Flame On!

Jay Hosler

My oldest son Max started kindergarten today. The bus arrived at about 8:30 and he enthusiastically headed toward the open bus door. He climbed in with a backpack as big as his back and plunked down in a seat by the window. And then with a big toothy grin, he looked out the window and began to wave. That is, until the bus started moving. And then his smile became fixed with a hint of fear and his hand started to wave slower. I watched his face as it slowly dawned on him that this was really happening. Well, this is really happening for you as well. The first day of college has arrived. As I was preparing this talk, I was given a lot of advice from a lot of very smart people. However, it was something that Max once said that I kept in the back of mind as I wrote this speech. He said, "Dad, your talking makes me tired."

I'll try to be brief.

I want to begin today by talking about someone who has been a great inspiration to me. His work came to public attention while he was still in high school during the 1960s. Soon, he was a national and international figure. He had his detractors in the media, but for the most part the public embraced him. He is a scientist, humanitarian, and currently a high school teacher. He has spent his life putting the concerns of others before his own and his

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work has sparked the imagination of millions. I've lost track of all the times he has saved the world. In one case he even beat the Hulk.

I'm talking about Spider-Man, of course.

The thing that inspired me most about Spider-Man was his alter ego Peter Parker. Peter Parker was special before he was bitten by a radioactive spider and got spider powers. He was smart and curious. In the original story written by Stan Lee and illustrated by the incomparable Steve Ditko, Peter Parker wasn't on a field trip with his class (as we saw in the movie) when he was bitten by the spider. He was bitten when he went to a radiation demonstration after school on his own. In the movie he HAD to be there, but in the original story he WANTED to be there. His curiosity put him in the right place at the right time.

We can think of higher education in the same way. You have chosen to come to Juniata. For most of you, this is the right place at the right time. Psychological studies indicate that you will form more memories of this period of your life than any other. You are all Peter and Patty Parkers and Juniata is a big fat radioactive spider ready to bite you. If you are interested in science then maybe you'll be bitten by a radioactive spider. But if you are interested in literature, then perhaps the spider will be very well-read. You get the idea.

Obviously, I have found comics to be great sources of inspiration. Of course, there are social and physical consequences to reading them. I know some people who believe that comics are for slack-jawed mouth breathers. (I am unsure if knowing me actually challenged the opinion or confirmed it.) There are physical consequences as well. My youngest son, Jack, greets me at the door when I come home everyday. Lately, he has been jumping out and hissing (in his throatiest three-year-old voice), "I am Batman, I'm not the doggy, and you are Joker!"

Then he head-butts me in the groin.

But, the risks are worth the benefits. It was comic book thinking that made me imagine today as a celebration of 412 brain transplants. While brain transplants remain medically impossible, they are not geographically impossible. Today you have transplanted your brain into a new academic body. And like all of those great comics stories about switched minds, you are about to

be transformed by the experience. This morning you attended your first classes here and began the process of making fundamental changes in your brain.

The idea of transforming your brain through learning was summarized poetically by the great Spanish neuroscientist Santiago Ramón y Cajal. In the preface to his book *Advice to a Young Investigator*, he wrote, "Consider the possibility that anyone could, if they were so inclined, be the sculptor of their own mind."[1]

It is tempting to think that Ramón y Cajal was speaking metaphorically in the same way that we sometimes speak of "venting your spleen" or "breaking your heart." But he wasn't. He was talking about actually changing the physical and electrical architecture of your brain. Our brains are composed of about 100 billion nerve cells and each of those cells makes about 1000 microscopic connections (or synapses) with other cells. That means there are roughly 100 trillion synaptic connections in each of our brains. That's far more connections than the estimated number of stars in the Milky Way Galaxy. An impressively big number, but, so what, right? What do microscopic connections in your brain have to do with YOU? Well, it just so happens that those microscopic connections ARE you. Ramón y Cajal discovered these connections and he knew what they meant. The unique assemblage of synapses in your brain is sculpted by your unique life and learning experiences.

Ramón y Cajal's quotation carries with it two important ideas on how this transformation can take place. First, he writes that we can be the sculptors of our own minds. He does not say your professors can be the sculptors of your mind. The physical and electrical rearrangement of your neural circuitry is something only you can do. I've desperately tried to directly rewire the brains of a number of my students, but it really isn't worth all of the screaming and crying and bloody noses.

The second important idea in the Ramón y Cajal quotation is in the prepositional phrase that I suspect most of us didn't notice. He writes that you can be sculptor of your own mind if you are so "inclined." In other words, you choose if you learn. You decide what gets in and what doesn't. In the four years of course work ahead, you will choose your POE, most of the classes you will take, and whether you will work hard or just get by. You will also choose

whether you embrace the liberal arts or if you foolishly view courses outside your POE as superfluous.

Whatever your choices, we are going to expect a lot from you in the next four years. Education is no longer compulsory, so we're working under the assumption that you want to be here and are excited about learning. If you're not, then you should brace yourself for a shock because the folks guiding your education love to study. We love it. We love to read. We love giving oral presentations so much we do them several times a day! Our hope is to expose your brain to the ideas that have inspired our brains. In so doing, we are going to ask you to question assumptions you have held your entire life and we hope you will become confident enough to question the assumptions we hold. To do all of this, we embrace a dazzling array of technological innovations. The most important of which is something called the book.

It is a remarkable device. It is handheld, easy to use, requires no batteries, and is completely portable. Books and language were created by brains as a means to capture the products of their unique circuitry whether scientific, lyrical, narrative, factual, fictional, or funny. Through books, you can experience the ideas of brains that shriveled up and turned to dust millennia ago. In comic book terms, books are like a magical token or product of alien super science that give you the ability to read minds and travel though time. When you read a book your brain reanimates the minds of great thinkers. Like a mental Dr. Frankenstein, your brain can bring Kandinsky and Ramón y Cajal back to life. But, you can do this only if you are so inclined. Without your brain, this wondrous invention is a pulpy paperweight.

Now comes the hard work of sculpting your brain. And that doesn't mean just sculpting it with factual information. It is your brain (not your metaphorical heart) that is the seat of all of your emotions. Your training and experiences will mold not just what you KNOW but what you FEEL.

Learning is a great superpower. And, as a kid whose first comic was Spider-Man, I would be remiss if I didn't say that with great power also comes great responsibility. There is such vast potential in the space between your ears. Brains are the most power creative device on the planet and the mightiest weapon of mass destruction. But despite its awesome power, your brain is just an organ. It is an

amazing organ, but an organ nonetheless. Like your heart, it can be strengthened through vigorous use or allowed through neglect to atrophy.

As fellow students, the faculty will help guide you in making new connections. But we can't put the information in there for you. The poet William Butler Yeats wrote, "Education is not the filling of a pail, but the lighting of a fire."

We will provide you with kindling and resources and our enthusiastic support. We will even give you the match. But only you can light it.

So, with that incendiary image in mind, I welcome you to Juniata and the start of your college education with the immortal words of the Human Torch:

"Flame on!"

NOTES

[1] Santiago Ramón y Cajal, trans. by Neely Swanson and Larry W. Swanson, *Advice to a Young Investigator* (Cambridge, MA: MIT Press, 1999), preface.