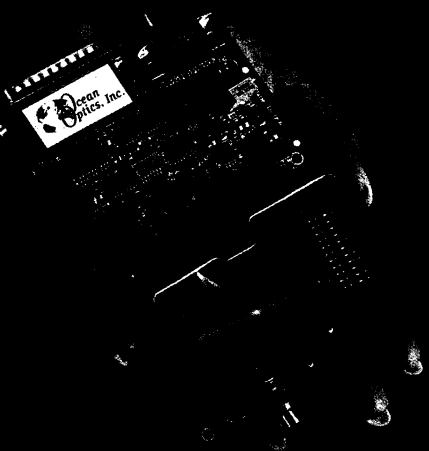


Still...



...the World's First Miniature Fiber Optic Spectrometer

**First in innovation.
First in performance.
First in affordability.**

Low-cost Custom Systems for
UV, VIS and Shortwave
NIR Applications

- High sensitivity
- Remarkable flexibility
- Unmatched application support
- Modular hardware and software

*Ocean Optics is the leader
in low-cost spectrometers
and fiber optic components
for OEM developers...
Call today for information
on our OEM Program.*



Ocean Optics, Inc.
Tel: (813) 733-2447
Fax: (813) 733-3962
E-mail: Info@OceanOptics.com
Web: <http://www.OceanOptics.com>

Circle No. 1 on Readers' Service Card

Transition at Russian Physics Centers

I read with great interest the article "Physics centers forced to go private" by Andrey Allakhverdov and Vladimir Pokrovsky (News & Comment, 13 Mar., p. 1623). As noted earlier (News & Comment, 24 Jan. 1997, p. 468), organizations such as the International Science and Technology Center (ISTC) continue to support Russian scientific institutions—such as the Institute of Theoretical Physics (ITEP) and the Institute of High-Energy Physics—as they undergo yet another transition.

Since its inception in 1992, ISTC has often witnessed restructuring in the relationships between institutes and their government overseers, and we remain cautiously optimistic that such actions will in the long term benefit Russian science and transitions to market—as opposed to state—economics. ISTC continues to maintain its relevance in these transitions, for example, providing \$2.5 million in equipment and grant payments for ITEP scientists to work with leading international organizations such as CERN (the European Organization for Nuclear Research) in Geneva. (As of March 1998, ISTC has funded more than 500 such projects in institutes throughout the Commonwealth of Independent States, totaling more than \$165 million.)

While every such international collaboration that the ISTC supports will not result in commercial or marketable products, we have encouraging examples of fundamental shifts in thinking and practice which have taken place in Russian institutes such as ITEP. We trust that, in the long term, Russian scientists and their institutes will demonstrate the innovation in their business practices that they have long demonstrated in their research.

Alain Gerard
Executive Director,
International Science and Technology Center,
Moscow, Russian Federation
E-mail: gerard@notes.istc.ru

Wizards of Microsoft

I was amused to read that Microsoft's wizardly paper clips et cetera are "one of the first commercial products to come out of Microsoft's growing research department" (D. Mackenzie, News, 27 Feb., p. 1294). All the "research" required for this particular achievement was to read any of the numerous papers that appeared in the early 1980s implementing and analyzing this technology (1). Whereas I applaud companies that support basic science, my experience in the

late 1980s at Xerox Palo Alto Research Center, which also touted academic freedom until it started losing inventions to others, has led me to distrust corporations where science is concerned. Any scientist working for a profit-making organization ought to be especially alert about the phrase "intellectual property" and consider running the other way as quickly as possible.

Jeff Shrager
430 Olive Street,
Palo Alto, CA 94306, USA
E-mail: shrager@afferent.com

References

1. J. Shrager and T. Finin, in *Proceedings of the Second National Conference on Artificial Intelligence* (MIT Press, Boston, 1982), pp. 339-340; J. M. Carroll and J. McKendree, *Commun. ACM* **30** (no. 1), 14 (1987).

The article on innovative research at Microsoft, featuring the Office Assistant as an example, did not mention how intensely annoying these gimmicks can be. I now squander substantial time and ingenuity trying to trick my new "smart" word processor into doing things my way, after it has guessed (usually incorrectly) what I am attempting to do and is trying to constrain me to some preconceived format. Are there really people who want this kind of "help"? Perhaps so, but even if a majority of the 100 million hapless users Nathan Myhrvold is bombarding with new ideas welcome the manipulative assistance of Paper Clip Man and his friends, there must also be tens of millions of us out there who would much prefer just to muddle through on our own. Suggestion to frustrated users: disable as many automatic formatting functions as you can (and please let me know how to kill them all in Word 97 if you can figure it out; I still haven't). Suggestion to the mathematical minds of Microsoft: play with Bayesian statistics all you like, but when you incorporate the results into commercial software, make it easy to turn them completely off!

W. B. Wood
University of Colorado,
Boulder, CO 80309-0347, USA
email: wood@stripe.colorado.edu

Kennewick Man

I am writing in response to the Random Samples piece "Kennewick Man realized" (20 Feb., p. 1137). I would like to clarify two main points regarding the way in which my comments appeared to lessen the importance of the soft-tissue reconstruction of Kennewick Man.

First, at the time of my (telephone) in-

interview, I had not yet seen the soft-tissue reconstruction by James Chatters and Tom McClelland. Therefore, any comments I made were generally about reconstructions and were not directed at the reconstruction of Kennewick Man. Now that I have examined it, I commend Chatters and McClelland on their effort to capture the living essence of an individual who lived 9300 years ago.

Second, I agree, along with many other anthropologists, that the Kennewick skull exhibits a mixture of Caucasoid and Mongoloid traits. Obviously more research is needed if we are to better understand the morphological variability in skulls of this age, which in turn would allow us to understand their phylogenetic significance. At present, the overall skull morphology suggests that Kennewick Man is a possible ancestor to many of us and an important addition to our understanding of recent evolutionary history. I believe that, because of its age, the skull should not fall under the regulations of the Native American Graves Protection and Repatriation Act.

G. J. Sawyer
Department of Anthropology,
American Museum of Natural History,
Central Park West at 79th Street,
New York, NY 10024-5192, USA

Reforming Calculus

Suppose you were a high-school football star who finds the important college game is basketball. You would be upset and feel cheated, not wanting to master a new sport, and perhaps seek to transfer. I believe that is a fair analogy to the "math whizzes [who] spurn reformed calc[ulus]" (Random Samples, 20 Feb., p. 1137). These students have done well in the old game, "traditional calculus," and do not want to learn a new one. While that is quite understandable, this in itself does not validate their concern or actions. In many ways, reformed courses are more challenging than courses taught emphasizing manipulative skills. Research on outcomes, not opinions, is what is needed.

Ronald G. Douglas
Texas A & M University,
College Station, TX 77843, USA



Siberian Sediment Cores

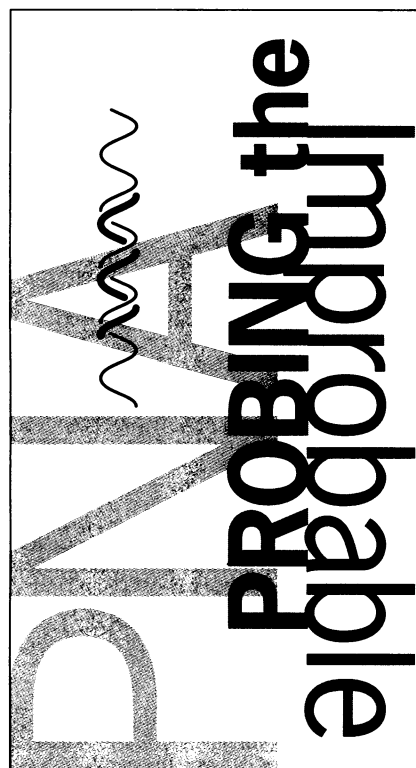
With regard to the report "Lake Baikal record of continental climate response to orbital insolation during the past 5 million years" by D. F. Williams *et al.* (7 Nov., p. 1114), I would like to point out that the data set of

diatom abundance (presented in figure 1, column E, p. 1115) was collected by Markus Schwab and Dominik Weil, students in the Baikal Drilling Programme. When the Baikal Lake cores were opened in Irkutsk, Russia, these students helped with core description and documentation. We performed smear slide preparation and description at a much higher time resolution than would have been necessary if the work had been done only for lithologic description.

Hedi Oberhänsli
Alfred-Wegener-Institut für Polar-
und Meeresforschung,
D-14401 Potsdam, Germany

Letters to the Editor

Letters may be submitted by e-mail (at science_letters@aaas.org), fax (202-789-4669), or regular mail (Science, 1200 New York Avenue, NW, Washington, DC 20005, USA). Letters are not routinely acknowledged. Full addresses, signatures, and daytime phone numbers should be included. Letters should be brief (300 words or less) and may be edited for reasons of clarity or space. They may appear in print and/or on the World Wide Web. Letter writers are not consulted before publication.



PROBING the
PNA

Direct fluorescence in situ hybridization with a PNA 18-mer probe (Flu-(G₃TA₃)₆) for the telomere repeats on metaphase chromosomes from cultured human fetal cells. Chromosomes were counterstained with propidium iodide.

Courtesy of Dr. P. Lansdorp, Terry Fox Laboratory, B.C. Cancer Agency. Reproduced with permission of Oxford University Press from Human Molecular Genetics 5, 685-691 (1996).

Break the bounds of DNA. Peptide Nucleic Acid (PNA) probes empower your research with superior detection and binding capabilities. Exclusively from PerSeptive Biosystems.

Higher affinity. A neutral peptide-like backbone ensures **faster** hybridization. Enhanced **specificity**. PNA probes allow for single base pair discrimination. Remarkable **clarity**. See what you have never seen before.

See PNA. Call PerSeptive Biosystems for a FREE applications overview on PNA probes.

Circle No. 26 on Readers' Service Card



PerSeptive Biosystems

US 1.800.899.5858 / Germany +49 6122 9830 0
France +33 134 5230 30 / UK +44 1992 5071 00
Japan +81 3 5570-9050

<http://www.pbio.com>

FAST FORWARD™

FAST FORWARD is a trademark of PerSeptive Biosystems, Inc.
©1997 PerSeptive Biosystems, Inc. All rights reserved.