gin of the chipped flints at the Calico site.

A lawyer, Dawson belonged to a local society of science hobbyists and antiquarians in Lewes, East Sussex, England. He was annoyingly insistent that the stone artifacts proudly displayed by fellow members could have been the result of geologic processes. One day, Dawson arrived at a meeting of the society, a sackful of flint in hand. He placed the sack on the floor and then proceeded to jump up and down on the rocks, crunching them to fragments. In a little while, he removed the stones and, with a triumphant smile on his face, showed them to his incredulous colleagues. Many of the newly splintered rocks exactly resembled the so-called hand tools.

Thereafter, Dawson was snubbed by the society. A few years later, in 1912, he made an amazing discovery that propelled him to fame—the skull and jaw fragments of the Piltdown man.

It is curious, and refreshing, to note that K. P. Oakley—mentioned in Haynes's article as having examined the Calico specimens—defrocked the spurious *Eoanthropus dawsoni*, using a fluorine dating technique, in 1949.

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Health and Technology

In his article, "Health care delivery and advanced technology" (29 June, p. 1339), Charles D. Scott argues that the development and application of advanced technology is "exactly the kind of effort that will be necessary to help solve our 'health care crisis.'" He dismisses the notion "that sufficient biomedical technology is now available for health care delivery," but supports this dismissal with no evidence. This is surprising in light of (i) the growing realization that the health status of a population is more dependent on environmental, ecological, or social factors than it is on the delivery of medical care (*1*) and (ii) the persistence of inequities in health status among subgroups of a population, despite available technology. It is not clear to us, for example, that the development and application of advanced technology would remove social gradients in morbidity and mortality. Advanced technology may indeed have a place in the solution of problems in the health care system, but intermediate or low-level technology may be the major strategy of choice (*2*).

More fundamentally, Scott fails to make clear the exact nature of the "health care crisis" he is considering. He makes no distinction between health care and medical or disease care. When referring to "detection and treatment of incipient disease," he uses the term "preventive health care," which he seems to find interchangeable with "preventive medical care." True "health care" should be the promotion of positive health and the prevention of disease before it occurs. In this context, we submit that personal action, social organization, and environmental control will be more potent problem-solvers than advanced biomedical technology.

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The remarks of C. D. Scott regarding applications to health care delivery of the technology of the engineering sciences also hold for the technology of the applied social sciences. In fact, the responsiveness of the health care system and the cost of health care can probably be affected more, in the short term, by changes in the organization of the delivery of services than by applications of advanced biomedical engineering. The response of medicine to additional funds for biomedical engineering research might be similar to the response to the recent increase in funds for health services research—social scientists have not been brought in as experts to work on the problems.

The employment of the applied social scientist in the exploration and evaluation of alternative ways or organizing the delivery of health care frequently involves the same restriction on effectiveness as does the employment of the engineer, that is, both are contracted to add the details to a preconceived concept. In addition, the application of social science methodology to health care delivery is being incorporated by a medical subspecialty (epidemiology and community medi-

cine), while established fields of social science are being redefined as new medical subspecialties—developmental psychology is becoming behavioral pediatrics and community pediatrics (*1*). This results in physicians being removed from the delivery of medical care, where there is an apparent shortage of such manpower, to administer social science research and evaluation, for which physicians require additional training. Thus, society pays physicians' salaries to reduce and retrain a scarce manpower pool, while the applied social sciences suffer from an oversupply of manpower similar to that of the engineering sciences.

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I certainly agree that I primarily presented the viewpoint of the developmental technologist (obviously a very frustrated technologist) without presenting an overall picture of the involvement of other elements essential to health care delivery. As mentioned in the article, the excellent presentation by Schwartz (*1*) puts these elements in better perspective. But even with the most optimum organizational mode and the best political solutions, all sections of our very heterogeneous society could not achieve and maintain an equally high level of health care delivery with existing technology. For example, much of the technology developed for the relatively large medical centers (most technological developments have been for this area) are not usable with a dispersed population such as that found in Appalachia or in remote areas in the southwestern United States, even if you could convince a sufficient number of health care personnel to serve those areas. Thus, the persistence of inequities among some population subgroups has resulted because of lack of technology. Also, as new advances occur in biomedical research, it would be fortuitous indeed if current technology alone could be used to ensure ultimate application to health care delivery.

As the social sciences become more extensively used in organizing our health care delivery effort, I hope that responsiveness to the needs of the individual will be considered as important as the operational efficiency of the system. Perhaps social scientists would be better equipped than physicians to objectively use both of these criteria.

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Safety and Efficacy of New Drugs

In the letter from C. Joseph Stetler of the Pharmaceutical Manufacturers Association (12 Jan., p. 127) taking issue with Muller's article (5 May 1972, p. 488) on the socioeconomics of drug therapy and the "overmedicated society," there is the oft-repeated rebuttal that "Advertising claims [for drugs] must be based upon FDA-approved labeling. . . ." This is a continual excuse by those in the drug industry to imply that all drugs on the market are both safe and efficacious. But this is simply not true. Drugs are still being advertised and sold that have not received FDA (Food and Drug Administration) approval (*1*). The following are excerpts from letters to me from D. N. Kilburn (*2*) of the FDA concerning Lipo-K, a drug that has been seized several times by the FDA since 1967 because it was shipped in interstate commerce without an approved new drug application.

. . . In our opinion, the Lipo-K capsule is a new drug subject to the new drug provisions of the [Federal Food, Drug and Cosmetic] Act. However, Marcen Laboratories, Inc., has not submitted a new-drug application to us pursuant to the new drug provisions of the Act.

. . . Despite a court order decreeing that each of the drugs seized in a legal action, including Lipo-K capsules, is a new drug without an approved new drug application. . . [u]ntil the determination of the new drug status of Lipo-K products has been finalized and as long as the products are marketed, they may be advertised.

Thus drugs for which claims have *not* been approved by the FDA may still be advertised and sold.

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2. D. N. Kilburn, personal communications.