The "Corporatization" of Science

DONALD KENNEDY RAISES AN IMPORTANT issue for contemporary science policy in his Editorial "Enclosing the research commons" (14 Dec., p. 2249), but in so doing perpetuates historical myths. It was not Vannevar Bush's 1945 report (recommending that resources from the war effort be reallocated to support basic research) that transformed academic science, but World War II itself. The maintenance of wartime arrangements into the postwar period was not the product of Bush's advocacy, but was due instead to the continued interest of military agencies in basic research. Indeed, these arrangements, such as high levels of federal investment in R&D, particularly at universities, and regular involvement of leading scientists in some aspects of federal policy-making, were only solidified with the coming of the Korean War and the explosion of military spending that accompanied it. As in the case of the 19th century American West, to which Kennedy draws parallels, the military led the charge to explore the "Endless Frontier" of science.

Kennedy's description of the process of settling the scientific frontier also distorts the historical record. Intellectual property rights originate in the U.S. Constitution. To be sure, the last quarter-century has seen a progressive strengthening of the position of rights-holders and a significant expansion in the types of materials that can be protected. In explaining this shift, Kennedy emphasizes the Bayh-Dole legislation of 1980, but this was but one link in a larger chain of policy innovations that included Supreme Court decisions, administrative actions, and other federal legislation both before and after Bayh-Dole. Changes in the norms of the scientific community and in the behavior of investors, processes that are at most indirectly shaped by public policy, also contributed to the patent and copyright land grab that we witness today.

Ironically, Kennedy does not use the historical metaphor that provides his title. The enclosure movement that swept Britain in the 18th century stripped away the rights of peasants recognized by custom and replaced them with formal property rights assigned to landowners. Enclosure expanded the supply of raw materials and freed up labor for industrialization, but at a heavy cost in misery. The parallels to the present situation, for instance, in the area of gene patenting, are worthy of further exploration. The "corporatization" of science, as Kennedy puts it, deserves careful attention from the scientific community and from policy-makers.

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Response

I THANK HART FOR HIS THOUGHTFUL extension of the "enclosure" issue. He makes three points. His first—that it was the war and not the Endless Frontier policy that transformed academic science—is true enough, although I think it amounts to a distinction without a difference. World War II was indeed the transforming agent, but the policy that followed could have directed the money and the venture to government laboratories, or in some Max Planck equivalent. It didn't.

His second point charges me with a "distortion," for having overemphasized the Bayh-Dole legislation. My list of the other elements linked with it ("statutory changes extended the incentives for privatization, including modifications in the tax laws that reduced the tax on capital gains and allowed more generous deductions") was certainly incomplete, though perhaps short of a distortion.

Finally, he is right that I did not discuss the enclosure movement in 18th century Britain. In defense, I can only plead the tyranny of the 700-word limit.

DONALD KENNEDY

Nobel Women

THE NOBEL PRIZE AWARD CEREMONIES IN Stockholm, Sweden, in December marked the centennial anniversary of the prizes. It is interesting to note the distribution of these prizes among men and women in the categories of physics, chemistry, and physiology or medicine. During the past 100 years, there have been 478 recipients of prizes in these three categories, and of this number only 11 (2.3%) have been women: two in physics, three in chemistry, and six in physiology or medicine (*1*). Only three of these women (recipients of the prize in physiology or medicine) are still alive: Rosalyn Yalow (1977 winner), Rita Levi-Montalcini (1986 winner), and Christiane Nüsslein-Volhard (1995 winner).

Nobel Prize winners (top to bottom) Rita Levi-Montalcini, Christiane Nüsslein-Volhard, and Rosalyn Yalow.

I think that most scientists would agree that the Nobel Prizes have been a positive factor for popularizing science, and many would undoubtedly agree that the work of women scientists needs a great deal more recognition. It is a mistake to ignore the scientific aspirations and achievements of one-half of the population. We are in the 21st century, and I hope that those involved with the Nobel Prize nomination and decision processes will give more consideration to women scientists in the future.

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References and Notes

1. A list of the women Nobel laureates is available at http://www.nobel.se/search/women.html

Letters to the Editor

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