Re: Sentience

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From: André Thieme (*address.good.until.2004.jun.05_at_justmail.de*)
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Coby Beck wrote:

>>>I can do that.
>>
>>Where does the energy come from to do that?
>
> Well, from the Big Bang ultimately. Before that is a more difficult
> question!

I should have been more specific...
I meant:
the molecules in your brain are following the "laws of nature" and therefore it is (aside from the random part) certain where they have to move in the next moment. If it is always certain where the molecules will be in the next moment then it is already certain for any amount of time. The shorter the period of time we are looking at, the more probable our prediction would be, as the random behaviour of molecules have less possibilities to work. Anyway, if it is determined how the molecules will move we cannot have a free will. So to have one we would need to be able to influence the flow of molecules in our brain, because a specific state of molecules means a specific thought/action of us. As we need to move the molecules in our brain into specific states we need energy to do so. Although molecule X should move to the "left" it needs to fly to the right side to allow us to think about a special thought or to start some specific activity. We first need to break the "laws" of normal behaviour (the molecule should fly to the left) and we need some extra energy for doing that. And we can not use the energy we are usually using for making the brain work, as exactly this energy forces the molecule to fly to the left.

>>What is it that enables our brains to act completely different (not
>>following the "laws of nature") than the rest of the universe?
>
> Well, I don't think they do. We just need much more intricate "laws of
> nature" if we wish to describe these things in those terms.
>
> I'm reminded of some article or discussion where it was described how
> applying what we know of cosmology and physics to our best understanding of

> the very early universe (ie fractions of a second old) resulted in the
> shocking notion that the probabilty of the very existence of life at all was
> 1 in 10^(very big number). Interesting to contemplate, but rather than
> being overwhelmed by the philisophical implications of such an idea,
> shouldn't we think that there is an even higher probability that we don't
> know everything yet?

I agree here. What we call laws of nature are only some tries to describe what happens around us, which of course has some mistakes as we cannot ask the universe every question.
Perhaps there really is an objective world out there. I don't know, I suppose yes. Anyway, I am certain that we will never know what really is the source of everything, so for us the universe will always stay in a relative way.

>>Nope, because, if you see a pattern it means that (if you know the
>>pattern well enough (which is not possible because this issue is too
>>complex (which does not mean that magic is involved))) your behaviour
>>was predictable.
>
> But this is the essential concept of the uncertainty principle, it is not
*> that "if only we had accurate enough measurements" it is that there *is* no*
> precision. So it is not that it is so complex we can not model it precisely
> it is that there is no precision.

Obviously we have some determined part inside us. The uncertainity of the universe has not an overly big effect on us, as we don't act very randomly. Imagine how crazy the world would be if only 2% of our behaviour would be controled by quantum mechanics. The randomness which comes from there has only an extremly low impact on us.

The determined part of our brain offers no room for a free will, as this part would then no longer be determined.
But as I pointed out even the random parts, the last chance where free will could hide, does not offer us this room. Even if it would, it would mean that the impact of our free will influences us to less than 1% I guess. The sad thing I see is, that we don't even have this 1% of free will, at least when looking at it from a very deep level, from the base of molecule movement in our brain.
If we had a free will it would mean that we can control the random increases of energy in same parts of the brain, some particles that exist for short moments etc. But if we would then use the control to do something specific it would no longer be random. The uncertainity principle would no longer be in effect as we could exactly measure a particle. With our free will we could force it to be exactly observed.

>>At least a billionths of a second before you took your
>>coffee it was already certain that you will take it. Lets call it state
>>X of your brain. A billionths of a second before it was certain that in
>>a billionths of a second later your brain will be in state X, etc...
>

>
> *> The naughty bits are somewhere in the cause of biochemical fluctuations and*
> *> all the firing of neurons, not in the actual motion of the matter.*

The question is how a neuron is built up. I suppose it also is built up
out of some basic matter (which we understand). These basic parts which
are easy to understand if we look at them alone get some new abilities
as soon many of them are mixed and get organized in some specific pattern
(for example in a neuron). The firing is also some electricity which
also consists of quantum particles, mostly electrons.
For our constricted mind it is of course not possible to understand the
functionality on such a basic basis. But I guess that in 100 years, when
some ultra intelligent computers exist there are ways to come closer to
such an understanding.
(if these computers will exist *g*)

>>Of course, when looking at the issue of a free will from a macroscopic
>>point of view then we have one. Anyway, if we go deeper and deeper and
>>look more into it, then I personally am not convinced anymore, that we
>>really have the ability to do "magic". Magic here means do things which
>>should be impossible, for example forcing some billions of molecules
>>into some specific states by creating energy out of nothing and using it.
>
> Don't you think it is magic that particles can appear out of absolutely
> nothing, even if they don't live long? They can, and do, according to
> quantum mechanics. Life is just a bit more of that magic.

It looks to me like magic too sometimes. I am even "shocked" that I can
use my mobile phone to send sms. How can the antenna which is hundreds
of meters away from me "know" what text I typed on my phone?
And then it even starts to do something, so that another phone, hundreds
of kilometers away also knows what I was typing.

Anyway, from a less emotional perspective I must say there is no magic
involved. Either everything is magic or nothing I would say.

>>>Honestly, I enjoy as much as the next guy philisophical discussions
>
> about
>
>>>"fate" and "free will" but trying to scientifically reason away your own
>>>ability to think and to chose is madness.
>>
>>My arguments are much, but not scientific. However, for me they sound
>>very logical. I see little building tools from which the universe is
>>made up. Like some very basic (and orthogonal) functionality like Lisp
>>offers. It is easy to understand them as a single concept. And when we
>>start to build some complex structures by combining these basic (small)
>>concepts we get something more complex which is still easy to understand.
>>I see the smallest biological organisms and their highly algorithmical
>>behaviour, so that no scientists says they think.

>
>
> It is no more algorithmical than our own behaviour when analyzed as a
> sufficiently large group. I don't agree with this. But they do live, I
> think we would all agree with that. Yet can any scientist really describe
> what the essential difference is between a live ameoba and a dead one?

Very good question, I don't know the answer (I guess you know that they
can't tell it?). In fact there are so many things we need to learn.

>>So if there are only
>>very small life forms, they can't think and therefore have no free will.
>
>
> Well, I don't know. If one can not predict which direction the ameoba will
> swim next isn't it "chosing" at some level?

If you say "at some level" I have no problem at all to agree.
Also we humans have a free will, when looked at from our macroscopic level.
My mind does not offer me to see what really happens, deep in my mind
with it trillions of particles in it. For me everything looks as if I
want it.
From this perspective also our computers will have a free will. I
suppose they will be very sad if you tell them that they have not one
and they will probably start to argue with you and find so good
arguments, that they will convince us they have. Even todays computers
could "think" about themselves that they have a free will. If I let it
run in a for loop and count until 1 billion it could be interpreted that
the machine has the extremly strong need for starting to count to 1
billion :)
As soon it stops it is no longer motivated to count. In fact, it might
be very interested to not count again. But then I start the for loop
again and suddenly an unresistable motivation comes up in my machine and
it begins to count again, while not knowing where this feeling is coming
from − for the machine it looks like the free will... it /wanted/ to
count.

Of course, this is a very abstract level to look at the programs of
todays complexity. Although I must say that I regard some programs as
intelligent.

>>Now the brain (the Lisp program) becomes bigger and bigger and our short
>>time memory can no longer hold all necessary information about the issue
>>at one time − things starting to look more complex.
>>If someone would look at a Lisp application which counts maybe 700
>>trillion lines of code it would surely not be an easy task to understand
>>it.
>>
>>Perhaps my thoughts about free will have an emotional nature. I want
>>that "real" artificial intelligence is possible and therefore create my
>>own ideas about how the mind works and put it in a way how I like it

>>more, just to feel better. If we really have a free will, then I see not
>>many chances to transfer it to a computer.
>>Anyway, I am very convinced that this is possible.
>
>
> I too, like to believe it is possible.

I am so much hoping it and convinced about it that I will spend very big parts of my life for working towards this goal.
Interestingly AI several times has been a reason for me to look out for new programming languages. I read about this strange "Lisp", but it was too old for me. I wanted a modern language. Then over some other ways (Paul Graham for example) I stumbled again over it and this time decided (with my free will (hey *g*)) to spend time with it. I am so impressed that it already is my favourite language and I am sorry for having been such an idiot, not trying it earlier when I heared about it.
Anyway, mistakes from the past are corrected now, and this is a good thing.

André

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