

During 1995, 29 hominid prints were uncovered in the southern 10 meters of the trackway, where the most dense revegetation had occurred and where coincidentally the best preserved footprints occurred. Only near the northern end of the excavation trench, under a naturally weathered area of tuff, had root penetration occurred. Elsewhere, the unweathered tuff encouraged development of adventitious roots above the footprint horizon, and damage was limited. Stumps and roots were removed, and voids were filled with synthetic material (acrylic dispersion and fumed silica) to prevent slumping. Where it was not possible to extract root stock, preservative was applied to inhibit termites and fungal deterioration. The condition of each print was documented, and the surface was photogrammetrically recorded.

Working as a team over 10 days before reburial of the trackway, chosen by the consultative committee on the basis of their areas of expertise and their ability to provide a fresh perspective, and invited by the Tanzanian Antiquities Unit, Craig Feibel (Rutgers University), Bruce Latimer (Cleveland Natural History Museum), and Peter Schmid (Zurich University) undertook a study aimed at answering outstanding questions related to the microstratigraphy and taphonomy of the

tracks, features of anatomical significance observable in the prints, and aspects of gait.

The site was reburied under different types of geotextile to serve as a marker layer 5 centimeters above the footprint surface and to prevent root penetration and erosion. The reburial mound was capped with lava boulders, as originally, and will be allowed to revegetate with grasses. A monitoring trench (6.5 square meters in area) close to the site will allow periodic inspection of subsurface conditions without the need to disturb the trackway. In 1996 and 1997, other field seasons are planned for the northern section of the trackway to complete the project.

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References and Notes

1. See references in M. D. Leakey and J. M. Harris, *Laetoli: A Pliocene Site in Northern Tanzania* (Clarendon Press, Oxford, UK, 1987); T. D. White and G. Suwa, *Am. J. Phys. Anthropol.* **72**, 485 (1987).
2. *Resolution Regarding Immediate Plans for the Conservation of the Laetoli Footprints* (Conference on the

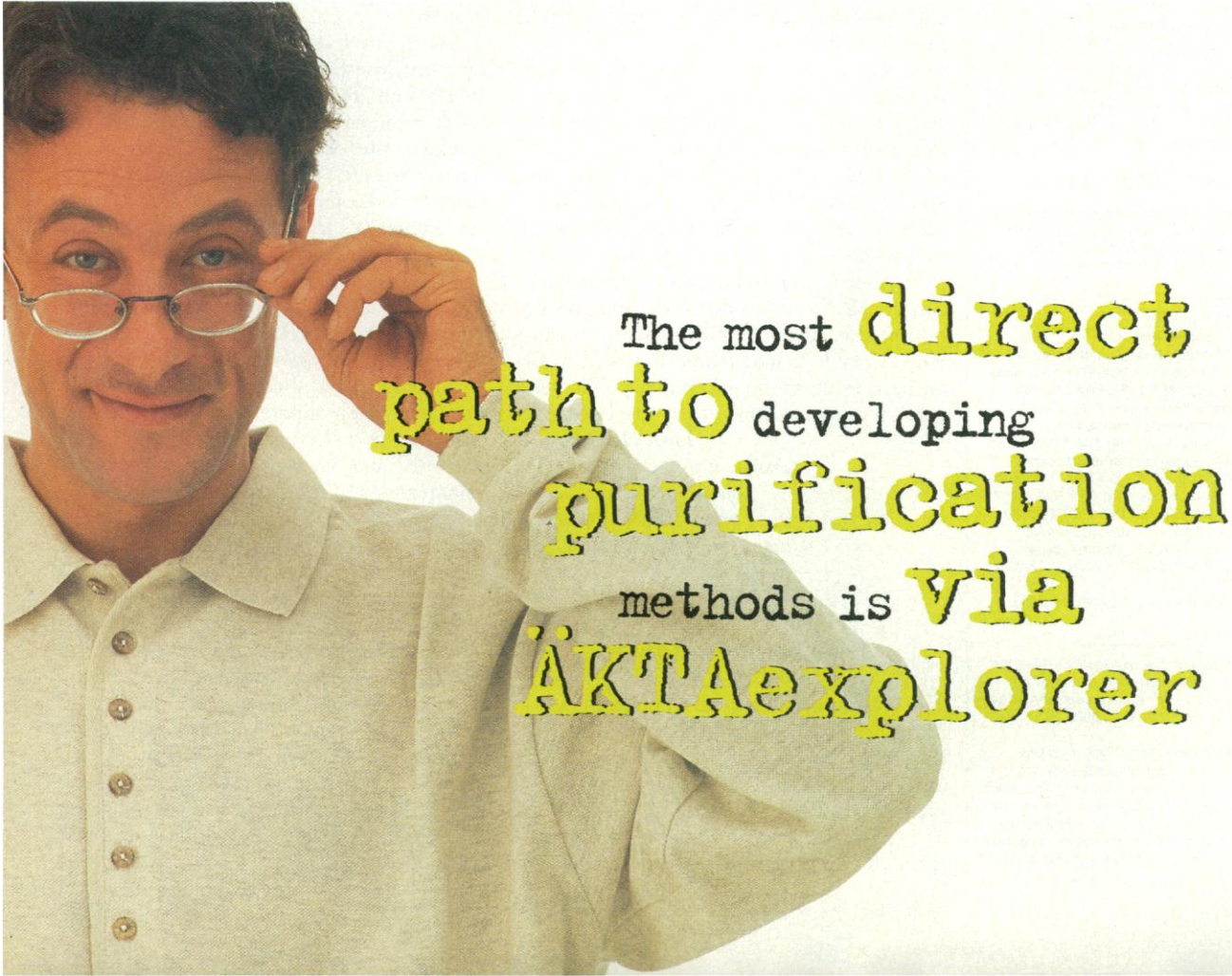
Preservation and Use of Olduvai Gorge, Laetoli, Rock Art, and Other Paleoanthropological Resources in Tanzania, Bellagio Center, Italy, 5 to 9 June 1995).



A Scientific "American Dream"

Neal F. Lane opens the door to a critical question for U.S. scientists today: What is our role in the path to the "American dream?" (Editorial, 23 Feb., p. 1037). Lane exhorts us to give our qualified perspective to the lay public in order to maintain our funding levels.

As scientists, we can say that we have contributed to the development of increased agricultural output, more efficient processing of raw materials into goods and energy, and a greater capacity to heal and kill on a large scale. This is a severely truncated list of things that science has given to society, but delivers the gist. Most scientific and technologic developments, material and theoretical, have been answers to immediate needs, without being consciously required to fit a long-term strategy. Certain assumptions prevail in guiding the larger-scale process of the evolution of science and technology; these include (i) that growth is "good," or at least to be strived



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for; (ii) higher rates of productivity and greater efficiency are better than moderation; and (iii) if it can be done, it probably should be.

In order to meet Lane's expectations of our long-term leadership and having "a civic role to play for the nation," we must first examine ourselves, as practitioners of science and technology. I propose we do this by asking ourselves simple questions that fit into the theme of contributing to a dream (American or otherwise). What have been the real effects of manufacturing and industry on the general well-being of the living things of our world? Do we operate in a sustainable manner (taking only the excess and leaving the rest to regenerate and produce more)? Do we expect to be able to continue growing (in rates of production and consumption) in a world of finite resources? If our current scientific and technological practices constituted a threat to the well-being of human (and other) societies, would we advocate not using them?

Lane speaks of a one-third cut in non-defense research and development spending as "a rather risky experiment." A far riskier experiment is the one we are now engaged in: rapidly increasing our technological abilities and production-consumption without a concurrent long-term plan

addressing sustainability and degree of impact on life. Scientists are notoriously skeptical and analytical. We would serve our civic role best by questioning the very technologies we have helped create. This could lead to guiding principles for sustaining the life of humans and other species. For what is a dream in a future with little promise?

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Characterizing Math Education

With respect to the Random Samples item "Chinese math puzzle" (19 Jan., p. 297) concerning the poor math performance of U.S. children relative to their Chinese counterparts, we suggest there is one important reason, a different educational system. The Chinese system is "passive and intensive." Students do not have much

freedom to choose what and how to learn. Most students in the same grade have to take the same courses at the same time. This is the passive part. The intensive part is related to an extensively systematic course content and homework. The two parts are designed, when combined, to enable a student to achieve a solid understanding and mastery of fundamental concepts and skills. This is possible because all students in the same classroom have a similar background. The American educational system, which could be described as "active and extensive," has its own advantages, but may be disadvantageous at the place where the Chinese system is the strongest.

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Research Productivity

In reviewing the National Academy of Sciences (NAS) report *Allocating Funds for Science and Technology (1)* to a Congress bent on cutting costs and taxes, I find no serious recommendation to improve the

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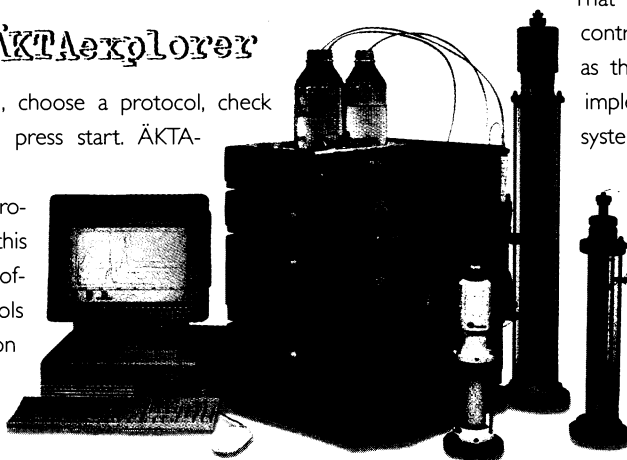
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