ing that future human evolution will emphasize the psychosocial and cultural aspects. "In psychosocial evolution the struggle for existence has been replaced by what might be called the striving for fulfilment." Huxley gets the symposium off to a fine start, although I could do with less of Teilhard de Chardin and fewer neologisms (for example, psychedelics, teleonomic, noosphere, and psychometabolism).

The first problem discussed is that of the world food supply and overpopulation. John F. Brock describes some possibilities for more sophisticated diets that could support larger populations, though perhaps running counter to many people's gustatory preferences. Colin Clark repeats his familiar eccentricity of simply denying the existence of the problem. His view, as described by N. W. Pirie, is that "the world food shortage is really a figment of Boyd Orr's imagination." Needless to say, Clark gets very little support in the discussion. Gregory Pincus discusses new possibilities in chemical methods of birth control. Alan Parkes discusses the change in sex ratio at marriage ages being brought about by greater survival, which permits the neonatal male excess to be carried into young adulthood. He points out that "Women are beginning to have the scarcity value previously held by men" and wonders whether this might eventually lead to legal and religious recognition of polyandry.

Social groups, environmental pressures, and the impact of machines are discussed by Carleton Coon, Artur Glikson, and D. M. MacKay. There is the usual discussion of the limitations of machines ("can machines think") and of the effect of prediction of an event on the probability of its occurrence. I enjoyed J. B. S. Haldane's recipe for happiness in an increasingly sophisticated technological society; he simply migrated to India. "I could not keep up with modern technology, especially electronics, so I moved to a situation where the technology is at about the same level of development as it was when I was 20 years old."

The future of medical science, of infectious and malignant diseases, and of longevity are considered by A. Szent-Györgi, H. Koprowski, and Alex Comfort. Koprowski's essay is both thoughtful and poetic, a major theme being that the natural balance of microorganisms in the body should not be upset more than necessary. (Two of his maxims: "Employ only vaccines which, while protecting against one pathogen, do not spread another"; "If a universal antibiotic is found, immediately organize societies to prevent its use. It should be dealt with as we should have treated, and did not treat, the atomic bomb.") The book maintains its high standard to the end with papers on human behavior and the mind by H. Hoagland and Brock Chisholm and a brilliant final essay, "Biological possibilities for the human species in the next ten thousand years," by Haldane.

I am usually skeptical of the value of publishing verbatim, or only slightly edited, reports of free-wheeling discussions. But in this case I often found myself reading the discussions with more interest than the prepared papers. The remarks were provocative, sometimes witty, occasionally trivial or irrelevant, but surprisingly often profound and original. Sometimes there were nonsequiturs as if the talking was too good for the listening. But it must have been exciting for the participants, and the reader of this volume is given a chance to share in the experience.

The ethical problems considered here are not entirely new. We have already developed and use the techniques of blood transfusion, kidney transplants, and artificial heart valves. We are today confronted by serious ethical problems when lifesaving artificial kidney dialysis is available to only a small fraction of those who could be kept alive by this procedure. We have troublesome by-products of medical advances—drug-resistant bacteria and iatrogenic diseases. The scientific possibilities raised in this book do not alter the basic nature of these problems, but they do greatly magnify both the difficulties and the benefits.

The great value of these books is that they call to the attention of the public how real, how rapid, and how full of possibilities, for good and for evil, are the great transformations being brought about by modern science. It is good to know what some of our most sophisticated men say in their uninhibited discussions and speculations. To quote one participant: "Public information on the possibilities of human modification is not widely available or prevalent, particularly in the seats of high political power."

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Mathematics: Czechoslovakian Conference

Differential Equations and Their Applications. Proceedings of a conference held in Prague, September 1962. Ivo Babuśka, Ed. Czechoslovak Academy of Sciences, Prague; Academic Press, New York, 1963. 247 pp. Illus. $12.

This is a collection of the 21 major lectures, mostly by Czech mathematicians. Their spirit is indicated by the following list in which the dominant idea, not the title, of each lecture is given in order. C, for classical, is appended if no topological, measure-theoretic, or soft-analysis argument enters: Domain variation; Transformations of ordinary equations (C); Almost periodic solutions; Application of Rellich's inequalities; Ritz procedures; Global properties in ordinary equations; Noncompact domain; Asymptotic formulas in second-order equations (C); Nonlinear third- and fourth-order systems (C); Functional analysis applications and approximations; Second-order equations in the complex domain (C); Examples of nonlinear perturbation problems; Stability; Maximal principle for elliptic and parabolic equations; Vector families; Parabolic equations as limiting cases.

Most of the material presented could well have appeared in the 1920's. Thus there is no Morse theory, the closest reference being to G. D. Birkhoff. There is no Banach algebra, nor are there probabilistic methods for boundary problems. There is no application of homology or homotopy theory, nor even a reference to Brouwer's translation theorem. One might have expected to find citations in the references to F. Browder's contributions and to the fundamental Friedrichs-Stoker paper (in the last lecture). Some of the lectures provide uncluttered insight; this is particularly true of Babuśka's lecture, with its reference to porosity and notches in the domains, and of the lecture by Sobolev.

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