to survive at least 6 years (*4*). Mice, being short-lived, should have cells with less than the human doubling capacity of 50. However, labeling studies of mouse tongue epithelium showed a minimum of 146 and an average of around 565 doublings over the life-span, with no significant difference in cell division betweeen 3-, 13-, and 19-month-old animals (*5*). In tissues showing decreased cell proliferation with age, there is no dying out or loss of cells (*5*). Martin, Sprague, and Epstein cultured human cells, and although their report is frequently cited as supporting the Hayflick model, inspection of the data indicates there is no significant difference in doubling capacity of cells obtained from donors 20 to 90 years of age (*6*).

Available evidence overwhelmingly supports the view that in mammals there is no generalized age-associated loss of stem cell ability to divide, followed by the dying out of these cells. Reported alterations in numbers of proliferating cells with age could result from comparing growing animals with older ones, from changes in cellular environment, or from changes elsewhere in the body, particularly in stimuli to growth or cell turnover, and not represent intrinsic capacity for cell division. Before committing resources and effort to the study of a model, it should be ascertained that the model bears some relationship to the phenomenon in question.

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Cost of Fuel

Before the energy crisis hit last year, the University of Massachusetts was paying $4 per barrel of oil and $16 per ton of coal. Our latest costs are $13 per barrel of oil and $70 per ton of coal. Thus the cost of coal has increased by a factor of 5.4 while the cost of oil has increased by a factor of 3.25. At current prices, coal costs $2.60 per million Btu's (British thermal units), while oil costs $2.06 per million Btu's. It does not appear that the increase in the cost of coal could possibly result from increased labor prices or from a concern that our coal supplies—which are much more extensive than all of the oil in the Middle East—could be depleted, but rather from companies making great profits from the crisis that is facing our nation. We are essentially unable to influence the price of imported oil, but we could place controls on the price of domestically produced coal. In my opinion this should be an immediate goal of our federal energy policy.

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Peer Review: Distribution of Reviewers

The peer review system of evaluating grant applications has been criticized by both scientists and nonscientists. Much of the criticism, especially from within the scientific community, has been based on the fear that the system is operated by a self-perpetuating oligarchy. Few facts about the actual operation of the system have been available. The Public Policy Committee, Division of Biological Chemistry of the American Chemical Society, has examined the composition of 11 National Institutes of Health (NIH) review groups from 1964 to 1973 by listing the names and institutions of the members as published in the 1964, 1968, 1972, and 1973 editions of *NIH Public Advisory Groups*. Since members serve 4-year terms, this list should include essentially all those who served during this period. Because of the interests of our division, we chose those study sections most likely to review basic research grant applications in biochemistry. The sections we considered were: Allergy and Immunology, Arthritis and Metabolic Diseases (Program Project Committee), Biochemistry, Biophysics and Biophysical Chemistry (A and B), Endocrinology, Medicinal Chemistry (A and B), Microbial Chemistry, Molecular Biology, and Physiological Chemistry.

During the stated period, 366 individuals served on the 11 study sections; only 7 of these served twice. They were affiliated with 113 institutions that were distributed geographically as follows.

Group 1. New England, plus Delaware, New Jersey, New York, Ohio, and Pennsylvania. Of the total number of reviewers, 38 percent, or 140 individuals, came from 48 institutions. Thirteen of the institutions contributed five or more individuals; of these, only the University of Pennsylvania contributed nine or more.

Group 2. Alabama, Florida, Georgia, Kentucky, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, and West Virginia. Of the total, 17 percent, or 61 individuals, came from 25 institutions. Duke, Johns Hopkins, National Institutes of Health, and Vanderbilt contributed five or more; none contributed nine or more.

Group 3. Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, and Wisconsin. Of the total, 22 percent, or 81 individuals, came from 20 institutions. Eight of the institutions contributed five or more and, of these, the University of Illinois and Washington University, St. Louis, contributed nine or more.

Group 4. Arizona, California, New Mexico, Oregon, and Washington. Of the total, 23 percent, or 84 individuals, came from 20 institutions, six of which contributed five or more individuals. Of these, Stanford, University of California at Los Angeles, and the University of Washington contributed nine or more.

In order to get some rough idea of the pool from which these reviewers were drawn, we counted the number of current grants reviewed by these same study sections that have been continuously funded for six or more years. This number should approximately reflect the number of projects that have successfully competed for funding more than once and may give some indication of the number of scientists who are qualified by experience alone to sit on review panels. There are 1167 such grants currently funded. If this number approximates even within a factor of 2 the number of scientifically mature individuals in these areas of science, it appears that a substantial fraction of such scientists serve on a peer review panel at some time in their career.

These data do not prove that the study sections are free from bias; for example, we did not look at the replacement sequence in particular study sections to see if "scientific lineage" is a major determinant in the composition of the study sections. Nevertheless, the data do show a wide representation, they show that no small group of scientists has served repeatedly on any of these review groups, and they show that certain prestigious departments or schools have not had a disproportionate voice in the funding process. We feel that the data are consistent with the confidence that the scientific community has generally had in the NIH peer review system.

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Notes

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Insect Control

In discussing future means of controlling insect populations, Djerassi, Shih-Coleman, and Diekman (15 Nov. 1974, p. 596) fail to emphasize a method of biological control that may deserve more attention than it has received since its discovery (*1*), namely, introduction of alleles causing sex ratio distortions. In 1969, Hamilton (*2*) proposed control by locating "driving" sex chromosomes, isolating the relevant alleles from epistatic modifiers, and introducing those alleles into (outbreeding) populations lacking the modifiers. He noted that completely driving alleles, in the absence of modifiers, should cause extinction. Incompletely driving alleles, on the other hand, would cause an immediate, rapid decline but would not extinguish the population completely (*3*). Apparently no further attention has been paid to Hamilton's idea, despite his intriguing speculation that the general inertness of the "sex determining" chromosome suggests a prevalence of such loci (they are more effective on sex chromosomes, and more effective on the Y than on the X in insects and in man). If genes for such effects could somehow be manipulated to thwart the spread of modifiers, perhaps by suc-