

William and Mary Physics Department
2003 Senior Class Commencement Address

John Michael Finn

May 11, 2003

William and Mary Physics Department
2003 Senior Class Commencement Address

John Michael Finn

May 11, 2003

Good afternoon and Happy Mother's Day, I'm Mike Finn, and I am a Professor of Physics at the College of William and Mary and a researcher of subatomic matter. Many of the graduating seniors here already know me from taking my course in mathematical physics last year. It was a survival course for those intending to go on to graduate school —*all the math you really needed to know*— and I ran it somewhat like a boot camp. I scheduled an extra hour of drill every week devoted to problem solving. Every student was required to solve difficult problems biweekly, and was critiqued on his or her presentation skills, comprehension, and mathematical technique. What I didn't tell the juniors, today's graduating seniors, was that I was secretly preparing them for their Ph.D. qualifying exams. But, then, William and Mary students are up to any challenge.

I have come to know a few of you even better this year, by participating in your senior research projects. Kristen Fuoti, for example, did a very nice honors thesis working in the polarized Helium-3 target laboratory under Professor Averett's guidance. Joshua Hippert did his senior research project with me, studying target-boiling fluctuations for parity-violating asymmetry measurements at The Thomas Jefferson National Accelerator Facility. My favorite graduate student, Pibero Djawotho, is receiving his Ph.D. for work done with me at Jefferson Laboratory. I will miss you all. Please don't become strangers to our college, and remember that this will always be your department.

Your parents and I grew up in much more difficult times than the present: The 1960's and early 70's, in particular, were chaotic and desperate. The civil rights movement was wrestling with the legacy of the American Civil War, the social contract appeared to be crumbling, and our most revered leaders were assassinated. Our country was involved in an uncertain cold war for its political survival, and a bitter hot war was raging in Vietnam. At your age, I was drafted out of graduate school in physics and sent to fight along the Ho Chi Minh Trail.

Although times have changed for the better, we find ourselves once again in challenging times. The trauma of the World Trade Center bombings, the covert war against terrorism, and the (all too-real) shooting war in Iraq to reshape the Middle East have hovered like rain clouds over your studies at W&M. You are learning the same hard lesson we had to learn: that the future is uncertain, and that you, too, have to take up your role in shaping the future. Your parents, secondary school teachers, this College, and this Physics Department have done their best to prepare you for a *Brave New World*. You have made plans, bright shining plans. Now you go to face the future and its surprises.

From the Book of Ecclesiastics we learn that for everything there is a season: there is a time for beginnings and a time for endings. Today is a time to graduate and move on. But, most of all, it is a time for self-assessment. Why did you come to William and Mary in the first place? And why did you decide to major in physics?

We know or can guess why you decided to come to William and Mary. This is a special place, with a great history and a caring faculty. The Natural

Philosopher William Small, for whom our physics building is named, had an incalculable, life-long effect on a young Thomas Jefferson, and many other members of that *Greatest of all American Generations*. The purpose of a liberal education is to create Renaissance men and women, well-educated, well-adapted people, who are engaged in the important matters of their time and who have the intellectual tools to make a difference. Tradition is a grand thing; it is something you can fall back upon at times of difficulties. But a university is only as good as its current faculty. We are fortunate to count among our number some truly gifted teachers, such as Governor's Distinguished Professor John Dirk Walecka, winner of the Bonner Prize in Nuclear Physics, who is retiring this year and who will be greatly missed. He reminds us of William Small.

But why did you, as individuals, choose to study physics, the “queen of the sciences,” indeed the foundation of all science, in the first place? Perhaps, because you are curious about the world, because you want to know what makes it tick, because the universe is awesome, or because you want to understand and control the forces of nature, and, ultimately, because you had the good fortune and mental aptitude to take advantage of the opportunities that you were given. There is no other field of study today, which can provide you with as powerful, mathematical, logical, and philosophical tools to breakdown, analyze, and resolve complicated problems. That is why physicists are in demand in corporate boardrooms, think tanks, engineering labs, computational-modeling centers, and R&D facilities. This society will always have need for human creativity, coupled with a strong, analytical, rational, and moral foundation.

You may find this hard to believe, but my background in physics, its rigor, its faith that all problems are ultimately solvable, that there is a right way to go about solving problems, played a large role in my being able to cope with the trauma of Vietnam, and contributed, in no small part, to my personal survival. Unlike many others, I knew I had a home to go back to and a future to pursue. That home is the international physics community, that life is here and now. I was determined to come back in one piece, not to be just another statistic, another name to be chiseled on a wall and then forgotten.

Whether you continue in physics or move on to other interests, the fact that you undertook the challenge of science will make you different, you are already special. Hopefully, your sojourn at William and Mary has also made you better people. I know your parents are proud of you. You should use this opportunity to thank them for their support. As time passes, you may encounter the burden of caring for a family or the fatigue of meeting one's daily obligations; you may even become discouraged, lose sight of what is important. At times like that, it is important to remember the enthusiasm of youth, the hopes and joys you shared as students here. In that regard, allow me to read a short poem about the future, called *The Dragon*. I wrote it for my children, and the piece was published recently in my book, *The Butterfly Girl*.

We stand upon the threshold of space
and gaze upon the heavens,
children still, all full of awe,
at the immensity before us.

What mysteries lurk in darkness hiding?
What do you suppose we'll find,
when we ride the flames on high?
A dragon lays waiting among the stars.

The dragon is a symbol for the unknown in life. Like the dragon, our universe is ancient, profound, mysterious, untamed, at times alien to our way of thought, sometimes dangerous, unpredictable, even frightening, but, nevertheless, it is something that cannot be avoided, and, therefore, should be accepted—embraced, if all possible.

Unfortunately, I don't have any deep, revealed wisdom of my own to part with. You will do fine in life if you remain true to your ideals, work hard, and keep faith with others. Remember who you are, where you came from, and where you are going. God bless, and God's speed to all of you.