Letters

Judicial Impact Statements

Daniel E. Koshland, Jr.'s, editorial recommending judicial impact statements (11 Mar., p. 1225) expresses the frustrations that many Americans feel toward a legal system engulfed by the perplexing problems of a complex society. "Administrative law," which deals with the decisions of government agencies, has grown with the development of the Anglo-American legal system. Federal agencies have been delegated sweeping powers by the Congress to establish rules, regulate activities, adjudicate disputes, and prosecute violations. Their authority transcends that of legislators, administrators, and judges. Without judicial checks and balances, an errant administrative agency's capacity to abuse power would be immense.

Such was the case before 1946, when Congress enacted the Administrative Procedures Act (APA) (*1*) in reaction to a history of administrative abuses where rules of evidence were ignored, ex parte proceedings excluding all but a single party were prevalent, abuses of procedure were frequent, and latitude for corruption, fraud, and favoritism were many. The APA established stringent rules that defined the legal relationship between the regulatory agencies and the reviewing courts.

The scope for judicial review of agency decisions was tightly bounded by the Congress in order to provide administrative agencies the latitude to exercise expert judgment. That judgment, however, must conform to legal and equitable norms of fair play and orderly procedures within the limits of statutory and constitutional law. It is the courts' responsibility to ensure that the agencies abide by their own rules as well as the laws of the land; thus courts cannot overrule an agency decision if supported by "substantial evidence," that is, a substantial basis of fact from which the fact at issue can be reasonably inferred, but the courts are empowered to interpret and decide all relevant questions of law. Courts can also compel agencies to take timely action when required by law; can set aside agency actions, findings, and conclusions only if found to be "arbitrary, capricious, and abuse of discretion"; and can overturn actions that are in excess of an agency's statutory jurisdiction. A court cannot retry an administrative case on the basis of different evidence, but must work from the evidence considered by the agency.

Judicial process is awkward, slow, and expensive; but the administrative process is by no means fast, inexpensive, or infallible. Our system of government and participatory democracy is clumsy in dealing with ethical, moral, and scientific problems. Failure of the political system and society's own inadequacies to deal with fast-moving trends in science and technology have placed even more reliance on the courts. Improving the public understanding of science and technology can lead to a better appreciation of their value to society, but given the current level of scientific literacy in the United States, this might take generations.

How serious is the problem addressed by Koshland's editorial? What proportion of the regulatory decisions are finally reviewed by the federal courts? How much harm has society—apart from the economic impact on an individual or a business—suffered from litigation? Have appeals from agency decisions measurably diminished our international competitiveness or eroded our economic position? How frequently do "bad" decisions on technical and scientific issues occur as a result of judicial review of agency decisions? Has the judicial review process chilled the atmosphere for advancing science, technology, and innovation? Have the courts been effective in protecting the rights, health, and safety of the public from flawed regulatory decisions? Finally, if a problem exists, does the fault lie with the courts, the agencies, or the public; or are the inefficiency and economic costs suffered the price we pay for an open society? Until we have answers to these questions and others about the relation between litigation to the advancement of science and technology in the United States, we are in danger of responding to assumptions, myths, and prejudices, rather than reason.

JAMES W. CURLIN
Office of Technology Assessment,
U.S. Congress,
Washington, DC 20510

REFERENCES

1. 60 Stat. 237 (1946).

Koshland's impatience with our judicial system, as expressed in his editorial of 11 March, recalls the comments some years ago by R. H. Tawney, the noted English economist, on the comparison made by Hitler of the efficient operation of his German machine and what he regarded as the lumbering way of doing things by the British government. Tawney, in viewing the claimed efficiency of Hitler's machine, pointed out that the English, to ensure a democratic society, were prepared to sacrifice efficiency to attain the achievement of democracy.

The important thing is to have our judicial system strive to achieve the norms of conduct to which we are prepared to give sanction; and if in its endeavor to achieve that end some efficiency has to be sacrificed, then the sacrifice is worthwhile. Let us be guided by the wisdom of the Spanish grandee to his valet: "Dress me slowly because I am in a hurry." We need just results, not the efficiency of a laboratory experiment.

BERNARD H. GOLDSTEIN
The Chrysler Building,
405 Lexington Avenue,
New York, NY 10174

Retirement Policy

In his editorial of 19 February (p. 845), Daniel E. Koshland, Jr., appears to accept uncritically the current "politically correct" abandonment of mandatory retirement. As far as academics are concerned, I think he is dead wrong. I write with the moral authority of a 68+-year-old who is retiring voluntarily this June, a year before retirement would become compulsory under present California rules (which existing federal legislation will terminate in 1990, when there will be no age limits). Unless we change the legislation, I fear for the consequences, which are already visible from the legislation in place in Wisconsin.

The prospective health of academic science (and of the entire college and university enterprise) depends in the near future on the prospective normal retirement of the faculty who composed the great expansion of American higher education after World War II. If substantial numbers of them choose to stay on until they have to be carted away, the results will be stultifying to the research and teaching enterprise and sad for aspiring new entrants to the university world.

We had a better system only a few years ago: an arbitrary, rather early retirement age (65) and considerable opportunity for the able and productive elderly to negotiate new arrangements of a temporary sort either with their home institutions or elsewhere. That made sense. Under such a system, compulsory and arbitrary retirement did not constitute certification of incompetence. It was not an assault to the self-esteem of the retiree. I saw my father, an academic at Oregon State University, go through this. The fact that the axe fell with complete impartiality and arbitrariness was a kindness. He left administration, as he should have, and continued some part-time teaching for a little while, which was good all around.

Colleges and universities are well

equipped to be appropriately selective—and even kind—in making post-retirement appointments, usually on a part-time basis (and at an appropriately lower stipend). They are ill equipped and incompetent to discharge elderly colleagues for cause when the seniors become liabilities rather than assets to the academic enterprise. To expect them to use performance criteria to discharge superannuated tenured faculty, their friends and colleagues, is wishful and unwise. The arbitrary age limit is an essential protection.

The most valuable among the aging faculty often welcome retirement as giving their options greater flexibility. Some of the less valuable follow Koshland's blue-collar pattern and opt for early retirement. There are, however, a number of other less valuable faculty who will hang on until the bitter end. Without reasonable and arbitrary age limits, most faculties and administrators are morally incapable of coping with the problems that these tenacious colleagues present.

Reconsideration of national policy with respect to retirement age is seriously needed.

M. BREWSTER SMITH
Board of Studies in Psychology and Adlai E. Stevenson College, Univerisity of California, Santa Cruz, CA 95064

Stunned Sex Interviewers?

William Booth's account of the lost sex survey (News & Comment, 4 Mar., p. 1084) says that sex interviewers should not be "phased" by details of sexual aberrations. Have no fear. They may be "fazed" by such items, but they can only be "phased" by weapons in the hands of crewmen from the starship Enterprise.

WILLIAM R. GAFFEY
Monsanto Company, 800 North Lindbergh Boulevard, St. Louis, MO 63167

La Différence?

In her well-informed article "Why do women live longer than men?" (Research News, 9 Oct., p. 158), Constance Holden mentions Verbrugge's suggestion that the difference in longevity "appears to be to some extent biological." This may be so, although no attempt was made to specify the biological roots of this difference by relating it to the difference in metabolic rate between men and women.

A plot of age-specific death rates of the general population against the rate of oxygen consumption—the oxygen quotient per hour in calories per square meter of body surface—separately for men and for women at all adult age levels displays parallel curves revealing that women, in contrast with men, burn their fire of life at a rate that is 8 to 10% lower than that of men (*1*). Evidently, a constant proportion of the difference in longevity is based on the body mass–energy expenditure relation. Truly, and literally: "Vive la différence!"

ROLAND FISCHER
07190 Esporles, Mallorca, Spain

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1. R. Fischer, *Experientia* **22**, 178 (1966).

Erratum: In the letter "Behavioral research and AIDS prevention" by William W. Darrow (25 Mar., p. 1477), (*1*) in line 7 of the second paragraph should have been (*2*).

Erratum: In the report "DNA amplification for direction detection of HIV-1 in DNA of peripheral blood mononuclear cells" by Chin-Yih Ou *et al.* (15 Jan., p. 295), the fourth sentence of reference 21 (p. 297) should have read, "The PCR reaction mixture contained 1 μg of PBMC DNA, 100 pmol each of primers (Table 2), 200 μ*M* each of four deoxyribonucleoside triphosphates, 10 μ*M* tris-HCl, *p*H 8.3, 50 m*M* KCl, 2.5 m*M* $MgCl_2$, 0.01% gelatin, and 0.6 unit of thermoresistant DNA polymerase of *Thermus aquaticus*."