Sermon 5: Stay Broad

5.0 Main Point

There aren't very many influential nerds, and there never will be. Why? They're too narrow. Real breakthroughs tend to come from people with breadth.

One of the most important things you should do is to force yourself to stay broad.

5.1 Reasons to Stay Broad

1. Breadth helps depth. The more you understand about many different things, the more you'll understand about each individual thing. Seeing how things in different areas are similar or different is a very good way of seeing what's important.

2. Breakthroughs often occur when people can cross traditional boundaries: compilers and architecture, graphics and VLSI, etc.

3. Computers are tools: they serve people. In order to build effective tools, you have to understand both the capabilities of computers, and the needs of the application areas where they'll be used.

4. Technology is changing fast. If you get cubby-holed, you'll get left behind.

Why is there a shortage of 25-year-old engineers and a surplus of 45-year-old ones? Companies encourage new graduates to get so narrow that they're instantly obsolete.

5.2 Solutions

1. Continuing education. Try always to be learning in whatever you do. Don't let your education stop when you leave Berkeley.

2. Explore new areas, both inside and outside Computer Science. Everything you learn will someday be helpful, no matter how unlikely it seems. English, art, hobbies, all things are helpful.

Here's an example: Steve Wozniak. After building the Apple 2, came back to Berkeley to get a masters. Around the same time, he and Jobs visited Xerox PARC, learned from the good ideas there, and built the Macintosh.