From:	Joichi Ito ███████████
Sent:	Saturday, June 6, 2015 1:39 PM
To:	Jeffrey Epstein
Subject:	Re: Direct Germans

Maybe this is too microscopic, but Ed's work on ground-truthing =cience - the physics behind the biology and Shuguang's work in =nderstanding membrane proteins will probably help us understand =ellular communication including the use of proteins and possibly other =orces like magnetics and electrical and more crazy things.

I was remember the picture you had about the cells communicating as an =odel of "pricing" of "value". The thing =s that the cells communicate and transact using proteins that interact =ith cells via membrane proteins. We have only discovered 500 membrane =roteins so far and the human genomes encodes for 8000 of which we only =ave discovered 20. I'm not positive, but I think understanding =hese membrane proteins will unlock a bunch of really interesting =etworks of communication both in the brain and between human beings =hat we don't understand yet. Shughuang has part of the key, =hich is a way to identify these non-water soluble proteins using what =s called a QTY conversion. Not sure if you're interested, but =hen we meet next, I should sit down and explain it to you if you =on't already know. It's pretty fascinating. In addition =o figuring out how cells signal and how the networks of proteins in our =ody work / environment work, this also unlocks many of the secrets to =mells.

I din't know this but it turns out that we have 5-10 different =embrane proteins per "odorant" that detects little =arts of the bigger odorant molecule and they do this very fast. Each =embrane protein senses part of the structure and they create an =eurological signal based on this pattern and we figure out the smell =A6

And the company we invested in, O2H is called O2H because the key to =nderstanding membrane proteins is to make the non-water-soluable =embrane proteins, water-soluable by converting the certain amino acids =hich retains the structure but changes the solubility so O2H is sort of =E2 water reversed". O2H has all of the commercialization =ights to this field of study.

But... more broadly...

there is one sort of random "sense"... it turns =ut that we have a cluster of nerves in our optic nerve that only sense =lue light that sets our circadian. That's why they say blue =ight affects mood and jet lag. These nerves have nothing to do with the =erves that we "see" with.

We know for a fact that magnetics and electrical signals affect the =rain so I'm sure we can "sense" these.

Have you heard of people who put super-magnets in their fingers to sense =etal?

███████████████████████████████████

Tenzin would probably have some good thoughts on this.

I also have a very smart guy who is trying to convince me that this =orks:

███████████

- Joi

> On Jun 6, 2015, at 8:49 AM, jeffrey E. <jeevacation@gmail.com> wrote:
>
> my question , for today is how many senses to we really have.? . =hat are their ranges.   do we sense infrared. without awareness. . =torm brewing etc.
>
> On Sat, Jun 6, 2015 at 8:45 AM, Joi Ito███████████ wrote:
> I remember Martin asking me some question about why Asians don't=say answer things directly.
>
> Here's sort of an answer to the opposite question. :-)
>
> >> http://www.quora.com/Why-are-Germans-so-nosey/answer/Yves-Granger
>
> - Joi
>
>
>
> --
>   please note
> 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
> JEE 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

```
<?xml version=.0" encoding=TF-8"?>
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
<plist version=.0">
<dict>
        <key>date-last-viewed</key>
        <integer>0</integer>
        <key>date-received</key>
        <integer>1433597946</integer>
        <key>flags</key>
        <integer>8590195717</integer>
        <key>gmail-label-ids</key>
        <array>
                <integer>22</integer>
                <integer>2</integer>
        </array>
        <key>remote-id</key>
        <string>512731</string>
</dict>
</plist>
```