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Encyclopedia Dad

By Andrew Pudewa

Although Encyclopedia Brown is famous for what he *did* know, Encyclopedia Dad is famous for what he *doesn't* know. Knowing so little, how did I earn that nickname? You may have guessed it—by my pernicious habit of stopping whatever I'm doing, leaping out of the chair, and bounding over to the bookshelf to grab a volume. Most commonly, this occurs at dinnertime—so much so in fact, that I've threatened to replace the dinner dishes in the buffet hutch with the 2002 *World Book* set. "Platypuses can't be mammals if they lay eggs!" My children issue the challenge. I leap. I search in Volume "P." I find proof! Platypuses are indeed rare mammals that do indeed lay eggs! For some strange reason, this type of exchange just makes my day.

My fascination with encyclopedias began at a young age, when I got my own set for my own room at ten years old. Quickly, "A" became my favorite, because of all the uniforms, weapons and insignia of the *Army*. "M" was second best, because of *Money* (Did you know they used to print \$10,000 bills and Salmon B. Chase's picture was on it?). Other volumes popular with me were "S," and "N-O." While other kids were hiding under their covers with a flashlight and a Hardy Boys mystery, I was secretly perusing navy ships and plastic overlays of human anatomy.

Sadly, however, all that encyclopedia browsing didn't seem to give me a lifelong encyclopedic knowledge of everything. In fact, the older I get, the more I know that I don't know much at all. Fortunately, I've also realized that I won't ever know everything anyway, so I'm okay with it. But, I do want my children to see me wanting to know things. Enthusiasm for learning can be contagious. Therefore, I retain my habits of browsing.

Really, it's like a quick tour of the universe, moving at light speed. Just think where else can you go from reading about the Gutenberg *Bible* (and seeing a page of it!) to the history of *Bigamy*, then quickly on to *Bigfoot* and ending with the battle of *Bighorn* all in the span of three minutes! Who needs racecars or rockets when you can zoom through space and time like that?

So it's not an uncommon occurrence for me to—in the middle of a sentence—stop talking and walk straight to the *World Book* to find a fact to support my statement. For example, not too long ago we were in a debate about whether there is a googol (that's a 10 with 99 zero's after it) of molecules in the whole earth including everything on it and the atmosphere. I said no, there aren't that many molecules in the whole earth, but at least one of my children refused to believe me. So I attacked the problem with a calculator and a pile of encyclopedias. To find out the number of molecules in the whole earth, first you have to find out how many molecules there are in one cubic centimeter of earth. So, you need "M" for *Mole* and/or *Molecule*. Then, needing to know how many atoms there are in a molecule of carbon (the most common element), I grabbed "C" and "E" for *Element* just in case. Then, I had to know the mass of the *Earth*, so having "E" handy was a good idea. To calculate cubic kilometers of a sphere with a 25,000-mile circumference required some now-dusty geometric formulae, so "G" was the fourth volume added to the pile. The volume of the atmosphere was tough, but it doesn't add up to that much, really.

Now as it turns out, the earth doesn't even have close to a googol of molecules of matter, even if the whole thing was made of uranium, so the question became, "How about the entire solar system?" I got "S." It was a fortunate thing I started with *Sun* rather than *Pluto*, as I quickly learned that the sun has 95% of the matter in the whole solar system, which made everything simpler from then on. So how big is the sun? Well, it could hold about 1.3 million earths, so that made things really easy. Thank heaven (and whoever developed the idea of not having to write out all those zeros) for exponentiation! So, according to my calculations, the entire solar system—even if everything were made out of carbon—wouldn't have a googol of atoms in it! (I believe somewhere around 10^{71} , give or take a dozen zeros. If someone tries this calculation and proves me wrong, please let me know!)

Of course, by the time I had discovered this awesome fact, I was not only alone at the table, I was the only one in the house! I wanted it to be dramatic, so I taped a few pieces of paper together and actually wrote out the 10^{100} , 10^{71} and 10^9 to show how big the number really is. When I finally found the kids all playing in the sunshine and presented my findings, they were notably unimpressed. One of my children was angered at the very idea of a googol, grumbling, "What's the use of a number if there's no way to use it?" So, I went back to get "G" and find out what kind of crazy guy would name a useless number (It was the crazy mathematician's son who dubbed it "Googol"). All in all, it was a great way to spend a Sunday afternoon. For me.

Now some may claim that I could have done the whole thing faster (and probably more accurately) with the internet. They may be right. However, there's a richness in the experience of searching through six volumes of the *World Book* to answer such a question which just can't be replaced by typing a few words into the other Google. My kids may tease me about my encyclopedia-grabbing habits, but I know they'll grow up with a sense of the value—and fun—of browsing, using and keeping handy a traditional set of actual, heavy, paper, honest-to-goodness encyclopedias.

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