I am a grad student, and long hours at the bench have got me thinking of other things lately, including the idea of marriage. I came up with a few criteria to direct me on my quest for a wife, and near the top of the list was that she needs to know what a gene is. I thought that this would be a reasonable thing to ask for. I like learning about how we and the rest of life work, and knowing how, in a general sense, cells are programmed to do what they do is a pretty good indicator of similar interest. My friends, however, disagreed with me, and on several occasions, as I shared my list, I feared that things were going to get violent. They argued that I will never get married with such a short-sighted and elitist attitude. I do recognize that a superiority complex will indeed get me nowhere, but the vehemence with which they responded reveals an interesting point: knowledge of what genes and proteins are belongs to a very select few, and it is somehow inexcusable to assume that anyone I meet should share such an understanding. But is this fair? Should not the literate public know what cells are and do? I believe that this would be a very good thing.

It is not practical to ask things of people unjustifiably, and it is important to ascertain whether an understanding of the essentials of cell biology is accessible. Many have learned about cells in high school, only to forget it all save the neat sounding parts like ‘mitochondria’. But there are numerous excellent resources in print and online for those who wish to refresh or learn for the first time what we are made of. I may be biased, but I also think that the concepts are also pretty simple. We are made up of cells, cells are made up of proteins, and genes are the codes for these proteins. Different genes make cells different. Check out a few illustrations and the fundamentals of cell biology are in hand.

If such knowledge is indeed accessible, is it useful? Many politically charged subjects affecting our lives, such as cloning and GMOs, require an awareness of what is being manipulated in order for reasonable opinions to be voiced and choices to be made. Diseases are also increasingly being elucidated at genetic and biochemical levels, and a few hours’ study would go a long way into demystifying the demon cancer before it strikes us or someone else we know. The utility of understanding cells will become even more important as new diagnostics and therapeutics become available and patients continue to want to be involved in decisions regarding their care. It does someone little good to hear that a gene mutation is causing problems when all they know of genes is that they make eyes blue and hair blond.

But genes, proteins, and cells are not just tools for industry, politics, and medicine. It is safe to say that at one point all of us have pondered the causal relationship between thought and movement in our big toe. How far we are willing to explore this question, or if we even look into it at all, depends on our curiosity. Some do indeed set off into the unknown, incorporating muscles, nerves, cells, proteins, and DNA into their understanding, while others do not. Now, I am a pretty curious person, and I view curiosity for nature as a gift - but like a birthday present ‘gift’, not a talent ‘gift’. Different people get different things for their birthdays, but I wonder, is biological curiosity a gift that everyone gets, like socks? Is it just that some people like socks and others don’t? Socks, like...
curiosity, are certainly useful and wonderful (and, hopefully, always accessible).

The primary explanation for those who have ceased to ask questions about their bodies, as I see it, is the conditioning that we have undergone. Those who know about biology know about science, and those who know about science are scientists, and those who are scientists are geeks. It’s not cool to know that we have 10\(^{13}\) cells in our bodies, and that 10\(^{10}\) of these are replaced every day. No one that I’ve said this to has responded with even a ‘wow’ - not even my mother! But why not? To ignore the marvel of such a fact is akin to closing one’s eyes in front of a sunset on a beach in Jamaica. This, it appears to me, is what the public is doing. Educated people are aware of cells, amino acids, and DNA. They know that these things are doing something or other inside them, but that something is both boring and irrelevant. This is unfortunate.

Realizing that my enthusiasm is not necessarily shared by others has come up in my life already. When I first started both to explore environmental issues and define my spiritual beliefs, I was passionate about telling everyone I could about why global warming was bad and what the meaning of life was, only to be met with either apathy or scorn. For a while I was tempted to return disdain for disdain along with the eye and the tooth. I soon realized, however, that if I was concerned about others’ judging the miracles of nature, I certainly had no right to judge them back. What I’ve begun to do instead, is to offer what I know and love with open hands without throwing their contents at anyone. Knowing that I too have much to learn and wonder at in life, I now also look for what others might offer.

In writing this I have come to believe that knowing the role of genes is the product of curiosity, and I have thereby changed my wife criteria to ‘she must be curious’. Hopefully that should silence the critics. Nevertheless, it would take a fair bit of convincing for me to believe that curiosity and wanting to know how my toe moves are two different things.

Reference:

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