My major professor, Steve Day, called me into his office to tell me that I had passed the Ph.D. prelim exam, though not with flying colors. Since he knew I had studied French as an undergraduate, he said he had signed me up to take the French reading exam for Ph.D. candidates. He further stated that the Physics Department would soon be voting to reduce the language requirement from two to one, so this would get this hurdle out of the way. The exam was only three weeks off, so he said to stop all research activities, do as little course work as possible and concentrate on boning up on my French. I did so, and passed the exam easily. However, a month later he again called me into his office, and with some embarrassment told me that in fact the physics faculty had voted to require only one language, but they had excluded French. He recommended that I get a German tutor and start studying German to take the exam the next semester.

So, I spent every Saturday for the next few months studying German and paid a tutor for an additional two hours each week. The German exam was given by an elderly German Chemistry Professor who would simply open up a volume of Zeitschrift für Physik and randomly point to a line in the middle of an article. The test then was to translate the next 80 lines within two hours using a German-English dictionary as needed. At the end of the two hours I handed in my translation, but I had only translated 56 lines. A couple of weeks later I was summoned to the German professor’s office. He handed me back my translation with only one red mark on it—an “F” at the top of the page. He somewhat apologetically explained that, although it was one of the finer examples of German translations he had seen, he had a sixty-line minimum requirement. He said, “Passing requires 80 lines with only a couple of major mistakes and 4-5 minor ones, 70 lines with half as many mistakes or 60-65 lines with only one minor mistake; but you only did 56 lines.” I argued that I had clearly demonstrated my ability to translate and that, should the need arise, I was quite willing to spend the extra time. He was silent for a short while, but then said, “I think you should take the exam again.”

When I told Dr. Day about this, he suggested that instead I should take the SAT German test. I checked into this and found out that the U of A graduate school
requirement for passing was only 50 percentile and that the next time the test was to be administered in the state of Arkansas was nine months away. Not wanting to let the German I had learned slip away, I signed up to take the exam at Texas A & M University, which was only a couple of months off. I took the test in College Station in late August of that year and felt good about it, but it took over two months for the test results to arrive. On arrival I was pleased to see that I had made 63 percentile, but a few days later I received a notice from the graduate school that I had failed to satisfy the German language requirement for the Ph.D. When I went to ask the German Chemistry Professor for an explanation, he said, “The graduate school language committee met in September and voted to increase the requirement from 50 percentile to 67 percentile.” I immediately replied that I had taken the exam prior to that meeting and that the percentile requirement in effect at that time should apply to me. He saw the logic in this, but didn’t want to give in. So, he somewhat angrily said, “Well, why did you take that exam anyway; why didn’t you take my exam!” To which I replied, “I did take your exam last spring, sir.” He looked surprised, got up, walked over to his file cabinet, and pulled out a thick file of translations. He hunted through the file until he found my paper and said, “Now, I remember you.” For a couple of minutes he looked over my translation and then glanced at my SAT percentile. He then picked up the graduate school notice of failure, crossed out that word and wrote “passed” and then handed me the paper saying, “Now, go away and don’t bother me anymore!”

Just over a year later, the U of A Physics Department faculty voted to entirely do away with the Ph.D. language requirement!

A corollary:

During the middle of my attempt to learn German, I and a couple of other graduate students were discussing the merits (or lack thereof) of requiring a reading knowledge of some language in order to get a Ph.D. in Physics. We were in the hall just outside Professor Hobson’s office. He had overheard our discussion and was disappointed that our consensus was that there was little merit in such a requirement. So, he exited his office and politely informed us that he couldn’t help but overhear our discussion. He spent the next 3-5 minutes telling us how important communication between scientists of different countries was and that American scientists were obligated to do their part in fostering such. Of course, we all agreed.

A year or so later, I was sitting at my desk in the NMR Lab just down the hall from Dr. Hobson’s office when he came in asking to borrow my French-English dictionary. He
said he had gotten a preprint in the mail and couldn’t find his dictionary. About three hours later he brought my dictionary back and I said, “Well, that was quick!” He replied, “Actually, I gave up. I’m taking the article to a French professor who’s going to translate it for me.”

II.

In the late 60s and early 70s, there was a glut of Ph.D. physicists. Every position I applied for during the 70-71 school year had almost 200 applicants. Physics Today carried stories of Ph.D. physicist driving garbage trucks, teaching junior high, etc. The consensus was that physics departments had become too esoteric, concentrating on knowledge for the sake of knowledge without worrying about the practicality of it. Physics had let engineering take over the responsibility of satisfying the immediate needs of the world. In response the larger universities instituted applied physics degrees; and the smaller ones, such as the U of A at Fayetteville, hired at least one “applied physicist” to help steer them in a direction that would make their graduates more desirable to industry.

So, in the fall of 1970 the U of A acquired an applied physicist. That is, a fellow with a Ph.D. in Physics who had managed to work successfully in industry for about 20 years, but who was now willing to teach physics graduate students how to be more practical. Of course, this professor had to help earn his keep while developing the applied physics degree program by teaching at least one of the undergraduate courses. The U of A applied physics professor was given an office next to my NMR lab, and I was assigned to be the lab instructor for his course. One day in January just prior to the start of the spring semester I went to see the professor about the lab.

The physics department offices were long and narrow and were heated by steam radiators placed under the windows, opposite from the doorway into the hall. When I entered the room, the professor was seated at his desk with his coat on and his back very close to the steam radiator. I only had a long-sleeve shirt on; and, after being in the room discussing the lab with the professor for 15-20 minutes, I found myself shivering. I thought, “This guy must be from up north somewhere and likes it cold.” But, when I got up to leave I remarked about how cold it was. He immediately exclaimed, “Oh my gosh, I’ve been freezing all winter. This steam heating is worthless!”
As I started out his door into the hallway, I glanced at the room’s thermostat and noticed that it was set on 65 degrees fahrenheit. Since this was at the doorway, a good sixteen feet from where the professor was sitting with his back no more than four feet from the frosted windows, the temperature was probably only in the high 50s there. I stopped and said to the professor, “Do you know that your thermostat is only set at 65? He replied, “I know, I’ve tried to figure out how to change it; but it doesn’t seem to have an adjustment.” I asked him to come take a look. I showed him the little wheel on the bottom of the thermostat that allowed me to move the needle up to 75, so it would be about 70 at his desk. At least once a week for the rest of the winter, he thanked me for “fixing” his thermostat; and I knew that the graduate students behind me would have an easier time getting a job than I did.

III.

Two quotes that were posted while I was in physics at the U of A almost 40 years ago have stayed with me:

Steve Day had tucked into the lower right-hand corner of his elegant Ph.D. Diploma from Rice University: “Beware of those who fall at your feet, they may be reaching for the corner of the rug.”

David Ross had stuck on his equipment rack: “I have spent the day stringing and unstringing my instrument, while the song I came to sing remains unsung. Tagore.”