

R E G U L A R S

need to know



Counterpoint probes the mind of a different campus personality every month. This issue, MIT Media Lab professor David Reed.

Dr. David Reed came to MIT as an undergrad in 1969. He is most famous for inventing Reed's Law on group-forming networks and co-designing the end-to-end principle on which the Internet is based. He is currently a Professor in the Viral Communications group at the MIT Media Lab. In between, he left for stints in the computer industry, but his heart seems to have never left the place:

So did you always want to study computers?

I wanted to be a poet and do math as a hobby. I wanted to express myself. But somewhere along the way I realized that the computer is an amazing way to express myself creatively. And eventually, there are a lot more people who write poems than those who actually read them. [Laughs]

How did your romance with MIT start?

I actually came to MIT in my junior year of high school for the High School Studies Program. I learned some abstract math, but I was really fascinated by what I learned about classical blues. The MIT undergrad who taught me went on to become a famous DJ. In those days, MIT was the birthplace of some famous bands. Wandering around the halls of MIT, I discovered an intriguing artistic subculture. And MIT had just brought in Denise Levertov, who was my favorite poet, as a poet-in-residence. So I thought: why not MIT?

Tell us about something exciting you did while you were here.

Lots of things, but let me tell you about one. I was hacking around with the Multix operating system and invented what must be the first automated exploit generator. It was an algorithm that com-

plied rapidly, searched the system calls space for security holes and exploited it. It was exciting but also pretty scary, as we didn't know whether we should publish it or keep it a secret. So we took the middle ground, and published it to the programmer community so they could fix the bugs.

We used to add hardware and programming to the PDPA to synthesize music in the middle of the night, after finishing off work. At that time, you couldn't argue that this was a "good" use of the machines. Only at MIT was the computer seen as an object of art or culture.

What is the most important thing you learned at MIT?

If you think someone can build something, you can do it, too. MITians don't have the fear of trying something new and falling flat on their face. Students are sometimes nervous when they come here, but usually within a year they just start trying stuff.

Do you have a secret desire?

My high school wish was to live in space or under the ocean. More recently, I have wished I had robot puppets that I could control remotely. They would extend my personality, so that instead of relying on a third source, I could ask them directly to find out what I wanted to know. They would be my curiosity satisfiers.

What is your advice to someone seeking to do something significant?

The desire to understand stuff has always driven me. I believe that anything important I have done is just the side effect of my intense effort to figure out something. If you are curious, it will lead you to something important, though it might not be clear at the start how exactly that's going to happen.

Interview by Durga Prasad Pandey G (dpsmiles@mit.edu).

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