

Theory of sets.

What is the set? **A well defined collection of objects.** What I mean by that? We have two difficulties. **Firstly** what is the object. The position of points in a number line or a kind of material from which the object is made of or something else (structures, feelings, colours etc.). **Secondly** we have to make the well definition - to determine the range of the collection. E.g. we have the set of 12 points in the space. Every point is the same to each other. But every point has his own position in the space. There are 12 points with another position – see Fig. 1.

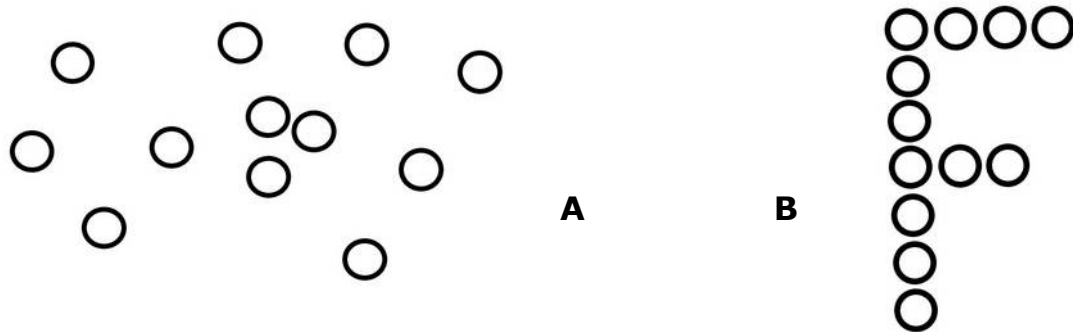


Fig. 1 – two sets - A and B, every set has 12 objects (points)

For the first view we can say the sets A and B are equal. For the second view we can say they are not equal. It depends on the point of view.

*Relations: what is heavier?
100 kg or 100 000 kg*

It depends how we ask ourselves – to say the point of our view.

I think 10 kg of good apples is more then 100 kg bad apples.

Or what is heavier? 1 kg of feathers or 1 kg of a steel ball? Their weight must be equal. I think so not. Try to drop feathers on the right leg and the steel ball on the left one. After that tell me your feelings.

Is every set indefinite? How we exactly define the set? Every point, every structure, every quality is different to each other in the real world. We can reduce all things, colours, feelings or other qualities to probabilistic distribution of formed particles in the ocean of quantum fluctuations. Really that is – the probabilistic distribution of positions of protons, electrons and neutrons, etc.

The set needs the space, the time and the matter. Without a space there is no set. If every point is placed at the same position then how we could estimate how many point are there? See Cantor's discontinuum. How to

differentiate points? The points must be separated to different positions. How many there are points how many there are another positions.

We have a pencil, a notepad, an eraser, a cup of tea and 10 sheets of a paper on the table. We could make the set of subjects on the table. Then we have the set with clearly different 14 subjects. But this set depends on the time. Every object will be destroyed some day. And set will be empty!



the first view



the next view after a moment

Fig.2 – a changing field of quantum fluctuations

What is an amount? Or what is the length or the volume or the density, etc. Firstly we must have different structures. The structure determines the object and its quality. How to determine some structure in the field as we see in fig. 2? We know all structures as waves, particles, subjects, entities etc. are „constructed“ from the probability occurrence in some area of physical fields (see fig.2) We can imagine e.g. elementary particles as the formed pack of waves with probability distribution in a space full of random vacuum fluctuations. The formed pack is the form, let's say the order which modulates a chaotic space (see the modulation of radiowaves). Where the order comes from?

The sets – to differentiate the objects and then to put them together in one set. Imagine – the potter with pots. Firstly there is only a clay, a big piece of the clay, after some time the clay on a potter's wheel reminds us of the pot, after next time we see directly the pot and in the end we see only broken parts of the pot. All objects or structures in the universe exist only for some time. And what is the time? See the base units.

The infinite sets – how many subjects are there? I mean the difference among them. Infinity subjects have infinity differences.

to be continued