Letters

North Dakota Geological Specimen in Nanking

That the Nanking University geology department has among its "relics of pre-1949 days" a rock specimen labeled "Ordovician Sandstone, North Dakota" is of considerable interest for several reasons. (See Oldham's article, "Science in mainland China: A tourist's impression," 12 Feb., p. 7.) The Ordovician is not known to crop out in North Dakota, but in the extreme northeast corner of the state it does come fairly close to the surface. If the specimen is from an outcrop, it could represent a find of considerable significance, a locality where the bedrock pierces an overburden of some 200 feet of Pleistocene glacial till. On the other hand, if the rock sample is from the subsurface, it is either from a mine or a deep well, and presumably from a well core rather than the ordinary cuttings of drill tools.

Since there are no mines or deep excavations in the northeast part of North Dakota (and elsewhere the Ordovician is at depths as great as 16,000 feet) it follows that the chip seen by Oldham must be from a deep well core. Prior to 1949 there were only a few wells in the state which had penetrated to the Ordovician, and most of these were either deep water wells or the sort of promotional oil tests drilled with marginal financing. In neither of these circumstances is it normal to core; this is a costly and time-consuming operation. There were, however, in 1949 a scant half-dozen deep oil tests which had been drilled by major firms and which possibly had been cored in at least part of the Ordovician. When a company goes to the trouble and expense of drilling and coring in a region as remote from oil country as North Dakota was in those days, it is not customary for them to release the data paid for so dearly; rather the well becomes a "tight hole" from which only the most skillful spies can obtain information.

The fact that Nanking University should not only have had access to the data from such a well but have actually secured a piece of the core already labeled, albeit in English, speaks rather highly of their collecting abilities. It is to be regretted that the label was no more precise, however, for a cardinal rule in labeling geologic materials is to record as accurately as possible the geographic as well as the stratigraphic location.

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Opening Government Records

A bill has recently been introduced in Congress which should be of concern to scientists and others doing research under federal sponsorship or for federal agencies. It is H.R. 5583, introduced by Congressman Patten and referred on 1 March 1965 to the Committee on Government Operations. Its purpose is "to amend section 161 of the Revised Statutes with respect to the authority of federal officers and agencies to withhold information and limit the availability of records," and it proposes that "every agency shall . . . make all its records promptly available to any person." The only exceptions permitted would be related to "national defense or foreign policy," "internal personnel rules," matters "specifically exempted from disclosure by statute," "trade secrets," internal communications concerning "matters of law or policy," private "personnel and medical files," "investigatory files compiled for law enforcement," and matters concerning "supervision of financial institutions."

There is no provision for, and probably no thought of, the protection of research done by employees of the government or by independent researchers for the government. These are some of the abuses that such an "open" system might be subject to:

1) An agency undertaking a concentrated research program could be plagued by public requests for items of information, to be supplied immediately and out of context, until it had lost much effectiveness while becoming an answering service. Cancer research, to take an obvious example, would be subjected to the pressure of such public curiosity.

2) People working on the fringes of scholarship could use major research projects as sources of information for their own work. Thus material gathered and organized at the taxpayers' expense could be tapped by someone wanting the government to "write his book for him" or at least do his legwork.

3) The results of research could be sought by the press, or anyone else who might publish it, before the researcher was certain of his conclusions. Not only might the researcher fail to receive professional credit for his work (the right to publish, subject to agency approval, would become meaningless), but undigested and erroneous information could be released. The researcher would be superfluous except as a gatherer of facts.

While it seems certain that most agencies authorizing research would find various defenses against such intrusions, these are likely to be costly in time and effort. It would be better not to open the floodgates in the first place. At present I do not know what purposes the bill is supposed to serve; sometimes economic pressures (perhaps patent interests) dictate such moves. It is not likely that it is *intended* to hamper federal science. From personal experience, however, I can predict that exactly such interference will be a side effect. . . .

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Educators as Such

In his report on the establishment of a National Academy of Education (News and Comment, 9 Apr., p. 202), John Walsh makes such questionable comments as that the charter members "are known in the academy community as psychologists, historians, or economists, rather than as educators with a capital 'E,' " and that they do not include "any representatives of the pro-

fessional education establishment based in the public education system and the teacher-training institutions."

Even a cursory examination of the backgrounds of the charter members reveals that: (i) About half are professors of education. (ii) Nearly all are in teacher-training institutions. (iii) Several are in public universities, and some have taught in or administered public elementary and secondary schools. (iv) Many are members of such public-education-oriented groups as the National Education Association and Phi Delta Kappa.

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Grassland Vegetation: Historical Note

I would like to call attention to a reference which seems to be pertinent to the recent report by Philip V. Wells on grassland climate [*Science* **148**, 246 (1965)]. This reference is to a passage on page 60 of a book by Henry Youle Hind entitled *Reports of Progress, Together with a Preliminary and General Report, on the Assinniboine and Saskatchewan Exploring Expedition* (Her Majesty's Stationery Office, London, 1860). The passage is too long to quote in full, but its kernel is in this sentence:

> The extension of the prairies is evidently due to fires, and the fires are caused by Indians, chiefly for the purpose of telegraphic communication, or to divert the buffalo from the course they may be taking.

The author describes such fires which he saw himself, discusses their effect on soil moisture, and says that areas which escaped fire for a few years tended to regrow with willows and aspens.

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Reprints Again

From the letters inveighing against the burgeoning of reprint requests (12 Feb., p. 677), it is clear that traffic in reprints is growing and is straining publication costs and secretarial time and expenses; but it appears to me that the solution to this problem cannot be approached in a spirit of exasperation.

I am one who requests many reprints, selecting titles from *Current Contents*. My interests are broad and cannot be served by regular or even extended visits to a library, even though this was my habit for many years. . . . I collect, read, and file many reprints, spending about six hours a week at this activity. By this method I have a literature at my finger tips from which I prepare lectures, reviews, classes, and so on. In my estimation this system, although requiring a serious effort and the ability to read rapidly, is the only method by which one may keep up with the literature in several active fields.

The point is that I have bypassed libraries and depend exclusively on reprints, and that such a method works. I no longer need journals and would do just as well if I could order reprints from a central library which received and announced all edited manuscripts. I do think that a vigorous editorial effort must be continued to maintain standards of publication, but I suggest that science might be able to get along without journals and a widespread library system in its present expensive and expanding form. On the other hand, I do not know how I would keep well informed without having the opportunity to receive many reprints.

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Simian Temperament

Bernstein and Guilloud (Letters, 19 Feb., p. 825) are correct in pointing out that the adult stump-tailed macaque, *Macaca speciosa*, cannot always be handled with impunity. However, a number of other points are made in their letter which demand clarification. Our original observations [*Science* **139**, 45 (1963)] of the laboratory-housed macaques pertained to the remarkable docility toward man of prepubertal members of *M. speciosa* as compared to the popular *M. mulatta*. We have now extended our observations to the adult and can recommend them for laboratory use *provided they are handled regularly*. Figure 1 illustrates how we have transported adult *M. speciosa* in the past. This treatment does not render the adult *M. mulatta* more tractable.

Fig. 1. *Macaca speciosa.*

It is also true, as Bernstein and Guilloud pointed out, that adult *M. speciosa* often attack each other when caged together. This fighting is no more severe, however, than that seen between members of *M. mulatta* and does not disqualify *M. speciosa* as a promising replacement for *M. mulatta*. Furthermore, the behavior of mother toward young is quite permissive, and this is a subject for investigation in our laboratories. Those who have contended with the problem of separating the infant *M. mulatta* from the mother will find the same task remarkably easy to perform when using members of *M. speciosa*.

Bernstein and Guilloud are justified in recommending other monkeys for laboratory use on the basis of docility. It is true that a number of monkeys can be cited for docility, as any organ grinder or monkey fancier will attest. Our intention, however, was not to survey the order for docility but rather to recommend that the macaque *M. mulatta* be replaced by the macaque *M. speciosa* whenever handling becomes an important variable.

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Kling and Orbach (*1*) recommend the stumptail macaque (*Macaca speciosa*) as a "promising laboratory primate" because its behavior is "remarkably docile and manageable," in contrast to the characteristic belligerence of the