

Has Engineering Lost Its Mojo?

BY GEOFFREY C. ORSAK, PH.D.



There really was something cool about those '60s-era engineers in white short sleeves, clip-on ties, and pocket protectors—the young dreamers who were going to take us to the moon. Maybe we snickered outwardly at their lack of conceit, but we actually envied them for their nerdish swagger.

The hippie generation made fun of them as “sellouts,” but who really got the last laugh? Today, geek culture is celebrated as the next big social wave. Bill Gates, our very own ubergeek, is conquering the world. And young upstart Mark Zuckerberg made a killing from his Harvard dorm room with a program (heard of Facebook?) that allows you to check out your old high school prom date by Internet.

In our personality-driven culture, we have elevated our nerds-in-chief to pure caricature—more antihero than global technology titan. So, we finally have the cultural relevancy we thought we wanted. But here's the nagging question: Does engineering really matter anymore?

Our community of engineers laments the loss of the great adventure, and rightly so. Where is our space race, and weren't we supposed to slay dragons just like our bespectacled heroes? For those of us who came of age in the '60s and '70s, it feels like we got suckered into a “bait and switch” game. It wasn't just that we were good at math and science; we were attracted to engineering by the sheer audacity of the problems, nearly insurmountable challenges, and noble journeys. Now we seem to spend most of our time worrying whether our jobs are going overseas to some faceless engineer from India or China.

So where is our mojo? For the sake of the next generation of engineers, I want it back. We don't have to be relegated to history's tool chest. We can take hold of the reins and define our own future, but to do this we must embrace risk. I don't mean the kinds of risk that come with tough technical challenges; I am talking about “putting yourself



DURING THE APOLLO 13 MISSION AND THOSE LEADING UP TO IT, ENGINEERING WAS COOL. WHAT CAN BE THE PROFESSION'S NEXT HEROIC MISSION?

out there,” saying and doing what you've dreamed of since you were a child.

We are upset that space exploration doesn't capture the nation's imagination like it used to, but why should it? Running a bus service to the space station just isn't that sexy. Why not use our own political capital and intellectual power to create a bold new vision for space exploration?

Space isn't the only problem that matters. We each have our own motivations that brought us to engineering—dreams that are worthy of risk and make us willing jump out there and make things happen. Find a heroic journey worthy of your hard earned talents, and be a problem solver.

I can hear you now: “Oh, it must be sooo easy for you to say this from your cushy tenured faculty position. You don't have to make a payroll, close a sale, or meet a deadline.” Well, I am prepared to take my own advice. Rather than following the familiar, yet incremental path, I have committed to making progress on two great challenges.

1) Fix engineering education. We all know it isn't working. We get by on the fact that our students are so strong, but that won't cut it any longer. We need bold, creative ideas that extend the talents and

imaginations of our young students. Two years ago the Caruth Institute for Engineering Education at Southern Methodist University's Lyle School of Engineering was formed to look at every possible solution from every corner of excellence.

2) Bring the benefits of engineering to the global poor. Nearly half of the world's population lives on less than \$2 a day. This is an unacceptable situation that should be addressed by the globe's engineers. The Hunt Institute for Engineering and Humanity at the Lyle School was created to pursue real-world solutions to challenges such as housing, infrastructure, and energy. We can't wake up 30 years from now to the same problems.

It is great to have heroes, but more important to create our own heroic adventures. That is where we will find our mojo.

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