12,000 years ago. If the six deepest dates unequivocally associated with cultural material are averaged, then humans were definitely present at this site (and, by implication, throughout much and perhaps all of the Americas) sometime between approximately 13,955 and 14,555 years ago.

In the final analysis, however, it matters little what the earliest occupation date from Meadowcroft is. This site has produced a vast array of geological, archeological, paleofloral, and paleofaunal data that collectively help us to understand more about the full temporal range of aboriginal human life in this part of the Ohio River system. Although the incipient occupation of the site has captured the spotlight, the lion's share of the site's deposits is an eloquent testimonial to some 10,000 subsequent years of human cultural adaptation. If excavation of the site accomplishes nothing more than to draw increased attention to this sometimes subtle, sometimes radically shifting relationship among humans, their technology, and the conditions of their natural environment, it will be enough.

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Brainwave Counting

I read with interest William Booth's article on keystroke counting by "Big Brother" (News & Comment, 2 Oct., p. 17), which dealt with the plight of clerical and secretarial workers. Lest scientists take a "so what?" attitude about such piecework performance management, I want to report on just that kind of situation in the U.S. government.

The union of which I am president (Local 2050, National Federation of Federal Employees) represents professional workers at the U.S. Environmental Protection Agency (EPA) headquarters, and we have been facing one form or another of piecework performance management for some time. In general, these systems have arisen when managers, who are often not intimately familiar with the scientific details of a project and who are often under statutory or court-ordered deadlines themselves, unilaterally assign work and deadlines to professionals, not taking into account important factors influencing professional work.

A particularly egregious example is found in EPA's Pesticides Program, where our toxicologists, chemists, and other professionals are the public's and the environment's first line of defense against potentially harmful pesticides. Largely on the basis of scientific evaluations by these professionals, pesticides are either registered for use in the United States or are denied such registration. Because of the significance of the work these scientists do, piecework performance management does more than subject professionals to antiprofessional working conditions—it puts the public health and the environment at risk.

Under this system a scientist is credited with a certain number of points, or "TECH-hours," for reviewing an LD_{50} study, another number of points for reviewing a teratology study, and another number for reviewing a 2-year cancer bioassay. All LD_{50} studies are worth the same number of points, as are all 2-year bioassays, and so forth, regardless of the complexity or length of individual studies. We have evidence that a professional's performance is rated essentially on the number of "TECH-hours" accumulated.

It is obvious that this piecework performance management rewards hasty reviews of vital toxicological studies, while it penalizes reviewers who may take longer than the "standard" amount of time to carefully and conscientiously question data upon which far-reaching public health decisions must be based. It is also obvious that the end result of this system will be that—sooner or later—a pesticide that ought not be registered will be registered.

Our resistance to this system is well documented (1), but the message I want to convey is that keystroke—or brainwave—counting is not just an issue for secretaries and it is not just a question of antiprofessional working conditions. It is a clear and present danger to the professional integrity of scientists employed by a U.S. government agency, one that will have tragic effects on the environment and public health—the only question is, when?

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Flora Project

With respect to the case for a "Flora of North America" (News & Comment, 28 Aug., p. 967), all of the tools of plant taxonomy (including the newest) should be brought to bear on the problem. New sources of information, such as that from chloroplast DNA as noted by Theodore Barkley (Letters, 20 Nov., p. 1027), will be vital for providing a clearer understanding. The range of technologies available for such a project (and consequently the costs) depend to a large extent on how much those in the project use existing data. On one extreme is the opinion (which I do not hold) that everything is already there and only needs assembly. On the other is the costly and probably unmarketable alternative of gathering all data anew. This latter would likely place the costs well beyond the reach of any funding effort. The answer, of course, is a compromise of these two extremes. This, I believe, is the approach of the Missouri Botanical Garden.

As a scientist, I find such an effort to be of critical importance. The fact that this country does not have a comprehensive compilation of its flora is truly sad. Such an information base would be of great value not only to scientists but also to planners, developers, and politicians. It is a task that would seem essential for a nation that considers itself a leader in scientific research. Unfortunately, the realities of limited funding opportunities require us to balance this with other, equally important needs. It is my hope that agencies such as the National Science Foundation will see this project as important and provide at least some level of support.

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Erratum: Robert E. Ricklefs' name was misspelled throughout Roger Lewin's Research News article "Egg-laying in birds remains a hot issue (29 Jan., p. 465).