Health Science and National Security

DONNA SHALALA, FORMER U.S. SECRETARY OF Health and Human Services, makes an astute observation in her Editorial "New directions for biomedical science" (25 Jan., p. 585), that the real battle against bioterrorism must be waged at the local level. She extends her discussion to the more general question of how do we apply science to health in the 21st century. Addressing such a broad scope of issues raises an enormous challenge for health science. Will an invigorated pursuit of health safety lead to a more myopic approach to health science, one that treats local symptoms and not global disease? In this case, the looming, and linked, challenges of health and security call for a unified approach.

Self-perpetuating disease, destruction, and fear are the goals of bioterrorism and biological warfare. However, for many parts of the world, such conditions define everyday life. According to the World Health Organization (*1*), nearly 90% of all infectious disease deaths are caused by six diseases: tuberculosis, malaria, HIV/AIDS, pneumonia, diarrheal diseases, and measles. They account for more than 13 million deaths per year and for one in two deaths in developing nations. Infectious disease is one of the major threats to health and stability in developing nations, and thus the world. Not focusing on the basic health needs of all these people creates a disease pool to draw on and provides motivation for increasingly desperate (or drastic) acts by those most affected.

Shalala mentions a need for people who understand both scientific findings and patients' needs. We should also ask, where are such people needed, and what else should they know in an increasingly interconnected world? And, why should we in developed nations care—we've virtually wiped out these diseases (excluding HIV/AIDS)? In answer to the last question, we should care because we haven't really wiped them out, as antibiotic-resistant tuberculosis and staphylococcus show, and also because, as the past few months have shown, tackling these health issues directly is the most effective means for battling biowarfare of any sort, natural or human-made. Extending this perspective to a global scale allows intelligent national security decisions.

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References and Notes
1. D. L. Heymann, "The urgency of a massive effort against infectious disease," testimony before the Committee on International Relations, U.S. House of Representatives, 29 June 2000.

In Good Company with Newton and God

DUDLEY HERSCHBACH'S DONATION OF A portrait of Cecilia Payne-Gaposchkin to the faculty room at Harvard University is long overdue recognition of a great astronomer. In the Random Samples item "Breaking the portrait glass ceiling" (15 Feb., p. 1227), the painting is compared with William Blake's watercolor depicting God surveying the universe (*1*), but it seems more to recall Blake's painting "Newton." The position of Newton's right hand on the scroll and of Payne-Gaposchkin's on the notebook is almost identical. I suspect that Payne-Gaposchkin would have preferred a comparison with Isaac Newton rather than one with the Almighty.

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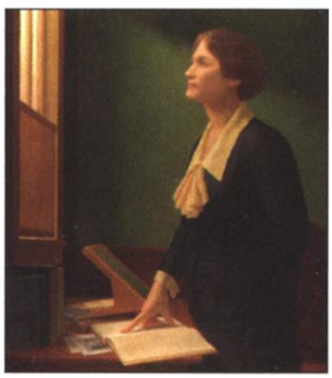

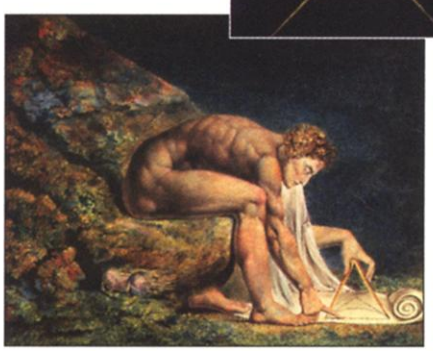

Similarity is in the eye of the beholder. (Left to right) Portrait of Cecilia Payne-Gaposchkin and Blake's "Newton" (1795) and "The Ancient of Days" (1794).

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References and Notes
1. The Blake painting "The Ancient of Days" is the one referred to in the Random Samples item. In this case the right hand is not visible and the left hand holds a pair of dividers (see www.ibiblio.org/wm/paint/auth/blake/ancient.jpg).

A South African Perspective on 2001

FOR SOUTH AFRICA AND HIV/AIDS, 2001 was the year of the two court cases. In the first, 39 members of the Pharmaceutical Manufacturers Association (PMA) challenged the South African government over its Medicines and Related Substances Act of 1997. The claim was that sections of the Act breached the Trade-Related Aspects of Intellectual Property agreement. But faced with unprecedented national and international opposition, the PMA withdrew their case on 19 April 2001. It seemed that patients would be placed before patents.

When the PMA's case collapsed, however, so did the united front of government, labor, nongovernmental organizations, and the Treatment Action Campaign (TAC). Health Minister Manto Tshabalala Msimang indicated that South Africa was not planning to implement antiretroviral treatment, citing the very argument used by the PMA: inadequate infrastructure. Defending the government's practice, Msimang said, "it is erroneous to believe that South Africa does not give treatment to people with AIDS" (*1*).

This intransigence over antiretroviral treatments led directly to the second case, filed on 26 November 2001, in which the TAC took the government to court over the delay in implementing mother-to-child transmission prophylaxis. The

CREDITS: (LEFT) PATRICIA WATWOOD, PRESIDENT AND FELLOWS OF HARVARD COLLEGE/HARVARD UNIVERSITY PORTRAIT COLLECTION; (MIDDLE) TATE GALLERY LONDON/SUPERSTOCK; (RIGHT) THE BRITISH MUSEUM LONDON/SUPERSTOCK