Re: Godel's proof, truth, reality, self−awareness, and all that jazz

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- *From*: "cbrown@xxxxxxxxxxxxxxxxx" <cbrown@xxxxxxxxxxxxxxxxx>
- *Date*: Wed, 26 Sep 2007 13:54:53 −0700

On Sep 25, 1:44 pm, "Jesse F. Hughes" <je...@xxxxxxxxxxxxx> wrote:

> "cbr...@xxxxxxxxxxxxxxxxx" <cbr...@xxxxxxxxxxxxxxxxx> writes:
>
>> On Sep 25, 11:50 am, "Jesse F. Hughes" <je...@xxxxxxxxxxxxx> wrote:
>>
>>> But this doesn't seem too difficult to add (does
>>> it?). Why not something like this?
>>>
>>> (a) {} = {}.
>>> (b) If A1, A2, ..., An and B1, B2, ..., Bm are sets, then
>>> {A1, A2, ..., An} = {B1, B2, ..., Bm}
>>> iff the following hold:
>>>
>>> (i) m = n
>>> (ii) for each i<=n, there is a j<=n such that Ai = Bj
>>> (iii) for each i<=n, there is a j<=n such that Bi = Aj
>>>
>>> Equivalently (?), we could say that two sets A and B are
>>> equal iff
>>> f(A) = f(B), where f is his encoding mapping sets to natural
>>> numbers.
>>
>> Again, it only maps sets /as strings/ to naturals; and since multiple
>> strings represent the same set, f(A) is a /set/ of naturals, not a
>> single natural.
>
> No, I don't see that. His description of the mapping seems to presume
> principles (a) and (b), I suppose, since he builds the mapping

> inductively (and without concern for order of elements). He says that he maps, e.g., {{}{{}}} to the minimal bit string representing the elements of the set. Since {} |−> 0 and {{}} |−> 1, this set maps to 2^0 + 2^1. Similarly, the set {{{}}{}} would map to 2^1+2^0.
>
> Anyway, what *is* lacking is a clear definition of the encoding that would settle this question. What I wrote above is what I think he means, but his definition is by example, which is not very useful to settle disagreements like this. So, I will let Han defend his own mathematics and hopefully present it more clearly.

Sigh. Another day, another mea culpa. You are correct; see my response to Han.

The short version of his encoding, in recursive form, appears to be:

f({}) = 0
f(A) = sum(x in A) 2^f(x).

Cheers − Chas

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