REMARKS AT PCAST MEETING
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BY FRED KAVLI

I started The Kavli Foundation in the year 2000 when I sold my company after 42 years in business. I had long planned to dedicate the fruits of my life-long work to the long-range benefit of humanity. I think many successful entrepreneurs feel the same way I did—that they want to see the fruits of their labor serving a larger purpose than building a business or just making money and give it away to relatives that may not be the best managers.

The United States has a tremendous resource in its mobility of its business enterprise, work and wealth, considering that many of the largest corporations did not exist ten years ago, and that today's two wealthiest people in the United States started from scratch. The mobility of wealth and the ability to accumulate it on a rapid scale and the generosity of the American people has resulted in approximately $300 billion in charitable annual giving. Since a lot of this wealth is accumulated by entrepreneurs in the technical fields, it is reasonable to seek greater support for science and technology from private giving, and as our lifespan and our ability to work are generally extended, it gives us a potential resource in a workforce with experience and expertise to perform services in a second career for philanthropy, education and other activities.

The Kavli Foundation supports basic science because we believe in its long-range benefit to humanity. We are looking for benefits which may lie far into the future, benefits that may be hard to predict, but as we look at the past, the benefits of science have been proven over time. The fruits of research are not always immediate and are often not predictable. The best science—the science that produces the most important breakthroughs, is more likely to be driven by basic curiosity rather than short-term benefit.

Scientists were not motivated by practical applications when they developed the quantum theory of matter and yet their research led to among other results an understanding of electronic conduction in solid state materials which led to the invention of the transistor, making possible the development of integrated circuits, computers, the Internet and the IT world in which we live today.

Similarly, when Crick, Watson and Franklin discovered the double helix structure in DNA, they did not know the extent to which it would revolutionize our understanding of biology and open the door to remarkable advances in medicine.

I believe there is a strong relationship between the level of a nation's science and its technological and industrial leadership in today's high tech world.

For many years, Bell Laboratories was the strongest and best scientific research institution in the world. The research at Bell Labs was freely publicized throughout the world, but who was to take primary advantage of it to build a high-technology industry? It was the home country, the United States of America. It is not just a matter of knowing the theory, it is the foundation that is built step-by-step by scientists, the engineers, the technicians, the suppliers, the scientific infrastructure, and it is the whole underlying knowledge base that transfers pure science into industrial benefits. I believe that without the Bell Labs, the U.S. would not be the strong world leader we are today in high technology.

Similarly, the Silicon Valley would not be among the world's top technological centers without Stanford, UC Berkeley, and other leading universities in California. MIT and Harvard have had a similar influence on the development of the Route 128 industrial complex around Boston as has UC San Diego in the development of the biotechnology industry in La Jolla. Indeed, it is widely recognized today that the basic scientific research and innovative technology that emanates from our leading research universities are key drivers of industrial development.

It is well-known, and widely accepted that investments in research yield enormous benefits to society through improved standard of living, better health, and stronger national security.

These are reasons why we must be willing to make investments with a long horizon, and it's important that our leaders in government industry and our philanthropists recognize the importance of our scientific standing in providing a superior standard of living. Sacrifices we make today will build our future of tomorrow.

It is for these reasons that I established The Kavli Foundation to advance science for the benefit of humanity and to promote increased public understanding and support for scientists and their work. The Foundation has four areas of emphasis that have great promise to produce important fundamental scientific developments: astrophysics, nanoscience, neuroscience and theoretical physics.

To implement these goals, we have put in place an international program of research institutes, prizes, symposia and endowed professorships. In each case, the Foundation supports and recognizes research that addresses the most fundamental scientific issues posing questions such as: What is the role and origin of the mysterious dark energy that is causing the universe to expand at an accelerating rate? Can we learn to synthesize new materials and devices on the scale of nanometers by adapting the ingenious mechanisms at work in cells and other biological systems? How do cognition, memory and behavior arise from the complex interconnections between neurons in the brain?

The Kavli Institutes

Our primary activity centers on the establishment of The Kavli Institutes dedicated to advance fundamental research in the fields of astrophysics, nanoscience neuroscience and theoretical physics.

My goal in establishing these institutes is to support research at the frontiers of science. I feel that it is especially important to pursue the most far-reaching opportunities and challenges and to seek answers to our many questions. I have selected these areas of emphasis because I believe they provide the greatest opportunity for major scientific breakthroughs and will have long-range benefits for humanity.

We aim to support the exploration of ideas in their embryonic stage that have difficulty getting support from other sources. These ideas may have a high risk of failure and are not ready for a formal proposal which can receive government funding.

As of today, we now have 15 Kavli Institutes at leading universities and institutions worldwide.

In neuroscience at:

- Yale University,
- Columbia University,
- University of California San Diego,
- The Norwegian University of Science and Technology

In Theoretical Physics and Astrophysics at:

- the University of California Santa Barbara,
- Stanford University,
- University of Chicago,
- Massachusetts Institute of Technology,
- The Chinese Academy,
- Peking University,
- Cambridge University in the United Kingdom

In Nanoscience at:

- California Institute of Technology,
- Cornell University,
- Delft University in Holland,
- Harvard University.

The Kavli Institutes are created by a partnership that involves support from many sources, including the host university, federal agencies, and in some cases, other foundations and corporations. Our emphasis is on basic research and dedication to investing for the long-term.

Our institutes are funded by permanent endowments, which is consistent with our long horizon. The permanence resonates with scientists and complements their other sources of support.

The Kavli Prizes

The Kavli Foundation has established three major awards in astroscience, Nanoscience and neuroscience. The Kavli Prizes will be awarded in Oslo, in partnership with the Norwegian Academy of Sciences and Letters, the Norwegian Ministry of Education and Research, and The Kavli Foundation.

The prizes are $1,000,000 each and are awarded every two years, with the first prize winners being announced by the President of the Norwegian Academy of Sciences and Letters on May 28 of this year, and the awards will be made at the ceremony in Oslo on September 9 of this year. In addition to the awards ceremony, there will also be a banquet, scientific symposia and lectures throughout the week of September 8.

The prize committees are composed of leading international scientists nominated by the Royal Society of the United Kingdom, the U.S. National Academy of Sciences, the Max Planck Society, the Chinese Academy of Science, the French Academy of Science, and chaired by the Norwegian Academy of Sciences.

The prizes will round out our worldwide branded and comprehensive effort to support and promote science, to reward the best scientific work and to give it more visibility among the public.

The Kavli Frontiers of Science

The Kavli Foundation is sponsoring The Kavli Frontiers of Science jointly with the U.S. National Academy of Sciences.

The Frontiers Symposia brings together the very best young scientists from all around the world to discuss exciting advances and opportunities in their fields in an informal format at highly interdisciplinary conferences on a wide range of contemporary science topics. It gives the participating young emerging scientific leaders ability to become acquainted with their counterparts in a broad range of disciplines and stimulate long-term relationships with their peers in an international setting. The Frontiers also serves to inform these young scientists about the challenges and opportunities being addressed at the frontiers of other scientific disciplines and to broaden their perspectives.

The Kavli Futures Symposia

The Kavli Foundation sponsors a series of high-quality scientific symposia on topics of emerging importance in the fields of astrophysics, Nanoscience, and neuroscience. These unique conferences focus on the trends, challenges, and opportunities for future research.

The Kavli Futures Symposia provides a forum of discussion of the key issues facing future developments and directions in specific fields and thereby help to define and guide the development of the research in these fields.

The first symposium on the topic of synthetic biology was co-hosted by The Kavli Institute for Nanoscience at Delft University of Technology and The Kavli Institute at Cornell for Nanoscale Science and held in Greenland in June of 2007.

Kavli Science Journalist Workshop

To help promote a better understanding of science by the public at large, we have established a set of workshops for science journalists. These workshops give reporters a unique opportunity to learn about current science in the fields of astrophysics, Nanoscience and neuroscience.

Energy Study

I consider the development of energy resources to be one of this nation's highest priorities and we are also supporting the current study underway by the Academies on this subject.

We have established a network of branded institutes and activities which we aim to function as a synergistic organism to further the progress, support and understanding of basic science.

Thank you.