Equality for Women

The editorial by John T. Bruer (30 Sept., p. 1339), which raises the question of women's lack of full participation in the scientific research community, is surely welcome. Not so sure is the need for an extended inquiry into its causes (although I would not wish to discourage the impulse). As long as women are understood to be chief managers of household and family needs, so long will the demands of this management affect their careers. Few couples are so totally egalitarian that a sick child or a dinner party or care for an aging parent will not tend to burden wives more than husbands. Even when perfect equality prevails, the hiring institution will hesitate to assume its existence and therefore to risk betting on the research potential of young women as easily as it does on that of young men.

Indeed perfect equality, whatever it may mean, is itself a Utopian goal. More useful than a search for this Holy Grail would be structures of community support for children and parents, such as satisfactory child-care centers available to all who wish to use them, coordinated with after-school programs; parental leave; and the occasional arrangement for part-time employment if desired. When women find themselves free to concentrate on research as their primary activity, a first step toward full participation will have been taken.

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China's Environmental Challenge

The reiteration of China's environmental problems in Marjorie Sun's article (News and Comment, 23 Sept., p. 1271) about Vaclav Smil's book *The Bad Earth* (*1*) should be balanced by some mention of China's ecological accomplishments. Obviously China has environmental problems, as do all nations; but one should also recognize some remarkable advances made by the Chinese in environmental management.

China has a history of many centuries of population pressure and land abuse. In recent centuries environmental conditions deteriorated, with repeated cycles of floods and droughts, dust storms, famines, epidemics, wars, and deepening poverty. I am not an advocate of communism, but the accomplishments of the past 30 years in China in reforestation, water management, agriculture, pest control, environmental reclamation, and public health represent remarkable environmental achievements.

In 1931, more than 40 million people were rendered homeless and more than 3 million died in a flood of the Yangtze River. Fifty years later, in 1981, greater amounts of rain fell in the Yangtze River basin, river levels were higher, and human population densities were greater, but displacements and losses of human life were less than 0.1 percent of those in 1931. Improved water management and restoration of watersheds through reforestation were largely responsible for this advancement. China's reforestation program, first proposed in 1953, has been one of the most extensive in the world. The effort known as the "Great Green Wall" to reforest 1.6 million hectares along the edge of the Gobi Desert and more than 100 million hectares of barren mountain slopes has been described by S. D. Richardson as "undoubtedly the most ambitious [reforestation] project ever undertaken" (*2*). My own observations of many forest plantations in six different provinces in China between 1980 and 1982 lead me to be optimistic.

Similarly, in desert reclamation, Sun comments that "170,000 square kilometers of former grassland has become desert because of failed attempts at reclamation." One might also note a recent evaluation by A. S. Walker (*3*) to the effect that "Chinese scientists and local residents have made significant advances in improving arid environments."

In agriculture, rice production per hectare in southern China in the 1970's exceeded that of all south and southeast Asian countries except Malaysia. By 1971 to 1975, China was producing an average of 3.2 tons of rice per hectare, equaling Malaysia's yield and exceeding that of the Philippines, Indonesia, Thailand, Vietnam, Burma, Bangladesh, Sri Lanka, Nepal, India, and Pakistan (*4*). China achieved its yields with minimum pesticide and petroleum use, concentrating on biological pest control and natural fertilizers from ducks and geese. China's accomplishments in nutrition and public health provide further evidence of environmental improvements, and most scientists visiting China in recent years who also know other Asian countries as a basis of comparison have been favorably impressed by the health of her people.

Further, my impression of Guilin differs considerably from Li Ximing's characterization of it as a city of poor environmental quality. Guilin (or Kweilin) was rebuilt after being 90 percent destroyed in World War II, and it is now a strikingly beautiful city. Its air quality, public parks, and interspersion of greenbelts, residences, and workplaces make it attractive for human habitation.

No one would deny that China has continuing environmental difficulties, anymore than we would deny that the United States does, but to infer that China's environmental problems are of recent origin overlooks the long course of history and the hard work of the Chinese people for the past 30 years.

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Diets for Diabetics

We are glad that issues of importance in the area of diet and diabetes are being raised and discussed (*1*) so extensively (Research News, 29 Apr., p. 487). Kerin O'Dea (Letters, 15 July, p. 214) further highlights some of the topics related to this controversial subject where understanding is hampered by lack of knowledge.

We wish to reinforce O'Dea's statement that "It is an oversimplification . . . to imply that all foods with low glycemic indexes are appropriate for inclusion in the diet of diabetics" because this does not take into account the longer term effects of other nutrients. Our own original position in suggesting the use of a glycemic index approach was that "physiological data on the blood glucose response in man could be obtained to supplement tables based solely on chemical analysis" (*2*). We were aware at the outset of the necessity to consider other aspects of foods in prescribing diets for diabetics, as was confirmed by our subsequent studies. This work, in which we looked at longer term effects of high- and low-fat breakfasts by following these with standard lunches (*3*), is quoted by O'Dea. Our conclusion in 1980 that high-fat meals with a low glycemic index may

not improve overall diabetic control further emphasized that the glycemic index should be used in combination with other food attributes (for example, macro- and micronutrient content and overall calories) rather than as the sole criterion for planning diets for diabetics. More recent work, such as the useful studies of Collier and O'Dea showing marked responses of insulin (*4*) and gastric inhibitory polypeptide (*5*) to fat, have served to strengthen this position. On the positive side, we see an important function of the glycemic index in allowing identification of starchy carbohydrate foods that may be incorporated into the higher carbohydrate diets now being recommended in the treatment of diabetes. Such diets have as their goal the reduction of fat intake. With foods that have a low glycemic index, this may be achieved without increasing the postprandial glycemia. Even when diets include very high levels of fat (46.5 grams of butter per 75 grams of carbohydrate), the original glycemic index approach is useful, as demonstrated by the studies of Collier and O'Dea. Thus, despite the addition of fat, lentils, a food with a low glycemic index, still produced an appreciably lower glycemic response than potatoes, a food with a higher glycemic index (*5*).

Our previous work with dietary fiber suggested that a reduction in blood glucose coincided with a reduced rate of carbohydrate absorption (*6*). Our studies with foods and those of O'Dea and coworkers have confirmed that rate of digestion may be a major factor in determining the glucose (*7*) and insulin (*5, 8*) response to starchy foods. Study of the effects on the endocrine response of adding fat and protein to meals is important. However, such studies are complementary to extensive glycemic index testing. This is urgently needed to get an overall picture of the glycemic responses to the many foods that have not been tested and to enable selection of specific foods for more detailed testing and, at a later stage, possible incorporation into therapeutic diets.

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Erratum: In the report "Monoclonal antibodies in the lymphatics: Selective delivery to lymph node metastases of a solid tumor" by J. N. Weinstein *et al.* (28 Oct., p. 423), figure 2 was printed incorrectly. In the bar graph on the left, the captions under $N = 13$ and $N = 4$ were interchanged. The correct figure is printed below.