Sure, I, just as much as you, see without thinking, the difference between a table and a chair. Of course even more clearly distinct are a chair and a frog. If we branch across, what Gilbert Ryle referred to as categories, then we may easily see that this chair is distinct from rain, and even more so distinct from weather in general. But have you ever asked why we perceive and so absolutely know such distinctions?

Thus brings us into the understanding of categories, of concepts, of objects, of events, and of perception itself. The question of why weather is so different from a chair may be approached from many directions. There is first the philosopher, who argues that they are different because they are of different kinds, and he may go on to give a description of different kinds and how they interrelate and how to determine membership to one or to many of these kinds. There is also the scientist, who, whether a neuroscientist, a biologist, a physicist, or one who studies computation, will tend to have different frameworks for explaining these distinctions. They are physically separable, logically separable, and often not even comparable. Though most of us attack these distinctions from the perspective of having an understanding of them built in, it is the scientist who wishes to build an intelligent machine who has the arduous task of building these distinctions from nothing.

In artificial intelligence, concepts of any sort do not come for free. Simple recognition of a chair as separate from a table is a difficult exercise in analysis of raw perceptual data. Going further to interrelate concepts such as weather and chairs is much more difficult because it not only requires perceptual differentiation between chairs and tables, but also conceptual understanding of the cross-category interrelations between specific objects such as “that chair”, general objects such as chairs, specific events of continuous type such as “it rained yesterday”, general events of continuous type such as rain, and classes of events such as weather. These are not exclusive or even hierarchical, and it poses an enormous challenge to engineers hoping to make a machine that can sort all of these out.

But to us it is all easy. We were born with the ability to distinguish these things, and we easily learn labels for these and ways of manipulating and referring to all types of abstractions, objects, and occurrences. For most of us, it is incredibly difficult to understand why precisely a table is different from a chair and why both are different from the weather. They just are, and that is that.

When we compare these pictures of machines who struggle with this and humans who find it so natural, we can get some interesting results. If we take the perspective of the machine, a chair is not so different from a table, unless significant labor is taken to program or to learn recognition of these differences. Humans, as we have mentioned above, find no difficult here and simply know that they are different things. But this juxtaposition allows us to see that they are not universally distinct, only distinct from the human perspective, for a machine will only recognize the different when programmed to do so by a human, and most animals will not even know the difference. If I threw a table into a shark’s tank or a chair, it will probably not react so differently. This distinction is even more blurred when I throw a large chair vs. a small table, which happen to have similar shapes. The difference is simply not available from a shark’s perspective, and only receives its true resolution from the perspective of a human.

Now we may ask what other things are as they are only because we see them from the point of view of a human being?

* Language
* Other examples

Talk about the physical structure of these things and how they are distinguished only by relevant pattern-recognition machinery. The pattern recognition machinery must be able to distinguish, and in the case of humans, this machinery tended to evolve in order to be useful at recognizing useful distinctions (although naturally there were other evolutionary riders and emergent traits that helped to foster further distinguishing abilities and eventually abilities such as language and science etc. (the later through cultural and linguistic evolution).

Now start talking about the debate between the physical and the phenomenological.