

Re: { }

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- *From:* "zuhair" <zaljohar@xxxxxxxxxx>
 - *Date:* 19 Jan 2006 11:54:28 -0800
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David R Tribble wrote:

> Zuhair wrote:

>>> Also I find it very difficult to see why { } is not equal to nothingness.

>>

>

> leo1476 wrote:

>>> Do you mean "...equal to nothingness"? Well the empty set is a subset

>>> of every set because it logically follows from this argument:

>>

>

> Zuhair wrote:

>> To my primitive intuitions one cannot say that { } is a set.

>> Because { } literally means_ Nothingness regarded as one whole.

>> Now what is the difference between nothingness regarded as one whole

>> and nothingness? To me zero * 1 = zero.

>

> You're confusing concepts. { } means a set with nothing in it, but

> the set itself is not nothing.

>

> Consider a universe consisting of only fruits and boxes.

> Fruits can be placed into boxes, and boxes can also be placed into

> boxes (but obviously, nothing in that universe can be placed into

> fruits). We also assume that there are different kinds of fruits,

> and that a box containing fruits can only contain one kind of

> each fruit.

>

> Now if I have a box with three fruits (each one a different kind),

> this is the same as a set with three members, {apple,banana,cherry}.

> If I have a box with no fruits, this is the same as the empty set, {}.

> It's still a box (still a set), but it has no fruits (no members).

>

> In our universe, the concept of "nothing" is the same as saying

> no box or fruit (no set or member) at all. Obviously, "nothing"

> is not the same as an empty box (or empty set), because even

> an empty box (empty set) is something. "Nothing" is no "thing"

> at all.

Well in that case one should speak about Container theory or box

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theory"lol".

The concept of "set" is in no way similar to the concept of "container" you've already demonstrated by your box example. The reason for your analogy being wrong simply lies in sets being defined only by their members. when I say the set of a and b writtin as { a,b } it doesn't mean something which is containing a and b in a sense that it can contain members other than a and b and still remain the same set.

The set of a and b is a and b together treated as a single unit.

If your intuitive container analogy was true, then the first axiom of axiomatic set theory _ two sets are identical only and only if they have the same members, should be modified towards_ two sets are identical only and only if they have the same members and have the same container.

So for example we should say that set X is defined as the container Y which has members a and b inside it.

in symboles { a,b } : { } = Y.

And if a set Z has members p and q inside it and a container W . then $Z=X$ if and only if $p=a$ and $q=b$ and $W=Y$.

You might say that { } is the same for all sets . And so you should believe in a sort of a universal container symbolized by the two curely brackets. And perhaps this container is the transparent band created by our imagination around entities, and it seems to be the same band always. However what is the function of that band.

In set theory that band should function as a collector that tie entities in one bundle. this manage to make a different state when it collects multiple entities together, but what would it acheive if it ties one element? Moreover what such a band acheive if it try to contain no entity? In the later two cases the result with that transparent band or without it is the same, ie a single entity and a nothingness. So your container

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theory is not sufficient to explain set theory in a good intuitive way.

The problem is that traditional language about set theory doesn't mention any definition for a container at all.

The container can be regarded as the propositional function the fulfillment of which cause the members to be enrolled into a heap.

However this is not right because the same set can have multiple propositional functions.

A set is defined by its members only, and equivalence between sets depends on their members only , there is no definition for a container that contains them.

Now { } has no members , and since any set is defined by its members, then It seems more consistent to say that { } means "no set" .

Again I say : set is a list of distinct entities considered as One whole.

So, When there are no entities, then there are no sets.
When there are no distinct entities then there are no sets.

Only many entities can form sets.

Neither "no entities" nor "single entity" can form sets.

Also in a similar manner the concept of "All sets" is also not amenable to set-hood.

So we cannot say the set of all sets, because simply such a thing would be itself always.

so if $A = \text{All sets}$ then $\{ A \} = A$, therefore A is not a set.

Zuhair

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• **Follow-Ups:**

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◇ From: David R Tribble

• **References:**

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◇ From: zuhair

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