Godel's Incompleteness Theorem and Turing's Halting Problem

Consider a function machine with a single input n and output C(n)

$$n \longrightarrow \boxed{C} \longrightarrow C(n)$$

Now consider all possible machines $C_1\ C_2\ C_3\ \ldots\ C_q$

$$\longrightarrow \boxed{C_q} \longrightarrow$$

Some of these machines may not ever stop for some input so we need a checking machine

$$n,q \rightrightarrows \boxed{A} \longrightarrow A(q,n)$$

A(q,n) is a hypothetical machine to weed out bad entries.

(for example we could have asked for n even numbers that add to an odd number)

(we could have asked for a solution to $a^n + b^n = c^n$ *which won't stop for n>2)*

Suppose A(q,n) to be the ultimate super computer.

It has the knowledge of all mathematicians.

We're not asking that this super computer solves every problem.

But we are asking it to identify which problems do have solutions and which don't.

but is it "smarter" than all the mathematicians?

Let's See

Now set q = n

So we are only interested what happens when each machine is inputted its own number.

So machine A(n,n) must be a C machine because it only has one input

$$A(n,n) = C_?(n)$$

Which machine is it. Let's say r^{th} machine

$$A(n,n) = C_r(n)$$

And finally we consider what happens when that machine has input n = r

So our ultimate checking machine A(r,r) stops when $C_r(r)$ doesn't stop.

But they are the same machine.

So it can't stop because then it would stop!

So we know something the machine doesn't know. It won't stop

The super-computer can easily be fooled into trying to solve an impossible problem.

So we know more than the ulimate super computer. Why?

Because our consciousness always allows us to step outside the "system"

So where does our consciousness come from if not from the physical wiring of our brains?

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