Re: Platonism

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"robert j. kolker" <nowhere@nowhere.com> wrote in message news:<VfMsd.149519$5K2.120122@attbi_s03>...
> *patty wrote:*
> >
> > *I don't know if its totally accurate to say that mathematics is not*
> > *empirical. Once you make a construction, you subject it to tests. If*
> > *the tests fail, you reject the construction. What is your criteria for*
> > *being empirical ?*
>
> *Measurement and observation vs formal deduction. Essentially all*
> *mathematical proofs are tautologies. The same is not true for*
> *empirically true statements.*
>
> *It is empirically true that the washington monument is 555 +− 1 foot*
> *high. No logical contradiction would be entialed if it were only 500*
> *feet high. An empirically true statement just so happens to be true. A*
> *logically true statement is necessarily true.*

I think you are overlooking the fact that depicting the axioms are of a quite empirical nature. You think of an axiom, and then you put it to the test, to see if it's accepted by the mathematical community. (Regardless of whether there is any "reality" to its truth!)

Plus, you should not overlook the "logical depth" of a proof, which may sometimes be non−trivial! It takes ages to find all the interesting theorems in a formal theory!

And a third point: you should consider what it means for a theorem to be interesting. Again, that's an empirical process that does not explained by the fact that (the truth of) a theorem is, formally, a reduction to (truth of) axioms!

The first is in fact a point made by none other than Godel to support his brand of Platonism, however, it is independent of Platonism objectively speaking. By the incompleteness theorem, you can't reduce mathematics to "a=a", that is why you have to admit axioms of greater complexity. This is best exemplified in work of Chaitin: ZFC explains

only so few facts about the halting problem.

Regards,

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Eray Ozkural