

Human perception, beauty and our universe

It took a very long time of the historical development of humanity to arrive at abstract thought. Firstly, to distinguish shapes and then give a group of very similar shapes a common name - e.g. apples or pears, or stones, etc. Secondly, to distinguish the number of similar shapes. In short, mathematics distinguishes shapes and quantities. Mathematics is people and their abstract thinking.

Only by abstract thought (increasing the accuracy and clarity of mathematical methods) did humans figure out the size of a point equal to zero. Likewise, by approximating basic shapes, we have come to definitions of ideal lines, sections or curves that do not exist in nature. Certainly the logarithmic spiral at the snail shell is not our invention, but reality, as is the path of the light beam (e.g. laser light in a fog). But we certainly won't find the ideal logarithmic spiral in the world, just as we won't find the ideal line or ideal sphere (even the Sun isn't the ideal sphere even though it looks like it from afar).

Somehow it has to do with our perception of the real world. There's no problem with the meter measuring the length, but at the micro-world level, it's a big problem to measure the distance between two electron orbits of an electron. We must use „meter“ from the microworld with their peculiarities.

If there are plenty different shapes around us then our perception distinguish some shapes so beautiful and other shapes so ugly. Why? And the rest of shapes is indifferent to us. Where our sense for the beauty come from? Computers can't distinguish the beauty of shapes from itself. Only if we program the computer. The more sophisticated the program the better. But the source for the computer is our perception what is so beauty. After that the computer can learn more and more.

See rectangles in Fig. 1 there are several rectangles, which one is the prettiest? A lot of people will take the rectangle nearly the center of the Fig. 1. Why? For the reason of a gold section.

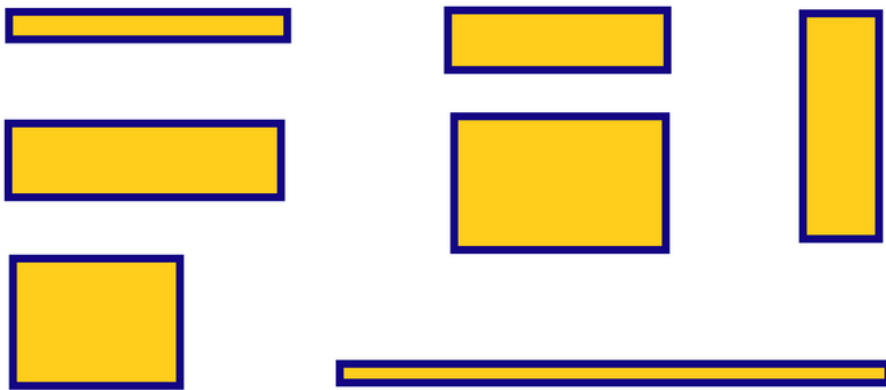


Fig. 1 – several rectangles with another aspect of ratios

Then see next images in Fig. 2. There are two images with simply lines. in both images is the same number of plain lines. Which picture is pleasing for us? The first image or the second one? It is clear that it depends on the reciprocity of all the lines in the images.

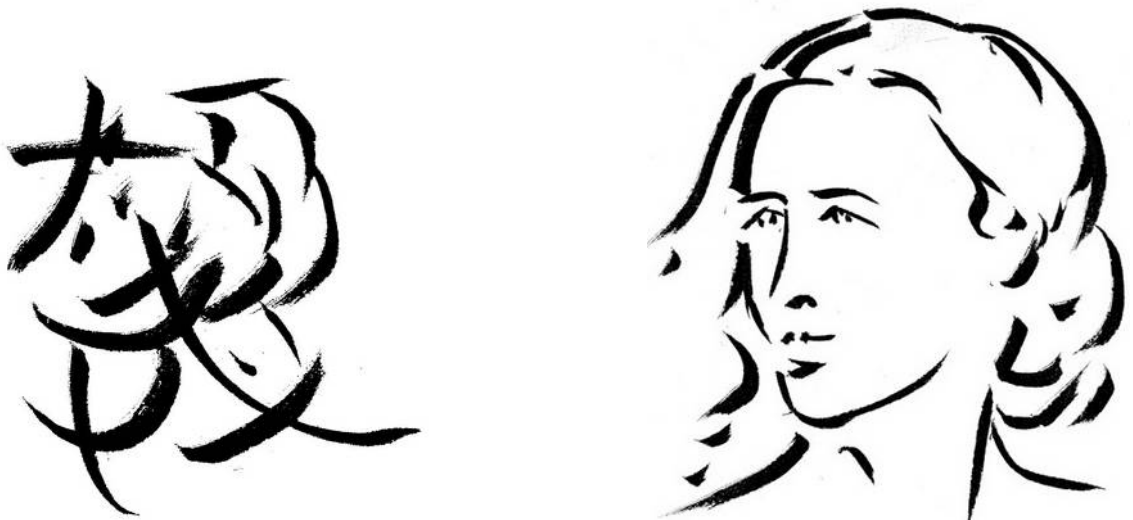


Fig. 2 – two images with the same lines

In the world we perceive so many beauties (nature, art, music) that one life is not enough for them. But we also perceive a lot of ugliness. And we also perceive roughly speaking something in between. This brings us to the triple-value logic. Of course, how many people there are in the world are diverse ideas about taste, beauty. But these ideas are roughly the same. For everywhere in the world the sun shines, everywhere there is a sky, at night there is darkness in which the stars shine, everywhere there are plants (even in the desert), everywhere there are stones, everywhere there is a soil, everywhere there is water in various shapes (rivers, lakes, seas, waterfalls). I could go on like this into the microworld. But above all, all people are made of the same "dough." That's why the vast majority of people like the rectangle approaching the golden cut. For flowers, people's faces, it's more varied. In short, there are two basic sets of beautiful objects in the world - natural beauty (previously mentioned) and artificial beauty (craft, art, science). I mean beauty real and sincere and not kitschiness (i.e. superficial liking without depth). I am not going to discuss the principles of beauty mathematically here, but just to consider what is common to all beauties, whether natural or artificial. And whether beauty can exist without ugliness - e.g. see how the roses on the dung heap stand out.

It's strange that people's perceived beauty is shown on objects of normal size. From millimetres to kilometres. To a certain extent, it is shown even with a slight magnification under the microscope - salt crystals, cell shapes, etc. But when we go into the pure microworld - that leaves only the chaos of microstructures (quantum field) without any beauty. Likewise, in the universe, we perceive the beauty of space bodies (suns, planets, moons, stars, star clusters and galaxies). But when we go to regions of the universe when we observe the distribution of mass by metagalaxies, we perceive no system, no beauty, just chaotic clouds of mass occurrence.

to be continued

