Letters

Save the Endangered Birds!

The International Council for Bird Preservation has recently compiled a list of some 300 birds which are not only rare, but are considered to be in danger of extinction. The list of species and subspecies, together with the details of their status, distribution, and causes of decline, are found in the *Red Data Book* (*1*), recently published by the International Union for Conservation of Nature and Natural Resources. The purpose of this list is to gather enough data so that a decision can be reached on the best method of saving each species. In many cases immediate action is vital. Yet before the appropriate authorities can be approached, it is essential to have more precise details about the status and, in some instances, better knowledge of the biology of the birds.

I hope that university departments of zoology will be willing to make surveys of specific rare birds as a part of their field-research expeditions. Every such field survey could help prevent the extinction of a species. Zoologists may obtain details concerning the rarest and most endangered species of any particular country or continent from the U.S. Secretary of the ICBP, Stuart Keith, Bird Department, American Museum of Natural History, 79th Street and Central Park West, New York 10024.

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References

1. Published by the International Union for the Conservation of Nature and Natural Resources (Arts Graphiques Héliographia S.A., Lausanne, Switzerland, 1966).

Medical Education and Doctrines

Williams' article on "Quality versus quantity in American medical education" (26 Aug., p. 956) seems to be based upon two arguments: (i) our country needs to produce larger numbers of high-quality physicians and (ii) the concept, attributed to Abraham Flexner, that the number of medical students should be "rigidly restricted," is a critical factor in limiting the production of physicians. The first point, that we need more excellent doctors, is one that few, if any, of us in medical education would contest. The second argument, however, appeared to suffer from over-simplification. In the first place, the notion that "the Flexner doctrine is dead" in some respects contradicts the author's plea for more high-quality physicians. The central concept of Flexner's perceptive review of American medical education in 1910 was that medical schools should be characterized by the genuine scholarship and spirit of inquiry which attract bright minds, not that there should be an arbitrary limit upon the number of bright minds accepted for study. If Williams were to argue for wider application and more adequate funding of "the Flexner doctrine," which is really excellence in medical education, rather than suggesting that we "say farewell to Flexner," it would seem to me a stronger approach to producing larger numbers of "high-quality physicians." The danger in saying "farewell to Flexner" is that it makes expansion of medical education sound simple, as though all that were retarding this process is the maudlin attachment of medical educators to a bygone age. Thus Williams observes, "Expanding a medical school takes no wizardry —only determination and money." This salubrious news will greatly brighten many a long day of "deaning" which might otherwise be dark and chilly, for as Williams himself suggests, there are some problems connected with obtaining the requisite money, not to mention the best teachers in the right places. It is not that I disagree with the exhortation to produce more high-quality doctors. It is only that many of us will want Greer Williams to remind us often how easy our task really is.

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. . . One complexity in expanding medical education facilities is the fact that more federal funds are available for research than for teachers' salaries, more for laboratories than for classrooms. How much is cause or effect in terms of attitudes in academic medicine is, of course, as complicated a problem as the others discussed by Williams.

Government grants for the expansion of teaching facilities in effect increase the medical care that can be provided for indigent patients and those of limited means because these patients are cared for, in university and public hospitals, by doctors in training who are under faculty supervision. Although the American Medical Association has continued to denounce almost any suggestion that would extend medical care for those unable to pay full fees, most medical educators have been as negatively impressed by such views as has the general public.

One aspect not mentioned by Williams is that each year several hundred foreign physicians come to the States for postdoctoral training and decide to become U.S. citizens rather than return to their native countries. This makes more doctors available for Americans, although it raises grave questions about our responsibilities to developing nations.

Washington University School of Medicine is listed among those which "have done nothing to increase the supply of M.D. graduates." This medical school is building additional basic science facilities which will make it possible to increase each graduating class by 30 percent, and I would assume the same to be true of other schools listed, although the additional students are not yet enrolled and the increase is not the 100 percent quoted for some medical schools.

The article seems to imply a favorite theme of research versus teaching discussions: that it is unlikely that an interest in clinical care of patients, in teaching, and in research would be combined in one faculty member. Many of us spend varying amounts of time in all these areas and are fortunate in having department chairmen who encourage high standards of patient care, teaching, and, not or, research.

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Williams states that "the advance of medical science itself has greatly increased the need for specially trained physicians."

This may represent the view of the Rockefeller Institute as a standard bearer of modern medicine's concept of investigation as a laboratory procedure. Is it true? Does the future of medicine reside in bright young men in ivory towers or in any specialist group?

Sir James Mackenzie, writing on the future of medicine, said: "The reason given for the need of a body of specialists to examine one patient is that medicine is becoming such a complicated concern that one man is incapable of understanding all its phases. This view should at once arouse the suspicion that the pursuit of medicine is not on the right lines, for the more a subject tends to be a science the more it becomes simple and easy to understand" (*1*).

This judgment by one of the most astute practitioners of the modern era was distilled from a life devoted to clinical studies. Mackenzie's demonstration of the arrhythmias and his great reputation as the father of modern cardiology were incidental to his real enthusiasm. For him, that was a total devotion to understanding disease by intelligent concentration on the patient. He said: "Medicine is so distinct from all other sciences that no one, unless engaged for a long time in its practice, can fully understand its peculiar features, and the need for methods specially adapted to its pursuits" (*1*).

The approach to diseases as a process affecting the whole person is beginning to be recognized. It is not yet clear that the individual man is something different from the sum of his numberless divisions. A foundation of trained clinical observation is necessary to demonstrate the reactions of the whole man to his total environment.

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References

1. J. Mackenzie, *The Oxford Medicine* (Oxford Univ. Press, New York, 1922), vol. 1, p. 12.

Williams discusses the discovery of insulin and the resultant breeding survival of juvenile diabetics with a statement referring to Rene Dubos' conclusion about "the possibility of breeding a race of increasingly unhealthy people" (*1*). The implication here is that the survival of undesirable traits through the reproductive years will lead eventually to these traits being ubiquitous in a given population (a frequent statement of eugenicists).

This implication is erroneous, for the principle of Hardy and Weinberg states that the percentage of genes in a large, randomly mating population remains constant; that is, no one gene can increase or decrease in percentage unless some disturbing force either favors or disfavors it. In the case of diabetes, until the development of insulin, the carriers of this disease were strongly disfavored due to the high early mortality. In the present population, diabetics are at best only neutral in survival with respect to nondiabetics. It certainly has not been suggested that there is any advantage in carrying diabetes. Therefore, until it can be shown that diabetes (or any other detrimental condition) confers a reproductive advantage, there is no basis for assuming that the percentage of carriers will increase over its present level.

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References

1. R. Dubos, *Mirage of Health* (Harper, New York, 1959), p. 138.

94 Years of Progress?

In the January 1872 issue of *The Lens* (**1**, 64), a now defunct journal of the State Microscopical Society of Illinois, we ran across some comments that seem pertinent in view of the forthcoming AAAS meetings. S. A. Briggs, then editor, summarized a contemporary account from the *Scottish Naturalist* concerning the August 1871 meetings at Edinburgh of the British Association for the Advancement of Science. The material below was extracted by Briggs from the original, longer article.

Is the Criticism Just?—A correspondent of the Scottish Naturalist publishes in the January number of that journal a critique on the real, contrasted with the apparent, advantages of such gatherings as a means of advancing science, as illustrated by the meeting at Edinburgh of the "British Association for the Advancement of Science," in August last.

Chief among the advantages which he enumerates are—that "the meetings" afford an admirable opportunity of becoming acquainted with the personal appearance, at least, of scientific or other celebrities previously known only "by their works or reputation"; that they "furnish an admirable rendezvous for the reunion of friends and correspondents"; that they are "convenient for the transaction of all sorts of business—as that between authors and publishers"; and that they "afford a pleasant" and economical "means of seeing most favorably the chief cities of Britain and the scenery of their vicinity."

Among the twenty-four disadvantages enumerated (the author mentions only ten advantages, four of which he denominates "questionable") are—the character of the papers presented, which is not adapted to the audiences, "which consist mainly of the general public, including a large proportion of ladies"; "the excessive length of the public addresses" and the papers read at the sections; the season of the year selected for the meetings, which is highly suitable for the excursions, but most unsuitable for lengthy in-door discourses; many of the leading naturalists, though they attend the meetings, do not read any papers nor take any active part in the proceedings, while others "do not attend the meetings at all, regarding them as mere exhibitions of talk and sham—of egotism, superficiality, and dissipation."

The conclusion arrived at by the critic is that "such an organization—'for the promotion of science' by its popularization—is in thorough accordance with the spirit of the age," but that "as at present constituted the 'British Association' must be regarded as mainly a fashionable means of social and scientific dissipation or recreation"; that "it has only a quasi-scientific character, its very existence depending on popular, not on scientific, support"; that "the real scientific work done is very small"; and that "it could be done more efficiently in a much quieter, less expensive, and less ostentatious way."

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Memories of Wisconsin

As a native of Wisconsin and a graduate of its university, I was pleased to read Glass's handsome letter of apology (30 Sept.) regarding his earlier errors in connection with the oleomargarine controversy in 1943. Not only did the distinguished research team find a hospitable climate for its work on that subject at Wisconsin, but one of the team was named president of the university. C. A. Elvehjem will be remembered both as a fine scientist and worthy administrator. The alumni and university are now engaged in a joint project developing an art center which has been named for him.

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