Engineering Career begins with Childhood Inspiration

an essay by
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What are the little things in life that set us on a course that ends up being a lifelong career? As a child growing up in the 1950s, I had no clue about what I would ultimately do in life. The fateful event of inheriting my older cousin's electric train set (that was a big thing in those days for young boys) in 1959 when I was five years old began a sequence of events that led to my becoming an electrical engineer.

I learned about electricity and magnetism from working with that train set and extended my interest to science in general. A few years later when the train layout grew to a size such that two trains could be running simultaneously on the same track I figured out how to wire a semaphore to automatically halt the faster train until the slower train reached a safe distance. Although the required logic is simple it was quite an achievement for a young child to figure out by himself. I was very proud of that and enjoyed watching the semaphore control the trains. That was my first design experience. Interestingly, my engineering specialty today is the design of electronic circuits, and control systems.

When I was about ten years old, I took an interest in radio. Around 1965 my parents gave me a one-transistor radio kit for Christmas. My father helped me assemble it and set up the outside long-wire antenna and ground. Little could he have known what that would lead to. It was a thrill when the radio worked for the first time and I spent hours listening to it. I was determined to understand how the little germanium transistor could amplify signals. My mother took me to the local library, and I studied every book on transistors and solid-state physics they had. At the time that was mostly way over my head, but I was determined to master it because it fascinated me. Home computers and Internet had not yet been invented so the local library was the only source of information. I always enjoyed trips to the library and checking out books on science and electronics. My mother could not have foreseen the value of those trips.
As I became more proficient in electronics, I was able to make repairs to radios and even televisions for family and friends. Word spread of my abilities and I almost got more work than I could handle. At this point my fate was sealed. I was definitely going to work in electronics when I became an adult.

My father subscribed to a magazine called *Popular Science*. I eagerly read every issue and learned of predictions that someday televisions would have flat screens. Homes would have computers. There would be robots serving us. All sorts of electronic gadgets would make our lives better. My fellow youths of that era and I saw that all of these things were possible with science and engineering. We also saw ourselves as the generation that could develop these things if we chose a career in science or engineering. Many did and we now have those things. The space program of the 1960s provided further inspiration of what engineering could accomplish. We had high

interest in science and math courses in school.

My high school chemistry professor let me take the school's oscilloscope home for a couple of days. I was fascinated with the concept of an electron gun and deflecting an electron beam and the ability to see in real time what was happening in a circuit. Having the opportunity to work with that crude instrument only inspired me more. I dreamed of owning such an instrument someday.

Turmoil in the school systems in the 1970s ruined high school for me and I was totally unprepared for college and would have promptly flunked out. I opted to attend a local two-year trade school and graduated with a degree in industrial electronics. The good instructors there strongly encouraged and inspired me to attend college upon graduation and I did. In retrospect I think it would be good for many high school graduates to first attend a trade school before going to college. The practical hands-on experience was a huge benefit to me in college and also on my job after I graduated. I draw upon those skills to this day. Engineering theory alone is insufficient. One needs the practical application side too.

I have been an electrical engineer for over thirty years, and the field still fascinates me and will continue to do so after I retire. What has been great about my career is that I get paid for doing what is very enjoyable. As I look back over life, I realize that there were numerous incidents of inspiration, encouragement, and nudging from countless people. Any one of these in isolation was small but the collection culminated in a great career for me. Surely, many of us can look back and tell similar inspirational personal stories.

The engineer has an overwhelming curiosity to know and understand how things work and strives to use that knowledge to design new things. Basically, it is a wonderment beginning in childhood that is never satiated even over a lifetime. The moral of this is that you never know when some small act will become the inspiration that sets some child or young person on a course that leads to a prosperous career. So never miss an opportunity. Our future depends on inspired youths.