

From the Kitchen

20 July 2011



Is it possible that you see the world the way you want it to be? What about aspects of the world about which you can have no direct perception; things such as the atoms and molecules you are made of?

You only know of this level of reality because other people tell you it exists. You have no direct experience of it. You can learn through studying or reading or listening to people, that there are processes going on in your body that change the food you eat into a different form through the breaking up and reorganising of molecules. Whether you know it or not, such things on and are the basis for life.

Between these things and the 'obvious' world, there are things we can learn of indirectly through the use of tools. For instance, you can slice an extremely thin piece off your skin and look at it through a microscope and observe that it is made up of layers of material. You can take a thin slice through a leaf and observe its cellular structure. You can look at live sperm and watch them move around. You may be happy to rely on the image in the microscope's lens, but can you still rely on it if you see the image only on a television screen, when the subject under the microscope is being observed by a camera? What are the processes going on that allow you to see the images? Do you need to understand these processes in order to be confident about the accuracy of the image?

When an electron microscope is being used, the subject to be observed is coated in a thin layer of metal atoms. What we 'see' with the aid of this machine is even further removed from our day-to-day experience and the processes bringing us the images are more complex than the light microscope's subject shown on the TV monitor.

To what extent can you rely on information which comes to you from other people's observations? Your reliance, or lack of it, will have a bearing on your answer to the next question.

"Who do you *think* you are?"

Your knowledge of who you are can be based on even less direct information. According to some interpretations of quantum physics, you aren't made of solid matter at all, but exist as a disturbance in a set of vibrations. And that is what everything in the world around you is.¹

Scientists and mathematicians struggle with theories to explain the ever weirder findings coming out of research into ever smaller particles. Theories explain matter and antimatter popping into and out of existence at random; up to ten dimensions, some of them tiny; strings and membranes and braids defining our universe. Some theories suggest that space does not exist – that there is only information and that, therefore, we are pure information. Much of the universe seems to be missing and, because we cannot see the missing part, it is called 'dark matter'. This is not far removed from the bygone belief in 'ether'.

Now, who do you think you *are*?

According to some ways of thinking, you may not exist at all unless you are observed. How useful to you is such a view? If you go along with this view of the world, who do you think you are? What does this say about your thoughts, feelings and emotions?

The Irish philosopher George Berkeley² espoused such ideas, which prompted the English theologian Ronald Knox³ to pen the following:

*There was a young man who said "God
Must find it exceedingly odd
That He finds that this tree
Simply ceases to be
When there's no one about in the quad."*

And the reply:

*"Dear Sir, your astonishment's odd,
I am always about in the quad,
And that's why this tree
Will continue to be,
Since observed by Yours faithfully, God."*

Is it possible that, in the words of Shrek⁴, you are made up of many layers? Can each way of describing the world tell you something about yourself? Which descriptions are useful, and which are merely an intellectual curiosity? Which views help you to better operate in the world?

Are you a unique individual? If you are, what defines your uniqueness?

Many people maintain that we are all part of a greater whole. If this is true, then who are *you*?

A geneticist would probably say that you *are* unique and would base this on the notion that we are each of us genetically unique. But what if you are one of a pair of identical twins? Created from a single fertilised egg, you and your twin are supposedly genetically identical. Are *you* then unique?

There is growing evidence that many of us are in fact, genetically, more than one person. Some scientists believe that in many pregnancies, two eggs are fertilised and that early in the pregnancy one embryo absorbs the other. The result, it seems, is a person who may have some organs which are genetically different from the rest of her/his body. These people are referred to as chimeras⁵. If you are genetically ambiguous, who are you?

This may not apply to you. But who *are* you? You are the result of your father's sperm joining with your mother's egg. Genetically you have taken from both. So how much of your mother are you? How much of your father, your grandparents, your great-grandparents?

1. For example, see <http://arxiv.org/abs/hep-ph/0503213>
2. 1685-1753
3. 1888-1957
4. A character in a movie by DreamWorks SKG
5. *New Scientist*, 2421; 15/11/2003, p. 34

[to be concluded in the next post]