



**In Conversation with**

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## I Think it Worked Because Mercury was in the House of Jupiter!

Tega Brain and Surya Mattu in Conversation with Pablo Abend and Mathias Fuchs

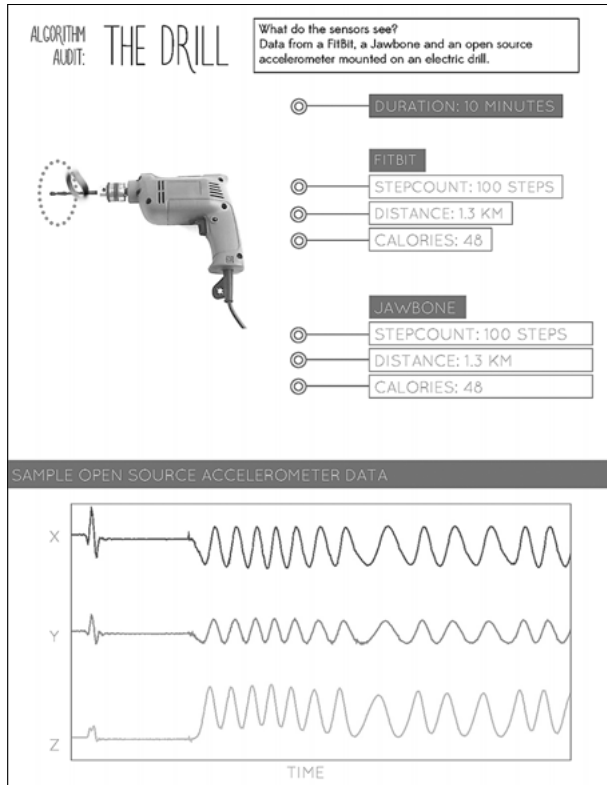
Tega Brain is an artist and environmental engineer from Sydney, Australia working at the intersection of art, ecology and engineering. She is an Assistant Professor of New Media at SUNY Purchase and also teaches and organizes at the School for Poetic Computation. She has been an artist in residence at Eyebeam, New York and a member of New Inc, New Museum. She has recently exhibited work at the Science Gallery, Dublin and at the Australian Centre for Design.

Surya Mattu is an artist and engineer based in Brooklyn. He is currently a fellow at Data & Society where he is investigating infrastructure with a focus on wireless as a way to better understand bias in technology. He is also a contributing researcher at ProPublica. Previously he has worked as an engineer at Bell Labs and is a graduate from the New York University's Interactive Telecommunications Program. He has a degree in Electronics and Telecommunication from the University of Nottingham in the United Kingdom.

**Mathias Fuchs (MF):** It seems to us that you both are knowledgeable and substantiated in the arts and in critical media. You seem to be hovering in between the arts and technology and innovation. What is your position in these fields?

**Tega Brain (TB):** I describe myself as an artist, but Surya and I both come from engineering and technology backgrounds and that very much informs our work in the arts. To me being an artist gives you the freedom to address the cultural context of technology. This is not an easy thing to do from within the field of engineering. It is often under considered within the industry and there is hardly a language to address questions of the ethical and political dimensions of emerging technologies. Predominantly now I work as an artist and also as an educator to do this.

**Surya Mattu (SM):** I am interested in exploring the implications of new technologies and I basically have three ways of engaging with them: Teaching, journalism, and also through art. Each of these provides different ways of tackling the subject matter. With teaching you go into details of these technologies and



with investigative journalism you're addressing the public. I am a contributing researcher at *ProPublica* and I am also member of *Data and Society*, a think tank that started one and a half years ago. I am trying to bring these different approaches together and I think art can accomplish this. Art doesn't require the level of detail that journalism requires, and it need not be as didactic as teaching.

**TB:** I think we are both interested in unconventional ways of discussing these ideas and that is why we made *Unfit Bits*.<sup>1</sup> It's a project that addresses questions concerning a technology like fitness trackers in a form that is open. In it we very deliberately present ideas and questions within the framework of the tech start-up, which is of course a very techno-utopian environment.

**SM:** We do presentations where we pitch data spoofing products as a start-up, with all the phrases and assumptions that characterize this community.

**Pablo Abend (PA):** ... And people can also buy your product?

1 Cf. <http://www.unfitbits.com/>.

**SM:** You can buy it, like all things on the art market. (laughing)

**TB:** I am very interested in thinking about these technologies outside the very narrow utilitarian and commercial borders that define how they are usually developed. Back during the time when I was still working as an engineer dealing with clients, I found it always very hard to ask the questions about whom certain technologies serve and what agendas they are furthering. The way Surya and I work now, broadens this scope and allows us opportunity to ask questions about how they enact power and how this could be different, we're doing a kind of eccentric engineering. Media art provides a unique context to explore, stretch and subvert how emerging technologies are deployed and this is important as unlike most traditional art practices it occurs and on a system's level, on a functional level, as well as on a symbolic level. To me it is not enough to only address these phenomena on a representational level.

**MF:** Do you consider yourselves critics from outside, or would you say you are users as well. Do you have loads of *Quantified Self* equipment? Do you do your daily tracked running miles in Central Park?

**SM:** Well I am a smoker, so that is out of the question. (laughing)

**TB:** Not at all! To be honest I am not excited about the *Quantified Self* promise at all. Even if I had all of the information to tell me what I should be doing, it does not compel me to go out and do it. The problem with the idea that data will automatically lead to behaviour change, is that it leaves out so many other constraints that influence my behaviour.

**SM:** I also don't think that more data necessarily means better decisions. If I knew everything about myself, would I be the best version of myself? No, not at all. Attempts to quantify the self through tracking are always somewhat wrong – if I can track where I have been, what does that actually say? What can be seen of me from tracking data is never going to be a complete representation of my life, because I am much more complex and individual than that. It's also important to remember that the sensors we use to measure our environment and ourselves are always biased towards picking up certain signals better than others.

For example, one thing we came across when looking into how the *FitBit* tracker does peak detection and how it determines how long your steps are, was that initially the data used to train their algorithms had all been collected from tall Western men, because this was the type of researchers who developed the system. All their algorithms were therefore biased to this data. You can't take the culture out of the technology!

**TB:** Also, as we are talking about fitness and health data, it is often also assumed that there is medical expertise involved, because these apps are labelled as *health* apps. This can be dangerous and misleading as these apps have not really come



out of medical and health research and yet they are often assumed to have this authority.

**SM:** There have been cases where people accused *FitBit* of not having used the right heartbeat monitoring algorithms and a lawsuit is currently underway about this. It's particularly interesting as if you want to use *FitBit* software you usually accept to agree for arbitration, which means

you cannot sue them for anything. The loophole that the lawyers have found in this case is that it is perfectly legal to sue *FitBit* if you bought the equipment in a store rather than on the Internet and therefore have not yet signed the agreement. So people are doing this and are suing *FitBit* for providing shitty heartbeat detection.<sup>2</sup>

**TB:** The relationship these technologies have to medicine is really interesting. I went to the doctor yesterday and of course I couldn't help asking him what he thinks about the *Quantified Self* movement. He said that he has patients who come to him with their *FitBit* statistics, and also others who come with a full diagnosis that they got from the Internet. Yet no matter how much information you have, you still need to be a very experienced, trained specialist to get the full picture of a patient's condition and make meaning out of the data. The data-only narrative is skewed and there is so much more nuanced interpretation involved in diagnosis.

**PA:** It seems people are trying to circumvent interpretation by correlation. In the *Quantified Self* movement it is all about correlation. But do you see a playful side to the *Quantified Self*? The community is tinkering with the technology and is correlating all kinds of senseless data. Is there a playful side?

**SM:** It is like astrology, it is a good way to engage people, and there is a really good playful community aspect with it that I like. But when it is assumed to be the truth, or when it is used as the truth, that's when it becomes problematic. You can use the tool if you put the investment into it and if you are honest with yourself about it, but the tool is agnostic without you.

**MF:** Coming back to your example of astrology: Do you mean that most people use the *Quantified Self* half-believing that it is not true?

2 Cf. <http://www.fastcompany.com/3055198/fast-feed/a-class-action-suit-claims-fitbit-devices-inaccurately-measure-heart-rate> and <http://www.technologyreview.com/news/543716/your-doctor-doesnt-want-to-hear-about-your-fitness-tracker-data/>.

**SM:** I come from India and my father is an astrologer. I see people coming to him asking important questions: When should I buy a house? Is X the right person for me to marry? And he gives them advice based on their horoscopes. Then they come back after a year and say: "Thank you, it helped me." Who is to say that the stars did or didn't help, if believing in them helped the individual make a difficult decision in life? And it is the same with *FitBits*. If wearing a fitness tracker helps you take better care of yourself I can see the value in that. However, that is not the same as saying the data they collect is *always* telling the empirical truth. We shouldn't be able to use them in a court of law because that could set a dangerous precedence. Believing in *FitBits* as the undisputed truth is similar to saying, I think I didn't get the apartment I was looking for because Mercury was in the house of Jupiter. (laughter)

**TB:** I mean obviously it also becomes very problematic when this data becomes conflated with finance such as when you get discounts if you share your data. It reinforces inequality and who gets to live with privacy and who doesn't. It seems like every few months an insurance company, or an airline, or a department store is launching new initiatives to try and get people to share their data. That is a big issue for us as well.

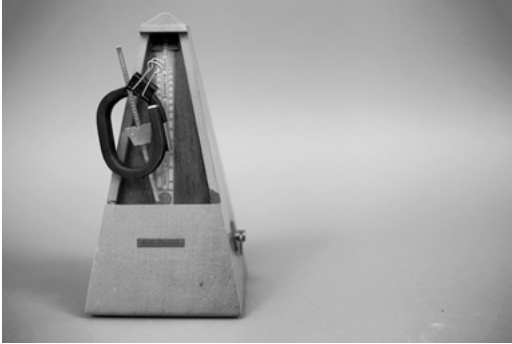
**SM:** We want to prompt people to consider the agenda that is driving all these companies encouraging us to use all these devices

**PA:** With regards to your other works, do you first look at emerging technologies and the impact on society, and then you start criticising it? Does this critical stance characterise your work?

**SM:** For me new technology always raises questions. I did a project digging into WiFi and I wanted to understand how the protocol works on a technical level and then understand the implication on a cultural level. For me, I do think about a lot of this stuff from a critical perspective and a lot of it starts off as a playful exploration. I'm always asking why do things work the way they do?

**TB:** Often the way emerging technologies are rolled out is with a sort of solutionism in mind, through the story that technology improves our lives and makes us better people. They are not typically rolled out with precaution or critique particularly here in the US at the moment. (laughter) I feel like the critique that we are interested in is really important as it points to the fact that there is another conversation here that is not being accounted for by marketing and promotional narratives for obvious reasons. I don't see





a lot of other spaces where you can start conversations about emerging technologies outside of academia. And this whole idea that technologies are political is still something that is not widely discussed in fields outside of the arts or humanities. I have come out of a civil engineering practice which is probably the most conservative flavour of engineering and in my experience, this discipline typically describes what it does as

solving problems to make the world better. The idea that technologies are inherently social and political is not readily discussed because engineers frame their activities as predominately technical. All the theory within Science and Technology Studies is unfortunately not part of a regular undergraduate engineering degree this is a problem. I think it is very important to think about ways to bring theoretical ideas from STS into commercial and industrial contexts, especially in ways that are not white papers in journals which only academics read.

I've also been very interested in the public reaction to our project and at times I am a little troubled by it. Like many artists making critical work, we claim for this project to start certain conversations and it really does. But at times I worry about the way we present it as if it is a real thing and a real company acting in that industry. On one hand this is important as it causes people to question reality and question their assumptions and ask, "Is this real? How do I feel about this? Do I want my society to be heading in this direction?" We get mentioned in *Twitter* all the time when insurance companies, banks airlines and most recently universities launch new deals involving tracking technologies. People write things like "Don't worry! *Unfit Bits* is taking care of it." I worry that articulating the appearance of resistance, encourages a certain complacency as we are giving the people the idea that someone is on it and taking care of it – someone is keeping corporate entities in check. So of course the question then becomes, how to have this type of work bolster real change and real resistance. I think we need practices like ours *as well as* traditional activism and structures that protect employees, and vulnerable communities such as unions and regulations.

**SM:** Another consistent thread in making creative works like *Unfit Bits* is that we spend a lot of time diving deep into technical protocols but then also into how these technologies impact different communities. And when we're doing this we're spending a lot of time thinking about how people can better understand these complex and often black boxed systems. It's always a process of thinking about an audience in the creation of the work. One trope we always avoid is the hacker. We don't want the people to look at our work and think "oh these guys can do it, but we couldn't do that" – and I think this is an important thing to keep in mind. An important aspect of our research is making these complex systems understandable. This is especially important since the Snowden leaks

and the public realization that we are actually living in a surveillance dystopia. We no longer need to spectacularize the sinister possibilities of networked technologies as we now know that this is the world we live in. And so recently it has become important for us to try and present work that is empowering, inviting and didactic rather than impressively technical which inevitably alienates a non-technical audience.

**PA:** Yeah, your work *Unfit Bits* is very hands on and has a very accessible DIY look to it. But when I look at your other works – for example *From The Dark*<sup>3</sup> or *What the Frog's Nose Tells the Frog's Brain*<sup>4</sup> – the question of tangibility and access becomes a lot more difficult. When you look at the visualisation or the objects, these works are not quite self-explanatory. How do you deal with this?

**SM:** That is a good question (laughs) ...

**TB:** There is a tension. As an artist you try to create spectacular things and draw attention and one way to do that is by creating technologies that have some magic in them because they are not fully explained. Yet you also want to talk about critique, empowering your audience and inviting people into conversations in different ways. And so there is a tension between these two agendas. You try to occupy the role of the expert albeit an unconventional one, but at the same time you are also what Claire Pentecost calls the “public amateur” (Pentecost 2008: 2) – someone who is learning in public and trying to educate by being a stand in for the every person. It gets complicated with technology-based practices like ours because inevitably a lot of expertise and technical knowledge is required to build much of this type of work.

**SM:** We're not trying to translate these practices into things that are existent in and of themselves and that is why the audience plays such a big part in the process. Recently I have been working on a curriculum for middle schools about the question of what the Internet is and it is really helpful to talk to people who do not live in this art and technology world because you realize that it can be quite a bubble. I am always terrified about getting so wrapped up in it and forgetting that people outside are likely to have a different interest level in this stuff.

**TB:** But it is important for us and people in this community to be doing this work outside of companies and to not be designing the next big thing for *Intel* or whoever. It is an interesting position to occupy because we have no power and thus can explore things in different ways. Artists are trusted in a way someone at *Google* might not be because we are doing our projects for different reasons.

**SM:** ... you can scream and shout and do crazy things!

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3 Cf. <http://suryamattu.com/FROM-THE-DARK>

4 Cf. <http://tegabrain.com/The-Frogs-Nose>



**MF:** But let's do a thought experiment. If the MOMA invited you to show it in a gallery room or *Google* invited you to show it in a gallery, or if *Nike* said well that is a nice thing, we want to present it in a nice white cube gallery. Would that be a possibility? Do you think you can undermine the system by working with its tools? Is it a subversive act or a statement or is it an appropriation piece?

**SM:** I think it is definitely subversion. For me this is a motivation. I am not sure how I would feel about Nike wanting it. That would be a weird conversion to navigate. The idea of it is making me uncomfortable. What I like about *Unfit Bits* is that you see it and you get it right away and it is a sign of protest. It is quite clear what the statement is and this is a good thing to engage people.

**TB:** We definitely like to show it in art contexts, mostly in galleries that are research oriented such as those within universities. The project is a little ambiguous in its relationship to the *Quantified Self* and tracking industry because it uses their aesthetics and it uses their language and this makes it less obviously activist. In many ways it is a continuation of their weird logic to a point where it becomes ridiculous – we're proposing to disrupt fitness tracking that in itself proposes to disrupt fitness! But in seriousness, this is an interesting position because I think you cannot create change by being completely at odds with someone. It is more interesting to try to get into their space and then provide a different perspective or draw attention to some of the ridiculous stories that are being told about these things. If *Nike* wanted to talk to us about it I would be excited to have that conversation because I am also fascinated how they see these contradictions and the problems afforded by the technologies they are making. Really, we should be making art for policy makers and for people who are running these companies rather than for the ambiguous general public, but it is very complicated. If *Google* came to me and said we want to commission you to do a project for \$20,000 it would be tempting but I probably wouldn't do it because it is extremely difficult to be funded by the people you are trying to critique. But then I have done work for galleries such as the *Science Gallery* in Dublin who got a million dollar grant from Google three years ago. I think you have to be transparent and honest about these issues. An important part of what we are doing is exploring our own hypocrisy because there are no black and white positions here.

**PA:** Would it be interesting for you to confront the *Quantified Self* movement directly with your critique?

**SM:** I am not really that critical of the *Quantified Self* movement because I think the movement has a bigger role. This notion that we can control our habits and our lifestyle through these sensors is really interesting as an experiment and I hope the people keep doing that. It is an interesting study of how people interact with technology. For me the bigger problem is the claim – and I have to come back to this – that the technology is telling the truth and that there are no other consequences of *Quantified Self* for society as a whole than positive ones. The

scary trend coming from tech companies right now is *AirBnB* saying they are only a platform and they are not a rental service, *Uber* claiming it is not a taxi service but a platform. The conversation that is happening a lot in the field of new technologies is one of disruption and what this actually means is a lack of accountability. Industry is using networked technologies to try to sidestep existing checks and balances and this is the criticality I would like to focus on.

**TB:** Part of the problem is that all the risk; the risk of this data being used in the wrong way; the risk that it will be used in different and yet unknown ways in the future or the risk for people's privacy. All this risk falls to the individual and there are no consequences for the entity involved. This is part of the problem with these tracking programs. These devices and their data further already starkly asymmetrical power relationships. For example, say my health data is available to my employer and that it plays into decisions regarding my future employment, this is a problem particularly as I may not even get to know that this is happening.

**SM:** We are getting to the point where everyone agrees that we need more transparency concerning the use of the data and that this cannot be just a business secret. Before we can actually explore how bad it is we need access to what is actually happening because this is getting harder to know. It's like crystal ball gazing with the lights off. Until we have more transparency on how the datasets companies collect are being used, trying to find the effects of the bias in technology remains a bit of a vision quest.

**PA and MF:** Thank you for the conversation.

## References

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