Aspire Campaign Priorities:
New Frontiers in Neuroscience

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When I became president, there was one area of the academic program of the University where I knew we had to make a major investment and that was the area of neuroscience. Since the day I arrived at Princeton back in 1986, I knew that neuroscience was going to be an important science in the 21st century, and certainly in the 20 years since then that prediction has certainly held up extremely well. When you think about what has happened in science in the 20th century, I think most historians believe that the first half of the 20th century was the time for physics and the second half of the 20th century was the time for molecular biology. And my strong view is that for the 21st century, certainly for the first half of the 21st century, the study of the brain is going to be the field that is going to attract incredibly talented students and faculty, and it's going to pose and ultimately answer some of the deepest and most profound questions about who we are as human beings. And I felt very strongly that for Princeton to maintain its preeminence in the natural sciences, we must have a major presence in this very exciting and very important field.

Now as with everything at Princeton, it is not sufficient to define a field as important for research. We also had to define it as a field that was going to be educating our students, and there the voices I heard in the early days were loud and clear. Students were voting with their feet and were asking for programs in, at the undergraduate level and the graduate level, in the field of neuroscience. And these weren't simply students coming out of psychology or coming out of molecular biology,

where you might traditionally think students interested in the brain might come from. In fact, we were hearing this from physics students; we were hearing it from computer scientists, applied mathematicians, chemists. All of these young people were asking themselves where is the next great frontier in science, and they were deciding that, for them, understanding the workings of the human brain were where these great and profound questions could be asked and ultimately answered.

We were very lucky at Princeton to already have on our faculty two extraordinary leaders in Jon Cohen, in the Department of Psychology, and David Tank in the Department of Molecular Biology and Physics, and I asked the two of them to put together a vision for what neuroscience could be at Princeton. And that was actually an important question to ask because neuroscience is a gigantic field. It spans everything from the most fundamental questions about the wiring diagram of the brain all the way through to the treatment of neurological disorders, and clearly a University like Princeton was not going to be able to create a neuroscience program that spanned that breadth of intellectual engagement. So I asked them to think hard about how could we capitalize on Princeton's current strengths and build a neuroscience program that would be world class. They came back with what I think is exactly the right vision for Princeton, which is for us to focus more on the fundamental side of neuroscience. The reason should be clear. We don't have a medical school, so focusing on medical problems made little sense. But what we do have is preeminence in some of the more quantitative sciences, particularly physics, mathematics, and computer science.

So our Neuroscience Institute, which was created two years ago, and which is in the process of expanding its faculty, it has now created an undergraduate certificate

program and a graduate program, and is now planning for a new facility that will be constructed on the parking lot near the Class of ’52 stadium at the south end of Washington Road. That program has defined as its mission the understanding of how the brain works, how the wiring diagram is assembled during development, and how that wiring diagram results in complex processes like learning and memory and complex thinking around things such as decision making. We have the beginnings of an extraordinary neuroscience program, and as the new building comes online, we will be able to expand that program and, I believe, become what we were already on the path to becoming, which is one of the most important centers for fundamental neuroscience in the world.