To balance Lancaster's enthusiasm for his simplistic view of on-line free-text searching, it seems appropriate to mention several additional points:

1) Although the ability to handle a large number of entries is improving, most operational free-text search systems are limited to a relatively small number of complete records (often well under 50,000). For many data bases this restriction means that only documents published over a very brief recent time period (2 or 3 years) can be searched.

2) As the size of the files increases, the complexity and cost of updating them and maintaining them on-line for long periods increases accordingly.

3) As the files grow larger and the number of users more numerous, computer response time increases. One of the largest on-line systems sometimes requires more than 40 seconds for the computer to respond to each command as the user tries to formulate a search. Other irritating and frustrating problems with a small-scale on-line system have been described in detail by Lancaster (*6*).

4) Hersey *et al.* in a more complete description of the SIE test (*7*) state that "the free text word retrieval approach is particularly susceptible to low recall of projects known to be pertinent." The user usually obtains some useful references, but he has no idea of the number of additional relevant documents that he missed. Lancaster found that 11 out of 45 on-line searches of a small epilepsy data base with free-text searching of 8000 abstracts, titles, and index terms retrieved less than 20 percent of the relevant documents, and 23 of the 45 searches retrieved less than 53 percent of the relevant documents (*6*). This partial recall is due, in part, to Cuadra's "peephole" phenomenon mentioned above.

5) There is some movement toward classifications in the United States. In order to deal with large data bases and to supply group SDI services, classifications consisting of categories or "macroprofiles" covering broad subject areas are being used with increasing frequency. The INSPEC Service at the Institution of Electrical Engineers in London uses such categories. The American Mathematical Society and the American Insitute of Physics use more detailed classifications (*8*, *9*).

My article was directed mainly at demonstrating the high level of performance possible when enumerative classifications are used for selective dissemination of information and other automated information systems. I do not feel that they should be used exclusively for every information system. Instead, the best systems are likely to be those that use a combination of both detailed enumerative classifications and keyword or free-text searching for information retrieval. The American Institute of Physics has successfully demonstrated the feasibility of such hybrid systems (*9*).

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Interrelations of Humans, Dogs, and Rodents

In discussing the problems of evaluating tests of the toxicity and teratogenicity of 2,4,5-T, Sterling (*1*) stated that interpretation of human reactions from animal studies is complicated by the use of rodents as experimental animals because "rodents are much further removed phylogenetically from the human animal than are dogs or monkeys."

Of course, monkeys are unquestionably closer phylogenetically to humans than either dogs or rodents are. No Cenozoic common ancestors are known for the three orders, Primates, Carnivora, and Rodentia, and the relationships of the three (other than all being placental mammals) are not universally agreed on. A conservative approach shows all three lines converging somewhere in the Upper Cretaceous (*2*). The earliest known possible primates are from the late Cretaceous of Montana (*3*), and Primates were certainly well established by mid-Paleocene; a possible carnivore is reported from the early Paleocene of New Mexico (*4*); the earliest known rodents are from the latest Paleocene of Wyoming (*5*). From the fossil record, it appears fairly certain that rodents and primates are more closely related to each other than either is to carnivores. The latest study of the earliest rodents has compared them particularly with certain Paleocene primates, and the conclusion was reached that an origin of rodents from primates at some time during the Paleocene was more probable than any other origin (*5*). If this derivation of the rodents is correct, their primate ancestor lived on the order of 70×10^6 years ago, so that living rodents and primates are not very closely related; however, the latest common ancestor of primates and carnivores must have lived even earlier.

Therefore, tests on rodents should give every bit as valid indications of human reactions as would tests on dogs. This conclusion, of course, has no bearing on the validity of Sterling's other comments.

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