Re: About pii and integers

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From: Will Twentyman (*wtwentyman_at_read.my.sig*)
Date: 10/04/04

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Keckman wrote:

> On Wed, 29 Sep 2004 19:26:34 −0400, Will Twentyman
> <wtwentyman@read.my.sig> wrote:
>
*>> But there is *not* a biggest. If you try to add that, you will get*
>> an inconsistent system.
>
>
> What is inconsistent here: Set S is a set of numbers that all are
> smaller than Big and bigger than "Small"
> in which Big and Small belong to S. I see it very simple reasonal set
> of numbers. so simpple that even
> monkeys must have some intuive bicture of it allthough not all hunas.

There is nothing inconsistent about working with a set such as {1,2,3,4}. However, such a set is *not* the natural numbers. The point of the Peano Axioms is to construct the natural numbers, not a subset of the natural numbers.

> Whereas this:"A set of S is a set of numbers which every item has it's
> successor (which lead that every item
> has it's precessor − except zero)" i have tried so many times here and
> to explain why it is inconsistent
> that right no im not intersested anymore.

This is not inconsistent either. If you feel it is, then you cannot work with the natural numbers, or a great many other infinite sets.

>> If you just want to change it, then you will have a new system that
>> does not have the Natural numbers as a model.
>
> There is enough them for all of us those natural numbers. You can
> choose Big to be so big that when you
> write it in 10−base you get so long number that every 1mm x 1mm x 1mm
> in our universum has two digits
> of them for example. there is no limit how big Big can be. But for any
> reasonable definiton of Peano's set

> *S, it must have it's biggest number.*

Here's the problem: the natural numbers are closed under addition. In your system, big+big is not in your set. You are describing something different. It may be big enough for any practical work, but that does not make it the same. Peano's axioms are not concerned with giving us something practical, but with something theoretical.

> *I don't say forexample that induction proove is not valid. It is as*
> *valid as before,*
> *something of course can be proved to all naturals, but in any actual*
> *case we use, deal or do*
> *something whith that set natural, we can not use it as infinite set.*

In mathematics, the concern is with the theoretical, not necessarily the practical applications of it.

> *Allways there is the biggest*
> *number in set S. How big? The choose is your.*

If each person is choosing a different S, then it becomes difficult for people to communicate with each other because there is no consistency. What happens if you accidentally choose S too small? This has happened with things like DOS only supporting 1MB of RAM, or certain issues of portability in C/C++ code when someone makes coding decisions assuming particular values for the precision of floats or size of ints.

> *It can be so big that*
> *when writing the numbers to "paper"*
> *in base 10 we have to write so many digits that the number i defined*
> *above have to be multipied*
> *by the number that is so big that in _every atom_ of the universum has*
> *to be six of them (which is a really*
> *really small number compared the number where _every cube_ 1cm^3 of the*
> *universum has 4 of them).*
>
> *Enough?*
>
> *In any actual case we use set S we just have to deal it as set that has*
> *biggest number.*

Now I see where you are coming from. Unfortunately, while good for practical issues, it has little to do with the goals of Peano Arithmatic.

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