of their body hair and skin pigmentation half a million years ago. But when it got cold they had to cover most of their skin to keep warm (or else retreat), and it is perhaps at this time that the nose came into prominence.

DONALD V. MCGRANAHAN
47, chemin Moise Duboule,
Geneva, Switzerland

Writers: Fancies and Foibles

We have had considerable discussion of "freight trains" in scientific writing. Another trick of poor writing perhaps deserves christening. Since it encourages freight trains to emerge, it might be called "verb switching." The principle behind verb switching is very simple: whenever a verb with a reasonably definite meaning threatens to appear, the poor writer carefully converts it to a noun or gerund and inserts a weak, essentially vacuous verb to fill out the grammar. Thus, instead of saying that some step improves the accuracy of a measurement, the writer will say that it "makes an improvement in..." or "aids in improving...." In place of "isolate," he will write "produce isolation." And so on. Once the principle has been grasped, endless examples can be constructed.

Verb switching is often aggravated by gerund phobia. Presumably, the victim was once frightened by a dangling participle and now avoids words ending in -ing whenever he can. Thus, instead of writing about calibrating the equipment, he will write, "the calibration of the equipment." This habit might be called "tioning."

PAUL I. RICHARDS
Technical Operations, Inc.,
Burlington, Massachusetts 01803

Bad grammar is unfortunately not restricted to authors. It (and pedantry) are also to be found, although more rarely, among editors. In this latter case the problem is of course more serious. In addition to letting some of the bad grammar of their authors pass through, they sometimes make good grammar into bad or change correct but free sentences into stilted ones. It is disconcerting to have one's writing altered to a style one deliberately avoids using, or to have qualifiers such as "perhaps" omitted.

For example, in a paper of mine published in another journal in the past year the editor changed "The insecti-

vore *Protentomodon ursirivalis* is . . ." so that the species was set off by commas, as if it were the only known insectivore. In a more recent paper "now" was changed to "presently," which is not of Anglo-Saxon origin and so more "scientific," but which usually means "in the near future." Neither editor would reverse himself.

The main function of grammar is, after all, to reduce ambiguity. Wider use of such a criterion might help in communication.

LEIGH VAN VALEN
Department of Anatomy, University of Chicago, 1025 East 57 Street, Chicago, Illinois 60637

Information Distribution: A Plea for Efficiency

Harvey Brooks's comments ("Applied science and technological progress," 30 June, p. 1706) focus on many of the ramifications of basic-versus-applied science emphasis. In speaking of the transfer of federally-supported technology to private industry, he cites the encouragement provided by the Atomic Energy Act, and the desirability in government of a more hospitable attitude generally toward this objective.

It must also be remembered that the entire initial product of any research is information, and the dissemination of information generated at public expense has been of concern in many quarters. Often vast amounts of money and expertise have been expended in that research, but its product will not be utilized if there is no effort to make it available. The generating effort of the research is to a great extent wasted if the concluding step of efficient dissemination—good reporting and accessibility to the reports—is omitted.

Aside from some agencies (notably AEC and NASA), there has been lagging interest in such dissemination. Except for holders of defense contracts, it is a difficult and slow process for the general public to (i) learn what usable technology results from Department of Defense–sponsored research, and (ii) to examine or obtain copies of potentially interesting reports. Despite efforts to produce better announcement and indexing media, the jumbled jargon of identifying report numbers, the uncertainty of subject indication and long delays in obtaining copies are enough to discourage the belief that the govern-