

To: Jeffrey.Einstein[eevacation@gmail.com]
Cc: [REDACTED]
From: Joi Ito
Sent: Thur 1/2/2014 5:57:08 PM
Subject: Re:
[signature.asc](#)

Thanks Jeffrey. Jeffrey was talking about you in the context of Bounded Rationality which relates to an ongoing conversation I've been having with him. I was digging through old email and I found the following.

Now that I'm at MIT, I'd love to reconnect and see how your thoughts have evolved in the last decade and share some of my thoughts.

- Joi

On Mar 23, 2004, at 9:53 PM, [REDACTED] wrote:

> Dear Joi,
> Unsurprisingly, it has taken me a long time to try to construct
> a more precise model of tradeoffs between money, energy, information,
> love, etc. (Unfortunately, I have lots of work to do for my day job.)
> Here you go, though. Much of this will be impressionistic. I'll
> flag with a * the things that are mathematically precise or can
> be made so (I won't put in any math, though!).
>
> I would like to make more precise the part of
> our conversation that had to do with narrative. You made the point
> that classical economics is based on a rather bald and unconvincing
> narrative (to paraphrase Bertie Wooster) that the only thing that is
> good is money, and the only thing better than money is more money.
> Only a very few obsessed people operate with this principle as the sole
> basis for their narrative, however. Most folks construct a narrative on
> which to base their behavior out of a variety of different principles and
> 'sub-narratives.' (Mind you, I'm a little uncomfortable with the word
> 'narrative' itself: I may have mentioned to you during our conversation
> that I was negatively impressed with a remark that Edward Said once made
> to the effect that 'The problem of the Palestinian people is that they
> don't have a narrative.' Perhaps more to the point, they don't have
> food or land or schools.)
> But the stories we tell ourselves do form the basis for the
> decisions we make: this is where classical economists fall down in
> thinking that decisions are made with only money in mind. And in fact,
> if we look upon narratives as the basis for the thought process behind
> the making decisions, then there is quite a lot of mathematically
> precise stuff that can be said about them.
>
> Suppose that someone (a person, a dog, a computer) is faced
> with a yes-no question: Do I buy this suit? Do I pee on the rug?
> Do I crash? (I'll let you decide who asks which question.) To
> make any such decision requires weighing a number of factors, or inputs,
> in the process of making the final decision. For example, I need a suit,
> but I don't have much money this month; I like dark suits and this is on
> the light side; on the other hand, the geometric pattern is great; such
> a suit is unlikely to show up again. Or: I really need to pee, but I'll
> get in big trouble if I do it on the rug. Or: I am overwhelmed with
> conflicting requirements and many tasks to be performed simultaneously;
> is there a way I can find to schedule them, or not?
> One can think of the reasoning process that goes into
> attempting to make a decision as the process of constructing a

> reasonable narrative whose conclusion is the result of the decision.
> (E.g., I can't make it outside in time, so the rug it is.)
> From the perspective of the person making the decision, the conclusion
> to the narrative (the yes or no) is not determined until the narrative
> itself has been constructed. (From the perspective of someone else,
> of course, the narrative may have a foregone conclusion. That damn dog:
> it always leaves it until too late. Stupid computer! Seth is incapable
> of buying a suit.)
> This feature --- the being that makes a decision can not in general
> know the answer beforehand --- is a reflection of a mathematical fact:
> * no physical system, whether human, computer, or dog, can model its own
> full behavior any faster than the behavior itself. One can construct
> fragmentary, incomplete models of oneself that capture some aspect of
> one's behavior. But to construct a full model of oneself requires at
> least as many physical resources (atoms, energy, time) as one possesses.
> In other words, the only complete model one can make of oneself
> is oneself itself.
> This self-referential conclusion is the basis for
> a number of famous mathematical theorems, including Goedel's
> incompleteness theorem and the halting problem. But its primary
> expression in everyday life is the undecidability of decisions
> before they are made.
> What does this have to do with the existence of conflicting
> narratives? Well, one of the main reasons that a classical economist
> makes a highly oversimplified model of human behavior is to render
> that behavior predictable within the model. Once one takes into account
> love, religion, a sense of duty, sheer orneriness, and the rest of
> the sub-narratives and features of human existence out of which we
> construct our behavior and which form the basis for our decisions,
> then not only can we not predict what we're going to do, we can
> predict hardly any human behavior at all.
> Indeed, I think that it can probably be established mathematically
> that *any theory that is sufficiently simple to allow the easy prediction
> of human (or animal, or computer) behavior, is too simple to be predict
> that behavior correctly; and *any theory that allows the correct
> prediction of behavior is sufficiently complex that its predictions
> cannot be evaluated in a closed form. This is basically a consequence
> of Goedel's theorem: mathematical theories have a threshold of complexity;
> once you're above the threshold, the theory contains statements that are true
> but cannot be proved to be true, statements that are false but cannot
> be proved to be false, and statements that can be taken equally to
> be true or false, with no proof either way.
> In the case of human behavior, this intrinsic undecidability
> arises from the construction of narratives out of a variety of different
> subnarratives and inputs; many possible self-consistent narratives can
> be constructed from what one knows and what one believes. But these
> different narratives, though each internally self-consistent, need
> not be consistent with each other. Indeed, the different possible
> narratives thus constructed can wildly contradict eachother and lead
> to radically different conclusions.
>
> OK, that's probably enough abuse of mathematics in the service
> or disservice of social observation for today. I hope that you are
> doing well and look forward to having lunch again one of these days.
>
> Yours,
> Seth

On Jan 3, 2014, at 02:50 , Jeffrey Epstein <jeevacation@gmail.com> wrote:

> seth ,joi, i think you two will like each other
>
> --
> *****
> The information contained in this communication is
> confidential, may be attorney-client privileged, may
> constitute inside information, and is intended only for
> the use of the addressee. It is the property of
> Jeffrey Epstein
> Unauthorized use, disclosure or copying of this
> communication or any part thereof is strictly prohibited
> and may be unlawful. If you have received this
> communication in error, please notify us immediately by
> return e-mail or by e-mail to jeevacation@gmail.com, and
> destroy this communication and all copies thereof,
> including all attachments. copyright -all rights reserved
> seth ,

--
Please use my alternative address, ji@media.mit.edu to avoid email auto responder