

June 28, 2014 (May letter)

Dear Samantha,

Thank goodness for procrastination – at least when it means I get a letter!

I hope that your exams went well. It has been a long time since I have written an exam, but I still remember the stress they created – and the times it was particularly difficult to get motivated to prepare for them. I was never very good at the memorization part either, so I ended up developing all sorts of tricks to get me through that part of the material.

One of them was the “mnemonic” approach – like “Roy G Biv” – to remember the colours of the rainbow or “Every Good Boy Deserves Fudge” for the notes on a treble staff. For many of the lists in biology (like the hierarchy of biological classifications) I had to make up my own – such as “Like dangerous knights, Peter, Charles, and Olaf fought the great snake” for (Life, Domain, Kingdom, Phylum, Class, Order, Family, Genus, and Species).

Some people are more visual, so they sketch out pictures to help them remember things, then link them together in maps. For the classification above, for example, I might think of a map with an egg (for “life”), a fence (for “domain”), a castle (for “kingdom”), pabulum (“for phylum), and so on. I would then imagine them when I was daydreaming or falling asleep and quite soon, I would be able to make the associations with little problem. It would be especially easy if I could think of objects that fit together in a sensible fashion – like a story about a dragons’ egg hatching (Life), then the dragon flying over the dominion (domain) to the magical kingdom (kingdom) where he found a young girl trying to get out of her tower prison by filing (phylum) the bars. She had been abducted from her classroom (class) on the orders (order) of the king because she was the daughter in a competing family (family). The king was also jealous because she was very smart (genus) and was able to speak to other animals like the dragons (species). A lot of the learning took place as I constructed the stories and thought about them later.

Another way is to use music. Sometimes it can be done by putting the words and concepts to familiar tunes and sometimes it means making up the tunes to go with the words. If you are sensitive to smells, then sometimes these are the types of associations to make – or sound – or taste. Perhaps a recipe would do the trick – like eggs, dill, ketchup, potatoes, cheese, onions, fennel, garlic, and salt. In most cases, the more outlandish the images, the easier it is to remember them.

I always thought that you were good at memorization. I remember when you were very young you would “read” a book by memorizing it, not reading it word for word. Your parents were concerned about this because they thought that you would never learn how to sound out new words that you hadn’t heard before. I guess they needn’t have worried about that since you seem to be a very competent reader now!

It’s also too bad that your classes in Biology are mostly memorization. I know that this is necessary to some extent, but for me the most exciting things about Biology are the amazing discoveries they have made about genes, chromosomes, and genetic processes. I think it’s very exciting, for example, that the information to create all parts of our body is contained in each cell, that to make one type of cell, the genes for the other types have to be switched off, and that this is all done by a combination of chemical and biological processes. When we were taught biology most of these insights were only beginning to be learned so this is a whole incredible part of the world that was invisible to us.

I’m off to Mexico tomorrow so I might send you a June letter before I even get one from you.