Facebook, gave its developer access to not only users’ profile data but also their friends’. Through network effects, the data harvested covered as many as 87 million Facebook users (Barrett, 2018). These, in turn, were sold and repurposed for political marketing. David Chadwick, a software engineer, described a similar process in the case of another early Facebook app:

[There was one application called] SuperPoke!. It was very popular; I think it was the number one on Facebook at that time. It was just a small application that let you send different types of pokes to your friends, so something very lightweight. This application asked you for lots of information about your friends. Then the Facebook API let this application, when you were using it, get access to all your friends’ graphs and a lot of data, about you, your friends, your profile and all that.... A lot of companies were creating these applications that were free, just as little games, or little things that were not monetized. But they got a

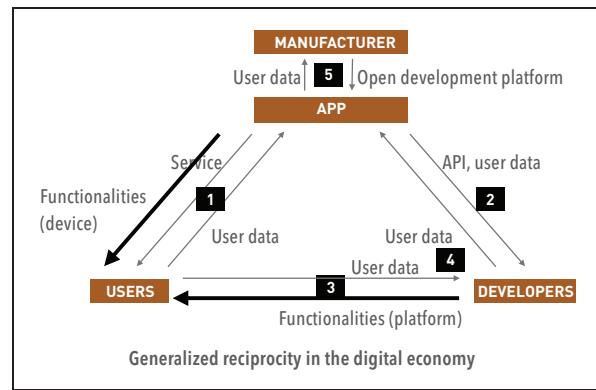


Figure 1. Generalized reciprocity in the digital economy.

lot of valuable data from users.... These APIs, I think Facebook created them in 2007, and so anybody in the tech industry who had been playing with these APIs knew that it was very easy to just pool lots of data about users and keep them in your own database and then do something else with them. (Interview with David Chadwick, April 2018)

Indeed, the terms of service on Facebook’s developers’ platform, which we have reviewed systematically from the date of the company’s founding, were quite loose at the beginning, when Facebook desperately needed successful developers to boost the appeal of its service. In 2007, Facebook gave third-party apps, like Super Poke described above, access to its network. This enabled developers to gain insights into the connections and “likes” of Facebook users. A few years later, in 2010, Facebook announced its “Open Graph,” which enabled external website owners, among other things, to incorporate auto-login capabilities without using “Facebook Connect” and add Facebook plug-ins directly on their website (e.g., a Facebook “Like” button). These features allowed Facebook to perform cross-site tracking of users on the web and allowed websites to gain access to a Facebook user’s “public” interests (via their “likes” on Facebook) and friends network when the user visited the website (O’Mara, 2019; Schonfeld, 2010).

In 2011, the Federal Trade Commission filed a complaint against Facebook, with most counts having to do with Facebook’s sharing of personal user data with third parties and misrepresentation of its privacy policy. In an email to top Facebook executives from 19 November 2012, made public through a 2018 UK Parliament investigation report, Mark Zuckerberg, CEO of Facebook later explained:

We’re trying to enable people to share everything they want, and to do it on Facebook. Sometimes the best way to enable people to share something is to have a

developer build a special purpose app or network for that type of content and to make that app social by having Facebook plug into it. However, that may be good for the world but it's not good for us unless people also share back to Facebook and that content increases the value of our network. So ultimately, I think the purpose of the platform—even the read side—is to increase sharing back into Facebook. (Collins, 2018: Exhibit 48)

Although Facebook discussed the possibility of selling access to user data to app developers, it ultimately decided against it (Farivar, 2018). But the very openness of the API was an economic move all the same, designed to help Facebook achieve “the right balance between ubiquity, reciprocity and profit,” as Zuckerberg himself ultimately concluded in his November 2012 email (Collins, 2018: Exhibit 48). It gave Facebook control over what developers could and could not do (see Qiu, 2017), and it helped secure a relationship with this valuable labor pool through the lure of monetization (via third-party advertisements, in-app purchases, opportunities for additional data collection), access to venture capital, and sharing into the loftier ideals served by the business (e.g., making technology more democratic, creating vibrant communities through the multiplication of social ties). Most importantly, it turned reciprocity between Facebook and its developers into a graph-growing and data-producing engine for the company.¹²

The social structure of trust and consent

Because gifts are supposed to be made freely, and at a sacrifice (in time or money) for the giver, and because they take the form of a peaceful extension of social bonds, the parties will avoid casting suspicion on the intentions that animate them. The default presumption is the giver's goodwill. “TheFacebook” was once a Harvard-specific service seemingly designed to foster group solidarity. It leveraged Harvard students' trust in their own social world and borrowed from the well-institutionalized genre of the picture book. Mark Zuckerberg seems to have discovered the economic and political potential of this informal social contract almost accidentally, as the following exchange with a friend, cited in Vargas (2010), shows:

Zuck: yea so if you ever need info about anyone at harvard

Zuck: just ask

Zuck: i have over 4000 emails, pictures, addresses, sns

Friend: what!? how'd you manage that one?

Zuck: people just submitted it

Zuck: i don't know why

Zuck: they “trust me”

Zuck: dumb f(**)ks

In other words, Zuckerberg capitalized on actual (offline), rather than virtual, sociality within a tightly knit, elite social group. As the company grew beyond the Harvard tribe, strategies of enrollment (and thus the primitive accumulation of data) continued to emphasize trustworthiness. Unlike its main competitor, MySpace, Facebook used real names. Again as a way to differentiate itself, it offered copious verbal reassurances about keeping personal information safe and treating it with respect. Finally, its social origins, at what was arguably the most prestigious university in America, may have been the most credible sign that it was an honorable, genuine endeavor. As it turned out, Facebook abandoned many of these strategies, crucial to its success as an upstart social media platform, once it marginalized its competition (Srinivasan, 2019). The violations of the original promise that followed caused an enormous public outrage, understandable only in light of the implicit and explicit social contract upon which the company had built its triumphant rise.

Companies knowingly exploit the power of social bonds in generating interest and confidence in their products. For example, many digital gifts make their way into the world in “beta” form, wherein only those “in the know” lead users can partake (Von Hippel, 2005). Beta testing comes by way of a select invitation to try the service, which the receiver is unlikely to refuse because she has been designated as deserving of this special trust. Likewise, she feels a natural compulsion to reciprocate by commenting honestly or even helping improve the product, motivated by the existing solidaristic bond with the giver (which has just been reaffirmed), the special feeling of being at the forefront and sometimes the promise of real deals.

Social connections are essential to enroll the not-so-special, too, both through network effects and through the normative, institutionalized character of social life. Because personal information is so deeply entangled with the identity of the giver (and not simply in the metaphorical sense of the “spirit of the thing given,” as in the Maussian gift), the default assumption is that it deserves, and thus receives, special care. A wealth of empirical evidence shows that people are unlikely to actively question demonstrations of sincerity by others. This is primarily due to the necessity to maintain a belief in the reality of the social world (Goffman, 1959). But in situations of power imbalance, such as the ones explored here, it is also born out of resignation, inability to change the terms of the exchange, or lack of

understanding (see, e.g., Barocas and Nissenbaum, 2014; Custers, 2016; Peacock, 2014; Turow et al., 2015).

Meanwhile, digital firms use a variety of psychological, emotional, and economic incentives, disincentives, and heuristics to repeatedly *nudge* users and customers to “share” ever more information (Acquisti et al., 2015; Fourcade, 2017; Yeung, 2017). Thaler and Sunstein (2008) use the term “choice architecture” to refer to these techniques. These include the manipulation of default settings to encourage social rituals favorable to disclosure (McKenzie et al., 2006)¹³ or the exploitation of what psychologists call the “zero-cost” cognitive bias (Shampanier et al., 2007), which to us is nothing but the psychological translation of the social relevance of moral understanding and obligation (what Emile Durkheim calls “the non-contractual element” in the social contract).

Companies are well aware of the social and psychological nature of consent and reciprocity. As interviewee David Chadwick remarked: “basically, people at [these companies] have read all these books by the behavioral psychologists or economists, and I’d say these companies are a great test lab for testing on users” (April 2018). In his 2003 book, widely known in the industry (along with his training seminars and classes), Stanford psychologist B.J. Fogg relies on a conception of “computers as social actors” to define a new science of “captology.” He describes the interactive strategies that computing technologists should use to foster trustworthiness and persuasion, so as to “support an intensive, positive relationship (many interactions or interactions over a long time period) between the user and the product” (Fogg, 2003: 194). Social metaphors are everywhere: “Designers should design interactions that will weather well, like a long-standing, comfortable friendship” (194). Elsewhere, Fogg (2003) writes: “People don’t adopt mobile devices; they marry them” (192). Computers “create relationships” (critics would say addiction) by “rewarding” users with positive feedback, offering models or targets for their behavior, and providing social support (Fogg, 2003).

Broad, catch-all terms of service that reach beyond their avowed commercial purposes allow companies to capitalize on these socio-technical bonds in both expected and unexpected ways. One of our interviewees was especially candid about the significant economic possibilities afforded by the indeterminacy at the heart of the Maussian bargain, saying: “Our Terms of Service is broad enough that we can scrape anything in the signatures [of emails]. We’re storing that, but we don’t know how to utilize it yet. There are ideas...” Later, he elaborated:

One of our investors ... [who has] been very involved in data companies and stuff ... says, actually, the most

valuable data is people’s purchase history. Where, you know, I can see a company literally mining inboxes for Amazon purchase history because that’s extremely, extremely valuable. And so ... I mean, if I’m being blatantly honest, our Terms of Service is broad enough that we can do that if we want to. But the issue is that ... these sorts of things ... the cat is going to get out of the bag that, you know.... So while you can do it secretly, and you can do that for forever, that’s fine. But eventually someone is going to find out.[...] And then it would be uncomfortable, and then there’s fallout from that. (Interview with Max Buck, 2016)

This kind of self-regulation is very precarious, however: the institutional mechanism that supports the Maussian bargain is only an invisible social contract that the company will act in good faith and not betray or abuse its users’ trust. But solidarity with users is only as good as the value proposition that comes with it.

Conclusion: From gift to market?

As Velthuis (2018) points out, gift-like practices can act as “catalysts of market emergence,” and they have also been crucial to generating profits and order in the digital economy. We have also emphasized the extent to which this particular type of reciprocal obligation—the Maussian bargain—is enabled by various features of systems-engineering and design: vast amounts of “shared” data, often supplied by the free labor of users themselves, feedback loops that open systems to the action of their users, APIs designed to create network effects, and the manipulation of online rituals and affordances via the “choice architecture” to achieve the desired kind of indeterminacy and implicit obligation. It is through these features that the Maussian gift has evolved into a bargain: instead of the solidaristic “moral economy” that sustains the former, we have ended up with the “economic morality” of the latter (Fourcade 2017), a set of moral relations deliberately planned to constantly replenish the data pipeline at the cheapest cost.

Ironically, it is today the market—not the current gift-based system—that is appearing in various progressive projects as a possible political solution to the extractive relationships enabled by the Maussian bargain. Such projects aim to compensate individuals for the personal data that they provide (Arrieta-Ibarra et al., 2018; Elvy, 2017; Posner and Weyl, 2018), or for the real labor supporting the product (Bacevic and Muellerleile, 2018; Lanier, 2013). Ironically, this proposed liberation from free services often relies upon users being enrolled into new systems of payment

(a movement now joined by none other than Facebook!), thereby generating yet another collection of commodities: tokens and digital currencies. New “self-sovereign” apps and companies are proliferating, “promising empowerment and cryptospoils” from this straightforward market relation—though delivering none of it in practice so far (Barber, 2018). The message, however, is appealing. Facebook and the like are gifts we are not sure we still want. But we are at pain to know, whether practically or emotionally, how to disentangle ourselves from the obligations they have created for us.

Now that the gift has enabled the constitution of personal data as valuable things to be exchanged and circulated, the market is hungry to take over and complete what Karl Polanyi (2001) called the “subsumption” of persons and social relations to economic motives. Or rather—and this may be the ultimate “conversion narrative” (Block and Somers, 2005)—*we* have been made hungry to sell this data. In other words, like Polanyi’s (2001) workers, who were made to starve so they could think of themselves as repositories of a labor force that had to be sold so it could feed itself, we have been made to feel cheated of our data and think of ourselves as valuable data repositories who need to sell ourselves (bit by bit) so that we can just *be*. Thirty years from now, who will remember the time when the market did not reach so deep inside of us? Chances are we will view this market, like all others, as natural, and we will forget that our personal data was once truly “things given.”

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Notes

1. The relevance of “free labor” to the creation of value is also well established in the post-Marxist literature (e.g., Fuchs, 2011; Huws, 2014; Terranova, 2000).
2. In order to protect confidentiality, all names of interview respondents and their affiliated companies or organizations used in this paper are pseudonyms. Readers should infer no connection to actual names of respondents, their organizations, or any other actual person or organization.
3. In Latin, the term “data” means “things given” or “gifts.” The first clear English-language definition, in 1587, defines *dātūm* as “A thing given, a gift delivered or sent” (Furner, 2016).
4. Steven Levy (2014) attributes this phrase to Stewart Brand. The full quote is:

On the one hand information wants to be expensive, because it’s so valuable. The right information in the right place just changes your life. On the other hand, information wants to be free, because the cost of getting it out is getting lower and lower all the time. So you have these two fighting against each other.

5. The other critical ingredient, often obfuscated by triumphalist narratives about inspired entrepreneurship, was much more institutional: large portions of the IT sector were dependent on government (and specifically Defense department) grants, another kind of “gift,” as well as enabling policies like the Small Business Investment Act of 1958 (Mazzucato, 2015; O’Mara, 2006). Stanford University provided a decentralized system for distributing federal grants, a critical hub of highly skilled human capital and research facilities, and vast real estate holdings for firms to develop (O’Mara, 2019; Saxenian,

1994). Venture capital, particularly the geographically concentrated venture capital of Silicon Valley (Zook, 2002), started flooding the sector only *after* government investments had helped launch a wave of successful innovations. In other words, digital capitalism's ability to gift depended on already-accumulated capital (i.e., from grants and from VC).

6. A well-known quote on the GNU website states:

"Free software" means software that respects users' freedom and community. Roughly, it means that **the users have the freedom to run, copy, distribute, study, change and improve the software**. Thus, "free software" is a matter of liberty, not price. To understand the concept, you should think of "free" as in "free speech," not as in "free beer". We sometimes call it "libre software," borrowing the French or Spanish word for "free" as in freedom, to show we do not mean the software is gratis. (Emphasis in original, <https://www.gnu.org/philosophy/free-sw.en.html>)

7. Generalized reciprocity is akin to generalized exchange in social exchange theory, and it applies when the gift-giver does not know the recipient(s) of their contributions, which is often the case online (Bearman, 1997; Kollock, 1999; Lévi-Strauss, 1969).
8. We thank anonymous Reviewer 1 for pushing us on this point.
9. There are exceptions, however. On Reddit, the US-based content-sharing site, users can pay their own money for a Reddit Premium membership, which allows them to gift "Reddit Coins" to other users who post submissions or comments, in turn gifting those users with their own coins or other membership benefits. A similar process plays out in the largely unregulated Chinese live-streaming scene on the platform YY, for instance (Thompson, 2015).
10. We offer a general description of Hall's company to protect identity.
11. The dynamics we describe, especially in this section, are limited to industrialized economies and (primarily) US-based technology firms. But such firms also draw from, and often exploit, the labor of people in the Global South (e.g., hardware and consumer electronics produced there, the data tagging and content moderation often performed by underpaid workers) (e.g., Gray and Suri, 2019). We credit anonymous Reviewer 3 for emphasizing this.
12. In their privacy policy from 2009 onwards, Facebook reserved the right to gather cookies from third-party applications and advertisements, including information on the actions users took while interacting with the application or advertisement.
13. Stutzman et al. (2013: 21–25) found that, between their 2009 and 2010 observation periods, the percentage of Facebook profiles that publicly revealed information such as high school, hometown, address, interests, favorite movies, etc. doubled, reversing a prior trend of limiting disclosure. But instead of reflecting a change in users' willingness to share this information, this change

coincided with Facebook changing its default visibility settings for those same fields to publicly available, indicating the power of default settings in affecting disclosure.

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