TECHNOLOGY

How Self-Tracking Apps Exclude Women

"Self-knowledge through numbers" seems like a genderless goal, yet the actual products out there are anything but.

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STEFAN WERMUTH / REUTERS

On September 9, a parade of men marched across the stage at Flint Center in Cupertino, California, outlining a variety of new products in the Apple lineage. After the iPhone, Apple Pay, and, the doll of the party, the Apple Watch, Apple CEO Tim Cook took the stage to give some more details about Apple Health, an app that had been announced back in June and will eventually integrate with the Apple Watch. In that June announcement, Apple's Senior Vice President of Software Engineering Craig Federighi bragged that the app would let users "monitor all of your metrics that you're most interested in."

As promised, Health is a powerful app. It allows users to track everything from calories to electrodermal activity to heart rate to blood alcohol content to respiratory rate to daily intake of chromium. But there's a notable exception. Apple Health doesn't track menstruation, an omission that was quickly seized upon by many tech writers as, well, ridiculous. *The Verge* asked "is it really too much to ask that Apple treat women, and their health, with as much care as they've treated humanity's sodium intake?" How could Apple release a health-tracking app without the ability to monitor what is likely one of the earliest types of quantified-self tracking?

Women have tracked their cycles for thousands of years. St. Augustine spoke against timing sexual activity to coincide with periods of infertility (a method that would require period-tracking) as far back as 388. "Is it not you who used to counsel us to observe as much as possible the time when a woman, after her purification, is most likely to conceive, and to abstain from cohabitation at that time, lest the soul should be entangled in flesh?" he said, according to one translation, before going on to condemn the method. Despite there being little written documentation of these records, women have long kept notes on their own cycles. Before apps, they used spreadsheets and online calendars. And before that, they used plain old paper. Today, there are hundreds of period-tracking apps available in the iTunes store. And yet, in a health app Apple

describes as "comprehensive," there is no way to simply tick on the calendar that your period has started, and when it has stopped.

This, of course, isn't the first time a tech product has prioritized men over women. The vast majority of tech companies are staffed by men, especially on the development side. Phones are too big for many women's hands. The newest artificial hearts are designed to fit 80 percent of men but only 20 percent of women. Drop-down menus show "male" over "female" even when the rest of the menus are alphabetical. But when it comes to data-tracking, there's a perceived element of democratization. How could an app or tool that simply lets you track things be biased? Let us count the ways.

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When Amelia Greenhall moved to San Francisco from Seattle, she looked for a Quantified Self meet-up. She had been active in the Seattle QS community, and quickly found the corresponding group in San Francisco. Soon, she was organizing the Bay Area meetings herself. But while she enjoyed the community there, something was missing.

"After each one, women would come up to me and say, 'I wish we could talk about periods or fertility or dating or anything that wasn't getting talked about.' It just felt like there was a lot getting left out," she said. And the meetings, set in the belly of the Silicon Valley beast, felt like tech meetings. "It was just kind of like a microcosm of the tech world where dudes are willing to speak about the most boring trivial stuff as if it's the best invention ever, and these women would have these really cool things and they're like, 'Oh I don't know if anybody would be interested.'" So Greenhall started the first ever QSXX meet up—a space for women to showcase their QS projects, talk about what worked for them, and find a smaller community within the larger group.

Soon, QSXX groups popped up in Boston and New York City. "The conversations seemed more real and more interesting and we were talking about the problems with devices and apps and it turned out much as I was hoping," said Greenhall. Maggie Delano started one in Boston, after having a conversation with another woman about the differences in what some women want to track. "We were talking about how the kinds of things that women need to track are really different, and things can change a lot more throughout the month than they might for other people," she said. The women who attend these meet-ups discuss what they want to track, present their projects, and form bonds within the smaller community that some say they couldn't quite forge at the bigger meet-ups.

Whitney Erin Boesel, a researcher at the Berkman Center for Internet and Society at Harvard, and active QS member, said it took her a few years of being involved in the QS community before she realized that there was little-to-no emphasis on women's issues. Which is weird, she pointed out, because outside the QS world one might think women would be more likely to track personal data than men are, whether that's calories or menstruation. "So many regular facets of being a woman in a western culture are highly likely to make one track," Boesel said, "and yet those were things I wasn't seeing in the QS context."

I spoke with Boesel, Greenhall, Delano, and others about what it's like to be women interested in the quantified-self movement. Their experiences were similar: They really enjoyed the work, the problem-solving, the personalization. But they also echoed that when it comes to forward-facing

technology—apps and devices marketed for the masses—there was a clear bias toward men's interests. Even apps developed for women are often designed by men, and it's not hard to tell. Apple Health, they said, and its mysterious omission of parameters relevant to women, isn't the exception, it's the rule.

Before we go on, a definitional point that many I spoke with asked me to make clear: There is a difference between the quantified-self community and movement, and what Boesel calls the "tracking industrial complex," by which she means the suite of apps and gadgets available in the commercial world. Quantified Self or QS, capitalized, is a collective of people interested in tracking elements of their lives in some way. They have a loose organization, and organize conferences in Europe and the United States each year. Some of them use apps and devices, but some of them don't. "Lots of people within QS don't use apps or anything digital," Boesel said. So QS is the community, and tracking products are the apps and hardware designed for commercial use. Great, let's continue.

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There's no better place to look for evidence of quantified self apps designed by men for men than the sex-tracking apps on the market. On principle, sex is something that one might guess an equal number of men and women are interested in. And yet looking at the apps out there for tracking bedroom activity is like looking at a caricature of bad porn. Many of them base quality of sex on things like the amount of thrusting that goes on and how loud the partner is. Apps with names like iThrust and Sex Stamina Tester and Sex Counter Tease ask users to place their phones on the bed so that the built in accelerometer can measure "strokes" and offer men a ranking among other users. One app encourages people to share their stamina and determine whether the user is "good enough to compete with the Don Juans in the Top 10."

None of this is malicious, said Deborah Lupton, a researcher at the University of Canberra, who recently wrote a paper documenting many of these sex-tracking apps titled "Quantified Sex." Sara Watson, another fellow at Harvard's Berkman Center for Internet and Society, points out that many of these strange measurements come from what the phone is capable of measuring: movement and sound. "That just has to do with the reductive nature of tracking something with an accelerometer," she said. But the apps do reflect a certain kind of bias. "I think the designers, who are mostly men are, they're just taking up norms and assumptions that are embedded in our society about women's fertility and sexuality, and reproducing them," Lupton said. So sex is judged by thrusting, success is judged by endurance, and pleasure is measured in moans. "Regardless of the type of app, we should view it as a cultural product rather than something that's just popped up out of the blue."

If sex-tracking apps are a caricature of what straight white men think sex is, then fertility-tracking apps are a caricature of what straight white men think about periods. These apps are still designed largely by men, but now instead of sexual prowess and a Don Juan ranking, the goal is pregnancy.

Many of these invite women to give their partners access to the information. The app Glow sends a little note when a user's partner is entering her fertile period, along with helpful seduction advice like bring her a bouquet. The vast majority of these period-tracking apps are pink. Many of them are covered in flowers. The fact that menstrual-tracking and fertility-tracking are almost always lumped together is, in itself, indicative of how developers think about

women, said Lupton. "When you look at those types of apps they're completely about the surveillance of pregnant women and making them ever more responsible and vigilant about their bodies for the sake of their fetus," Lupton said.

Yet the appetite for period trackers is huge. And it has been huge for a long time. Seven years ago, long before apps like Clue or Glow hit the market, Heather Rivers was in college and was tracking her period using an excel spreadsheet. She thought there must be a better way, but when she Googled for period trackers she couldn't find one. "When I didn't find anything I decided to just make a simple weekend project version," she told me. "Thus was born Monthly Info." The site was simple—users record the start and end to their period and the system extrapolates from their history to guess when their next cycle will start. Trackers could set up customizable reminders, so when it was almost that time they'd get a little email with whatever message they chose.

Monthly Info was really designed for Rivers, but she added a user signup system mostly because it was easy. And people signed up. A lot of people. "It kind of took off on its own from there and grew to over 100,000 users," she said. "There was apparently a need for something like this, because it didn't take much energy to make or grow." Now, there are hundreds of period-tracking apps on the market. Considering the gender imbalance in tech, it's fair to guess most of them are made by men. Rivers joked that it's not hard to spot a fertility-tracking app designed by a man. They focus on moods (men want to know when their girlfriends are going to be grouchy) and treat getting pregnant like a level in a video game. "It feels like the product is mansplaining your own body to you," said Rivers, who is now an engineer working on other projects. "'We men don't like to be blindsided by your hormonal impulses so we need to track you, like you're a parking meter.'"

Not all these apps are made by men, of course. In fact, one of the most popular versions, called Clue, was developed by Ida Tin, fueled by a similar problem that Rivers faced. "I was using condoms for contraceptives and I was starting to wonder why there were no better options for me to keep track of my cycle," Tin said. Much of the design of Clue, which is decidedly non-floral, was natural to Tin. "I just took it totally for granted," she said, "like of course it's not going to be pink. That seemed very natural. I didn't want it to be your secret diary... I wanted it to be a very straight, natural part of life."

It took two years for Tin and her team to build the app into something they were ready to release. By the time they finished, they had competition. Glow, a Clue competitor headed by Max Levchin, the founder of PayPal and a chairman at Yelp, launched just a month before Clue. "We were very lucky

because about a month before we launched Max announced he was launching Glow," Tin said. "That was lucky for us because he kind of validated this category of apps, and he could do that because he's a celebrity and he's a nerdy guy who knows about data. I think that was a great help for us."

Had Tin launched the app herself, without Levchin's male validation, would people have taken her seriously? She's not sure. "I've had investors, really, very good, experienced, high-profile investors who will say, 'I'm not a woman, I don't understand your product,'" she said. Tin said she'll sometimes hear investors say thing like, "I don't invest in products I can't try myself," which rules out any female health-tracking products for male investors. "I've never been treated badly," she said, "but I think it just takes more to have them write the check for a female entrepreneur tackling a female health problem."

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The promise of Quantified Self, the community, is "self-knowledge through numbers." It's a broad aim, and one that, in theory, overlaps with the apps and devices in the market. Collecting data can help people better understand themselves, their lives, their needs. But who are those people?

Boesel points to one example of how many even within the QS community assume their users are men: passive tracking apps. These apps run in the background of your phone, and using your movement, theoretically determine things like whether you're depressed or active or inside too much. This works based on the assumption that your phone is always in your pocket. "Inevitably some dude gets up at a conference and said something how your phone is always on you," Boesel said. "And every time I'll stand up, and I'll be like, 'Hi, about this phone that is always on you. This is my phone. And there are my pants.'" Passive tracking apps would think that I stay at my desk from morning to night without once getting up to go to the bathroom. Many apps operate under the assumption that your phone is always connected to you, in pockets that women don't really have.

Let's go back to Apple's Health tracker. They don't quite say it, but Apple's premise seems to be that Health will one day be the place for everything. "The Health app lets you keep all your health and fitness information in one place on your device and under your control." All your information. This is one of the streams that quantified-self apps are traveling down—the road to universal data collection. The idea that there is a list of variables that everyone can, and should track.

The thing is, there isn't such a list. How could there be?

There is no universal set of variables that would be meaningful or even possible for everyone to track. The idea that some comprehensive self-tracking app could at some point boil down the universal essentials neglects the fact that humans are different—not just in biology, but in needs and habits and interests. Right now, as these apps are developed largely by men for men, the data they collect might seem to men to be pretty comprehensive.

"There is no universal," Boesel said. "QS is such a radical individual culture overall that you are the ultimate expert."

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