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I LIKE MY BOTS LIKE I LIKE MY PEOPLE: WEIRD, MIXED, ALWAYS ACTING

Chris Peterson

"I like my husbands like I like my orthodoxy: prevailing, communist, always correct."
—@ilikelikeilike¹

@ilikelikeilike tells jokes on Twitter. This is not unusual: many of Twitter's several hundred million accounts tell jokes. Unlike most of them, however, @ilikelikeilike tells *only* jokes; stranger still, it tells versions of *only one* joke, over and over again, as it has every three hours since June 2013. @ilikelikeilike can perform this comic feat, which would seem to require inhuman stamina and ingenuity, because @ilikelikeilike is not a human: it is a bot.

Twitter bots programmatically generate and post tweets. The proximate programmer of @ilikelikeilike is Joel McCoy, a software developer from Somerville, Massachusetts, who designed the bot to automatically generate variations of a formulaic joke by pseudo randomly selecting nouns and verbs from an online dictionary. Being random, the jokes are funny only accidentally, but this, according to McCoy, is precisely the point. "[I am] making bots for all the bad and lazy jokes people make so that no one has to spend time on them," he told *WIRED*. "It's the automated labor theory of humor: let machines do the work so people have the time to think."²

Bots have always been about labor. The word 'bots' began as a simple contraction of its parent, 'robot,' the etymology of which the *Oxford English Dictionary* traces to an eponymous "central European system of serfdom, by which a tenant's rent was paid in forced labour or service."³ In 1922, during the Lochner era of laissez-faire capitalism, the *New York Times* noted approvingly that "Robots were by all means better for use in factories and in armies, making cheap labor material,

and not causing any troubles as strikers.”⁴ By 1990, ‘bots’ had diverged sufficiently to warrant their own definition as “automated program[s] on a network (esp. the Internet), often having features that mimic human reasoning and decision-making.”⁵ Stuart Geiger, in his study of the bots that help bring order to Wikipedia, describes them as “articulations of delegation” that work to “simultaneously produce and rely upon a particular vision of how the world is and ought to be.”⁶

@ilikeilikeilike

I like my **<%= person %>** like I like my **<%= object %>**:
<%= desc0 %>, **<%= desc1 %>**, **<%= junc %>** **<%= desc2 %>**

I have reproduced here the formula at the heart of @ilikeilikeilike. Each time it runs, the bolded variables (my emphasis) are populated with a noun, adjective, or conjunction drawn from a word list either written by McCoy or provided by the online dictionary Wordnik.

Word lists may seem banal, but they are not neutral. Lists enable what Ian Bogost calls “ontographical cataloguing”: the process of registering the things understood to exist. McCoy’s person list, for example, contemplates and constructs a cast of characters who might properly be the subject of a sexually freighted joke:

*["men", "women", "ladies", "fellahs", "partners",
 "hook-ups", "pairings", "lovers", "husbands",
 "wives", "spouses", "senpai"]*

This list reflects and reproduces McCoy’s values—to an extent. “I mixed male-gendered, female-gendered, and gender-neutral terms there, consciously,” McCoy told me. “[But as] to what the robot might say about any or all of those groups, I don’t exercise any prior restraint or even guidance.”

Instead, what @ilikeilikeilike says about those characters is determined on the fly as they collide with objects pulled randomly from Wordnik. Cofounded by a lexicographer and an engineer, Wordnik has developed its own canon, assembled its own corpora, authored its own lists. All these undoubtedly reflect cultural codes as well, but they are blackboxed to @ilikeilikeilike, which simply requests a random noun, as well as three adjectives associated with that noun, and blindly inserts them into the joke (“I like my women like I like my upheaval: political, violent, and not domestic”).

Wordnik presently allows programs to query its database up to 15,000 times per hour at no charge. @ilikeilikeilike can freely exploit all the work done

upstream by dictionary editors, marketing associates, and relational databases. If, however, Wordnik 'goes on strike,' and stops providing words for any reason (because its employees demand more money, because its servers demand more power, and so on), then @ilikeilike will be forced to shut down.

Bots, like all computer programs, are thus designed to do what their designers want them to do. The semiotics of labor discipline are deeply embedded in the culture of computation, and have been ever since the word 'computer' meant not a machine made of metal, but rather a human *hired* to perform complex calculations.⁷ Eric Grimson, an influential computer scientist and an architect of the undergraduate computer science curriculum at MIT, introduces students to computational thinking through the paradigm of "imperative programming," which he defines as "methods of ordering a computer to do something."⁸ Cormen and his colleagues, in their foundational textbook *Introduction to Algorithms*, describe algorithms as a "well-defined computational procedure that takes some value, or set of values, as *input* and produces some value, or set of values, as *output*."⁹ As Nick Seaver argues, the 'values' that algorithms define and (re)produce should be understood and examined sociopolitically as much as arithmetically.¹⁰

In this context it is tempting to read Twitter bots as the vanguard of a media production dystopia: as inexpensive, inexhaustible creative delegates of the technicians who build them. And, as other authors argue in this volume, there really is a shift toward computationally assisted forms of media production and an accompanying redistribution of the work available to (and shaped by) human labor. Adding ontological insult to economic injury, McCoy's automated theory of humor would seem to endanger even *comedy*, that last bastion of uniquely human creativity. These bots aren't only taking our jobs, they're telling our jokes!

@metaphorminute

In spring 2012 Darius Kazemi, another prolific botmaker based in Somerville, created @metaphorminute, which generates absurd, evocative metaphors by populating a template with words randomly selected from Wordnik ("a celery is a philosopher: inquiring and panic-stricken").

A few days into its young life, however, @metaphorminute tweeted "a faggot is a gadfly: case, but not heterosexual." Kazemi was horrified by the metaphor his bot had made. It was "as though my bot gained sentience but turned out to be a

homophobic asshole," he wrote on his blog. "I'd been jokingly referring to the bot as 'my child' but now it had reached an age where it was mouthing off using words it didn't fully understand, and I had to really think about where to draw the line."

While searching the Web, Kazemi found a blacklist of 458 'bad words' that had been compiled as a resource for developers. However, he felt the list, which contained words like 'hacker' and 'dominatrix,' was overbroad. "After discussing it with my spouse," he wrote, "I determined that what I really cared about were 'oppressive' words of various stripes—terminology used to denigrate specific groups of people." So he rewrote it to include ~forty-five words he believed @metaphorminute should not be allowed to say, washing his child-bot's mouth with programmatic soap.

By doing so, Kazemi—and his wife—labored to inscribe their politics in @metaphorminute. But who labored to teach Kazemi and his wife to consider the oppressiveness of words, and what resources helped them decide which words are sufficiently oppressive to blacklist? Who taught Wordnik that it was acceptable to include these words, and who decided to add them to the legacy print dictionaries that Wordnik originally imported? In order to account for all the politics and labor in the bot, we must consider what Bruno Latour calls pre-inscription: "all the work that has to be done upstream of the scene and all the things assimilated by an actor . . . before coming to the scene as a user or as an author."

Distance creates uncertainty for the proximate programmer. "Merely writing the code for a piece of software does not make me some sort of god who has fully exhausted everything about that software," Kazemi concluded. He's right, but not right enough, for even gods can be surprised by their creations. As sins go, @metaphorminute's was old, even original. A bot is a human: disobedient and fallen.

But although it may seem straightforward to conclude that these Twitter bots replace human labor, that is, that of the human wits who may otherwise have tweeted, or from whose own tweets these bots steal scarce attention, the truth is more complex. It turns out to be unexpectedly tricky to evaluate and ascribe authorship of the creative labor that goes into any given tweet by any bot. Who can be seen to stand behind a Twitter bot—who has worked so that it works—depends on where and how you look.

Upon first glance @ilikeilike may seem like a trivial technical toy. Yet, upon further inspection, this apparently simple bot can be seen to require a surprising amount of labor before it can execute even the most insignificant, unfunny joke. McCoy must maintain his server and pay for its power, which itself flows through an immense public/private electrical grid. The Wordnik application programming interface (API) must make available to @ilikeilike words from a corpus its developers labored to construct, a corpus that itself relies on legacy print

dictionaries its editors labored to create and classify. A litany of as yet unenumerated actors (the node.js development team, the free or fair trade coffee that fuels late night programming sessions, the multinational corporate entity of Twitter itself, and countless others excluded for want of word count) bravely buttresses the entire enterprise, which would quickly collapse without such actors' hidden support.

Even keeping time—the most apparently simple, taken-for-granted computational task—requires staggering amounts of work. A computer's system time is commonly kept by counting the number of ticks that have occurred since the beginning of an arbitrary epoch, such as the conventional Unix Epoch that began at 00:00:00 GMT 1 January 1970. This counting has been historically done by physical chips, called Real Time Clocks (RTCs), that periodically pulse and interrupt the central processing unit, rudely reminding it to permanently increment the count of ticks that have transpired since the dawn of system time. These chips are inanimate but not insensate: quartz RTCs often used in computers typically speed or slow their rate of oscillation by one microsecond per degree Celsius change in temperature, and even oven-controlled quartz clocks may unpredictably wander several seconds over the course of a year.

Because the complexity of contemporary capitalism requires coordinated timekeeping, the Internet Engineering Task Force (IETF), an ad hoc coalition of network engineers, developed the Network Time Protocol, which facilitates the regular recalibration of local system time against an international standard. Thus system time is not truly kept, but *negotiated*. The stable-seeming clock in the corner of your computer screen in fact represents a temporary resolution in an ongoing argument between the demands of late capitalism and a quivering quartz crystal.

From one perspective, @ilikeilikeilike requires barely any human labor to tell a joke; from another, it requires a massive network of engineers and standards and chips just to tell when it is *time* to tell a joke, and when it speaks, it is in a chorus of these many distributed actors. If any of these human and nonhuman actors stop working, at any time, so too will @ilikeilikeilike, which suddenly seems less like a bot (that performs labor) than a factory (that aggregates it).¹¹ Rather than *replace*, then, these bots should be understood to *displace* labor, like a boat displaces water, moving it out of position but never eliminating that upon which it floats. Indeed, sociologist Bruno Latour defines work as displacement: the translation, delegation, shifting-out performed by one actor to support another.¹² The labor never disappears; it simply moves further upstream, obscured by a fog shrouding the lands just beyond proximate cause.

With bots, there may be proximate programmers, but there are not clear authors, just more or less legible author functions.¹³ Thus, while bots are artifacts that both prescribe and perform a politics, the precise politics in a bot is as indeterminate as the labor in a bot, and for the same reasons.¹⁴ Nobody knows

this better than the programmers themselves, who are as frequently surprised as anyone else by what their bots say. So while it is tempting for nontechnical critics to see bots as a kind of political prosthesis for the technicians inside them, the infinite regress of actors contained in each bot means that, as Seaver has argued, there isn't actually anyone inside or outside algorithms.¹⁵ Depending on the shape of the network, some of us may be closer, and some further away, but in the end, we are simultaneously internal *and* external; entangled and eutectic.

@LatourLiturgies

In late 2013 I tweeted "Idea: Latour Liturgies." The pun was intended to play simultaneously on Ian Bogost's lists of "Latour Litanies"; the worshipful deference with which Latour is sometimes treated by his academic acolytes; the oracular tone of Latour's many aphorisms; and Latour's personal Catholicism. Shortly thereafter, I decided to make my idea into a bot.

Like the other bots I've described, @LatourLiturgies is randomly generated, only more so. Instead of populating random words into a fixed template, @LatourLiturgies downloads hundreds of tweets from @LatourBot (a bot that tweets quotes from Latour's writings) and @SpeakOLord (which tweets verses from a Catholic Bible) into a file. The bot then operates a Markov process over the combined corpus to probabilistically generate sentences inflected by both voices but decidedly distinct from either ("The LORD is a stronghold for the sociologists and sociologists learn from the lack of a thing!").

Unlike Kazemi and McCoy, I didn't write most of the code that animates my bot. Instead, I edited code posted freely by Jacob Harris, a developer at the Times, and modified by Nate Matias, a classmate at MIT. I've hosted other bots on my own servers, but this code uses iron.io, a service that allows (limited) free use of its computational resources for running bots and scripts. I didn't even make the avatar myself: I just downloaded a famous portrait of Latour smiling enigmatically, downloaded a cartoon halo and angel wings, and used Photoshop to superimpose the latter on the former.

As I write this @LatourLiturgies has issued more than 1,000 tweets. But who has authored them? Surely not Latour, and surely not the Bible; surely not the administrators of either of the bots I use as sources; surely not Harris or Matias, or iron.io. I connected the plumbing that made @LatourLiturgies possible, but I'm as surprised as anyone else when I read what it says because what I intend it to do is to say something I, by definition, don't intend it to say! @LatourLiturgies voices recombinant riddles: the wisdom of bots talking past each other, mixed up by math, and served pseudo randomly to readers, as far removed from a single human author as a bologna is from a boar.

Nor is this blended character unique to the bot form. As Oli Mould showed in an earlier volume of this series, both media productions and media producers are always temporary, contingent, mixed. Actors and actresses depend on writers and stages and smoothies and each other. Cameras depend on lights and videographers and electricity and emulsions. Jokester bots and standup comedians alike can either be blackboxed as stable objects or exploded open into their constitutive networks, depending on how you look at them. With apologies to Raymond Williams: there are in fact no people, only ways of seeing networks as people. Ontologically speaking, we're all already hybrids.

The a priori indeterminacy of objects is both a bug and a feature of actor-network theory (ANT) as an approach for studying production culture. The point of ANT is to follow the actors and describe what one sees, tracing the associations that tie the object of study together rather than taking the object as a given to be situated in a larger structure. As Latour, a godfather of ANT, writes: "I can now state the aim of this sociology of associations more precisely: there is no society, no social realm, and no social ties, but there exist translations between mediators that may generate traceable associations."¹⁶ Because ANT places no limits in advance on the researcher's range as she travels down, up, and across the regress, it is up to her to trace or erase the linkages that allow the account to hang together. The production culture does not preexist her study of it; it is what she establishes in order to study it.

This methodological freedom places a heavy rhetorical burden on the researcher, but it also makes ANT an exceptionally sharp and flexible approach for studying media production. A skilled practitioner of ANT knows which connections to bring to the fore and which to allow to sink out of sight, and tests her skill by writing descriptions that are more or less convincing depending on the connections she chooses to trace between the actors themselves. Fundamentally, to do ANT is to allow actors to grant their own agency, tell their own story: "to describe, to be attentive to the concrete state of affairs, to find the uniquely adequate account of a given situation."¹⁷ If she does her job well, and stays true to their trail, then an ANT approach can help her realize the truly transformative and underappreciated work done by spouses and servers, Catholics and quarts.

Notes

- 1 @ilikelikeilike Tweet, February 16, 2014. <https://twitter.com/ilikelikeilike/status/434981168304635904>.
- 2 Klint Finley, "Twitter 'Joke Bots' Shame Human Sense of Humor," *Wired.com*, August 22, 2013. www.wired.com/wiredenterprise/2013/08/humor-bots/.
- 3 "robot, n.1". OED Online, Oxford University Press. www.oed.com/view/Entry/275486?rskey=SeiRe7&result=1&isAdvanced. e.g.: "The Robot had been limited in 1800 by the Ragusa government to ninety days a year, and minimum standards had been set for the keeping of the peasant during this period."

- 4 "robot, n.2". OED Online, Oxford University Press. www.oed.com/view/Entry/166641?rskey=r6o0U9&result=2&isAdvanced=false.
- 5 "bot, n.3". OED Online, Oxford University Press. www.oed.com/view/Entry/251280?rskey=xzvc0Q&result=3&isAdvanced=false.
- 6 Stuart Geiger, "The Lives of Bots," in *Critical Point of View: A Wikipedia Reader*, edited by Geert Lovink and Nathaniel Tkacz (Amsterdam: Institute of Network Cultures, 2011). www.networkcultures.org/_uploads/%237reader_Wikipedia.pdf, 78.
- 7 "computer, n.". OED Online, Oxford University Press. www.oed.com/view/Entry/37975?redirectedFrom=computer.
- 8 See, e.g., the lectures of 6.001.x, available on edX.org.
- 9 Thomas H. Cormen et al., *Introduction to Algorithm, Second Edition* (Cambridge: MIT Press, 2001).
- 10 Nick Seaver, "Knowing Algorithms," *Media in Transition* 8, Cambridge, MA (2013). <http://nickseaver.net/papers/seaverMIT8.pdf>.
- 11 Stuart Geiger, "Bots, Bespoke, Code and the Materiality of Software Platforms." *Information, Communication & Society* 17, no. 3 (2014): 342–56.
- 12 Jim Johnson, "Mixing Humans and Nonhumans Together: The Sociology of a Door-Closer." *Social Problems* (1988): 298–310.
- 13 Michel Foucault, "What Is an Author?" in *The Foucault Reader*, edited by Paul Rabinow (New York: Pantheon, 1984), 101.
- 14 Bryan Pfaffenberger, "Technological Dramas." *Science, Technology & Human Values* 17, no. 3 (1992): 282–312.
- 15 Seaver, "Knowing Algorithms."
- 16 Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory* (Oxford: Oxford University Press, 2005), 108.
- 17 Latour, *Reassembling the Social*, 144.