scientific program on the grounds that it is glamorous and can be effectively promoted by some gimmick such as "a man on the moon by 19XX" shows the same kind of irresponsibility and moral failure as is shown by those advertisers and manufacturers who style their products according to popular fancy at the expense of function and durability and even of the personal safety of their users. With such a strategy we may well gain the moon at about the same time as we lose the earth.

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In my letter I did not take the position that the Apollo program was the best choice for allocation of national resources in science and technology, but rather that it is naive to believe that the choice of allocation is simple, or meaningful in the absence of public support. Still more important is (I feel) the enjoinder to scientists to pursue responsible roles in the allocation procedure, with some measure of the objectivity and intellectual honesty that is so essential a part of science.

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Freight Trains

In "Speaking of space" (13 May, p. 875) David McNeill shows how we can try to translate "technical" writing. His suggestion that the word order of nominal compounds be reversed helps, but it does not replace the missing prepositions. Lawyers and physicians may have some reason for speaking in language that laymen cannot understand, but the language of scientific reports should be as simple and direct as possible. Technical terms that have precise meaning are necessary, but jargon should be resisted every time it appears.

Soon after one of my associates started working with an interpreter in order to communicate with Koreans, he asked the interpreter why it took so much Korean dialog to transmit the idea of a simple statement. The interpreter explained that he had to phrase the idea in many different ways so that it would not be misunderstood. My friend learned that Koreans commonly use only two prepositions. He agrees that the nominal compound, as illustrated by McNeill, is typical of Korean construction.

Just as impedance-matching devices couple units in electronic systems effectively, prepositions couple words. The trouble is that we have too few prepositions, and we are sometimes puzzled by the multiple meanings most of them have.

Perhaps the rapid advance of Western civilization is largely attributable to the ease with which precise ideas can be communicated by means of the grammatical structure of Western languages. Expressions like *driveway* are simple and useful, but when we face a long string of words in extended nominal compounds (nozzle gas ejection ship attitude control system) it is like waiting at a crossing for a freight train to pass. When we finally see the caboose we know what the noun is. Frequent use of freight trains is a sign of pompous jargon rather than of correct technical writing.

McNeill only slightly chides the perpetrators of the degradation of the English language. His solution to the problem seems comparable to an M.D. treating a patient with eye trouble by teaching him to read Braille. Many of the entries in the NASA dictionaries should be used only for translating documents that have already been written and as examples of expressions that are forbidden in future documents. I hope NASA officials will consider my suggestion, and I urge editors of scientific journals to be stern. The bad habits are widespread and deeply ingrained. The task will not be easy.

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It is not for the hackles of a general editor like myself to rise as he reads the findings of David McNeill. Or is it? I spend my days with papers by scientists, one of whom saw a message, not only for me but for his colleagues in horticulture, in the article on "space jargon" and its merits. I passed the piece about, for consideration here and there, and drew at least one pointed and positive reply. It is the opinion of a writer of a long list of distinguished papers. I quote at random from his reaction, based on nearly 40 years of experience in scholarly exercises involving the written word:

"I doubt that any grammatical sense is involved in the construction of these 'nominal compounds'—otherwise known

as noun modifiers, run together by people too busy (or too indifferent? or too ignorant?) to develop more appropriate terminology. It is nothing but pidgin English. A piano is a piano—but to a Pacific aborigine it is '*Big black bokkis hit him in teeth he cry!*' Moreover, it raises the question 'Is that your kitten, honey chile?'—and evokes the answer, 'No'm, it's the little girl that lives two houses down the street's cat!' So much for nominal compounds which are merely a semiliterate substitute for sound word formation.

"The old scholars in botany and animal anatomy know how to develop fancy words which, however, had *exact meaning*. None of this 'male sex cell master container' stuff for the simple word 'anther.' Air space engineers are undoubted experts with many things, but not with language. They communicate with one another by *describing* the thing that they talk or write about, because they don't know how to invent a good word for it, one of sound Greek or Latin origin.

"Does Professor McNeill understand how working men communicate with one another? He may. But it seems rather obvious that the nominal compound is nothing but a proliferation of noun modifiers, used for lack of a *word*. All that he says about Zipf's law and the like may be true enough. The fact remains that somebody is putting forth a very fancy, unwarranted explanation for a simple phenomenon. Instead of ascribing scholarly motives to some atrocious new jargon, the experts should clobber the engineers for their palpable semiliteracy!"

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Mohole: Cost versus Results

Despite Abelson's claim that the "morale of the scientific community has been damaged" by a reduction in expenditures for scientific research, and specifically, by the recent action on the Mohole Project, (Editorial, 3 June, p. 1332), I believe that far more damage to the morale of the scientific community has been and will be done by continued expenditures of large sums of money for non-scientific research.

The Mohole project may have great merit at a later date. In our current economic climate and in a period of