Dr. Butcher, as you look back, what do you feel is distinctive about UT-Houston GSBS?

Two aspects stand out, in my opinion, and they are related. This school is unique in that it spans not only the Health Science Center, but also M.D. Anderson Cancer Center, giving our students unparalleled opportunities in their interaction with faculty members. The faculty is itself enormously diverse, numbering some 403 at present, derived fairly evenly from the two institutions. Whether working towards the Master of Science degree or the Doctorate of Philosophy in the biomedical sciences (the majority are engaged in Ph.D. studies), students participate in programs the breadth of which is hard to match. For example, our Human and Molecular Genetics program is based in M.D. Anderson, the School of Public Health and the Medical School.

It should also be noted that since its foundation in 1963, GSBS has been an interdisciplinary institution. We do not ask students to commit to a department or faculty mentor until near the end of the first year. They spend this year in three tutorial rotations, with the potential to gain hands-on experience of different schools and scientific disciplines before deciding on a field of study. I would also like to stress the great advantage we have in our affiliation with M.D. Anderson. It is the outstanding cancer treatment hospital in the world and possesses an enviable record for research. Add this factor to our Health Science Center and you have a graduate faculty of rare distinction. Nor is this just my opinion: last year five of our graduate programs were ranked among the top tier of university graduate programs in the country in a survey conducted by the National Research Council.

How big a part has research played in your own career?

A very significant part. I should explain that I began my training as an M.D./Ph.D. student but after three years in medical school found my fascination with research all-absorbing and concentrated on my doctoral studies—a decision I have never regretted. I was fortunate to do my graduate work at Western Reserve University with Earl W. Sutherland, who went on to win the Nobel Prize.

After several years at Vanderbilt University, I joined the University of Massachusetts Medical School as chairman of biochemistry; ten years later I came to Houston. My research has focused on the study of the molecular mechanisms by which hormones alter cell functions, with particular emphasis on cyclic AMP. My research has gradually been winding down with the approach of retirement.

How do you perceive the state of graduate education in the U.S. today?

It is my belief that there has been a drift in graduate research education toward over-specialization. That’s why I am so proud of the inter-disciplinary approach we have fostered here in Houston. Breadth is vital. I believe that success in science, now and in the future, is going to depend more and more on this quality. It is not enough to know everything there is to know about the sea slug—you have to be able to extrapolate to other creatures, and from one system to another. Without breadth, scientists are going to find it difficult to progress in their careers.

This brings me to another point I feel strongly about. As scientists we must abandon our prejudices about what does and does not constitute success. The traditional academic career should no longer be the only worthwhile ambition of our post graduates. Careers in science writing or science policy, for example, are of equal merit. Nor should university teaching monopolize the pinnacle it has for so long claimed. I would like to see for more of our graduates contribute to the education of our younger citizens: kindergarten through 12th grade. I realize we have a long way to travel before we shake off our elitist attitudes, but I live in hope.

Do you see signs that GSBS can break the mold in this regard?

We certainly encourage our students to get involved with local schools and have an outreach program that encompasses two of HSD’s elementary schools. There is so much I could say about this program, but one anecdote reveals what we are up against. When a third-year Ph.D. student (who I hope won’t mind my telling this tale) was conducting a science class at Brookline Elementary, one little girl was clearly surprised at the sight of a young woman in a white coat talking about science. She asked, ‘Miss, are you really a scientist?’ When she said yes, she really was, the response came: ‘Does your Mommy know?’ Sounds charming, I know, but the fact is countless children are growing up with little or no understanding of science—or that it’s possible for them to become scientists. So, in my view, the more scientists we train, the better—and the more that set their sights on our youth, the better, too.

What other challenges do you see facing graduate education?

A corollary to the issue I’ve just described is the recent Hopwood decision. It is my belief that we need to greatly improve our ability to recruit and retain African-American and Hispanic people to both the student body and the faculty—if this institution is to reflect the population it serves. Because Hopwood puts the emphasis on paper qualifications, we risk losing the ground we have made in recent years in ‘levelling the playing field’ for deserving candidates from ethnically diverse backgrounds. In my experience, traditional measurements of academic ability cannot be relied upon. In fact, the scores on the standardized tests our students must take (the Graduate Record Exam) are poor predictors of success in graduate school. I would like to see a far broader range of indices applied to applicants, which include factors such as where the student undertook his or her undergraduate work, and take into account any handicaps that may affect the outcome. The numbers alone do not do justice to many who are highly deserving.

What special memories will you take with you into retirement?

There have been so many special people that it wouldn’t be fair to mention just a few. Let me say how very proud I am of the many successes of our graduates. We have people in faculty positions all over the world, and I’m just as proud of those who aren’t in science as those who are. Above all, I would like to express my gratitude to the GSBS faculty and students. Also, I have had the best staff you can imagine—an extremely talented group of people who not only care a great deal but work very hard on behalf of the students. GSBS has the reputation for being extremely student-friendly and, while some see this as a fault, to my mind it is a great strength. It has made my teaching career a joy.

The obvious question to close: ‘what now?’

Well, to those who might wonder ’Is there life after UT’, I’d say, most definitely. Joan and I have been married for forty-three years and have plenty to keep us busy. We are also addicted to reading, so have signed up as volunteer librarians at the University, Anderson. We certainly encourage our students to get involved with local schools and have an outreach program that encompasses two of HSD’s elementary schools. There is so much I could say about this program, but one anecdote reveals what we are up against. When a third-year Ph.D. student (who I hope won’t mind my telling this tale) was conducting a science class at Brookline Elementary, one little girl was clearly surprised at the sight of a young woman in a white coat talking about science. She asked, ‘Miss, are you really a scientist?’ When she said yes, she really was, the response came: ‘Does your Mommy know?’ Sounds charming, I know, but the fact is countless children are growing up with little or no understanding of science—or that it’s possible for them to become scientists. So, in my view, the more scientists we train, the better—and the more that set their sights on our youth, the better, too.

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Photos by Craig Hartley