Re: Godel's comments about the "true reason" for incompleteness

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- *From*: MoeBlee <jazzmobe@xxxxxxxxxxx>
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On Mar 21, 1:45 am, "R. Srinivasan" <sradh...@xxxxxxxxxx> wrote:

> > > Now think of the following situation. Let us add P&~P−−>Q
> > > (and only
> > > this single sentence, where P and Q are arbitrary) into the
> > > language
> > > of PA,
>
> > That makes NO SENSE! You don't add just a SENTENCE to a language.
>
> Of course you can.

Not for ordinary first order languages such as we are discussing, such
as for first order PA.

You can add SYMBOLS to extend a language, but the definition of
'formula' (of which the set of sentences is then defined as a certain
proper subset) is INDUCTIVE so once you add a symbol you add NOT just
one sentence. The notion of adding just a single sentence to a
language is ludicrous.

> If you do you would have gotten an inconsistency.

We don't add JUST a SINGLE SENTENCE to a language, as I explained
above.

> And that is what Godel indirectly did. He managed to add a sentence of
> the form P&~P−>Q to a first−order language (via an indirect
> transalation procedure) but did not change the logic or its principles
> of proof.

No, he didn't. We can add symbols to a language, thus extending a
language to a new language, either conservatively (through
definitions) or non−conservatively. But we don't add just a SENTENCE
to LANGUAGE. If you think Godel did, then please be specific.

> So that I can communicate at all with you, please tell me what basic
> textbooks in mathematical logic you ordinarily consult. Because a
> notion such as adding just a sentence to a language is so whack that I
> need to be able to refer to the appropriate sections of a textbook to
> get your straightened out about such basics before we can productively
> continue.

> I said if you did that, you would get an inconsistency.

Nevermind CONSISTENCY here. This has to do with LANGUAGES even ASIDE
from theories. You CAN'T add just a sentence to a LANGUAGE. Get it
through your head: The set of formulas for a language is defined
INDUCTIVELY, so when we add a SYMBOL we get not just one sentence
added.

> What I was
> trying to convey to you is that such a thing is not possible without
> changing the logic.

It's not POSSIBLE AT ALL.

> But Godel did that through the back−door.

Godel didn't use any "doors" − back, trap, Dutch or otherwise − to add
just a sentence to a language.

> If
> P&~P−>Q has been translated to a formula S in the
> first−order language
> of PA, and if PA proves S, are you denying that PA has
> *effectively*
> proven itself consistent?

> OF COURSE I deny that! It's ridiculous! A theory doesn't prove itself
> consistent just for proving a particular TAUTOLOGY!

> Read what I have written above. You dont even begin to understand what I am talking about.

You asked me the question (where S is a certain tautology) "if PA proves S, are you denying that PA has *effectively* proven itself consistent?"

If I understand that question in ordinary English, then it's a STUPID question.

A theory does not prove itself consistent just by proving some tautology!

> A first−order theory does not prove *the* tautology, P&~P−>Q. There is no such thing as "THE" tautology.

No, THE tautology S that you mentioned!

> Again, do NOT read a book on logic. You have missed the forest for the trees. Here it is again. NO first−order theory proves any sentence of the form P&~P−>Q or ~(P&~P), etc. because these are sentences with variables in them.

I am the person here who first mentioned that. Why are you repeating over and over to lecture me on a disctinction that *I* was so forceful to make in the first place and have adhered to all along?!

> You are right when you say that "There is no tautology in the language of a theory that is not a theorem of the theory". Because all tautologies are theorem schemes, not theorems,

WRONG WRONG WRONG. A tautology is a formula that is tautologically valid. And every theory has as theorems all sentences of the language that are tautologies.

> and are metamathematically true,

They're LOGICALLY true, thus, a fortiori, mathematically true.

> in the sense that first−order
> theories cannot recognize the existence of a schema (or sentential
> variables). Again: First−order theories can only prove all instances
> of tautologies

No, the theory proves all TAUTOLOGIES in the language of the theory, thus all TAUTOLOGIES that are instances of a schema of tautologies of the language.

Meanwhile, you've made no point about anything in this exchange. And in this exchange you've shown no "forest" that your great vision has seen but not seen by me or by anyone else half way familiar with this subject.

MoeBlee
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