

Re: Turing Machines and Physical Computation

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JXStern <JXSternChangeX2R@gte.net> writes:

>OK, I passed on the hard question, what is the "subject" of the number
>three? Well, lots of smart people have expended a lot of hot air on
>that topic. Is there a three-ness, abstract or concrete, which is the
>subject of the symbol 3 as it is commonly used? I don't know.

I would think that a "three-ness", if you believe in such things, should count as an essence. Yet you have stated that you reject essentialism.

> Individual bits tend to lack such meanings,
>as do individual letters, although both in aggregate tend to acquire
>meaning in larger granularities.

Is the meaning an attribute of the symbol, or of the user of the symbol?

> Is the 3 in the number 32 the same
>as when it stands alone?

The numeral "3" in "32" is the same as the numeral "3" used to represent the number 3. But this is why people make the distinction between numerals and numbers.

Perhaps we could say that the number 3 is the subject of the numeral "3" when that numeral is used in certain ways. But it wouldn't tell us what is the subject of the number 3. I suppose you could say that the number 3 is its own subject.

But this seems to require something like platonism. As a nominalist, I had presumed that you denied that there were numbers, and allowed only numerals. Personally, I allow the number 3 to exist, but only as a convenient fiction. This is weaker than platonism, but perhaps

a little stronger than what I took to be the nominalist view.

*> I'm not sure such questions are valid. But,
> before a mark constitutes anything interesting, it must have a
> subject, I stand by that.*

The subject does not need to be a property of the mark. Rather, the interested agent can ascribe a meaning, and be interested in the mark because of its usefulness to carry that meaning. But the meaning isn't really a subject of the mark.

*>> A considerable amount of mathematics is done with symbols for which
>> there is no subject. In fact, this is important, for it allows us to
>> express general results. Later, we can interpret for particular
>> subjects, but we can often prove the result without there being a
>> subject.*

*> I want to dogmatically deny that. Now, let's see if I can. Some
> genius works out in the abstract that $2+2=4$.*

That's a poor example. Instead, consider the quadratic formula,

$$[-b \pm \sqrt{b^2 - 4ac}] / 2a$$

Here the symbols "a", "b" and "c" have no subject, and the usefulness of the formula (i.e. its generality) depends on them having no subject.

*>> We can predict and control our computers to very high degrees of
>> accuracy. The idea that we are lacking an explanation seems
>> confused. If philosophy has difficulty accounting for computers,
>> that only reflects on the inadequacies of philosophy.*

> Show me a computational AI at work, and I'll grant your point.

That seems to be non-relevant. I agree that we are lacking an explanation of intelligence. And a working computational AI system might help fill that gap. But the lack of explanation is not in either computation or in computers.

*>> Perhaps the concept of "computation" seems elusive, but the
>> computers themselves should present no problems.*

*> I've used the metaphor before, but people made fire for years without
> really understanding heat and energy and oxidation and such, but if
> you want to build fancy, complex systems, you really do need such
> science.*

However, people could neither control nor predict fire very well. Now, with our better understanding of heat, energy, oxidation, etc, we can do far better at prediction and control.

I don't think that a useful analogy for "computation".

> *We're at the rubbing two sticks together stage still in
> computation, and I look to philosophy as the missing element –*

Sorry, but I disagree.

> *In the area of computation, language, and
> cognition, I think the discipline will always be more philosophical
> than deductive. Tune in in fifty years and see if I'm right.*

You might be right about language and cognition. But you are wrong about computation.

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