

# Re: Mathematical objects and Discernment

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  - *Date:* 6 Jun 2006 15:13:34 -0700
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LauLuna wrote:

I try to answer.

A set is an extensional object, a collection, a multiplicity, that is comprised of elements.

I assume that for a set to exist for us we must be able to perform an intentional reference to its elements. Surely we can do this through the intension of a concept, but even so, we would not be referring to the concept itself, but to the elements of the set we single out by means of the concept.

For example, if I have as an intentional object the concept of man, my reference focuses on the features that are included in the concept of man, to put in the traditional way: "living" plus "rational".

But if I'm referring to the set of all men, my reference goes to the men themselves that are the elements of that set, not to the features of the related concept.

So, my starting point does not lead to refusing the extensional nature of sets.

I understand that a set is its extension when conceived of as a single object, as a whole.

There exist some extensions that cannot be thought of as single objects, you know; those extensions cannot be sets. The ultimate reason for this is that it is impossible to refer to the entire extension as to an intentional object in one intentional act. Whenever you think you can, you are showed another object belonging to that extension and that could not be in your intentional act.

I hope this clarifies.

Regards.

## Re: Mathematical objects and Discernment

A set is comprised of elements, but can we 'single the elements out'? The set 'a set of cows' does not point to particular cows but seems a general stratagem for pointing out any collection of cows. Any 'singling out' or intentional referencing would seem to occur when we have a particular group of cows in front of us.

I can imagine the set 'a set of cutlery'. The phrase makes sense, I know what to look for and where I might find one. I can say find 'one' only after I have found one – the set does not tell me which cutlery set I am to find or tell me how many parts I am to find. But more to the point, doesn't it damage the idea of set specific intentional objects to say that we can have a 'set of all men' or even 'a set of cows'? What sort of sets are these? Would we know what to look for? If we do not know what to look for, then are these really 'sets' (they may be merely counted elements) and if they are sets, how can they be comprised of intentional objects if I do not know what to look for regarding them?

You say that there are some extensions that cannot be thought of as single objects and that these cannot be sets (I do not identify a set with counted elements anyway: counting, I submit, comes after re-classifying the set as a group). To continue with your point, a set is its own extension when conceived of as a single object. Yes, but I think that a set is always a single object anyway – 'bring me a set of cutlery' implies 'bring me one set of cutlery'.

But you mean something else I think. Your idea, which is placed in the framework of intentional objects, is that the extension of a set, or its elements, define the set. If the set cannot be conceived as one object because of the nature of its elements, then it is not a set. I would not agree that the properties of the elements of a set are conferred upon the set so here this problem would not arise. Your solution is to say that we cannot hold an idea in our heads if it is dependent on the very ideas we are using to construct it. Sorry here, I am being rushed to retire for the night. May come back to this.

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