

Is the world as you think it is?

I don't get as many opportunities as I'd like to share conversation and ideas with you. That means that I really value these assemblies as a chance to challenge and interest you – I hope to remind you of the importance of seeing things from a different perspective, think in a different way, encourage you to range between subject areas in your approach to learning. But even more than that, I want to share with you my sense of wonder at the world and my curiosity. If I could be granted three wishes for each of you, two of them would be that you retain a sense of wonder and are deeply curious. The third would be that you are joyful. That means that I have an overriding purpose with each assembly, above the hope that you will be interested in the particular subject matter. That purpose is to try to expand your thinking, widen your consciousness – in a simple phrase, to blow your mind. That is my mission this morning and if you follow the argument today, I think it will forever change the way you see the world. You will find more about of these ideas in your RS and Philosophy lessons.

The other week, the Chaplain shared a quotation by Anais Nin with you. It was this: 'We do not see things as they are. We see things as we are.'

I would like to take that as a starting point for today's assembly. Let's explore what she might mean, starting with this challenge. You think you are hearing my words at the moment, but you are not. You think you see me standing in front of you, but you do not, nor are you seeing at the Great Hall in which you sit. Your skin is not feeling warm or cold and none of your senses are direct experiences of the world. You might think that you have unmediated access to the world around you through your senses, but you don't. That feels strange, but it is obvious really. All of your senses are the product of your brain's interpretation of the electrical signals that are being fed into it through the various nerves. The optic nerve carries electrical signals from the eyes that are turned into your sense of vision, the same is true of your ears and every other sense. Far from having direct access to the world around you, you are forever trapped in your own head, trying to make sense of the information coming in.

The world isn't as you see it, even though it feels like we all have direct access to it. For example, we all see the world differently. Even people with supposedly 'normal' colour vision have widely different perceptions as a result of genetic variability. We have cone cells in the retina, which allow us to have colour vision. They respond to just three colours: red, blue and green. The various combinations allowed by these three colours allow most people to see over two million different colours. However, these genes come in several different varieties and, as they are carried on the X chromosome, some women – who have two X chromosomes to your one, gentlemen – carry both normal and mutant colour genes. This means that many women have access to many millions of colours which we men simply cannot see. We men can have no idea what it must be like to live in such a world. All we can know is that it must be far richer than the one we can see. What is true of colour is also true of our other senses.

In other words, although we can all agree to call this lectern brown, we are probably all having a different experience of its 'brownness'. When we eat or when we hear music or when we touch something we all are trapped in our own experience of the world. We can never escape our own mind – we can never discover the ways the world is different for others – all we *can* know is that it *is* different for them. They may see or hear far more richly than you ever will; perhaps the situation is reversed and you got the lucky genetic break and have the richer experience. But there is an even more radical way of thinking.

All we can know of the objects in the world is their characteristics as we perceive them. So we can describe this lectern as: brown, made of wood, about four foot high, there is only one of it, it weighs a certain number of kilos and so forth. We could probably find thousands of special characteristics that describe it. So far, I have been speaking about the characteristics associated with our different senses. These characteristics are not in the object itself but in us – they exist because the object has the power to make an impression upon us. As I have pointed out, each of us will have a different set of sense impressions when perceiving the object. That is because those characteristics are not in the object, but in our sensations when perceiving the object. They are internal to us and are not located in the world as it really is.

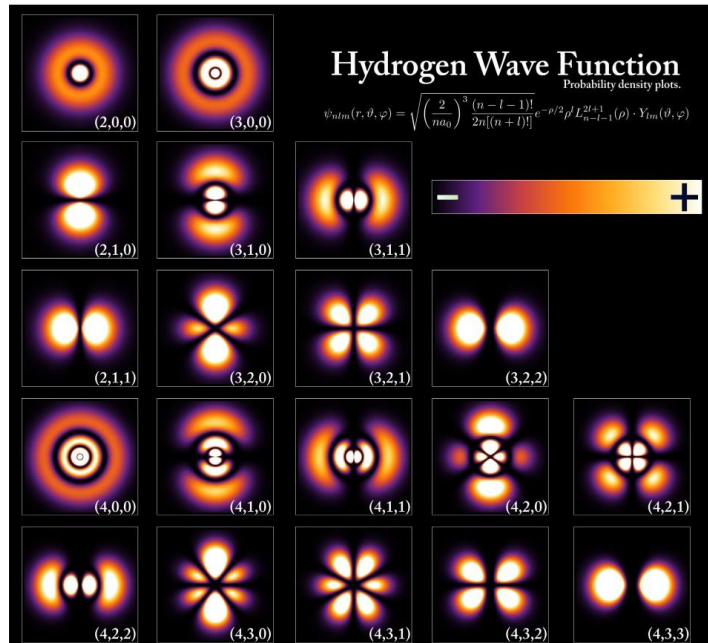
It might be disorienting to think that the world as it really is does not have colour or texture or taste or smell but that those characteristics are imposed upon the world by us, in our perceptions. They will vary according to our mental and physical states. They are dependent upon us having the particular sensory apparatus we have. An octopus or a bat might have a very different impression of that object. The real world (whatever we mean by ‘real’ in this context) must be very different from that we think it is.

You might well feel that you are on more solid ground when you think about an object’s characteristics which are apparently nothing to do with our perceptions – things like solidity, shape and number. You might also be confident that you can attribute age, time, and the object’s causal effect on other things. Unfortunately, you can’t. That is because those things are only possible to imagine if you use various mental states that you bring from previous experience. Awareness of space, time and causality is an awareness of relationships between perceived objects. They do not exist independently of ourselves, but as mental processes that allow us to order and organise the objects that we perceive. They cannot exist except in terms of perceived objects and therefore we are also imposing them upon whatever the world is in itself.

Let me recap, because these ideas are difficult and slippery. I have tried to show that any particular object is a thing which we perceive through its various characteristics, depending upon the sense apparatus we are using and the mental states we apply to order those perceptions. The characteristics are not in the object but are a product of our perceptions. So, whatever this lectern actually is in itself, it cannot really be understood in terms of anything to do with our senses of seeing, feeling, smelling, tasting or hearing. But nor can it be described by the mental states we use to order our perceptions – space, time, causality. So what is left? And how could we describe that thing that is left? I think there is definitely something there, but I can never know it as it is in itself, only as how I perceive it.

And that opens up the dizzying thought that the world as you think it is, is not really there. Something is, but you will never know it. And in fact all this tallies up very neatly with what physics tells us about the true nature of the world at a quantum level. According to Quantum Field Theory, objects (including you) are best described as energy in space.

Quantum Field Theory



You are looking at the various wave functions of the electron in a hydrogen atom at different energy levels. Quantum mechanics cannot predict the exact location of a particle in space, only the probability of finding it at different locations. The brighter areas represent a higher probability of finding the electron. Hydrogen, the most basic element in the universe, is essentially a smear of probabilities. You are made up of hydrogen, so you are the same. In the quantum world, which is our world, particles are excited states in quantum fields, there is no such thing as a solid, matter is the same as energy, causality is all mixed up and time does not need to flow in only one direction. Quantum theory is the most accurate method we have for describing the world, but it has very little in common with our everyday experience of that world. Perhaps that is because we construct our commonsense world ourselves, creating it out of an unknowable, indescribable otherness. That unknowable, indescribable otherness is the world as it really is, the thing in itself.

There is a lot to think about here, but at the very least, if you have followed me this far, I hope I have blown your mind. What if nothing were real? You can revisit this assembly, if you wish, on the website. If you do, you will find some book recommendations and video suggestions for further research.

Follow up reading and research:

- This whole assembly is really a restating of Kant's views on the world as it is perceived and the world as it is in itself – which he called the noumenon. You can google many different explanations of this brilliant philosophy. Have an explore.
- For a contradictory view, read Jonathan Dancy's 'Introduction to Contemporary Epistemology'
- Synaesthesia might interest you, where people jumble up their sense impressions and 'taste' colour, or 'feel' music. There are some great TED Talks on synaesthesia, but this TED Ed video is a good place to start:
https://www.ted.com/talks/richard_e_cytowic_what_color_is_tuesday_exploring_synesthesia

- There are many videos on YouTube exploring the differences in perception between animals and humans. Try this one: [How The World SOUNDS To Animals \(youtube.com\)](#)
- I think the idea that we are living in some kind of simulation is plain wrong, but if you want to explore the idea, try <https://www.youtube.com/watch?v=zmRTC6xhis4&t=233s>.
- Some light-hearted discussion of our perception of 'reality' from the Infinite Monkey Cage podcast: <https://www.bbc.co.uk/programmes/b06zqpcg>