

ROUS-WHIPPLE AWARD ACCEPTANCE SPEECH

Why Did Daedalus Leave?

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I would like first to thank all the members and officers of the Society for awarding me this coveted prize.

I am particularly happy because the Rous-Whipple Award honors in the recipient a long and distinguished research career. How long my career has been, I would rather forget; how distinguished, that has been your judgment; but there is no question that it has been a research career. Although I was certified in both Anatomic and Clinical Pathology in 1958, my overwhelming interest for the past 30 years has been research. Nobody would ever dream of giving me a prize for my administrative abilities and, even in my department, I can't remember anyone ever asking my opinion on a slide. Rightly so. My interest is research and research has been my everlasting love, since the time I was a medical student 45 years ago.

A researcher likes to talk about his research; like Cherubino in the *Marriage of Figaro* talks about love to anyone, in fact to anything, including trees and flowers, researchers love to talk about their work, and when they run out of listeners, they talk to a dictating machine. And here I have a captive audience, and the temptation is so great to tell you something about my work, but . . . There are two reasons why I will forego such an opportunity. The first is that I have already given a talk at this meeting, yesterday, in the symposium on 'Oncogenes in Growth and Development,' and that has exhausted my store of knowledge. But, much more important, on the same day I was notified that I had been awarded the Rous-Whipple Award, I also received a letter and questionnaire from Dr. Robert Anderson, from the University of New Mexico. Now questionnaires from Dr. Anderson come with such frequency that the Post Office in Philadelphia wanted to give me a special zip code just to accommodate them, but this was different. It began with a phrase that caught my attention. 'As you know,' he wrote 'there is a current shortage of aca-

demical pathologists, a deficit that is projected to continue for the foreseeable future and most probably worsen.' I looked at my letter of award, then again at his letter, and I decided, there and then, that my Rous-Whipple Award acceptance speech would deal not with my research, but with academic pathology and why we fail to attract young people.

Do not worry; I will not bore you with objective remarks substantiated with statistics and figures up to three decimal points. I will simply tell you my personal opinion, which has the advantage of being the product of a human brain (defective as it may be) rather than being the product of a computer. First, let me remind you of Sol Hurok's famous slogan. When he was approached by a committee in this town, Washington, D.C., to organize and sponsor a series of concerts of contemporary music (which, regrettably, does not enjoy the favor of the public), Sol Hurok shook his head in disapproval and said 'When people don't want to come, nothing can stop them.' If young men or women do not wish to become academic pathologists, nothing will stop them. Indeed, nothing is stopping them.

If we want them to come then, what we should ask is: What makes a young man or woman want to enter academic pathology? As I told you, I will give you no statistics, I will tell you what made *me* enter academic pathology, the assumption here being that today, still, there are many young people who could feel the way I felt, when I was a medical student 45 years ago. And the impetus for my love of pathology was, you guessed it, my professor of pathology at the University of Milan. His name was Piero Redaelli. In those days, many other professors would take roll calls to avoid lecturing to half-empty classrooms. Professor Redaelli would start his autopsy demonstrations in the amphitheater at 8:30 A.M., and if you wanted to get a seat, you had to be there by 7:30. No, he did not take roll calls. At that time, I was an angry young

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man, like so many youths at that age, oscillating like a pendulum between rebellion and daydreaming. I went to see Professor Redaelli and told him I was interested in doing research. Even then I was motivated by the three passions that have always dominated my life: a longing for affection, an unquenchable thirst for knowledge, and a desire for justice (incidentally, the first two passions have been the source of all my happiness, the third, the desire for justice, has been the cause of all my problems). Professor Redaelli gave me both affection and the possibility of quenching my thirst for knowledge. From that moment I was in love with Pathology. But, although he was such a superb teacher and autopsy pathologist, when I told him I wanted to do research, he did not hesitate: anatomic pathology, he told me, was the most wonderful didactic tool at our service and very important in the diagnosis of disease but, if I wanted to discover new things, to find new knowledge, classical pathology was no longer sufficient; research had to be experimental. It may sound trivial today, but this was 1946 and, at least in Europe, it was a very daring choice. He taught me experimental research and, in retrospect, I now realize that he gave me two reasons, two important reasons, to choose pathology: 1) he inspired me with his example or, as they say in today's college professors's jargon, he served as a role model; and 2) he gave me the tools with which to do meaningful research.

Sometimes things must be reinforced. When I first came to this country in 1952, other things attracted my attention and, for a short period of time, I considered other alternatives to pathology. I was lucky to fall under the spell of yet another pathologist, this time in the person of Dr. Hermann Lisco, a German pathologist who had fled Hitler's Germany and who, in the 1950s, was associated with the Atomic Energy Commission. Dr. Lisco was thoroughly German (he came from a long line of distinguished Protestant ministers) and he was the perfect complement to my mercurial Italian temperament: he opened new vistas for me, he taught me, not to suffocate, but to channel my imagination and to ask questions that have an answer. He introduced me to more and more sophisticated research and he provided me with new tools. And some of you may remember that I was the first one to use ^3H thymidine to study tumors. Again, the role model and the tools.

So perhaps the first thing we should ask ourselves is if we, the older pathologists, are still providing our younger colleagues with role models: Professors Redaelli and Lisco inspired me because they were dedicated to research, to the acquisition of knowledge, to the enrichment of one's mind. They talked to me about data, how to interpret them; they taught me how to ask questions and how to get an answer; but more than anything else, they taught me that research is a jealous mistress who does not take kindly to rivals. Quenching that thirst for knowledge is a

full-time occupation. And what do we do, what do I do, today? How much time do we spend talking about billings, patient mix, ever-changing curricula, quality assurance, malpractice insurance, why medical students do not work hard any longer, why administrators run physicians, instead of the other way around, how to dispose of radioactive materials, dead rats, lawyers . . . I ask you, do we really hope to inspire young people with a discussion of these miseries? But, you tell me, this is the stuff of life, this is what life is made of. And I answer you: We should teach young people the stuff of which dreams are made of. Remember T.S. Eliot's *Murder in the Cathedral*: 'Man cannot stand too much reality.' This much for the role model.

And what about the tools?

Sometimes an American colleague, who has fallen in love with Italy (and, as you know, there are quite a few Americans who are deeply in love with Italy) will ask me: What made you leave such a beautiful country? I always answer them with a question: Why did Daedalus leave? Daedalus, in Crete, had everything—honors, riches, the protection of the King, everything, except one thing. He had to build what the King wanted him to build, he could not do what he wanted to do, he could not do his own thing.

You native Americans do not realize how spoiled you are, growing up in universities and medical schools in which it is accepted that you do not have to do what the King wants you to do, that, thanks to the grant system, you are free to carry out your own research, almost from the time you graduate. When I came from Italy 38 years ago (I had my first grant from the Damon Runyon Fund in 1953) and found that I could do *my* research, I could test my own hypotheses, try my own skills, I thought I had died and gone to heaven. True, these days getting a grant to do your own thing is not easy, but, remember, let us keep the system. It may have defects, but it is the best instrument ever conceived by the human brain to foster the blossoming of a young researcher's mind. It is this fertile mixture of freedom and competition that has made (and still makes) this country tower over all other countries intellectually. It has made a French intellectual, a few months ago, call the United States 'the Athens of the 20th century.'

And now you know why *this* Daedalus left. And why other Daedali, American this time, young people who prefer other alternatives to pathology, are leaving or, at least, are not coming to Academic Pathology. But, you tell me, that is not true, because we are not Herr Professors, we don't tell young people what research they should do, we let them do what they want, like every one else in this country. And I answer you: there are more subtle ways than the Herr Professor's way to limit one's research career. As I told you a few moments ago, my mentors not

only inspired me with their example and encouraged me with their affection and their wisdom but they also provided me with tools, new tools with which I could do work that was at the cutting edge of research, at least in my field of interest. Today, in an era of severe competition for research dollars, new tools, new techniques are more necessary than ever if a researcher wishes to remain competitive. Without extensive training in cell biology and biochemistry, in recombinant DNA technology and in computer use, a researcher's days in 1990 are numbered. Why would anybody wish to enter an academic career in research if he knows that within a few years he won't be able to do research?

So, I ask myself: are we providing the tools for young

people to be competitive researchers? I know that some departments of pathology do, but perhaps they are too few, and the image of Pathology is tarnished. Where are the role models? Where is the commitment to first-class research? Where are we placing our hopes for the future of academic pathology? Questions, questions, and more questions. . . .and I have no answers. But that is par for the course. For 37 years I have asked myself one single question: What makes a cell divide? And I still have no answer. My only consolation is that no one else has it, despite claims to the contrary. So I guess that this is my fate, to raise questions rather than to provide answers. But I am always trying to get an answer and I will always try, and that will keep me busy until I die.