

Introduction

It all started somewhere between 1000 B.C. and 500 B.C. when the abacus was invented. Some 200 years later the zero was invented along with negative numbers. Mankind was off and running!

The summer before I entered college, I worked for a company that had a separate air-conditioned room that housed an immense Remington Rand UNIVAC computer. It's 5400 vacuum tubes took up 350 square feet—the size of some New York City rental apartments. That was my first look at a real computer, an outgrowth of the much slower and much larger ENIAC computer. That was my first introduction to the computer mantra, i.e., smaller and more powerful.

I purchased my first hand-held calculator for thirty-five dollars (my weekly salary) back in 1971 when the first microprocessor, the 4004 was produced. I was already behind the leading edge of technology.

It was all a blur after that. In 1973, Xerox introduced the Alto computer and the next year the 8080 microprocessor was produced. In 1975, Bill Gates and Paul Allen, two unknown computer enthusiasts, started a little company called Microsoft. Things moved fast after that. The next year the Apple was being sold and a year later the ubiquitous Commodore PET was introduced. All the while I was using my slide rule to solve complex problems in calculus, thermodynamics, and differential equations in college. That simple slide rule worked well for scientists and engineers for many years. The secret was to let your brain use it as a tool. That's the point. Although computers are ubiquitous, we have to remember that progress was made before computers by using the best computer in the world—the brain. Computers are only tools, although sometimes with a mind of their own.

Computer education in the classroom is important if we want to prepare students to be competitive in the world but we must

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remember that computers are tools to be used by educated individuals. There is no evidence that computers have increased academic achievement. The latter occurs through the hard work of dedicated, knowledgeable, and creative teachers who can fire up the imagination of youngsters.

Computers have profoundly affected all of our lives in countless ways, not the least of which is to sometimes frustrate and bewilder us. Read through this collection of cartoons and spot those familiar scenarios. We're all in this together. Have a chuckle.

—*Aaron Bacall*