

Re: Turing Machines and Physical Computation

Source: <http://sci.tech-archive.net/Archive/sci.math/2004-12/0238.html>

From: JXStern (JXSternChangeX2R_at_gte.net)

Date: 11/21/04

Date: Sun, 21 Nov 2004 22:09:05 GMT

On Sun, 21 Nov 2004 21:54:26 GMT, "Stephen Harris"

<cyberguard1048-usenet@yahoo.com> wrote:

>*One can change "emulating programs" to emulating machines without error.*

Agreed.

>*I think he means in comparison to Finite Automatas which have*

>*a finite limitation that Turing Machines do not. FAs do not have*

>*the same computational power as TMs meaning a UTM.*

He should say what he means.

As should I, I suppose.

Perhaps what I am interested in is a class on the fuzzy boundary between FA and UTM, large FA's, equivalent to this here machine I am typing on. I suspect many others would be interested in this same class, if indeed it is distinguishable in principle from either smaller FA's or UTMs. I suppose it is distinguishable, but perhaps not interestingly so.

><http://plato.stanford.edu/entries/turing-machine/>

>*A Turing machine is a kind of state machine.*

>*Turing machines are not physical objects but mathematical ones.*

Fascinating, a non-physical state machine.

I'm a big fan of SEP, but I believe the idealist interpretation they give Turing machines in several articles is inconsistent with what Turing wrote, and inconsistent with what he wrote about.

>*These two assumptions are intended to ensure that the definition of*

>*computation that results is not too narrow.*

OK, and let us also worry that it not be too broad.

J.