The passing of the great mathematician/engineer Claude Shannon gives me cause to reflect on the seeming lack of technical superheroes in our culture today. Where are the Claude Shannons of today, I wonder?

It was only a month ago that I attended the unveiling of a sculpture of Shannon in the foyer of Bell Labs in Murray Hill, N. J., where he conceived his theory of information. A glass case beside the newly sculpted bust of Shannon contains a copy of his classic paper, “A Mathematical Theory of Communication.” The journal itself is now yellow with age, but the words he wrote in 1947 still gleam with an intellectual brilliance that transcends the decades:

“The fundamental problem of communication is that of reproducing at one point either exactly or approximately a message selected at another point.”

Shannon’s paper still seems lucid and incredibly insightful. His equation for channel capacity—the highest possible rate at which information can be transmitted with zero probability of error—stands to me as one of the handful of simple, powerful, and beautiful equations of our profession. But where are such great equations today?

I was staring at the glass case containing Shannon’s 1947 paper when my eye was caught by an adjoining glass case. “Recent contributions by Bell Labs’ authors,” said the title on the case. Inside was featured a book on adaptation-layer protocols for ATM. My eye went back and forth from Shannon’s conception of information theory to the real world of protocol design for computer communication. This is what it has come to, I thought. It’s what is left for us mortals.

As a child I shared the fascination that many youngsters have with dinosaurs. I would stare at the skeletal recreations of the brontosaurus and tyrannosaurus, and wonder what kind of world these huge beings inhabited. I had no interest in the little hopping, chirping, flying things of the same period. It was those big things that captured my fancy. And so it is in my imagination with the engineers of the past. I have on occasion skimmed through other journals of 1947 to form a basis for the calibration of Shannon’s work. What kind of world was it then? What I found was a lot of forgettable hopping, chirping, and flying engineering things that suffered extinction in the survival of the fittest in the decades that followed. Alas, I have written such papers myself—little hopping, chirping, flying papers. No museum would ever be interested in them.

When Shannon rode his unicycle along the hallways of Bell Labs, he would have passed Shockley, Bardeen, Brattain, and others testing the first transistor. The first digital computers were just being implemented not far away. Microwave radio systems were being designed on the heels of the radar experience from the war. This was a world where prehistoric monsters ruled.

Recently I was asked to edit material for an encyclopedia in the field of communications. In the present edition, there are dozens of biographies of the pioneers who created radio, television, the telegraph, the telephone, and other electronic media. The names are familiar to all of us—Bell, Morse, Marconi, Armstrong, Sarnoff, Zworykin, Farnsworth, deForest, Watson, Hazelton, Goldmark, and so on. What struck me, however, was that there was not a single biography of any person who created anything after about 1950.

This encyclopedia has to be brought up to date, I thought. Whom would I add? Well, Shannon, of course. But who else? Think about it. In 50 years when people look at the encyclopedia for today’s pioneers in communications, whose biographies will they see?

It isn’t that there aren’t great achievements today. In communications we have optical technology, ubiquitous wireless, the Internet, and the World Wide Web. However, it does seem that individuals stand out to a lesser degree than they once did. The world has become a bigger, more complicated place. Where once there seemed to be only a handful of colorful personalities creating pioneering technology, now there is a cast of millions, doing such important, but forgettable, things as creating small variations on the details of protocols.

I myself caught only the tail end of what is generally spoken of as the “golden years” at Bell Labs. I do lament the passing of that culture and the clomping of dinosaurs walking the earth, but I’m not convinced that it was a better place and time than today. What we have lost in colorful individualism we have gained in the thrilling power of today’s technology.

I imagine the dinosaur lifting its awkward head and staring into the skies as a 747 leaves its contrail in the upper atmosphere. Who created that, the dinosaur wonders. We all did, I think. That’s the way the world works today.