

Medicine and research

By Paul Yang

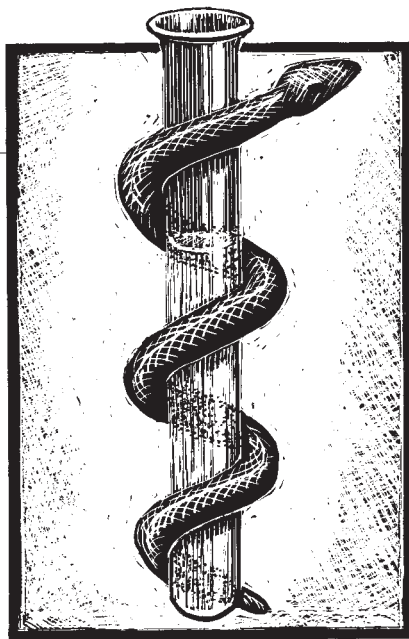
What year are you?" Whenever I'm asked that question by my fellow medical students, I have a hard time responding. I often answer, "M.D.-Ph.D." One loses count of the years when attending a program that lasts a minimum of seven years. Perhaps I should answer, "2006." But I find that the former reply often produces a more satisfying reaction. The next question is usually "Why?"

While medical education emphasizes the understanding and management of illnesses, research training enables one to explore the mechanisms underlying disease. By integrating both, M.D.-Ph.D.'s are better prepared to provide health care to patients, perhaps because they better understand the nature of disease. I live by the belief that knowledge comes not only from the classroom, but also from what one learns and discovers in the lab and the clinic. And what one learns in the classroom makes that much more sense when you know it will help someone someday. That is what the M.D.-Ph.D. means to me, and why I will ultimately devote eight years to the program.

Curious: I was born in southern Taiwan but moved to Seattle, Wash., at the age of two. My first eight years in Seattle's public school system were rather dull. I suppose more than anything that the slow pace of structured teaching and testing seemed artificial to me. But I was content to discover and learn by myself. I have always been amazed by machines and curious about nature.

Throughout high school and college, I immersed myself in physics, chemistry, biology, and math. I was interested in both biology and engineering—my father studied electrical engineering, so, naturally, engineering was always a possible career choice—but I thought I would have to choose one or the other to focus on. I was prepared to compromise my interest in biology until I stumbled upon an extraordinary interdisciplinary program tucked away in the Center for Bioengineering at the University of Washington. A full load of classes in the morning was complemented with laboratory research in the afternoon. I rotated through three labs and was mentored by both M.D. and Ph.D. principal investigators. Having been exposed to both clinical and basic research, I realized there was another decision to be made: M.D. or Ph.D.?

But my advisor suggested that I consider the idea of an M.D.-Ph.D. program—it would be a natural progression from bioengineering (bi-



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ology and engineering) to medicine and research. It is certainly possible to do great medical research with either degree: my chemical engineering professor helped produce the first kidney dialysis machine, and one of my undergraduate mentors, a cardiovascular surgeon, is developing three-dimensional digital models of the heart. And M.D.'s may seek postdoctoral laboratory rotations, while Ph.D.'s may pursue collaborations with their clinical counterparts. So the idea of the medical scientist is not new. But today, M.D.-Ph.D. programs formally recognize and facilitate the process of preparing for a career in medical research.

Direction: As I spent hours preparing my applications, I began to realize that the work I had done in college truly pointed in the direction of M.D.-Ph.D. programs. Looking back now on my

M.D. and my M.D.-Ph.D. interviews, I believe that the M.D. admissions committees suspected that I was bound for a dual-degree program. In a way, sometimes a profession chooses you.

It's an exciting and unique opportunity to study medicine and train rigorously in research techniques. Not only does the M.D.-Ph.D. program at Dartmouth provide comprehensive training in both basic research and clinical medicine, but the faculty are accessible and very helpful to students, regardless of their department affiliation.

For my thesis, I am working with Leslie Henderson, Ph.D., an associate professor of physiology and of biochemistry, on the actions of anabolic-androgenic steroids in the central nervous system (CNS). While such steroids are prescribed therapeutically, they are also abused and are increasingly popular among adolescents and elite athletes. Some of the undesirable psychiatric side effects include an increase in aggressive behavior and anxiety. We'll be using electrophysiological and molecular techniques to establish how these steroids affect certain receptors in the CNS, and, in so doing, we hope to better understand the physiological basis of steroid-induced psychiatric symptoms.

Another decision: I have spent the last two years working toward my Ph.D. as well as taking year-one medical classes. Teaching is also an important part of research, so I am doing some tutoring as well. In another three years, I hope to have completed my Ph.D. work, and then I will finish the last three years of medical school. At that point, another decision awaits me: will I concentrate on practice or on research, or do both?

Although I can picture myself in the clinic as well as in the laboratory, I know that no matter what I choose to focus on, the elements of research, clinical relevance, and teaching shall remain. ■

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Cumulative repository

By John C. Baldwin, M.D.

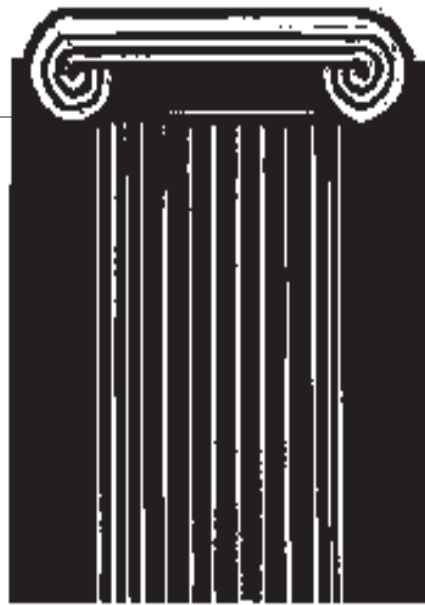
The Dartmouth Medical School community was saddened and diminished by the death in late October of former dean Marsh Tenney. Marsh was known as the “refounder” of the School, and it is not an overstatement to say that the institution would surely not be the place it is today had it not been for his efforts nearly 50 years ago.

But as sad as it was, Marsh’s passing underscored for me the sense of continuity that characterizes an institution like Dartmouth Medical School, despite the fact that individuals come and go through its portals over the years. Coincidentally, that has been a matter much on my mind of late, for there are now searches underway for four chair-level positions—in the Departments of Psychiatry, Pathology, and Pediatrics, as well as in the Norris Cotton Cancer Center (NCCC)—plus for two section chiefs and a chief financial officer.

Ebb and flow: There is a different reason for each of these changes, but taken collectively they bear out the fact that education is a people business and that there is an ebb and a flow, a natural order to the comings and goings, in any academic community.

In psychiatry, Peter Silberfarb has served with distinction as chair for 15 years—a period during which the department has risen to international renown—and as a member of the faculty for 28 years; happily, he’s not leaving Dartmouth but is just stepping down as chair, so he can direct the portion of his energy now expended on administration toward other things. The vacancy in pathology is the result of a reorganization of DMS’s administration [see page 6 for details]; I asked that department’s chair, Bill Hickey, to fill an expanded role as senior associate dean for academic affairs upon the retirement of Bill Culp, longtime associate dean for faculty affairs. The vacancy in pediatrics is due to John Brooks’s recent decision not to resume his duties as chair, despite his gratifying recovery from a very serious car accident a year and a half ago; John made enormous contributions to the institution as chair, and I know he will continue to be a productive member of the faculty. And at the Cancer Center, Bob Greenberg is stepping down after distinguished service as director at a very auspicious moment, for the National Cancer Institute just reapproved the NCCC’s core grant.

Searches: In addition, we have searches under way for section chiefs in cardiology and in neurology—both extremely important disciplines in terms of research as well as clinically. Finally, our chief financial officer, Eric Wadsworth, from whose rigorous fiscal oversight DMS has benefited greatly, has decided he wants to teach full-time.



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The people who are leaving these positions have given much to DMS, and, of course, they will be much missed. But the institution lives on as a tribute to the contributions of those who pass through it. Dartmouth Medical School is now in its 204th year of serving as a cumulative repository for many thousands of people’s personal and professional lives. This means the institution is—and I don’t use this term lightly—a sacred thing. It deserves respect not because of bricks and mortar or endowments, but because it’s a place where people have, both physically and conceptually, left their mark. In a way, the institution is an

organism; it lives and breathes and, like all other organisms, it changes and evolves. The last thing we should do is to pursue a static state.

That is something I remind myself of when—as happens frequently—someone comes to my office to tell me that so-and-so is about to be recruited away to Yale or Stanford or wherever. The people bearing such news usually wring their hands about the impending departure, but I have to confess that I feel a sense of exhilaration. That’s because if other places are trying to recruit our faculty away, it means we have the right faculty. Of course, I’ll make an effort to keep someone who’s good. But when someone thrives here and then moves on to another opportunity, their success there is a tribute to us. So I worry only when our people *don’t* get offers from other places.

Community of scholars: I’m sure there are deans who would disagree with me on this point, but I do not view retention as a primary goal. I believe facilitation of people’s success in their positions should be the goal. I want faculty to come here and, by virtue of the circumstances we provide, to flourish. If we’re the kind of institution we want to be, then many people will stay—but not because of inertia but, rather, because this is a community of scholars they enjoy being part of. At the same time, if some people get recruited away, so be it. The institution is bigger than any one of us.

The loss from leadership positions of the individuals above is unfortunate. And the loss of Marsh Tenney as a resource for all of us in the DMS community is significant. But I had the privilege of visiting him in the hospital several times in the week before his death, and his intellectual vitality was not dimmed one whit. It was the sort of vitality that embodies the very essence of this place—and will ensure its perpetuation for many, many years to come. ■

John Baldwin is vice president for health affairs of Dartmouth College and dean of DMS.