

Remarks at Retirement Reception (April 24, 2013 by Robert E. White)

1. How do you know when to retire?

For me it was a gradual process that started with our move to SAS hall. I noticed a very old box of staples and remembered in 1973 getting them from the staff person. She came out of the supply room and said something similar to “I am giving you a *whole* box and do not to come back looking for more staples.” Well, I am almost out of the 5000 staples.

2. What is new and what is old?

I have a collection of very old books and you may enjoy looking at some of these. There is one on “bead” arithmetic and another published in 1902 on the “new” arithmetic. On the other hand, there is a book published in 1825 whose content is not much different than in some of our current courses. Generally, the books were smaller. The smallest book I own was given to me by a graduate student; I think it was a hint.

3. Computing tools have changed dramatically.

This is my slide rule from the 60s. Many of you do not know how to use a slide rule, but don't worry I have an old book that will guide you.

Fast forward 25 years. This is a node from the Intel hypercube. It had half a gigabyte of memory and a clock cycle time from 5 to 10 megahertz.

Fast forward another 25 years to the present. This smartphone has 17 gigabytes of memory, a clock cycle time of 1.2 gigahertz and a dual-core processor.

In summary, computer hardware and software have a generational change about every three or four years. Moreover, they are cheaper and are widely available. All of us have seen the impact of enhanced computing and internet communications on our research and our graduate level courses.

4. How will these advances impact our core undergraduate math/stat/computing courses?

There is a two-decade trend in most disciplines to be more quantitative with the use of discrete modeling and simulation. Although the appropriate course work is available, it is often scattered among several courses, fragmented within a course or may not be presented in a timely manner. Also, there is a tremendous duplication of teaching effort among multiple section courses. Should 20 sections with 20 different teachers all be preparing the same 42 lectures?

5. Should I make some predictions? Yes, I have five.

The university will *refocus* on education, research and outreach to government, industry and business. There will be significant reductions in both esoteric activity and overhead costs.

The graduate mathematics program will continue to grow in *scope and depth*. For selected undergraduates there is and will be a great opportunity to take advantage of the many 400 and 500 level courses.

The rapid evolution of computing, internet communications and monetary issues will *merge* to force some systemic changes in undergraduate education. The merging or confluence of these forces is what will yield significant changes.

The core math/stat/computing course work has not changed in decades. It will be modified and reorganized so that after the second year undergraduates will be *capable of contributing* to some aspects of research or outreach activities.

Multiple section courses will be taught based on a master online sequence of mini lectures. This will allow some learning to be *asynchronous* in both space and time and to be a more efficient use of our students' time.

6. I would like to close by reading the first stanza of a poem by James Dickey.
It is called “The Beholders.”

Far away under us, they are mowing on the green steps

Of the valley, taking long, unending swings

Among the ripe wheat.

It is something about them growing,

Growing smaller, that makes us look up and see

That what has come over them is a storm.

7. In light of all this turmoil, what are my recommendations to you younger folks?
Keep track of your *staples*.

