successful systemic treatment of the disease and yet be demented?

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Response: Lipton rightly points out that, quite aside from the question of whether an AIDS sanctuary such as the brain will thwart attempts to eradicate HIV-1, it would be tragic indeed for an individual to suffer neurological complications of infection while antiretroviral therapy successfully controls viral replication in the periphery. We agree that it is important and prudent to continue efforts to develop antiviral agents that cross the blood-brain barrier and to pursue other strategies that target neuropathological processes in AIDS patients. We also think it is worthwhile to commit coordinated efforts to supplement current tissue respositories with specimens from the nervous system and other potential viral refuges by collecting specimens at appropriate opportunities from persons with HIV infection who are on potent antiretroviral drug regimens. Assay of viral load in these samples would provide considerable insight into the scope of the sanctuary problem.

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Testing the Power of Prayer

J. S. Heilig and Dalmen Mayer (Letters, 9 May, p. 891), commenting on the profile of cardiologist Herbert Benson (W. Roush, Research News, 18 Apr., p. 357), discuss earlier approaches to establish objectively the efficacy of prayer in healing but do not mention a double-blind clinical trial using a sequential analysis protocol conducted by the British psychopharmacologist C. R. B. Joyce and R. M. C. Welldon (*1*). Forty-eight patients being treated for chronic psychological or rheumatic disease at two outpatient clinics at the London Hospital were matched in pairs by age, sex, and primary clinical diagnosis. One member of each pair was then assigned by the spin of a coin to the "treatment" group. Prayer groups received a brief abstract outlining the clinical conditions of patients in the "treatment" group (identifying them only by first name and an initial) and were asked to pray over a 6-month period for these patients. Other treatments were continued or given as necessary to all patients. After completion of the 6-month period, the clinical state of each pair of patients was reassessed, and the treatment group (prayer or control) associated with the better clinical outcome in the pair was noted. Joyce and Welldon concluded at the end of their study that there was no significant difference (at a 95% probability level) in the clinical state of patients in the "treatment" and control groups. However, they noted problems in the design and implementation of the protocol that might have influenced the results. The discussion section of the paper provides an interesting overview of the problems of designing and

conducting an unbiased trial of the efficacy of prayer.

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Two letters of 9 May discuss "testing" the power of prayer. One cites a study that found no statistically significant influence of prayer on the longevity of those prayed for. Such tests are based on the premise that the principal criterion for determining the efficacy of prayer is whether God answers the petitioner, that is, whether he cures or saves someone. But in my understanding of Christianity and some other religions, that criterion is not the principal purpose for prayer, for it places God in the role of a supreme being accommodating the bidder's requests. Rather, the purpose of prayer is to open or expand contact with God so that one who prays can deepen one's spiritual life and discern God's will (not man's will). This deepening of the spiritual life may allow a person to deal better with—but need not eliminate—a crisis.

So, do people who pray somehow deal better with crises than those who do not? People who pray while thinking of God as someone whose primary purpose is to do their bidding could be screened from a study designed to answer that question. A study with such screening could provide a more accurate assessment of the power of prayer.

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Mayer criticizes Benson's choice of controls in trials to determine the effect of prayer on coronary bypass patients and says that Benson should have included a control group of patients who know they are not being prayed for. One should also keep in mind the ethics of clinical trial design, however. Such a control group would not, by Benson's criteria, be receiving the best possible care.

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Consumption and Sustainable Development

The recent Policy Forums by Norman Myers and by Jeffrey R. Vincent and Theodore Panayotou (4 Apr., p. 53) on consumption and sustainable development reveal why debate in this field has been so frustrating and unproductive. Because Myers defines consumption biophysically as "human transformations of materials and energy," its environmental importance appears to be self-evident to him. Because Vincent and Panayotou define it economically, in terms of exchanges of goods and services in markets, they conclude that "there is no distinct consumption problem." Given the difference in orientation, it is not surprising that the authors do not agree about whether (economic) consumption is or is not "generally linked to declining environments."

The answer has long been known: it depends on the type of economic consumption; its social, political, and geographical context; and the level of analysis (*1*). For instance, economic growth in the United States has been closely linked to energy consumption in some periods (1953–1973), but not in others (1973–1985). The era of delinking was nearly unique in this century (*2*), and increasing energy use in this de-