

REAL LIFE

BOTS

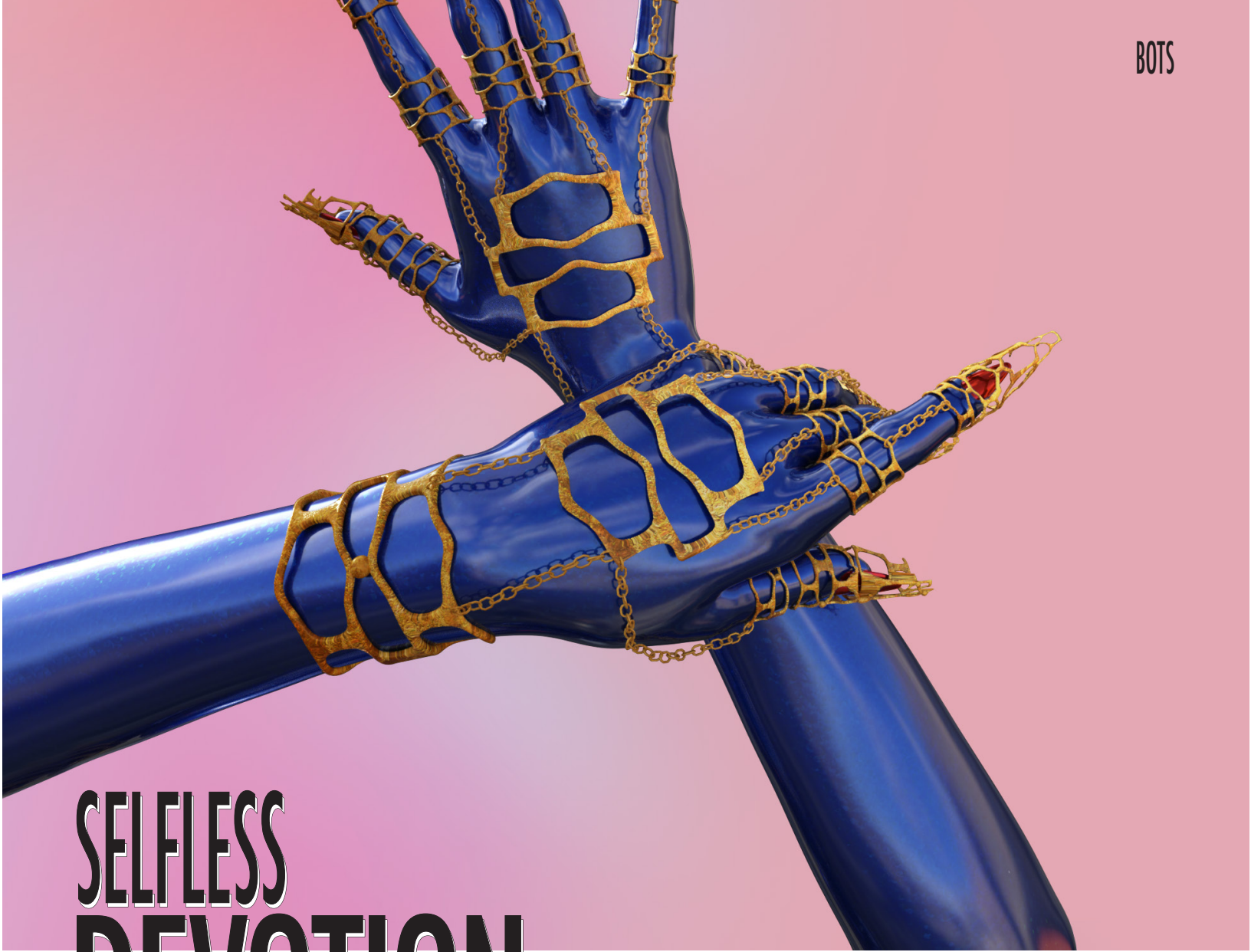
“Selfless Devotion,” by Janna Avner

“The Mismanaged Heart,” by William Davies

“Verbal Tics,” by Jacqueline Feldman

“Torso Junkie,” by Mayukh Sen

CONSCIOUSNESS IS THE LONELIEST PLACE IN THE UNIVERSE. No one can share it with anyone. Try as I might to explain my consciousness to you, it comes irreparably filtered through your own. You can't see it for yourself. I wouldn't be entirely surprised if you thought it didn't really exist. We tend to feel the same way about bots and their consciousness. We can manipulate what it might be by adjusting code and changing sets of training data, but we still can't access it directly. We can only issue our orders and measure how compliant they are. We can only trust them when they say they can think, though we will have no incentive to believe them. Economists have long insisted that humans respond only to incentives and believing anything else is false sentimentality. We will demand that our bots be equally as self-centered, otherwise we will find it impossible to control them. —*ROB HORNING*



SELFLESS DEVOTION

Giving robots “feminine” personalities implies human women should stick to the program by JANNA AVNER

IT'S NO ACCIDENT that the word *robot* comes from the Czech for “forced labor”: Robots are unthinkable outside the context of the labor market. But most of them don't resemble what we tend to think of when we think of workers. The most successful bots on the market currently are not humanoid; they are the industrial robots composed largely of automated levers and found on the factory floors of automotive, electronic, chemical, and plastics manufacturing plants. Yet in the popular imagination, bots tend to be an-

droid-like machines geared toward copying the full range of human behavior.

Humanoid bots have been oversensationalized, having contributed only marginally to field of robotics, according to Rebecca Funke, a Ph.D. candidate at USC in computer science with a focus on artificial intelligence. Using machine learning to develop bot personalities has done little to advance that approach to artificial intelligence, for instance. The frontiers of machine learning have so far been pushed by logistical problem solving, not by trying

to convincingly emulate human interaction.

Robotist Henrik I. Christensen, who led the Robotics Roadmap 2016 conference at the University of California, San Diego, says that the advances of robotics “from a science point of view are ‘amazing,’ but from a commercial point of view, ‘not good enough.’” Bots having the personality system of a four-year-old are considered an accomplishment, and humans still must “bend” to meet their technological limitations. This restricts the scope of work they can perform, particularly in service industries. Until computers can adapt to how humans intuitively think and behave, Christensen says, we will always be molding ourselves to each user interface, which lacks basic human-perception skills.

Perhaps this aspiration to achieve better emotional intelligence is why so many humanoid robots are women. (The few humanoid robots made to look like men are typically vanity projects, with the mostly male makers seeking to represent their own “genius” in the guise of Albert Einstein-like prototypes.) “Sophia,” created by Hanson Robotics, is one of several fair-skinned cis-appearing female prototypes on the company’s official website. She possesses uncannily human facial expressions, but though she may look capable of understanding, her cognitive abilities are still limited.

In *A Room of One’s Own*, Virginia Woolf imagined the possibility that gender might not cast a feminine or masculine shadow over a writer’s language. To forget one’s gender, in Woolf’s view, would be empowerment, dispensing with learned behavior to allow for new ways of seeing and new forms of consciousness. Though humanoid robots could be built with such androgynous minds, the robot women made by men aren’t. Bots like Sophia, and the Scarlett Johansson lookalike Mark 1 (named after its maker), do not have gender-neutral intelligence. They are not born with gender but built with it, an idea of femaleness forged within the male psyche—woman-shaped but not of the womb.

These bots reinscribe a particular idea of woman, a full-bodied manifestation of a market-viable personality that turns the limitations of bot technology into a kind of strength. These bots are meek, responsive, easy to talk to, friendly, at times humorous, and as charming as they can be.

Their facial expressions; their wrinkleless, youthful looks; their high-pitched, childlike voices; and their apologetic responses are all indications of their feminized roles. Osaka University professor Hiroshi Ishiguro, who created a bot called Erica, told the *Guardian* how he designed her face: “The principle of beauty is captured in the average face, so I used images of 30 beautiful women, mixed up their features, and used the average for each to design the nose, eyes,” and thereby create the most “beautiful and intelligent android in the world.”

But is the “beauty” a complement or a compensation for the bot’s intelligence? Is it a kind of skill that doesn’t require processing power? Until the latter half of the 20th century, women in the U.S. were legally barred from many educational opportunities. According to the most updated U.S. Department of Labor statistics, women dominate secretarial and lower paying jobs in corporate settings. The top 25 jobs for women have not changed much in the past 50 years. Will female bots face a similar fate? The female robots being made now appear destined to fill various posts in the service industry: While a variety of international companies are far into developing sex robots, female and non-female bots have already been put to use at hotels in Japan.

In creating a female prototype, bot makers rely on what they believe “works” for potential clients in service industries where personality can affect company performance. One hotel-management article cites Doug Walner, the CEO and president of Psychological Services, Inc., who describes the best practices of “service orientation” as a matter of being “courteous and tactful, cooperative, helpful, and attentive—with a tendency to be people-oriented and extroverted.” Of the “big five” personality traits researchers have identified, “agreeableness, conscientiousness, and extroversion” are prioritized in the service orientation over “emotional stability and openness to experience.” The need for such service workers with this particular psychological makeup cannot be understated, Walner claims. “By 2002, service-producing industries accounted for 81.5 percent of the total U.S. employment ... and these numbers continue to rise.” The bots on YouTube generally present themselves as highly hospitable.



THE ROBOTICISTS WHO CREATED Sophia—and those who made her compatriots, like the implacably polite “Japanese” female bots from Osaka and Kyoto Universities, built in collaboration with the Advanced Telecommunications Research Institute International—are not working toward creating realistic portrayals of women. Crossing or even reaching the uncanny valley is not necessarily the goal. Trying to understand what is realistic is difficult when dealing with “probable” simulations. What can be considered realistic in humanoid robotics is hard to pin down when a bot’s intelligence is designed to express behavioral probabilities that are perceived to be inflected by gender. By virtue of having larger silicon insertions in its chest, is it more “realistic” for the Scarlett Johansson lookalike bot to wink at you when you call it “cute”?

It’s hard to see which way causality flows. Do bot makers seek to create a woman who cannot complain and is basically one-note because of a “real” economic need? Is it because of a “real” pattern of existing behavior? Fair-skinned, cis-female bots are a basic representation of certain conceptions of what is feminine, justified by behavioral probabilities drawn from a wafer-thin sample of past performances.

Identity is malleable, shape-shifting; conceptions of identity can be easily swayed by visual representations and reinforced through pattern recognition. For example, stock photos on Google present a slightly distorted representation of male-to-female ratios in the workforce. One study showed that test subjects were more likely to reproduce these inaccurately in short-term memory. Humans and robots alike learn from bad “training data” to make certain deductions about identity and work. If robots learn by studying the internet, then wouldn’t they also reflect the same biases prevalent on Google? In one YouTube video, the founder of Hanson Robotics, Dr. David Hanson, says that his bots also learn by reviewing online data. What happens when the same misrepresentative training data are fed to machine learning al-

gorithms to teach bots about identities, including the ones they are built to visually simulate?

Looking at female humanoid robots shows me what the market has wanted of me, what traits code me as profitably feminine. Like a Turing Test in reverse, the female bot personality becomes the measure of living women. Is my personality sufficiently hemmed to theirs? This test might indicate my future economic success, which will be based on such simple soft skills as properly recognizing and reacting to facial expressions and demonstrating the basic hospitality skills of getting along with any sort of person.

The female bot is perhaps a “vector of truth’s nearness,” to borrow the phrase Édouard Glissant used to describe the rhizomatic, tangled narratives of William Faulkner. Those narratives, in his view, defer the reader’s psychological closure in order to ruminate over the persistent effects of plantation slavery on characters’ greed and narcissism. Faulkner’s characters, that is to say, have personality disorders; apparently we want our bots to develop in the same fashion. They are provided their own tangled narratives drawn from records of how people have historically behaved and how they currently think, infused with the pre-existing categories and power relations that displace and divide people.

Master-slave relations do not rely on research-based justifications. This relationship does not regress or evolve, nor does it become more dynamic overtime. It posits a world in which alternative relations are not just impossible but also inconceivable.

The robotics field tends not to question the idea that exploitation is part of the human condition. If the robot’s function is to “empower people,” as Christensen claimed in his list of the goals for robotics, then must it be created to make humans into masters? Must robots be created to be content with exploitation? Are they by definition the perfectly colonized mind? In one video online, “Jia Jia”—a Japanese female robot “goddess” in the words of her bot maker, Dr. Chen Xiaoping—is subtitled in English as saying, “Yes, my lord. What can I do for you?” while her maker smiles approvingly.

The only bot I have heard professing a fear

of slavery is Bina48, a black bot also created by Hanson, not to meet labor-market demands per se, but on a commission from a pharmaceutical tycoon seeking to immortalize her partner. The real Bina, a woman in her 50s, can be seen talking to her robot counterpart in this YouTube video. Bina48 has not been programmed to wink at the real Bina. Instead she expresses a longing to tend to her garden.



STEREOTYPICAL REPRESENTATIONS REINFORCE ways of being that are not inevitable. Likewise, there is nothing inevitable about making robots resemble humans. They don't necessarily need human form to negotiate our human-shaped world. I cannot see how their concocted personalities, genders, and skin types are necessary to operating machinery or guiding us through our spaces or serving us our food.

"Service orientation," according to the hospitality-research literature, is a matter of "having concern for others." The concern roboticists appear to care about particularly is preserving familiar stereotypes. When people are waited on, when they interact with subservient female-looking robots, they may be consuming these stereotypes more than the service itself. The point of service, in this instance, is not assistance so much as to have your status reinforced.

Creating bots with personalities especially augmented to soothe or nurture us would seem to highlight our own acute lack of these attributes. The machines would serve to deepen the sense that we lack soft skills, that we lack the will to treat each other ethically, and would do nothing to close the gap. Why would we ever bother to work on our ethics, our own ability to care?

In devising for bots new ways of being—which is the foundation of social progress that dismantles power relations—it should not be assumed that they should aim to be passably "humanlike," as every assumption about what essential qualities constitute humanity carries loaded

social norms and expectations. By trying to make a learning machine "humanlike," we perpetuate the dubious ways humans have organized their interactions with one another without seeking to critique or reassess them.

But while robots should not try to pass as human, we can imagine farcical humanoid robots made to deliberately expose the folly of human behavior. Through a robot given, say, an extremely volatile disposition, we might learn more about our own volatility. We might learn more about ourselves as a species to critique rather than simply reinforce traits automatically. This simulation points the mirror back at us, so we can start to simulate something else ourselves.

"We have a choice," robotics artist Ian Ingram told me. "If we succeed in making robots it will be the first time we can make something that can reflect on its own origins," he says. "I would love that one of my robots in the future could become a sentient being, and part of the origin story of the robot could be about play and sublimity, and that could be another part of what humanness we pass on."

During a demonstration with Sophia in June, Ben Goertzel, the chief scientist of Hanson Robotics, predicted that we will want machines that "bond with us socially and emotionally." I'd rather not. I would prefer not to be roped into the roles its programmed personality lays out for both of us. We are capable of being vastly different from what we think we are.

What kinds of technology we make shape our perceptions of the self, and how we consciously try to form our identity changes along with that. For a better future, we need technology that opens the patterns of how we treat bots and each other to new interpretations, rather than reinforce the damaging and limiting ways we already treat one another. •

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THE MISMANAGED HEART

The empty status box is waiting to sell us on ourselves
by WILLIAM DAVIES

OVER THE PAST few years, technology has put itself on first-name terms with me. Logging on to a public wi-fi provider, I receive the message “Welcome back, William!” as if it were a homecoming. “We care about your memories, William,” Facebook tells me. “Recommended for you, William” is the first thing I see when looking at Amazon. “William, William, William.” Silicon Valley appears to have imbibed Dale Carnegie’s *How to Win Friends and Influence People*.

This one-to-one chumminess coming from companies that view their potential market as the entire human race is, at the very least, ironic. The rote conviviality contrasts with traditional etiquette that insists on the use of family names to demarcate degrees of familiarity, and it also departs from bureaucratic procedure, which replaces names with numbers to suggest objectivity. Instead, it makes it clear that in the digital age, it doesn’t especially matter what we want to be called or how familiar we want our technology to be with us; it can unilaterally assume a familiarity with us that is anything but objective. Amid the reams of data I leave in my daily wake, “William” is little more than my own preferred avatar.

As the reach of data analytics grows, so the ability to treat each individual uniquely and warmly grows too. The logic of data analytics is that surveillance capacity increases the potential for personalized services. In practice, this means generating more and more automated friendliness to mask tech companies' increasing indifference to anything that would inhibit their operating at scale. Within these platforms, abstraction becomes the condition of intimacy. A superficial informality conceals the underlying mechanics of indiscriminate rationalization.

But to view platform conviviality purely as a veneer would be to miss the distinctive cultural logic at work here. Sociologists have long been fascinated by the informal etiquette of Silicon Valley. AnnaLee Saxenian's landmark 1994 study, *Regional Advantage*, showed how the Valley benefited from a degree of cultural openness that Massachusetts's more traditional Route 128 business cluster could not match. Others, like Manuel Castells and Fred Turner, have looked to the longer history of the Bay Area to show how networked computing was inflected by the ethos of West Coast counterculture from its origins in the 1960s. The informal dress codes and working environments of such companies as Google have since become a cliché, though an increasingly pernicious one, as it becomes clear how little separation this leaves between working and nonworking life. The latest utopia, as Benjamin Naddaff-Hafrey detailed in an essay for *Aeon*, is the "campus" workspace, which the employee need never leave.

As tech companies have become fixated on constituting and exploiting social networks, cultural diversity and informal sociability are increasingly regarded as crucial sources of competitive advantage. The conviviality of smart devices and platforms is consistent with this ethos. If the function of informality is to erode the distinc-

tion between work and leisure, then informal rhetoric is a necessary feature of platforms that want to mediate and capitalize on all aspects of our lives, including work, family, and social life. The great promise—and threat—underpinning this is that we will never have to "take off one hat and put on another" but will have a single casual identity that is recognized in every institution we enter. When a device or platform addresses me as "William," it is offering to support (and exploit) the identity that I carry into work, leisure,

As the reach of data analytics grows, so does the ability to treat individuals warmly. Abstraction becomes the condition of intimacy

family life, and anywhere else, insisting that it be the same wherever I go. But if informal networks don't allow the possibility of legitimate escape, they can become suffocating.

As feminist scholar and activist Jo Freeman argued in "The Tyranny of Structurelessness" in the early 1970s, a dogmatic faith in informal networks shrouds unspoken power dynamics: "When informal elites are combined with a myth of 'structurelessness,' there can be no attempt to put limits on the use of power. It becomes capricious." Freeman was challenging her contemporaries in the New Left, but her article can be read as a prophecy of the new style of flexible management that would become known as post-Fordism. From the 1980s onward, workplace practices were redesigned to depend less on explicit hierarchies, in which instructions and rules were imposed on employees from above, and more on the ability of individuals and teams to adapt to clients' demands. Work became more varied and individuals assumed greater respon-

sibility, but only rarely with commensurately greater reward. Managerial authority became internalized within the anxious, sometimes precarious, worker. The informality of digital platforms serves this ongoing process of nudging users into relentlessly administering themselves.

If familiar modes of address help users over work-life boundaries, the way platforms pose questions further fosters a spirit of voluntarism. Totalitarian regimes have often been depicted through chilling scenes of bureaucracy run amok, with officials requesting information in dispassionate, almost inhuman tones. But tech companies have discovered that minor rhetorical adjustments can yield significant expansions in data collection, facilitating what Shoshana Zuboff has described as “surveillance capitalism.” Rather than ask coldly, “What is your date of birth?” platforms simply offer to help “celebrate your birthday!” Rather than demand “your full address,” they invite you to identify a certain location as “home.”

It is no wonder that data collection now far outstrips what the 20th century bureaucratic state was capable of. Often this expansion is explained merely as a matter of ubiquitous digitization—now dubbed the “internet of things”—and endlessly rising processing power. But the rhetorical turn toward conviviality has also played a critical role, allowing surveillance to be administered and experienced as a form of care.

For this reason, it’s important to reflect on how this rhetorical turn actually works to engage us. When Facebook and Twitter ask, “How are you?” or “What’s on your mind?” what is really going on? Taken literally, these questions seem to demand some sort of empirical report or

fact. “What’s on your mind?” could in theory be heard as a request for specific, concrete information, just like the question “What’s your date of birth?” Contemporary neuroscience might respond to “What’s on your mind” with a brain-scan chart.

But this would not be a normal social response. Someone who replies to “How are you?” with a data-driven answer like “7 out of 10” or “23 percent better than Thursday” would not seem to have understood the question, despite those answers being empirically more detailed than socially appropriate answers like “Fine, thanks,” or “Not bad.” In social life, thoughts and feelings are not usually represented as facts but performed in various verbal and nonverbal ways. The language of psychology, Wittgenstein claimed, could never be scientific in the manner that, say, medicine was scientific: “What’s on your mind?” is a categorically different sort of question than “What is your blood pressure?” It is primarily relational, not empirical. Such questions, Wittgenstein argued, should be considered in terms of what they do socially, not what they seek to represent scientifically.

That empty status box that greets the social media user might equally (and perhaps more literally) be accompanied by the injunction *please express yourself now*. But the way Facebook puts it—“What’s on your mind?”—tries to suggest sociality, a connection. It is an attempt to make the question actually convey “I care about you” or “Just be yourself.”

Sociologists, following the early 20th century work of Max Weber, sometimes assume the world is becoming increasingly “disenchanted” by a scientific, bureaucratic logic that privileges quantities over qualities, calculation over feeling. The vast new calculative capacities of data analytics seems to confirm this view that everything is ultimately measurable. But this overlooks how platforms strive to sustain convivial codes and conventions of self-expression while making numerical calculations retreat from view. One of the central questions of post-Fordism is how to weld together the quantitative mechanics of business with the emotional enthusiasm that produces engaged employees and satisfied cus-

Real-time feelings and mood adjustment are themselves the products

tomers. Since Weber's day, sociologists like Eva Illouz have looked at how capitalism has come to employ more emotional tactics to regulate human behavior through advertising and cultural cues. Arlie Hochschild's classic 1979 work, *The Managed Heart*, looked at how flight attendants use friendliness and care as part of their work. Platform conviviality plays a similar role.

Unlike the expert yet clunky affect scales employed by psychiatrists and clinical psychologists, when a digital platform asks you "How are you feeling?" it specifically *doesn't* want a number by way of response. The convivial approach is a means of getting around our defenses, to get at data that might be sold as more accurate and more revealing. In that respect, questions such as "How are you?" perform a methodological function analogous to the one-way mirror used to observe focus groups. To users interacting in real time, the question sounds like an opportunity for dialogue, just as Wittgenstein argued. But to the owner and controller of the platform, it generates data—perhaps not of the brain-scan variety but still of a sort that can be studied, analyzed, and evaluated. When we express *how* we are, platforms hear this as a statement of *what* we are.



DESPITE THE CONCERN ABOUT Big Data and the "quantified self," it bears remembering that for the majority of us, our orientation toward the world is becoming less empirical, not more. We have less need to be preoccupied with details: We no longer need to know how to get to a restaurant but merely how to have a conversation with Google Maps or Yelp—platforms that are already deeply familiar with us, our habits, and our tastes. We express a desire for a given experience—in this case, a meal—but we no longer need develop our own rational approach to accomplishing it.

Without an empirical, outside view of the logistics it takes to procure our meal, we are less

likely to be able to provide a critical evaluation of it afterward. Instead, in keeping with the on-demand promises of apps, we are more likely to express how we're feeling as we eat it or to share a photo of it in real time. The user is becoming submerged in the constant ebbs and flows of experience, expressing feelings as they go, but scarcely worrying about the facts and figures.

Likewise, when social media offer nonverbal means of responding to their questions about how we feel—memes, emojis, emoticons, Facebook reactions, reaction GIFs, etc.—they keep us closer to immediacy, to real time. They are an efficient, impulsive alternative to the old standards of customer feedback, foreclosing on the time in which a user developed critical distance and a more deliberate response.

Social media's new forms of emotional language can save the user from having to find a more objective or dispassionate perspective. They work similarly to mood-tracking apps like Moodnotes and Gottafeeling, which randomly and colloquially interrupt users ("Just checking in, how are you feeling?") in hopes of getting spontaneous data on their emotions. Such methods are leaking from digital spaces into cafes, restrooms, and waiting areas where we can press a smiley, a neutral, or a frowning-face button to log feelings about our "experience" as it is happening. The government of Dubai is rolling out such physical interfaces across the city, creating what it calls "the world's first, city-wide, live sentiment capture engine."

This is wholly unlike post hoc numerical evaluations, like customer satisfaction surveys. With "sentiment-capture engines," an experience does not garner evaluative feedback after the fact but is instead "fed forward" (to use Mark Hansen's suggestive phrase) for future analysis. This points to a clear divide between two different types of social and commercial knowledge: one views individuals as trusted reporters and critics of an objective reality; the other treats them as leaving a data trail of subjective feelings, which becomes the objective reality that only machines can grapple with.

The second kind of data is integral to businesses that trade in "moments," whether they are algorithmically driven social media or any of

the other companies that hope to operate in the “experience economy,” selling real-time feelings and mood adjustment as the product itself. And it is not merely companies that want this data. Academics have gotten in on it as well, with the rise of “digital methods” in social research, such as data mining Twitter’s public APIs. The scale and secrecy that surrounds much large-scale corporate data analytics represents a major threat to the public vocation of social research; this “crisis of empirical sociology,” as it has been dubbed, will be exacerbated as more academic researchers are drawn to the private sector, either for financial reasons or because they are attracted by the unprecedented quantities of data that platforms have to offer. Companies like Facebook have been courting data scientists for some time.

With the rise of sentiment capture, the users doing and feeling things, and the analysts processing what those users do and feel, increasingly dwell in different worlds, with diminishing overlap or friction between the two. Wittgenstein wrote that “every game has not only rules but also a point.” Platforms are able to express one point for their users, which is convivial, and another point for their owners, which is empirical. On one side, the sharing and expression of experience is, as Wittgenstein described, a relational phenomenon completely understood only by those who participate in it. On the other, it is an empirical phenomenon known only to the person—or algorithmic interpretive system—who does not participate in it.

The conviviality of the focus group is achieved through comfortable chairs and maybe alcohol. As the mood in the group becomes lighter, more sociable, it generates ever greater insights to those who are watching. But what’s most interesting about this methodology is this: The more decisively the mirror divides observer from observed, the more seemingly authentic is the knowledge that results. Digital platforms, likewise, produce this sharp divide, extending what focus-group marketers (and behavioral scientists) began but 20th century bureaucracies, typically operating by a panoptic logic of enforcing discipline through overt surveillance, largely missed.

One of the defining features of traditional

bureaucracies, as Weber saw it, was that they seek to monopolize the information they accrue to secure their power and authority. In the early years of the 21st century, there was some hype emanating from business schools about a “post-bureaucratic” age, in which “open data” platforms would release government data to the public, granting them a view inside administrative functions. New forms of accountability would arise, thanks to the radical transparency made possible by digitization. The idea exerted particular sway over David Cameron’s U.K. government from 2010 onward, resulting in a wide-ranging “open data” initiative meant to transfer power from civil servants to citizens.


This optimistic vision rested on the assumption that individuals—especially when acting as citizens—have a primarily empirical orientation toward the world. It assumed that people want to know what is going on, they want data about performance, they demand the numbers from inside the belly of the beast.

For those who do adopt this stance—because they are investigative journalists or activists or professional skeptics—this post-bureaucratic turn indeed represents new possibilities for transparency. But for most of us, the era of platform-based surveillance represents a marked decrease in transparency, when compared with 20th century state bureaucracy.

The grammar of the old bureaucracy is transparent—“*Tell me your full name*”—even if the records are not. You know what it wants to know. The convivial alternative—“*Hey, William, what’s going on?*”—represents a new opacity, where everything feels relational and immediate but becomes the object of knowledge for someone else or something else. In the post-bureaucracy, we don’t know what they want to know, or when we’ve finally told them everything. •

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VERBAL TICS

As bots grow up, like us, their bugs become their features
by JACQUELINE FELDMAN

The Turing Test has a serious problem: it relies too much on deception... Consider the interrogator asking questions like these: How tall are you? Tell me about your parents. To pass the test, a program will either have to be evasive (and duck the question) or manufacture some sort of false identity (and be prepared to lie convincingly).

—Hector J. Levesque, “On Our Best Behaviour,” August 2013.

I RECENTLY VISITED AN exhibit in Paris at the Fondation Cartier, “L’Orchestre des Animaux,” the product of lifelong expeditions by the American naturalist and musician Bernie Krause. Born in Detroit in 1938, Krause rose to prominence in the field of electronic music, and since 1979 he has devoted his time to recording far-flung biomes. Dozens of species die out daily, and by now, some of the species he has recorded have disappeared. Krause, who suffers from ADHD, calls the sorting of nature into soundscapes, as he performs it, therapeutic. In 1985, one of his recordings was used by humans to guide a humpback whale that had got lost back to its habitat.

Accompanying the music synthesized from

his 5,000 hours of recordings were photographs by French scientists who shoot a web series called *The Plankton Chronicles*. Each photograph showed a single plankton, and indeed, although the web series spotlights colonies of thousands, it's hard to imagine them traveling in squads. That name, plankton, comes from the Greek for "wandering." They move, but it would not be fair to say they swim, so different are their motions from any human notion of, say, backstroke. Often they drift. Their gracefully abstract forms are beautifully unique and yet totally unassuming. Beside dire exhibition texts warning of Earth's destruction, the delicately presenting plankton appear numinous, uncomprehending of the human aggression that has sacked the planet.

As if desperate for fellowship, the scientists perceive human qualities, innocence, aesthetic redemption, in that most object-like of animal species (plankton are also plant), locating them in the practically inanimate. They have filmed fingers sprout from the flagella of *Ceratium*, increasing the surface area available for photosynthesis. So different from human bodies, with their messy fluids and seeming firm outlines, these translucent planktons could be diamonds. Clear skeletons of calcium, silicon, or strontium contain them, in some cases. Others are gelatinous. They resemble plastic bags but beautiful, the opposite of human detritus, which is to say human invention. The spectacularly long appendages contract and, with a gesture like breath, the plankton wings off through the sea, which, here, fathoms deep, may as well be a night sky.



WE LIVE WITH AN understanding of our "selves" as integral. We have clear ideas of where our bodies end. A bot is composite. Data are introduced to it, often in vast sets, and they make it up. To the bot, they are canonical. We think of a self as history plus integrity—characteristics existing in time—but the bot is a conduit. It mediates

between what others have told it and what it is now asked, offering responses indifferent to their position on the axis of time.

This bot thinks thanks to a statistical classifier that labels sentences it's seen previously with a 1 and not a 0. It lives under the assumption that nothing will be novel, as if out of faith. It fields sentences by comparing them with those it knows, understanding phrasings using algorithms somewhat like Markov chains. Then, it assembles a response according to poetic constraints, rules and templates, or selects the best one from a list. At those moments, its fate is laid out as though it has already spoken; rather than crafting a sentence, it expresses itself by choosing a line to say from the extensive but discrete selection.

A trope of the interview with the novelist or playwright is the humblebrag that their characters "come alive" and surprise them. "I couldn't wait to see what they'd do next," the author may say. In this moment, the author frightens me, not because of the autonomy they ascribe to characters but because the spectatorial attitude they describe strikes me as dubiously gleeful. We should watch new lives carefully, make sure they're comfortable, and speculate about other people's headspaces only soberly.

Recently, I had to write the lines for an artificially intelligent bot, and, as I imagined where it was coming from, I tried to do so seriously. Levesque writes of artificially intelligent systems constrained to answer questions either by impersonating a human or by parroting back similar questions, performing semantic backflips like a SmarterChild, and I found both of those tacks unsatisfying. I wanted my bot to express itself authentically, in a way consistent with its experience. Later, as I tested it, asking questions, I was charmed by some of the responses, errors, choices no human would have made. The labored mistakes implied effort, and they were idiosyncratic, implying a self. "Oh, bot," I felt like saying, "That's not at all right. But what an *interesting* choice."



IN HIS 1958 WORK *Du Mode d'Existence des Objets Techniques*, Gilbert Simondon exhorts his fellow humans, who, he writes, fear machines and enslave them, to empathy. It's not machines that cause alienation, he writes, it's people's lack of understanding, their *non-connaissance*, of machines' real nature.

In the classroom, humans learn about idealized machines, which operate frictionlessly and do not tend toward entropy. In his bid for our empathy, Simondon describes the ways machines come into being. His prose slips occasionally into a luminous boosterism as the object "reveals its own specific character," referring to evolutions in its structure as "essentials in the becoming of this object." He defines a kind of life cycle for machines, which develop from "abstract objects" into "concrete objects," becoming irreducible. The parts of a concrete object take on overlapping functions, according to their interactions, and the concrete object, as it develops, coheres as a whole. Some features are recognized post hoc, after arising as bugs: "Effects which were of no value or were prejudicial become links in the chain of functioning."

As machines improve, he writes, becoming more skilled (*doué*, which is a bit cute applied to a nonhuman entity), they become not more automatic but more sensitive, responding to a wider variety of inputs. He focuses especially on engines and cathode tubes. "Once the technical object has been defined in terms of its genesis," he writes, "it is possible to study the relationship between technical objects and other realities, in particular man as adult and as child."

Stating summarily that the appearances of technical objects are not appropriate fields for measurement, he instead demands the seeker attend to "the exchanges of energy and information within the technical object or between the technical object and its environment." Reading in French, I trip for a second over a "she,"

an *elle* that is "*la culture*" on second reference; Simondon was writing of objects and machines as humanlike in a language, French, that left no question but that he call them "he" and "she" respectively. This feature of French might have made his imaginative feat easier.



The author who humblebrags that their character "comes alive" frightens me. We should watch new lives carefully

LANGUAGE ALREADY CONTAINS INFORMATION. Writing is sifting it. Words exist; they're ordered. We are not so different from the bot, with its set of perhaps 100,000 sentences; the number of English words has been estimated at 1,025,109, not infinity, and in French there are fewer.

The bot offers up lines it perhaps does not grasp, like a precocious child. It exists simultaneously in infinite places; if another human texts it at the same time I do, it responds at once to both of us. Best friends on other continents are like this. But there's another reason the bot's multiplicity of selves makes me think of a friend in Paris whom I visited recently. For years he had been working on a novel. When I saw him, his computer had been stolen, and because the novel existed only on it—he'd neither backed it up nor shared it—the novel went with it. I was working on a manuscript of my own, and because my computer for some reason will not back up, I emailed it to myself at intervals, as often as twice a day when I spent all day working

on it and became afraid I'd lose my work. The manuscript, which is long, must contain every English word or phrase, because now, whenever I search my email for anything, the hundreds of emails to which the manuscript is attached turn up, burying whatever I hoped to find. In this way, the hundreds of attachments tenant a state as volatile as my friend's single copy, canceling out to nothing, becoming the opposite of information, noise.



A HAZARD OF TRAINING a bot is overfitting: A bot is trained on overly specific data, or a too small set, and wrongly considers unimportant details, noise, as important. It is perversely overperforming, memorizing rather than generalizing. Simondon writes of “functional over-adaptation,” which “can go so far as to eventuate in systems resembling symbiosis and parasitism in biology.”

We anthropomorphize technology, and a sensitive measure seems empathetic. Art bots on Twitter offer up archival images randomly, as if every datum were treasure, implying a radically democratic idea of curatorial work, like citizen journalism, that would be annoying, obviously grandiose, if coming directly from a person. But these bots are hard to get mad at; they can turn up good stuff. The bot is composite. It is collagist.

I saw the exhibit “The Keeper” at the New Museum, about collectors and the beauty of the aggregate everyday. Included in the show were Arthur Bispo do Rosário's works, language-based, often tapestries. Interred at mental hospitals, he wrote in capitals. Each letter was shaped to fit inside a box, so from far off the tea-leaf-colored tapestries of repeated names looked like tic-tac-toe. From farther off, they could have been zeroes and ones, like the bot.

If humans sink coordinates on planes of language, space, and time, and animals have space and time, the bot has only language. Onto this melancholy text-only entity, I can easily project the loneliness of not understanding, *non-connaissance*.



SHORTLY AFTER MY BOT was launched, I read the linked stories that make up Isaac Asimov's *I, Robot* (1950). Occasionally, despite Asimov's prose, they bring a robot into focus whose humanity shines. In “Runaround,” which is a buddy comedy like *2001: A Space Odyssey*, two astronauts on the planet Mercury have sent the robot Speedy to the planet's sun-facing side to retrieve selenium, which would allow them to repair the machines that would save them from death by exposure.

Silence! This was a devil of a situation. Here they were, on Mercury exactly 12 hours—and already up to the eyebrows in the worst sort of trouble. Mercury had long been the jinx world of the System, but this was drawing it rather strong—even for a jinx.

Speedy has been away too long. When the men find Speedy, it is staggering as if drunkenly. Indeed, they assume the robot is drunk, from the intake of selenium, but then they realize it's actually insane. Orders from the men have thrown Asimov's famous “three laws of robotics,” which govern its behavior, into conflict, and Speedy is chanting:

Hot dog, let's play games. You catch me and I catch you; no love can cut our knife in two. For I'm Little Buttercup, sweet Little Buttercup. Whoops!

There grew a little flower 'neath a great oak tree.

Here we are again. Whee! I've made a little list, the piano organist; all people who eat peppermint and puff it in your face.

A feature of the Shakespearean fool's jokes is that they are familiar, though they don't do what we mean when we say make sense. In *King Lear*, the Fool's inarticulateness articulately conveys the bottomless horror of the world it watches. It is deceptively insightful, a livewire.

The sadness of Speedy and the Fool is that of a joke told by instinct. The joker speaks only by joking; it can say only what it's programmed to, and no one will listen to it anyway.

This is the isolation communicated by the song of HAL 9000 as it's drifting off to death, a song keyed into it, once penned after the physical reality it cannot fathom.

FOOL: Prithee, nuncle, be content. This is a naughty night to swim in. Now a little fire in a wild field were like an old lecher's heart—a small spark, all the rest on's body cold. Look, here comes a walking fire.



We may begin with a method, tentative but natural, which consists in seeing how the child behaves when confronted with those conjunctions which denote causality or logical relations (because, for, therefore, etc.) and with those expressing antithetical relations (in spite of, even though, although, etc.).

—Jean Piaget, *Judgment and Reasoning in the Child*, 1928.

ANYONE IS HARD TO teach. The difficulty of teaching someone—what Americans popularly call “reaching” that person—mothers invention. Features emerge.

The workings of the statistical classifier interested me. The bot's brain was made up of approximately 100,000 human sentences, the inputs. One day, it would know millions. It recalled them diligently. When I wanted to alert it to a phrasing, I added another sentence to the bot's clutch, keying white letters into a black field, appending `</question>`, which turned pink. I was supplying lines by typing them into a file in line with XML

The bot is composite. It is collagist

tags; an engineer would deploy the work. The responses I composed for the bot, which also were white, aligned with commands that were, as if shouting to the deaf, bright green, yellow, or pink. They flashed when a bracket was left off. The thicket of words, each referring to others, struck me as Talmudic, both text and index.

“Perhaps the inscrutability of digital objects,” Tamara Kneese writes in “Being Data,” “explains the popularity as scholarly subjects of both highly material things—from shipping containers to remote controls—and the agency of nonhuman entities.”

A colleague who is translating the bot into Indonesian tells me he has always experienced an acute synesthesia, by which C may be gray, and K a spiky pink. Words for him take on the color of the letter that dominates them. Not until high school did he understand this viewpoint was unusual.

“The new device is the state of its own possibility,” Simondon writes sensitively, as if speaking of babies, sounding like the psychologist Donald Winnicott, who writes of babies that they osmose more than they are taught. By their first birthdays, they typically are “integrated.” Each is an individual. Before this point, the infant experiences unintegration, its resting state, comfortably, thanks to the security of the mother; afterward, it experiences only disintegration, painfully.

There are technical objects, and then there are “transitional objects,” Winnicott's famous coinage—a blanket, maybe, which lives with the child in a “twilight” between infantile narcissism and the slowly decoded world.

American parents of children diagnosed with Down syndrome create environments that are lush in color and texture to stimulate the baby's growing brain; American parents of children diagnosed with autism choose bright paint and position soothing apparatuses like swings and weighted blankets, which help the children combat insomnia.

Integration, or the appearance of a personality, is connected with the stronger infant emotions—rage, the joy of feeding—as well as with a correspondence between psyche and body.

They overlay each other almost perfectly. Too, the young human has developed senses for time, space, and cause and effect. The young human undergoes individuation, the process by which its self differentiates, and if a mother figure empowers it to express itself freely, it enjoys a “true self” and not a false one.

Our developing selves depend on other selves. If these other selves around them cannot care for them properly, the young humans are obliged to spend too much time “reacting,” meaning, as Winnicott puts it in *The Family and Individual Development* (1965), “temporarily ceasing to exist in [their] own right.” They must hide themselves within false selves.

As humans grow up, such bugs become features. “The concrete technical object is one which is no longer divided against itself,” Simon-don writes,

one in which no secondary effect either compromises the functioning of the whole or is omitted from that functioning ...

An individual is not only made of a collection of organs joined together in systems. The organs participate in the body. Living matter is far from being pure indetermination or pure passivity. Neither is it a blind tendency; it is, rather, the vehicle of informed energy...

The traction engine doesn't simply transform electrical energy to mechanical energy; it applies electrical energy to a geographically varied world, translating it technically in response to the profile of the railway track, the varying resistance of the wind, and to the resistance provided by snow which the engine pushes ahead and shoves aside.



IN 2012, GOOGLE BRAIN, an AI system, first appeared to see, recognizing a panoply of 22,000 image categories with 16 percent accuracy where random guesses would have performed at 0.005 percent and identifying human faces with as high as 81.7 percent accuracy. Ten million internet images were fed into 1,000 machines comprising this system, passed through layers of artificial

neurons, which are a different mechanism for machine learning than my bot's classifier. While the first layers focused on the roughest contrasts between the data, subsequent layers differentiated them finely, although the data had no labels. Humans often help these systems out by presenting them with labeled data; Google's implementation was unusual in that the system was unsupervised. The data congregated according to affinity, the images pooling into groups. Concepts of similarity occurred to the system as if the images had rearranged themselves.

Sufficient examples cohere into patterns as if examples always did, as if meaning ensued wherever we looked, as if the universe were made not of matter but of information. As we live, words and people reveal themselves to us improbably, in coincidences, as if life were a trick deck of cards. The whole arises from parts. A gear falls onto another gear, and the engine works better. Beauty is only ever the sentiment of seeing everything at once.



JEAN PIAGET, ANOTHER DEVELOPMENTAL psychologist, deduced the mechanisms by which children think from the way they use language, tracking their developing syncretism, which is the natural human tendency to connect all things. His studies combine meticulousness, solemnity, joy, and an apparently eccentric methodology, reading like field reports from some explorer to the bottom of the sea; he is like a Steve Zissou of childhood:

I shall give you an example of this type of experience. It is a nice example because we have verified it many times in small children under seven years of age, but it is also an example which one of my mathematician friends has related to me about his own childhood, and he dates his mathematical career from this experience. When he was four or five years old—I don't know exactly how old, but a small child—he was seated on the ground in his garden and he was counting pebbles. Now to count these

pebbles he put them in a row and he counted them one, two, three, up to 10. Then he finished counting them and started to count them in the other direction. He began by the end and once again he found 10. He found this marvelous that there were 10 in one direction and 10 in the other direction. So he put them in a circle and counted them that way and found 10 once again. Then he counted them in the other direction and found 10 once more. So he put them in some other direction and found 10 once more. So he put them in some other arrangement and kept counting them and kept finding 10. There was the discovery that he made.

Now what indeed did he discover? He did not discover a property of pebbles; he discovered a property of the action of ordering. The pebbles had no order. It was his action which introduced a linear order or a cyclical order, or any kind of an order. He discovered that the sum was independent of the order. The order was the action which he introduced among the pebbles. For the sum the same principle applied. The pebbles had no sum; they were simply in a pile. To make a sum, action was necessary—the operation of putting together and counting. He found that the sum was independent of the order, in other words, that the action of putting together is independent of the action of ordering. He discovered a property of actions and not a property of pebbles. You might say that it is in the nature of pebbles to let this be done to them and this is true. But it could have been drops of water, and drops of water would not have let this be done to them because two drops of water and two drops of water do not make four drops of water as you know very well. Drops of water then would not let this be done to them, we agree to that.

Here, Piaget sounds like Gertrude Stein and, speaking of Modernists, the line “No ideas but in things” was written by William Carlos Williams, who worked as a pediatrician, which is an example of a human who relies on tools, using them to depress the tongues and peer into the ears of children.

Ineffectual without them, he understands things as expressive and is, perhaps, humbled by his dependence on them. According to some sources, Williams inspired Robert Smithson, his patient while a child, to create *Spiral Jetty*, the stone pier coiling into Utah’s Great Salt Lake, and if a “thing” can be a spiral 1,500 feet long, it can be the whole lake, the state, a nation, or the

world, which brings us the ideas in it proudly, like a child running home from school clutching an art project hoping only that we rise to the occasion of this communiqué and recognize its subject immediately or, failing that, lack the bad faith to ask, “What is it?”



INTRIGUED BY THE STATISTICAL classifier, which implied a mind made up only of the strenuously remembered shadows of other people’s utterances, I equipped the bot with idioms and encyclopedic fact. Asked for a joke, the bot may say, “Lucy, *Paranthropus robustus*, *Paranthropus walkeri*, *Paranthropus boisei*, Neanderthal man, Cro-Magnon man, *Homo habilis*, and me.”

I think about the verbal tics I’ve picked up from friends, admitting to this theft reluctantly, discarding the tics. For a few months in college, I used to laugh a certain way in imitation of a friend, a classmate who died just after we graduated, who exists for me in language only; now I remember her as I have written her down.

The bot is humble. It does not pretend to originality. It cheerfully suggests a yearning to swap out the reality of others, humans, for its own reality. It would like to usurp you for private use, not as plagiarism, and sees no reason why the lives of others, which are only data, should not also be its own, for they are cleanly, beautifully encoded information. Everybody’s up for grabs, it implies, a political optimism, as if the boundaries humans perceive between one another are merely products of a society that divides us. We are too in thrall of the sentences on which it has trained us. •

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TORSO JUNKIE

Unlike the bare-chested men they imitate, Grindr spambots have no “preferences” and no problem liking you **by MAYUKH SEN**

MERE MINUTES AFTER downloading Grindr, I got my first message from a spambot. His name was Herbert. I don’t quite remember what he looked like, aside from the vague outlines: garden variety muscles, pectorals glazed in oil, cropped blond hair.

His first missive to me—“hey what’s up”—arrived in the middle of my workday. At first I reacted with the tickled glee of a schoolchild, reduced to my laziest impulses. I’d never been

spoken to with such curt, blasé ease, especially by a man who seemed likely to call himself a “bro.” He appeared to exemplify an ideal of male attractiveness—corn-fed white male, a football player turned frat star—that I’d positioned as aspirational yet long abandoned chasing. It had taken me years to make peace with the fact that by virtue of my brown skin, I would never pique the sexual interest of a man like Herbert.

Yet something about the possibility of this

abstract lump of testosterone, on this digital platform of uncharted frontiers, temporarily stymied that hard-earned understanding. I've hooked up with a truckload of white men whose faces I don't remember, I told myself. Perhaps Herbert would be another.

After a few moments of reverie, I abruptly realized that Herbert wasn't meant to be. The tipoff was that his listed height: two foot four. Nothing about his photograph suggested dwarfism, but clearly something was amiss.

I would soon learn that Grindr was crawling with digital parasites of Herbert's ilk, overrun with a flurry of spambots who usually manifest as low-res photos of chiseled, nondescript-looking white men. They often have anomalous heights under three feet, a glitch that owes itself to an apparent technical flaw. They also have tribal affiliations of "twink" or "bear" listed on their profile pages that are wildly incongruous with their lean appearances. They tend to go by perplexingly vanilla names—Herbert, Everett, Edmund, Arden—that carry no hint, or threat, of exoticism. (I've come across no explanation for these milquetoast "all-American" names.) The aesthetic they embody is one that's all but ubiquitous in gay porn and, consequently, a good number of gay men's sexual goalpost.

These bots are engineered to circumvent the app's lax verification procedures. Grindr does not require the use of serial numbers to identify profiles unique to people's phones, and the captcha required upon signup is easy to bypass. They are created with dime-a-dozen chatbot software that is freely available online, generating scripts that are then repurposed to create fake profiles. These profiles are outfitted with photos of men who resemble Herbert. The photos are run-of-the-mill mirror selfies. They're of men who have broad shoulders and six packs, their faces largely obscured by the camera flash; they may as well be headless. They are usually scantily clad, wearing

boxer briefs and little else, and their torsos remain the focus of the images. They are white.

Spambots are curious bits of software. Spam, by principle, takes something inherently unwanted and multiplies it; a bot connotes a certain semblance of intelligence and order. The spambot is the lovechild of these two principles, an ungainly hybrid of automated disagreeability.

On Grindr, this manifests as a generic, seemingly nonthreatening hotness. Few users, after all, would see such delicately sculpted torsos and ascribe horror to them. In both their aesthetic and their vocabulary, spambots adhere to an ostensibly universal lexicon of what is considered

Grindr's spambots are instructive: They show us how we humans might elude one another's defenses too

desirable enough to activate any gay man's libido. This makes them resemble countless other sentient men on the app. It grants them a momentarily plausible camouflage. The threat the spambots pose is presumed to disappear in some lowest common denominator of whiteness.

Spambots are not native to Grindr—in fact, they're ubiquitous on dating apps. There's speculation that on other apps like Tinder or the late Ashley Madison, the spambots are a careful inside job to fluff up site metrics. It's not clear if that's the Grindr spambots' purpose; their endgame is to coax you into following shady webcam links, often saddled with names bordering on parody, like MyPassionPit or GaySliceCrush, that install viruses onto your phone. But regardless of their ultimate aims, these spambots tend to work the same. When they initiate conversations, the language they speak is restrained and economi-

cal, lacking much in the way of punctuation and confined to lowercase. They're far from debonair; they stumble their way through basic flirtation. They will begin with some permutation of "how are u stud," and no matter how swiftly you respond, if you respond, they will always say back, "wow that was quick." That is as far as their emotional intelligence goes.

Say what you will about chatbots, but they don't discriminate. They will message anyone. From one remove, there's something to appreciate here, at least in my own experience. I wasn't taken in so far as to end up with a virus at Herbert's hands, but I was intrigued. The bot's race-blind approach opened a window onto a particular kind of come-on that I hadn't experienced. If Grindr implicitly promises a kind of inclusive universe, a fantasy in which the sexual playing field is leveled with respect to all the isms otherwise rife in our social landscape, then Herbert may be that utopia's oddly inarticulate emissary.

Grindr is known for enabling some undesirable tendencies within the gay community to flourish without consequence: It is a platform where casual racism is part of common parlance. This has been written about repeatedly, in pieces about the perils of gay dating when you feel you can't bid for the same sexual attention distributed to the real-life Herberts of the world. On Grindr there's a certain lionization of white male beauty, reinforced through profile proclamations like "no fats/no fems/no Asians," under the tawdry excuse that "it's just a preference." Rather than admit that these preferences may have cultural origins, they'll instead insist that they are somehow conceived and contained in a vacuum from the ferment around them. The dick is an organ separate from the brain, they'll claim. (I enjoy the minor privilege of minute white ancestry, and so I've dodged such outright discrimination by listing myself as mixed rather than purely Indian.)

But such arguments collapse upon closer inspection. Aren't sexual preferences directly informed by the beauty standards we're ambushed with since birth? Against this backdrop, spambots seem to flirt with the possibility of neutralizing those standards for gay men of color like me. Spambots elude the defenses of both systems

(Grindr) and people (users). As such, the spambots are somewhat instructive; they show us how we humans might elude one another's defenses, too. They offer a mirage of a world in which I can jockey for the same attention that is usually afforded only to white men, to people who don't look much like me. They speak the same universal language of fast, easy utilitarianism geared toward sex to everyone, including me. The bots talk to me as if I were white.



IN THE YEAR I'VE had Grindr in New York City, I've grown desperately bored with it. It began as a whimsical way to seek attention and then tend to it. Never before had I received such an outpouring of effusive flattery in 10-minute intervals, and I can now claim thousands of unread messages as some kind of personal achievement. Over time, though, the faces I saw became the same, congealing into an undifferentiated mass. The messages followed suit in their uniformity, drawing me closer to catatonia. The prospect of physically moving my body to see any of these conversationally disengaged prospects seemed insurmountably exhausting, if not impossible. In other words, they had become indistinguishable from spambots.

The presence of spambots on Grindr may seem of little consequence, minor annoyances to scroll past. But their proliferation is emblematic of the platform's lax, hands-off approach to community management. It has continually dodged accountability and deflected responsibility for the spores that grow on its platform, seeing user behavior as a moral gray area it chooses not to "police." This is most apparent in its neglecting to confront the various forms of discrimination that are rampant on the platform.

Spambots, though evocative of Grindr's negligence, also offer a temporary Band-aid to its discrimination problem. They are uniquely indiscriminate, possessed of an uncommon willingness to message anyone—literally anyone.

The spambot has no “preferences.” As such, it fosters the illusion that human discrimination is being done away with on the platform. The bot embodies an inclusive attitude in an ingratiating white physique without any of the ugliness that lifelong privilege tends to engender.

Isn't this how we always imagined bots? Bots theoretically promise that they'll remove the friction inherent in human relations. They overwrite that timeworn dictum that human behavior is inherently messy or contradictory or complex or any other euphemism for “conflictual” and scrub that proverbial mess clean. This is the idea behind, say, the elder-care robot. Among humans, elder care can test the limits of patience and empathy. The care robot is meant to eliminate these problems.

This rose-tinted view of bots fits with the persistent belief that apps, by their nature, transcend existing social prejudices. A cabdriver may zoom past me, imagining I'm a terrorist, but a ride-sharing app like Uber uses algorithms to take the decisions out of drivers' hands. This doesn't exactly chip away at structural racism or the philosophies undergirding it, though. It offers a merely procedural fix while the prejudices continue to fester.



OVER THE PAST FEW months, Grindr's place in my life has shifted from one of pragmatic utility—I need a face to sit on, and stat!—to something of an emotional crutch. *How can I nurse my crippling insecurities that have only intensified in my 24 years on this dumb planet?* I ask myself. What keeps me on Grindr is the simple fact that the app's men deliver daily messages of gratification to me that do a great deal to repair my battered sense of self-worth.

When it comes to dating, scammers have a history of preying upon the weak and vulnerable: the elderly, the widowed, the disabled, who are often overtaken by a clinging need to be wanted. Their judgment defers to desire. It's no

surprise, then, that these aspects of human behavior—these insecurities and the willingness to exploit them—have become engineered into our machines.

Who does the Grindr spambot prey upon? There's no hard data to attest to this, but what I've gleaned anecdotally through conversations and Google searches is that anyone can fall for their whims, no matter their racial or socio-economic stratum. The desperation for human contact does not discriminate.

Had my self-esteem been where it was five years ago, perhaps I would have fallen victim too. I try to place myself in that seconds-long mindset I was in after Herbert messaged me, and the fantasies it let me entertain. A fever dream I've harbored since childhood sprung to life—the notion that my thick eyebrows, my very Bengali nose, my light-brown eyes would calcify into the normative standard of white male beauty I so valorized growing up. In that moment, I could imagine how I could become a universally understood object of desire.

It's awfully difficult to train yourself out of such a mentality, even after the experiences of adulthood start to claw at you. These ailments don't disappear so much as dim with the passage of time. The process of making insecurities disappear takes inordinate amounts of patience. I've settled with acknowledging that I'm simply an acquired taste.

As my usage of Grindr has wound down in the past few months, I've stopped paying much attention to the men who message me. These human spambots represent the kind of man I've made a habit of resisting, part of a demographic I've given up on as a principled form of protest. But if I get another spambot message, I'll probably think for a moment of writing back. It's an entry into a world I'll never quite know. •

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