The Regents of the University of California

COMMITTEE ON EDUCATIONAL POLICY
November 19, 1999

The Committee on Educational Policy met on the above date at Covel Commons, Los Angeles campus.

Members present: Regents Atkinson, Davies, O. Johnson, Khachigian, Kozberg, Lansing, Pannor, Sayles, and Taylor

In attendance: Regents Bagley, Hopkinson, S. Johnson, Leach, Lee, Montoya, Moores, Preuss, and Vining, Faculty Representatives Coleman and Cowan, Secretary Trivette, General Counsel Holst, Provost King, Senior Vice President Kennedy, Vice Presidents Broome, Darling, Gomes, Gurtner, Hershman, and Pister, Chancellors Bishop, Carnesale, Cicerone, Dynes, and Yang, Vice Chancellor Suduiko representing Chancellor Greenwood, and Recording Secretary Nietfeld

The meeting convened at 8:25 a.m. with Committee Vice Chair Sayles presiding.

1. **ISAAC NEWTON IN THE DIGITAL AGE: THE UNIVERSITY OF CALIFORNIA PRESS IN THE 21ST CENTURY**

Provost King reported that the University of California has one of the most successful university presses in the world, and he called upon Mr. James Clark, Director of UC Press, for his remarks.

Mr. Clark's presentation was based upon a series of slides. He explained that the mandate of UC Press is to support the University of California by extending the mission of the University through the publication of books of original scholarship, books used in teaching, and books that provide a public service. The Press is one of the oldest and largest of American university presses and is the largest state university press in the country. The Press, which was founded in 1893, publishes 270 books and 35 journals per year. Its sales for 1999 are expected to reach $20 million. Mr. Clark observed that the decision to publish a book is not an easy one. Before the Press decides whether or not a manuscript merits publication, it must be read by at least two specialists in the field, who must judge it to be an outstanding work. The final decision to publish is made by the editorial committee of the Press, which consists of twenty scholars from throughout the University system who are appointed by the Academic Senate. The committee meets for a full day seven times per year. This system ensures that the books which the Press publishes are of the highest quality.

Mr. Clark then displayed slides of various books which the Press has published. They include the Charter for the United Nations, the Martin Luther King, Jr. Papers Project, the Mark Twain Project, and **Odd Man In**, a biography of Norton Simon. He noted that the Press has a particular focus on art and showed slides of some of the more prominent books in that field. Approximately

15 percent of the books which the Press publishes are done in cooperation with other institutions such as the Whitney Museum and the British Museum. Music is another important program for the Press, as is Asian studies. Other fields in which the Press publishes include science, California history, film, literary biographies, and viticulture.

Mr. Clark explained that the UC Press markets its books through attendance at scholarly meetings, advertising in journals, and through the distribution of its catalog. A major change has been the advent of the Internet, which allows the Press to advertise on line. Its webpage lists each of the 3,000 books which are for sale, and this information is transmitted to electronic booksellers. This year to date, amazon.com and barnesandnoble.com have represented $800,000 in sales for the Press. On the other hand, specialized scholarly books sell fewer copies each year, and many books do not generate enough income to support their cost. The University provides only 5 percent of the Press' budget. The Press has responded to the changing market environment by streamlining its operations and by reducing the number of scholarly books that it publishes to 25 percent, while increasing the number of books that appeal to a broad audience to 40 percent. The Press seeks outside support through its fundraising activities to fund the publication of books in fields that are expensive to publish, such as art, music, and film. The Press is in the final stages of a $3.2 million effort, the Campaign for the Humanities. The challenge which the Press will face in the 21st century will be to stay solvent while maintaining its scholarly mission.

In response to a question from Regent Lee regarding the Press' interpretation of success, Mr. Clark explained that the mandate from the University is that the Press break even. The Press conducts a financial analysis of each book to determine whether supplemental financing will be required. If the new season seems to be weak in terms of books that will generate income, an effort is made to find books which will cover any loss. Quality is the first criterion which is used in judging any book.

In response to a question from Regent S. Johnson, Mr. Clark reported that members of the faculty committee are appointed to one-year terms by the Academic Senate; these terms may be renewed for five years. UC Press is unique among academic publishers in that members of the committee read the manuscripts rather than only the supporting documentation.

2. **CALIFORNIA REPORT ON THE ENVIRONMENT FOR SCIENCE AND TECHNOLOGY: SUSTAINING CALIFORNIA'S TECHNOLOGY MIRACLE**

Vice President Darling stated that the presentation would review the findings of the **California Report on the Environment for Science and Technology** (CREST), conducted by the California Council on Science and Technology (CCST). He introduced Ms. Susan Hackwood, Executive Director of CCST, and Mr. Charles Harper, the CEO of Sierra Monolithics and a member of the CCST Board of Directors.

Ms. Hackwood recalled that the California Council on Science and Technology was founded by former UC President Gardner in 1988. It is composed of thirty members, half of whom are from academia and half from industry. The Council has served in an independent advisory capacity to the State with respect to all aspects of science and technology. Ms. Hackwood noted that the Governor had designated this week as science and technology week, and she reported on some related events.

Vice President Darling explained that the report provides the first comprehensive examination of the role of science and technology in California's economy, and it focuses attention on the steps needed to sustain the state's technological miracle. The report consists of 12 separate studies that examine the role of key funders and key performers of science and technology in California. The state is the nation's undisputed technology leader. Its businesses, universities, and federal laboratories conduct more research and development than the next three states combined. The percentage of Californians in high-technology jobs is nearly twice the national average. The average annual wage in high-technology jobs is more than $60,000, which is nearly twice that of other non-farm industries. California leads the world as a recipient of venture capital for high technology. Two of the five fastest-growing regions in attracting venture capital are located in California. In addition, venture capital investments in California support a wider array of businesses than they do in any other state. Mr. Darling noted that industry has taken the lead in performing and paying for research and development. Industry funding for research and development increased 70 percent during the period from 1989 to 1995, which helped to compensate for the precipitous decline in federal funding for aerospace and defense work in California. The state enjoys a widening lead in the number of patents granted to California inventors.

Turning to universities, Vice President Darling reported that, in absolute terms, California has the strongest science and technology base in the nation, but on a per capita basis, the state is dropping rapidly as other states make more substantial investments in their universities. On a per capita basis, California ranks tenth in science and engineering faculty per capita, eighth in federal research grants, and fifth in Ph.D.s awarded. California's strength lies in the number of top ten science and engineering programs, as ranked by the National Research Council. On a per capita basis, only Massachusetts outranks California in the productivity of its top ten programs. California also has the highest concentration of national laboratories of any state, at approximately 10 percent, and about 20 percent of the funding for all of the national laboratories. This all points to a robust science and technology enterprise in California; however, other state governments show an increasing and stronger commitment to the support of research and development. For example, California ranks 32nd in State government support of research and development and similarly in State government spending on research and development as a share of the State budget.

California's most serious challenge is to prepare its citizens to participate in the technology miracle. Employers have become increasingly dissatisfied with workers' skills and as a result are importing

employees from other states and nations. Teachers teaching outside of their subject areas is a problem in K-12 education in general, but it is particularly acute in science and mathematics. The Council is concerned that California is not educating its citizens to benefit from the many technology-oriented jobs that are being created.

Vice President Darling reported that the Council believes that the State must take a leadership role in sustaining California's future in science and technology by supporting its educational institutions and by setting priorities in its research and development expenditures. In particular, the problems of K-12 must be addressed, and science and technology education in the State's colleges must be supported at a more vigorous level.

In summary, Mr. Darling noted that while California has an outstanding level of activity in science and technology, select improvements are needed. Industry is robust and venture capital is healthy. The State needs to focus its science and technology activities more closely. In addition, California's private foundations do not provide a great deal of support for science and engineering, even though many of the foundations were created by the wealth that was generated by technological developments.

Mr. Harper reported that his company, Sierra Monolithics, is enjoying the high-technology miracle. Two years ago, the company was valued at $5 million; through investments in industrial research and development, its present market value is over $100 million. Eighty percent of the firm's employees are scientists and engineers. The company has received proposals from venture capital firms and inquiries about direct acquisition from several large corporations. Sierra Monolithics takes advantage of research and development tax credits to pursue long-term product development. Because of the firm's growth rate and the products that are under development, it will hire between thirty to fifty additional engineers in 2000. One problem that the company faces as a small, growing concern is finding engineers with good mathematical analysis skills. As a result, it has turned to physics Ph.D. holders to fill these positions, although the supply is limited. Mr. Harper observed that the Internet revolution of the 1990s is affording significant growth, especially in telecommunications. Those working in the industry need academic institutions to supply the intellectual capital that they require.

In response to a question from Regent Davies regarding the impact of CREST in Sacramento, Ms. Hackwood explained that the Council has been working with legislators and members of the Governor's staff over the last two years, and they are familiar with many of its recommendations. She noted that the report is a strategic document that needs to be translated into tactics. The Council will work to disseminate the report and will work with local groups to regionalize the data.

Regent Leach questioned whether or not a per capita measurement was the correct one for California because of its economic diversity. Vice President Darling stated that the intention was

to analyze the data both in absolute terms and relative to the other high-technology states in order to be able to understand how California is faring over time.

Regent Leach recalled that the report had found that the national laboratories are being underused by state government, industry, and foundations. He suggested that the University could provide leadership in this area. Mr. Darling reported that in discussions with Assistant Vice President Arditti he had proposed that the Laboratory Directors go to Sacramento to educate elected officials about the resources that exist at the laboratories. He noted that foundations are becoming increasingly aware of the role they must play in sustaining the technological miracle.

Regent Preuss recalled that he had visited the Argonne National Laboratory with Director Shank and that they had been impressed by the close relationship between the laboratory and the State of Illinois in broadening the State's technology. He suggested that California's elected officials were too complacent about the State's technological advances. Chancellor Dynes reported that the University and the national laboratories had been focusing on their relationship over the past several years. There is funding in place for campus-laboratory collaborations. In addition, an effort is being made to recruit faculty members to hold joint appointments at a campus and a national laboratory.

Vice President Pister, speaking as Chairman of the Board of CCST, pointed out that achieving diversity at the University relates directly to the economic vitality of the State.

Regent Khachigian spoke in favor of offering higher salaries to people who teach science and mathematics in K-12, although she acknowledged that salary differentials are opposed by the teachers unions.

Regent Kozberg asked Director Hackwood to comment on how the Council shares its resources with State government and whether people in Sacramento are receptive to its ideas. Ms. Hackwood reported that the Council had found it necessary to be continuously involved by

working with State agencies. She did not anticipate that the Council's recommendations would be adopted immediately; the Council's role is to ensure that decision-makers in the capital are aware of the facts. President Atkinson recognized the change in attitude among political leaders regarding the role of the University in the economy. He recalled that the University is committed to increase by 50 percent the number of engineering degrees that it will produce.

Regent Montoya reported that when she was at a meeting in Los Alamos, she had been told that there were disincentives to the laboratory using UC faculty members as consultants on various projects. She asked that Chancellor Dynes look into this matter and report back to her on any problems that exist for collaboration between UC faculty and the DOE laboratories. Chancellor Dynes reported that at present faculty are discouraged from spending sabbatical leaves at a national laboratory. He stated that he would try to determine if there were difficulties associated with bringing faculty to the laboratories as consultants.

In response to a question from Regent Kozberg regarding next steps, Director Hackwood believed that it would be important to make use of the data that was produced in the CREST study. She suggested that there might be an opportunity for faculty members to work directly within State agencies and within decision-making groups in order for their knowledge to be taken into account on a more regular basis.

Regent S. Johnson asked whether it was within the purview of the CCST to seek funding from private foundations. Vice President Darling believed that the best response would be to involve industry participants in making the case to their colleagues with foundations that one of their priorities should be science and technology. President Atkinson cautioned that this effort should not undermine private foundations' support in other areas. The Council represents a collection of universities and as such it would not be appropriate for the Council to approach foundations to raise money. The individual insiutions will need to make their case to the private foundations.

The meeting adjourned at 9:35 a.m.

Attest:

Secretary