

Re: Godel proved maths inconsistent not incompleteness theorem

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- *From:* Charlie-Boo <shymathguy@xxxxxxxx>
 - *Date:* Tue, 6 May 2008 19:26:42 -0700 (PDT)
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On May 6, 5:20 pm, herbzet <herb...@xxxxxxxx> wrote:

Charlie-Boo wrote:

On Apr 28, 7:56 am, David C. Ullrich <dullr...@xxxxxxxx> wrote:

On Sun, 27 Apr 2008 11:23:52 -0700 (PDT), Charlie-Boo <shymath...@xxxxxxxx> wrote:

[...]

If you want to know the truth of the matter, any programmed implementation of CBL will use only one symbol for both "implies" and "subset", as there is no ambiguity and they are the same principle. In fact, there is no reason to distinguish between a set and a predicate.

Oh my god.

I wrote: Implies and subset are the same principle. There is no reason to distinguish between a set and a predicate.

You wrote: Oh my god.

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Bertrand Russell wrote: In any symbolic expression, the letters may be interpreted as classes or as propositions, and the relation of inclusion in the one case may be replaced by that of formal implication in the other. – Principles of Mathematics

Yes, this appears in

<http://fair-use.org/bertrand-russell/the-principles-of-mathematics/s13>

to which I gave the link a few days ago in

news:48180F8C.364310BD@xxxxxxxxxxx

You're welcome.

Were you as alarmed when Bertrand Russell said it as you were when I said it? Or is it merely a blind condemnation if I say it, and blind praise if a professor says it, with no mathematical significance?

Russell also writes there:

"The symbolic affinity of the propositional and the class logic is, in fact, something of a snare ..."

Did you read that far?

I read it but I also understood it. Russell wrote earlier in that same paragraph:

If p , q , r are propositions, and p implies q or r , then p implies q or p implies r . This proposition is true; but its correlative is false, namely: If a , b , c are classes, and a is contained in b or c , then a is contained in b or a is contained in c .

So he is saying that an expression (relation) over propositions $E(p,q,r)$ may be true for all propositions but the same expression over arbitrary classes a,b,c that is, $E(a,b,c)$ might not. That is because he is saying that propositions are only zero-place so we have some expressions that do not hold for classes which are one-place or more.

But we are not talking about taking an expression that is true for all propositions and claiming that it is true for all classes. We are not talking about whether an expression is true for all values of its variables at all. We are not replacing zero-place propositions with arbitrary one-place or more classes at all.

We are talking about taking an expression that is true of some

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particular propositions and replacing each proposition with the class containing the same elements that hold for that proposition. If propositions are zero-place as he requires, we would substitute the empty or universal class and the corresponding $E(a,b,c)$ would in fact hold.

That is, if A, B, C are each $\{ \}$ or $\{ \text{everything} \}$ and $A \subset (B \cup C)$ then in fact $A \subset B$ or $A \subset C$. (If A is empty then $A \subset B$ regardless of B , and if A is everything then B is everything or C is everything.)

Once again, he who lives by the sword.

Also from Principles of Mathematics:

"This seems to show that formal implication involves something over and above the relation of implication, and that some additional relation must hold where a term can be varied."

Russell thus distinguishes implication from formal implication.

Russell is talking about the difference between,

Socrates is a man implies Socrates is a mortal.

and,

Socrates is a man implies Socrates is a philosopher.

He asks, they are both true, but what can we replace the word Socrates with?

BR: We should start with our whole proposition, Socrates is a man implies Socrates is a mortal. , and vary Socrates in this proposition as a whole.

however,

BR: We have Socrates is a man implies Socrates is a philosopher. but in this proposition the variability of Socrates is sadly restricted.

So he is pointing out that if we have a particular P, Q and k where $P(k) \Rightarrow Q(k)$ then sometimes we can generalize that to $(\forall x)P(x) \Rightarrow Q(x)$ and sometimes we can't.

However, we are not talking about generalizing some $P(k) \Rightarrow Q(k)$ to $(\forall x)P(x) \Rightarrow Q(x)$ at all, and that distinction is of no consequence. It is only a philosophical pondering of the difference.

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Does CBL distinguish the relation of implication from that of formal implication?

What is the difference and how is that relevant? (Hint: See above.)

Which of the two does the symbol " \Rightarrow " denote in CBL? How is the other denoted, if at all?

The correspondence remains until someone points out a statement that is true in one form (proposition/implication vs. set/subset) and not the other. (Norm tried but failed.)

C-B

What you are describing is the unfortunate fact that Logic and Set Theory are distinct branches of Mathematics, when in fact they are the same principles with only slightly different "interpretations". There is a parallel between the two – the theorems are generally in one-to-one correspondence e.g. Demorgan's Theorem, Double Negation etc. apply to both sets and propositions.

I am not about to make the mistake of using different symbols when saying $\sim(P \wedge Q)$ is equivalent to $(\sim P \vee \sim Q)$ when P and Q represent sets vs propositions. I don't even distinguish between the two.

Yes, I don't do it the "standard" way. The standard way is wrong – it is poorly designed. Saying that something is wrong if it isn't the same way that it has been done in the past is not a sound principle of system design. It is an impediment to making improvements.

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C-B

[...]

> QED
Therefore the system is not
both consistent
> and complete.

By the way, you haven't
defined "system", so the
claim of your theorem
is at best ambiguous,
because it isn't true for all
systems.

As in any discussion of Metamathematics, it
holds for any system that
meets the axioms.

Classical
propositional calculus is a
system, and it is both
consistent and
complete, contradicting your
conclusion.

Propositional Calculus doesn't satisfy the
axioms.

[...]

> Einstein said,

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> "The skeptic will say, 'It
may well be true that this
system of
> equations is reasonable
from a logical standpoint,
but this does not
> prove that it corresponds
to nature.' You are right,
dear skeptic.
> Experience alone can
decide on truth.

Einstein's quote is about
physics, not mathematics.

He doesn't say anything about physics. Do
you think physics is
peculiar in this regard?

I don't know the
complete context of this
quote, but I would guess

Perhaps it would be better to use principles
of logic rather than
guessing. Can you see why it is important
that a "system of
equations" correspond to reality?

C-B

it means that if your
starting physical
assumptions about nature
are wrong, no amount of
fancy
math will make up for it. I
doubt that he had any
reservations about

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the math itself.

[...]

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Norm

<http://us.metamath.org/email.html>(Reply to

author

at this URL. The "from"

address in this post is not

valid.)

David C. Ullrich– Hide quoted text –

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