

parameters, one could draw from the factors mentioned by Paul: Th1/Th2 cytokines; natural killer cells; markers that define cytotoxic, suppressor, activated, naïve/memory, or primed T cell subsets; and quantitative HIV polymerase chain reaction.

The language of AIDS immunology has changed over the years. It is imperative for the OAR to provide a much needed immunological thesaurus in order to give meaning to future AIDS trials.

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Biosphere 2

Gary Taubes' article about Biosphere 2 (News & Comment, 13 Jan., p. 169) does not acknowledge that "the previous management" were, in fact, the creative team that beginning in 1984 partially owned, designed, built, and then experimentally tested Biosphere 2 until April 1994 (1). Taubes writes as if Biosphere 2 materialized

by itself. I conceived and invented Biosphere 2 and directed its research and development division; Margaret Augustine co-designed and built Biosphere 2; William Dempster devised and supervised engineering systems, making essential patented inventions; Abigail Alling created and brought to sustained life the extraordinary ocean and marsh systems; Mark Nelson worked with me on biospheric theory and in convening international scientific conferences on closed ecological life systems (biospheres)—at the Royal Society (1987), at Krasnoyarsk, Russian Republic (1989), and at Biosphere 2 (1992).

Taubes states that "Mission One" experienced "technical glitches and [was] criticized for producing little of scientific value." We lifted off a complexly engineered \$150-million project and ran it for a 2-year experimental test, as scheduled. Our "glitches" should be compared with those of any new experimental project.

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References

1. J. Allen, *Biosphere 2: The Human Experiment* (Penguin, New York, 1991); *Space Biospheres* (Orbit/Synergetic, Malabar, FL/Tucson, AZ, 1987); *Biological Life Support Technologies* (National Aeronautics and Space Administration, Washington, DC, 1990); H. Odum, *Ecological Mesocosms* (Springer-Verlag, New York, 1994); M. Nelson *et al.*, *Bioscience* **43**, 225 (April 1993).

Oncogenes and Cancer

Most cellular oncogenes were discovered because they share their coding sequences with retroviral oncogenes. On that basis, it was postulated that cellular oncogenes could function like viral oncogenes, provided they have "somehow gone awry" (Jean Marx, *Research News*, 23 Dec., p. 1942). However, in the excitement about homology, nonhomology was overlooked, and cellular and viral oncogenes received the same names. But retroviral oncogenes have promoters that are 100 to 1000 times stronger than the promoters of the corresponding oncogenes from both normal and cancer cells (1). Therefore cloned viral oncogenes and artificial genes, in which the coding regions of unmutated cellular oncogenes (*ras*, *src*, and *myc*) are linked to retroviral

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