

8 Devices and selves

From self-exit to self-fashioning

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Popular and academic writings on digital technology tend to characterize the effects of its distinguishing properties – abstraction, binarism, and the “reduction of quality to quantity” (to quote from Miller and Horst’s introduction to the first edition of this volume) – in one of two ways. Dominating the debate are accounts that warn of the increasing levels of distraction, alienation, and addiction that it produces, while an opposing set of writings articulate hopeful vistas on digital solutions for a freer, happier, more equitable future – one of amplified social connectivity across time and space, novel collaborative activisms, and liberatory self-transformations.

The premise of this chapter is that close, empirical attention to the experiences, practices, and design logics at work in specific human-digital encounters can enliven the polemical debate over digital technology with ethnographic particulars, moving beyond the question of whether digital technology is toxic or enabling to the more interesting questions of *in what ways* and *under what conditions* technologies might be toxic, enabling, or both. The two case studies that follow address both ends of this spectrum. The first, drawn from my research among the designers and players of digital slot machines (Schüll, 2012), examines the *self-suspending, desubjectifying affordances* of human-digital encounters. The second, drawn from my research among members of the group Quantified Self (Schüll, 2016, 2019), examines the *self-cultivating, subjectifying affordances* of digital self-tracking devices and algorithms. In both cases, digital artifacts and software serve as media for self-modulation, yet with critical differences in their design as well as the aims of their users. My goal is to show how an ethnographic parsing of these differences – as well as a recognition of their shared predicament – can render a more precise and powerful critique of contemporary economic, political, and social pressures on the self.

The inductive orientation and fieldwork-based methodologies of anthropology, proceeding from observation to analysis and privileging particular cases over general frameworks, have much to contribute to understanding the effects of digital technology on everyday human experience. Rather than provide a comprehensive review of the anthropological literature in this area, before proceeding I touch upon a number of recent ethnographic inquiries into human-digital encounters, clustering these under three driving questions that scholars have posed around (a) online platforms; (b) networked communication technology; and (c) algorithmically driven interactive devices, the focus of this chapter’s two case studies.¹

(a) Do online platforms support or undermine self-expression and identity formation?

Turkle's early investigations into the subjective dimensions of online interactions in the context of multi-user domains (1995) portrayed such platforms as potentially liberating, expressive vehicles. Ethnographers have continued to find in online gaming cultures a rich ground for exploring digitally mediated modes of selfhood such as avatar and character creation in virtual worlds (Humphrey, 2009; Shaw, 2014; Nardi, 2010; Boellstorff, 2008; Taylor, 2006) and the ways in which these aspire to, depart from, or replicate the offline identities of players.

Another rich area of inquiry concerns "selfie culture" (Rettberg, 2014) and the various online sites through which individuals can present, perform, and curate themselves, including Facebook (van Dijck, 2013; Goodwin et al., 2016), Instagram (Lavrence & Cambre, 2020), blogs (Reed, 2005), and webcamming (Taylor, 2018; Wesch, 2009; Senft, 2008). Ethnographers of online gaming and selfie culture have also been attentive to "the paradoxical dynamics of exploitation and empowerment" (Zhongxuan, 2018; Majamäki & Hellman, 2016) into which participants can be drawn, as in various forms of addiction (Golub & Lingley, 2008; Chan, 2008) and digital labor (Calvão, 2019; Dibbell, 2007, 2008; Chen & Sun, 2020; Roberts, 2019; Raval, 2020), including self-branding and self-promotion (Petre, 2018; Kuehn, 2016; Duguay, 2019).

Scholars have also considered how individuals use social media to perform and narrate identities around illness and health practices (Kent, 2020; Tembeck, 2016), while others have focused on the ways in which telecare technologies redefine patient identities and roles (Oudshoorn, 2011). Some show how direct-to-consumer genetic testing sites serve as avenues to new ancestral and ethnic identifications (Lee, 2013) and portals of access to raw genetic code that individuals can probe for personal details with open-source tools (Ruckenstein, 2017) or use to construct "autobiologies" (Harris et al., 2014). In an online ethnography of videos posted to the website for the Quantified Self (QS), an international collective that seeks "self-knowledge through numbers" (as its website tagline reads), Smith and Vonthehoff explore how members "narrate personal experiences and stories in a public forum via the 'companion' medium of their data" (2017, p. 12), while Sharon and Zandbergen describe participants' self-quantification practices as a "continuous process of identity construction" (2016, p. 1700).

More than a process of personal identity construction, the open-ended communications that transpire between individuals exploring their digitally sourced self-data constitute a kind of "datasociality" (Ruckenstein & Schüll, 2017, p. 266), a theme to which we will return in Case 2 of this chapter.

(b) Do networked communication technologies amplify or diminish social ties?

Ethnographers have documented the robust sense of community that can unfold in computer-accessed game worlds, resulting in affiliations that in some

cases transcend or escape the strictures of offline social dynamics and, in other cases, recreate or even amplify them (Boellstorff, 2008; Taylor, 2006; Pearce, 2009; Shaw, 2014).

Likewise, anthropologists have explored how networked forms of communication such as email, mobile telephony, and social media affect social ties,² including friendship and interpersonal connections (Ito et al., 2005; boyd, 2014; Baym, 2010; Burrell, 2012; Turco 2016; Venkatraman, 2017; Costa, 2018; Watkins & Cho, 2018; Sutton, 2020), romantic intimacy (Ansari & Klinenberg, 2015; Gershon, 2010, 2018; Frampton & Fox 2018; Hellman et al. 2017; McVeigh-Schultz & Baym, 2015; Kenny, 2016; Doron, 2012), and familial and care relationships (Wilson & Chivers, 2017; Madianou & Miller, 2011; Miller & Slater, 2000; Gregg, 2011; Barassi, 2020). Recent ethnographic studies have examined how networked devices sustain hope and emotional togetherness for migrants and refugees coping with the anxieties of prolonged cultural separation (Twigt 2018; Alinejad, 2019; Udwan et al., 2020).

While much of this literature emphasizes the enrichment or intensification of social ties that mobile communication technology grants, it acknowledges the ways in which this technology can diminish social ties as well as a sense of self. “Cyberintimacies slide into cybersolitudes,” writes Turkle (2011, p. 16). “With constant connection comes new anxieties of disconnection.”

(c) Do algorithmically driven devices restrict or enable human agency?

Schüll (2012) has explored this question in her account of the design and play of digitally networked slot machines, showing how the devices’ audiovisual and algorithmic features draw players into what they call the *machine zone*, “a state in which alterity and agency recede” (2012, p. 175; see Case 1, this chapter). Ito’s (2009) research on children’s software likewise takes up the question of how design can format user agency in ways that are at once enabling and restrictive, as does Jablonsky’s (2020) ethnography of meditation apps. A number of ethnographic studies have examined financial investing and trading in computer-mediated environments, finding that video screens and automated processes create a “postsocial” relationship between traders and the market (Knorr-Cetina & Bruegger, 2002), engendering new experiences of agency and practices of self-regulation (Zaloom, 2006; Zwick, 2012; see also Schüll, 2016b, on the affective self-management of high-stakes online poker players via an array of algorithmic tools and automated processes).

The question of how human agency might be altered by digital technology is also salient in anthropological work on self-quantification devices.³ Viseu and Suchman note that wearable computing engineers imagine the human body as “continually emitting signs, albeit in forms inaccessible to the self that might act to maintain it” (2010, p. 175; see also Berg, 2017). Drawing on research conducted among technology developers and marketers of personal health technology, Schüll (2016a) considers how they “design self-care” into their products

in the form of motivational feedback loops and “micronudges” that reinforce certain behaviors and discourage others. As normative social expectations are embedded in tracking devices’ target numbers, presentation of scores, and gamified incentives (Depper & Howe, 2017; Whitson, 2013), a “numerical ontology” comes to suffuse everyday practices and “the ways in which people relate to their own bodies” (Oxlund, 2012, p. 53). Smith and Vonthethoff (2017, p. 18) find it troubling that “bodily intuition is being outsourced to, if not displaced by, the medium of unbodied data.” In the rhythms and temporalities of self-tracking technologies and practices, ethnographers have discerned anxiety, a loss of autonomy, and even addiction (Schüll, 2018; Lomborg et al., 2018; Pink et al., 2018).

But alongside accounts of algorithmic nudging, hooking, and dressage, anthropologists and the self-trackers they study insist that self-quantification can also be a generative source of agentic experience (Schüll, 2019; Jablonsky 2020). In their ethnographic study of hypoglycemia, Mol & Law (2004, p. 48) describe “the use of measurement machines to train inner sensitivity” to blood sugar levels, which they call “intro-sensing.” In a more recent study, Mialet (2019, p. 379) explores the intensively mediated lives of diabetics who must cultivate the ability “to read and interpret numbers, sensations, and signs of all kinds that display information about the state of the body.” Observing personal data charts and visualizations can trigger critical reflection and raise new questions to pursue; the data does not displace or freeze but, rather, enlivens self-narratives (Ruckenstein, 2014, p. 80), inspiring novel forms of self-curation (Weiner et al., 2020; Dudhwala & Larsen 2019). Schüll has emphasized how device-enabled, extended time-series analysis of self-data frees trackers from a sense of fixed, essential identity (2016a), while Sherman (2016) has described self-tracking as an aesthetic practice in which bits of the self, extracted and abstracted, become material for differently seeing and experiencing the self. Sensory ethnographers Pink and Fors (2017, p. 2) observe that the digital materiality of self-tracking technologies intimately mediates “people’s tacit ways of being in the world.” Neff and Nafus (2016, p. 75) describe data as a “prosthetic of feeling [that can] help us sense our bodies or the world around us.” Berson (2015) shows how contemporary bodily experience is increasingly folded into digital data, and how digital data – as a particular kind of abstraction of experience – increasingly shapes experience and mediates human agency. “Some aspects of the self are amplified while others become reduced or restructured” (Kristensen & Ruckenstein, 2018, p. 2) – but not necessarily in a negative fashion. As will become evident in the second case of this chapter, “devices and data contribute to new ways of seeing the self and shaping self-understanding and self-expression” (p. 3).

Case I: devices of self-suspension

Since the mid-1980s in the United States, there has been a dramatic turn away from social forms of gambling, played at tables, to asocial forms of gambling, played at video terminals. Slot machines, formerly relegated to the sidelines of casino floors, today generate twice as much revenue as all “live games” put together. When machine gamblers began to present themselves in growing numbers for addiction

treatment, clinicians proposed the term “escape gambling” (as opposed to “action gambling”) to characterize their experience. As players describe it, machine gambling is a solitary, absorptive activity in which they enter a dissociative state – a “zone,” as they call it – in which a sense of time, space, monetary value, social roles, and sometimes even their very sense of existence dissolves. “The zone is like a magnet, it just pulls you in and holds you there,” one gambler told me. “You can erase it all at the machines – you can even erase yourself,” said another.



Figure 8.1 Woman playing video poker at a drugstore in Las Vegas

Source: Photo by the author.

Suspending the self

Gamblers most readily enter the zone at the point where their own actions, typically swift and repeated, become indistinguishable from the functioning of the machine. They explain this point as a kind of coincidence between their intentions and the machine's responses. “My eyes feel like they're lining up the bars on the screen – I see them turning, and then stop, like they're under my influence,” said one gambler of a machine's video reels; “it's like you go around in them and you decide where to stop.” Randall, a middle-aged electronics engineer, likened the experience to being “in tune” with the device, harmonically synchronized to a common beat as with a musical instrument. Another spoke of a communicative vibration: “Sometimes I feel this vibration between what I want and what happens.” Although the decisive act of a gambler starts the reels spinning or the cards

flipping, the immediacy of the machine's response joins human and machine in a hermetically closed circuit of action such that the locus of control – and thus, of agency – becomes indiscernible. What begins as an autonomous act thus “becomes part of the automatic actions and reaction of the doer,” as game scholar Calleja (2007, pp. 244–245) writes in his study of online digital games, resulting in “a loss of the sense of self.”

In her research on children's game software, Ito (2009) explores the counterintuitive association that arises between features that give “the experience of being able to control and manipulate the production of the effect” (p. 127) and a sense of losing oneself in the game. Although such effects would seem to invite active rather than passive participation, they tend to bring about states of absorptive automaticity, blurring boundaries between players and the game. Their “unique responsiveness,” she argues, “amplifies and embellishes the actions of the user in so compelling a way that it disconnects him from others and obliterates a sense of difference from the machine.” As Turkle (1984) writes in her landmark study of early video games, “the experience of a game that makes an instantaneous and exact response to your touch, or of a computer that is itself always consistent in its response, can take over” (p. 87). “Conversation gives way to fusion,” she comments (p. 70).

The control-lending features and interactive rhythm of the modern gambling machine endow it with a “computational specificity,” to use Turkle's phrase, that makes it a particularly expedient vehicle for retreat. The clean, stripped-down circuit formed by the pulse of the random number generator, the win-or-lose binary of its determinations, the rise and decline of the credit meter that registers those determinations, the gambler's apprehension of that oscillating variation, and the rhythm of her tapping finger reduce the gambling activity to its mathematical, cognitive, and sensory rudiments. Inside the machine, payout schedules are driven by carefully calibrated algorithms that mask the disjunctive events of chance with a steady blur of small wins. At a fast enough speed, repeat players cease to register these events as discontinuous or even to distinguish them from their own inclinations. “I'm almost hypnotized into *being* that machine,” a gambler named Lola told me. “It's like playing against yourself: You are the machine; the machine is you.” A sense of difference from the machine is so effectively banished that the gambler's absorption becomes, for limited stretches of time, almost total.

“The key to the magic,” observed the vice president of innovation for Harrah's gaming company during a presentation at a 2006 gaming expo, “is figuring out how to leverage technology to act on customers' preferences [while making] it as invisible – or what I call auto-magic – as possible, to enable experience.” Designers, he elaborated, are in the business of “auto-magically making something happen by some inbound-outbound channel.” When the flow of play is encumbered by extraneous or excessive stimuli, gamblers become too aware of the mechanisms operating upon them and the immersive magic of the zone is broken. Thus the most effective designs manage to minimize gamblers' awareness of the machinery that mediates their experience. “I get to the point where I no

longer feel my hand touching the machine,” Randall told me. “I feel connected to the machine when I play, like it’s an extension of me, as if physically you couldn’t separate me from the machine.”

Departing from Randall’s narrative of extension, the most extreme of machine gamblers speak in terms of *exit*. An insurance agent named Isabella likened her entry into the zone to the way that characters on a science fiction television program are sucked into video screens: “On TV they express it by pulling – the bodies actually disappear into the screen and go through the games of the computer. That’s what gambling on the machines correlates to: for the time that I was there, I wasn’t present – I was gone.” Lola likewise spoke of exiting her body and entering the machine through a kind of pulling. “You go into the screen, it just pulls you in, like a magnet. You’re over there in the machine, going around in the cards.” Ironically, the heightened attention that player-centric design pays to gamblers’ senses and bodies – ergonomic seating and consoles that mold to natural human posture, immersive audio effects, capacitive touchscreens that respond to fingers with transactional confirmation – has the effect of diminishing their sensory and bodily awareness, suspending them in a zone where the continuity of electronic play supersedes the physical and temporal continuity of organic being.

It is not just the body of the player but also the body of the *machine* that withdraws into the background during play, even as its console, screen, and game processes continue to enable the zone state. “The machine isn’t even really there,” Julie explained. “It starts out the machine and then it’s the cards – choosing which cards to keep – and then it’s the game, just playing the game.” The initial alterity of the machine, along with the initial agency of the card-choosing player, dissipates in the zone of play. “The physical machine and the physical player do not exist,” writes Turkle (1984, p. 70); players do not act on the game, but *become* the game. The moment when this happens is the moment when gamblers enter the zone – a state in which alterity and agency recede.

Suspending social exchange

The tuning out of our worldly choices, contingencies, and consequences in the zone of machine gambling depends on the exclusion of other people. “In live games,” Julie observes, “you have to take other people into account, other minds making decisions . . . you can’t get into their minds, you can’t push their buttons – [you can only] sit back and hope and wait.” As in life, in “live” card play she occupies a position of dependent uncertainty towards others. By contrast, the immersive zone of machine play offers a reprieve from the nebulous and risky calculative matrix of social interaction, shielding her from the monitoring gaze of others and relieving her of the need to monitor them in return. Lola, who is a buffet waitress and mother of four, describes this reprieve as a kind of vacation:

If you work with people every day, the last thing you want to do is talk to another person when you’re free. You want to take *a vacation from people*.

With the machine there's no person that can talk back, no human contact or involvement or communication, just a little square box, a screen.

Machine gamblers frequently associate their preference for the asocial, robotic procedure of machine play with the hypersociality demanded by their jobs – in real estate, accounting, insurance, sales, and other service fields. An accountant named Josie told me,

All day long I have to help people with their finances and their scholarships, help them be responsible. I'm selling insurance, selling investments, I'm taking their money – and I've got to put myself in a position where they will believe what I'm selling is *true*. After work, I have to go to the machines.

There, she finds respite from the incessant actuarial practices and interpersonal pressures that her vocation entails: "I was safe and away – nobody talked to me, nobody asked me any questions, nobody wanted any bigger decision than if I wanted to keep the king or the ace."

"The machines were like heaven," remembers Patsy, a welfare officer, "because I didn't have to talk to them, I just had to feed them money." In the simplified, mechanical exchange with gambling machines, she removes herself from the complicated and often insurmountable needs and worries of others, to a point where she herself becomes robotlike, impervious to human distress and her own ability – and inability – to assuage it. "The exchange wasn't messy like a human relationship," Sharon tells me of her video poker play in the course of recounting a difficult romantic breakup.

The machine got my money, and in return I got isolation and a chance to make hands. The interaction was clean cut, the parameters clearly defined – I decided which cards to keep, which to discard, *case closed*. All I had to do was pick YES or NO, and I knew, when I pressed those buttons, that I would get the desired response that I needed.

Addicts of gambling machines invariably emphasize their desire for the uncomplicated, "clean cut" exchanges machines offer them – as opposed to relationships with other humans, which are fraught with demands, dependencies, and risks. "At the machines I felt safe," Sharon remembers, "unlike being with a person. I may win, I may lose; if I lose, that's the end of the relationship. It's understood, part of the contract. Then it starts again, fresh." Machine gamblers enter a kind of safety zone in which choices do not implicate them in webs of uncertainty and consequence; digitally formatted, choices are made without reference to others and seemingly impact no one. This mode of choice making at once distills the autonomy of the responsible, entrepreneurial self and unravels it, for behavior is no longer self-maximizing, risk-taking, and competitive but, rather, self-dissolving, risk-buffering, and asocial.

Machine life

As a sense of social ties and self fall away, so too does a sense of money value and temporal duration. “In my life before gambling,” Patsy tells me,

money was almost like a God – I had to have it. But with the gambling, money had no value, no significance, it was just this thing – just get me in the zone, that’s all. . . . You lose value, until there’s no value at all. Except the zone – the zone is your God.

Like money, time in the zone becomes a kind of credit whose value shifts in line with the rhythms of machine play; gamblers speak of *spending* time, *salvaging* it, *squandering* it. Randall comments: “I go into a different time frame, like in slow motion . . . it’s a whole other time zone.” In the zone, he experiences time as event-driven rather than clock-driven, elastic rather than rigid. While they may remain for 17 hours or even whole weekends at machines, the “clock time” (as they call it) by which those long stretches are measured “stops mattering,” “sits still,” is “gone” or “lost.”

“I was like the walking dead,” Patsy remembers. “I went through all the motions, but I wasn’t really living, because I was always channeled, super-tunnel vision, to get back to that machine.” “Awake, my whole day was structured around getting out of the house to go gamble,” echoes Sharon. “At night, I would dream about the machine – I’d see it, the cards flipping, the whole screen. I’d be playing, making decisions about which cards to keep and which to throw away.” The game interface structures her waking life and dream life with its unending flow of minute “decisions.”

As we have seen, a complicated relationship exists between the technologically mediated mini-decisions that compose machine gambling and the ever-proliferating choices, decisions, and risks that selves face in free-market society. The activity narrows the bandwidth of choice, shrinking it down to a limited universe of binary rules, a formula. Although choices are multiplied, they are digitally reformatted as a self-dissolving flow of repetitious action that unfolds in the absence of “choosing” as such. In this sense, it is not the case that gambling addicts are *beyond* choice but that choice itself, as formatted by machines, becomes the medium of their compulsion. Sharon told me:

Most people define gambling as pure chance, where you don’t know the outcome. But at the machines I do know: either I’m going to win, or I’m going to lose. . . . I don’t care if it takes coins, or pays coins: the contract is that when I put a new coin in, get five new cards, and press those buttons, I am allowed to continue.

Counterintuitively, what gamblers seek through their engagements with gambling machines is a zone of reliability, safety, and affective calm that removes

them from the volatility they experience in their social, financial, and personal lives. “It’s one of the few places I’m certain about anything. If you can’t rely on the machine, you might as well be in the human world where you have no predictability either.” Although the activity deals in chance, it holds worldly contingencies in a kind of abeyance by immediately resolving bets with the quick press of a button, admitting gamblers into an otherwise elusive zone of certainty.

Case 2: devices of self-cultivation

While people have long used simple, analog devices to record, reflect upon, and regulate their bodily processes, use of time, moods, and even moral states (here we can list mirrors, diaries, scales, wristwatches, thermometers, or the lowly “mood ring”), the past decade has seen a dramatic efflorescence in individuals’ use of digital technology to gather information about themselves through mobile apps and networked devices, convert this information into electrical signals, and run it through algorithms programmed to reveal insights and, sometimes, inform interventions into their future behavior.

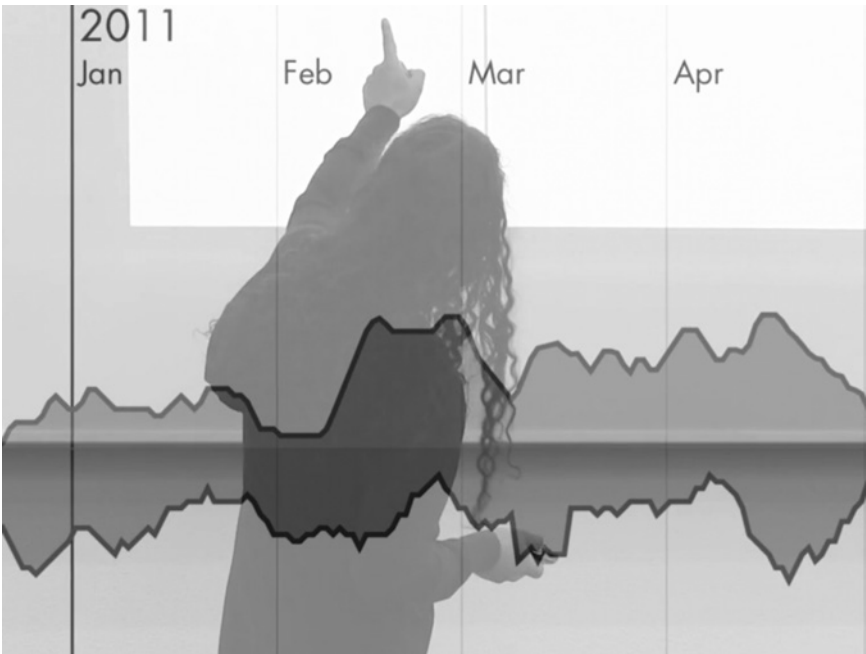


Figure 8.2 Robin Barooah on stage at QS 2013, explaining his data timeline

Source: Screenshot from video of presentation, publicly available at <http://vimeo.com.66928697>.

The Quantified Self collective has been a key ethnographic site for examining this “new intimacy of surveillance,” as the anthropologist Berson (2015, p. 40) characterizes it. Since its 2008 founding by Gary Wolf and Kevin Kelly, both former editors of *Wired* magazine, the group has facilitated online forums and live meetups where members gather to reflect on what they might learn from data-gathering devices and analytical software about the mundane mysteries, dynamics, and challenges of their day-to-day lives – drug side effects, sleep disorders, and the association between diet and productivity (Barta & Neff, 2016; Dudhwala, 2018; Greenfield, 2016, Neff & Nafus, 2016; Sharon & Zandbergen, 2016). “QS is one of the few places where the question of why data matters is asked in ways that go beyond advertising or controlling the behaviors of others,” write Nafus and Sherman (2014, p. 1788). In the two scenes I present below (drawn from research at an annual QS meeting), I emphasize the theme of self-fashioning.

Discussing the data

After the 400-odd conference attendees had settled in their seats in the airy main hall of an Amsterdam hotel for a weekend of presentations and discussions, Gary Wolf took the stage to open the proceedings with a question: What exactly is a quantified self? Clearly, “quantification” involved collecting and computing data about ourselves, but “self,” he ventured, was a more ambiguous term. How to understand the self in quantified self? What happens to the self when we quantify it – when “computing comes all the way in”?

Later that day, a breakout session on the theme of data tracking and identity commenced with a related set of questions posed by its convener, Sara Watson, a self-tracker and tech writer who had recently completed a master’s thesis (2013) on QS practices: *What does it mean to have data about myself – a digital, binary representation of myself? And what is my relationship to that representation – what does it mean to be a human interacting with it?* Whitney Boesel, who regularly contributed thought-provoking pieces to the blog Cyborgology, suggested that digital self-data served as material for self-narratives: “we make stories about ourselves from the data, to make sense of our lives.” Some in the room pushed back, wanting to preserve the facticity of data as expressing an objective truth: data was not some “made up” story; if anything, QS *denarrativized* the self.

Joshua, a bearded venture capitalist in his early 30s from California, elaborated on this idea:

The self can be overwhelming as an integrated, whole thing. By doing QS, you can disaggregate various aspects of self, work on just those, maybe let them go, put them back in . . . It takes an incredible burden off you when you can take these small slices out and say, all that other stuff is complicated, let’s just look at this.

Robin, a British technology designer now working in Silicon Valley, interjected to reinforce this point:

Tracking isn't additive – it's *subtractive*: you work on some question about yourself in relation to this machine-produced thing and you know that it will stop; afterward, you're left with a narrower range of attributions you can make about your behavior or your feelings; you have eliminated uncertainty and gained a kind of liberation – you can move on with your life, with a new perspective.

If this extractive, subtractive, bitifying process was a form of self-narration, Joshua proposed, then we should call it “quantitative autobiography.”

Joerg, a German activist whose background in business and philosophy complemented his pursuit of a data-based ethics in the corporate world, further specified the term “narrative” as it pertained to self-quantification: “Numeric expressions of ourselves are inherently syntactic, not semantic.” The power of self-data lay in the relational grammar that emerged across its data points – not in the authorial intentions of “transcendent phenomenal selves” storying themselves forth. While self-quantification departed from traditional humanist modes of narrative, that did not make it dehumanizing; rather, it was vital, enlivening.

An American anthropologist employed at a leading technology firm suggested that art, rather than narrative, might be a better metaphor to describe what selves do with their data. “Maybe tracking is like sketching yourself,” mused another participant in the session. “You have to fill in the details, it's a kind of self-portrait, an art.” Robin nodded in agreement. He remarked that he had once characterized his tracking as a kind of “digital mirror” but now felt the metaphor to be inaccurate, “because mirrors represent a whole, projected image – which is not what we get from our data bits.” Returning to the earlier point he and Joshua had made, he suggested that the value of data points tracked in time is the narrowness of the representation they provide: “Data is really just numbers, symbols – it doesn't reflect back something that already exists in the world as a mirror does; instead it shows us a model of some limited, extracted aspect of ourselves.” Robin had come to prefer the metaphor of self-portraiture: “What we're doing when we track and plot our data is focusing in on one part of our lives and slowly building up that portrait as we collect data on it.”

Sara, the moderator, pressed the group to further specify the metaphor: If not photo-realistic, was the portrait expressionist? Impressionistic? Pixelated? “I think it would have to be an algorithmic mosaic, with shifting composition, color, and patterns, an ever-changing portrait,” Robin suggested. “But in what way does it change?” asked a fellow tracker, voicing some ambivalence over his relationship to his data.

I only look at bits and pieces of myself because it's all I can handle. If it's a portrait, then it's a portrait with really bad lighting . . . Isn't the point, ultimately, to shine a brighter light on ourselves? Does the portrait ever gain fuller resolution, become more solid, more like a true mirror?

Joerg posed the question as a tension between self-making and self-unmaking: “If you start breaking yourself down piece by piece, it could lead to *non-self*, disaggregation, seeing ourselves as a big stream of data . . . Or can it, somehow, make us feel more solid as selves in the world?” Robin ventured that there was no contradiction between self-making and unmaking: “I think they’re consistent views really. If self-quantification, *breaking ourselves down into bits*, enables us to create new experiences of ourselves, then those experiences are gateways to new degrees of freedom in how to act.” The kind of digital portraiture at stake in the Quantified Self, he suggested, “allows you to imagine new types of self and move in new directions; you are no longer trapped in a limited set of pathways.”

Time-series selves

Eric Boyd, a mechanical engineer known in the QS community for designing pendants that flash in time with wearers’ heartbeats and vocal cadence, delivered a show and tell on the second day of the conference, sharing insights into the “daily rhythms” gleaned from his (since-discontinued) Nike Fuelband, a rubberized accelerometer worn on the wrist. He admitted being drawn to the “geeky bling factor” of the consumer gadget and its colorful, sequentially blinking lights, but was otherwise unimpressed. “The graphs on the app are pretty but mostly useless; you can’t even tell what time of day things happened. It was super frustrating how non-visible my activity was.” The analytic features provided for users obfuscated their activity as so many inscrutable “fuel points” – a measure of activity proprietary to Nike.

Wanting to examine his daily patterns more closely, Eric interfaced with the Fuelband’s object-oriented programming language to feed the raw values from the accelerometer into a spreadsheet, rendering one cell for every minute of the day and one column for every day of the month: “1440 rows by 30 columns – that’s a lot of data showing what I was doing when.” He was able to see when he woke up at night to visit the bathroom, and that his usual brisk pace became slower when walking with his girlfriend. Her walking speed was something of an issue in their relationship, he admitted, “and it helped to see that it was actually only 30 percent slower.” “The reason you begin tracking your data is that you have some uncertainty about yourself that you believe the data can illuminate,” Eric told me. “It’s about introspection, reflection, seeing patterns, and arriving at realizations about who you are and how you might change.” His “introspection” commences not with a turn inward but a turn outward to the streaming data of a device: an extraction of information, a quantification, a visualization.

“You may not gain any knowledge in a week or even a month,” said Eric, “but over time you might see something significant about yourself; you need a view that’s longer than whatever moment you’re in.” A few years ago, out of concern for climate change, he decided to track his driving habits. He knew how many miles he was putting on his vehicle but was not certain which of his routines – going to work, going on road trips, going out socializing – was most significant. “So I tracked every single car trip for around three months and then I put it all into

an Excel spreadsheet, with different destinations into categories to see what was driving my miles.” He learned that his daily trips to work, only a few kilometers away, were the major contributor to his mileage.

My work was only around 3.5 km, so I hadn’t thought it would be significant – but it added up because I would do it around two times a day, and often I would have to circle around the block to find parking. So the accretion of those little trips added up to at least as much as the road trips and the socializing.

By engaging data and its technologies to assist in his self-inquiry, Eric does not lose agency so much as he finds a new kind of agency. “In our physical world,” he explains,

our powers only extend a few meters – but in the temporal dimension we’re extremely effective, we’re actually going to live a billion moments or something like that. The trouble for us is that it’s difficult for us to see the amount of power we have in time because our sense of time is so limited; we go through life one minute at a time.

Data tracking and time-series analysis “give a longer view of our power in time” by showing how our habits – “the things we’re doing over and over” – add up to affect our lives in positive and negative ways. Through tracking, Eric has come to regard himself as a “time-series self,” one whose truth and consequences are not fixed but made of small actions over which he has some measure of control; he finds this vantage liberating and empowering.

In archived sequences and sums of bitified life, quantified selfers seek to bring to awareness the lived syntax – the patterns and rhythms that define their existence and that might, without digital tools, remain uncertain forces below the threshold of perception. “You set up this kind of external person or version of yourself, an avatar or companion – or something,” said a tracker during Watson’s breakout session in Amsterdam, recalling Foucault’s (1997, p. 211) characterization of self-care as “establishing a relationship of oneself with oneself.” “I had arrived at a place where it was necessary to start relation to myself,” a QS member told two anthropologists (Kristensen & Ruckenstein, 2018, p. 9).

Trackers are often dismissed in popular literature as life avoiding and robotically inclined; as victims of data capitalism and its surveillance apparatus; or as symptomatic figures of neoliberal subjectivity and its self-mastering, entrepreneurial ethos. Certainly, this diagnosis applies to many who use self-tracking technology. Yet the QS participants examined here are better regarded as pioneers in the art of living with and through data. Inviting digital tools and epistemologies to partake in their self-transformational ethics, they gain new methods

for apprehending, knowing, and inhabiting their lives – and, potentially, for resisting the governing logics that would seek to drive their conduct down certain pathways.

Conclusion

Although the aforementioned cases are exceptional in the sense that one concerns extreme machine gamblers and the other extreme self-trackers, together they demonstrate how common it has become in late capitalist societies for selves to enlist digital devices and algorithms to manage or shift their intimate self-states and ways of being in the world. But the cases' commonality goes further than a shared investment in technological self-modulation. While it is true that their respective ethnographic particulars reveal radically different aims and ends – self-exit on the one hand, self-transformation on the other – it is also true that both cases can be understood as reactions to the same broader pressures on selves.

Scholars of neoliberal society locate the source of these pressures in the diminished governmental regulation and increased demand for self-regulation that have characterized neoliberal society since the 1970s. Responsible citizens of contemporary neoliberal society are expected to “capitalize on existence itself through calculated acts and investments” (Rose, 1999, p. 164), evaluating life choices through a financialized vocabulary of “incomes, allocations, costs, savings, even profits.” Yet, more often than not, they proceed without the knowledge, foresight, or resources that would enable them to be the maximizing, vigilant, actuarial virtuosos of self-enterprise they are exhorted to be.

Despite the evident cross purposes of the protagonists in the two cases presented here, they are responding to the same double bind. It is not simply that slot machine gamblers seek self-exit while quantified selves seek creative self-transformation, for both sets of actors, in the face of an impossible demand to continually manage themselves in a field of uncertainty, express a wish to *bypass the self* in some measure – whether by escaping it altogether in a digitally configured “machine zone” or by outsourcing aspects of self-making to digital devices and algorithms.

In machine gambling, aspects of life central to contemporary capitalism – competitive exchange between individuals, money as the chief symbol or form of this exchange, and the market-based temporal framework within which it is conducted and by which its value is measured – are suspended, along with the social expectation for self-maximizing, risk-managing behavior. The activity achieves this suspension not by transcending or canceling out these elements and expected modes of conduct but by digitally intensifying them to the point where they turn into something else. Although machine gambling would seem to multiply occasions for the kinds of risk taking and choice making demanded of subjects in contemporary capitalist societies, in fact it contracts the scope and stakes of risks and choices into a digitized, programmatic, more automated

form. Gambling has very real consequences in players' daily lives, yet within the moment-to-moment process of repeat play, *inconsequentiality* holds sway. In the smooth zone of machine play, risky choices become a means for tuning out the worldly decisions they would ordinarily concern; every choice becomes a choice to continue the zone.

The self-trackers in Case 2 have a different wish in relation to the mandate for self-management: theirs is not to escape but to fulfill the expectation of responsible self-management – and yet they, too, turn to machinic forms of sensing and intelligence in this quest. It would be inaccurate to describe their relationship to digital devices as toxic for, in binary code, they find a means for new autobiographical agency and the ability to abide worldly temporality and contingencies.

While the two cases could certainly be mobilized to serve opposing sides of the well-worn debate over the effects of digital technology on human life (supportive or undermining of self-expression and identity formation, strengthening or weakening of social ties, restrictive or enabling of agency), their juxtaposition reveals in each an immanent critique of the same impossible mandate for responsible selfhood.

Notes

- 1 For an exhaustive review of ethnographic literature on digital media published prior to 2010, see Coleman, 2010.
- 2 For a review of the anthropological literature around communication technology prior to 2012, see Broadbent, 2012.
- 3 For a review of the anthropological literature on mobile health technology and digital self-tracking, see Ruckenstein & Schüll, 2017.

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