

Book Reviews

The Necessity for Nuclear Power. By Geoffrey Greenhalgh, Graham and Trotman Limited, London (available from Crane, Russak and Company, New York) (1980). 250 pp. \$33.00 hardcover; \$19.00 softcover.

The central themes of this encyclopedic survey of the world's energy programs seem to be that:

1. living standards of the people of all countries are closely related to the technological power available to them
2. the citizens of the developing nations are fully aware of this fact and are determined to improve their living conditions by increasing power and industry to provide this improvement
3. the per capita power consumption in the industrialized countries must be increased also to support additional markets for the products offered by the developing countries.

In presenting these ideas the author summarizes scores of reports from many multinational organizations and commissions, such as the United Nations, the World Health Organization, and the World Energy Conference. In addition to this exhaustive review of the findings and recommendations of numerous international commissions, the author gives critical attention to the benefits, hazards, and comparative advantages of all power-generation systems now prevalent throughout the Earth. The finite limitations for hydropower and fossil fuel units are clearly documented. Possible energy sources for the next millenium, 2000-3000 AD, are identified and evaluated. For industrial power essential to healthful living conditions for *all* people, the triple handicaps of coal are reviewed, namely, (a) environmental contamination, (b) production hazards, and (c) bulk transportation difficulties. Weighing all factors, such as acid rain and carbon dioxide pollution for coal versus waste disposal and ease of transportation for fissionable fuels, the author concludes that nuclear power is essential for the benefit of the Earth's people in the near future.

While the facts regarding the potentialities, limitations, and hazards of all energy sources are thoroughly surveyed in *The Necessity for Nuclear Power*, the author notes that many anti-nuclear activists will not be swayed by such evidence. This observation reminds one of the plaque on the door of a well-known environmentalist professor that advised all visitors for over 20 yr, "DON'T GIVE ME THE FACTS; MY MIND IS MADE UP!" However, with characteristic British objectivity, the author presents all facets of the energy debate arguments, arriving at the final conclusion that *all* power systems have objectionable features, and that all may be safely operated by *trained* and *experienced* personnel. Only nuclear power, however, gives promise for "long-term" benefits for the people of

the Earth, providing the quality of life we now enjoy far into the future.

Perhaps the most delightful reading for the casual reviewer will be found in the final two chapters. In those chapters the author summarizes some of the information uncovered in his research and investigation of the world's energy problem.

First, it is noted, the "anti-nuclear" protesters are actually a very small minority of the people of any country. In the United States, for example, "8 to 10 staff members set the policies for one 8,000-member activist organization." The principal tool of the activists and lobbyists is "the generation of fear of new technology" in the minds of the poorly informed. The parallel with the hysteria generated in the 1820s in opposition to the railroads is traced. The antirailway activists of that period "stimulated suspicions" by such allegations as:

1. birds would be killed by locomotive fumes
2. factories and homes would be set afire by sparks from the exhaust
3. cattle and horses would be killed by noxious gases
4. cows would be incapable of producing milk because of air pollution.

As author Greenhalgh emphasizes, "Latent hostility to new technology is not new; it is a fundamental psychological attitude." The antinuclear activists are exploiting this ancient propaganda trickery. By creating alarming suspicions in the minds of innocent individuals—in church organizations and in patriotic groups—such high-pressure propagandists are able to amplify their influence by factors of millions. Greenhalgh notes, "As George Eliot stated in the novel *Middlemarch* in 1872, 'In the absence of any precise idea as to what the railways were, public opinion . . . was against them.'" Additionally, "Anti-railway activists stimulated suspicions in the minds of the populace." Then the classic observation was penned, "*Nettle seed needs no digging.*"

Even today "energy nettlers" need no digging, the author notes. However, their origins are diverse. In the absence of distinct issues in their primary purposes—religious, sociological, or political—such groups have pounced upon nuclear energy as a "whipping boy." The citizens of all nations should be warned that the actions of such pressure groups often run counter to their stated objectives. Greenhalgh notes that "some anti-nuclear activists are really anti-technology groups." Some activist leaders readily admit that their goal is "to re-order society." The needs of energy-impooverished people are of little concern to such individuals who yearn to dominate all people.

The antitechnology minority in the United States stridently demands the return to "soft path" energy systems, the

power programs of the horse-and-buggy days. Many who lived in that era still recall the long and tiresome days of heavy labor they demanded! The homemaker of today, who now enjoys the assistance of 80-plus electrical servants in an average home, will hardly agree with the antienergy lobbyists in Washington who wish to bring back the days of woodstove cooking, coal-oil lamps, drafty houses with open fireplaces and ashes, no refrigerators, no telephones, no radios, and no electric mixers. The ardent young environmentalist in the reviewer's class in "Energy and Environment" once confided, "I must admit that I am not willing to give up my electric toothbrush!"

Advocates of reliance on renewable energy resources should note the recent report of the U.S. Council on Environmental Quality concerning the plight of Ouagadougou, Upper Volta. Neighboring areas have been "utterly denuded of trees" for a distance of 70 km. Today the people of Ouagadougou must spend 20% of their meager income to purchase wood for cooking and heating. By contrast, a family in the U.S. spends only 5% of its income for heating and cooking.

The author carefully examines the problem of transporting energy sources to remote regions of the Earth. Because of the vast volume of coal required, transportation costs are prohibitive, even if the difficulties of increased production and distribution should be solved. The convenience of fissionable fuels, in this respect, dictates that "Nuclear Power is Necessary" if the people of the developing countries are to enjoy the living standards of the Western world.

In 1982 the first century of commercial electric power generation was celebrated in the United States. In that century the living standards of the people of the industrialized countries rose fantastically. Greenhalgh traces the close correlation of the increase of "per capita" power with the rise of health and comfort standards produced by that energy availability. Common diseases which have plagued people for thousands of years—malaria, smallpox, typhoid, polio, lockjaw, pneumonia, and many others—have been eliminated or brought under control. The antienergy activists are thus thoughtlessly guilty of opposing the progress of the human race by insisting on return to the days of drudgery and disease.

Greenhalgh contrasts the "attitude of the people of the developing countries toward nuclear power" with that of the people of the more affluent nations. People of the needy nations are far more understanding of the requirements for safe nuclear power generation than those who live in countries with currently adequate energy resources. By inference he suggests that the depletion of conventional energy resources will increase the demand for nuclear power. The "energy-hungry" and "Communist-bloc" nations are now proceeding with nuclear power expansion without any delays or interference. Perhaps this presages a reversal of the future world order in which the "have-nots" become the "have-gots."

The author emphasizes that dozens of studies by international humanitarian commissions show the close relation of (a) nutritional norms, (b) medical standards, (c) life expectancy, (d) adult literacy, and (f) poverty-level existence to the "per capita power" level available to the people.

In the final chapters the author summarizes the facts and reasoning that serve as a rebuttal to the many falsehoods and imaginings with which the antinuclear minority in the United States have attempted to frighten the populace. The "China Syndrome" is a Hollywood myth. The "soft energy" resources will not be adequate to meet the need of modern society. The antienergy proponents' policies ignore the fact of the world population and the needs of vast numbers of that populace. It is noted that the wealthy and privileged minority who oppose energy-system expansion will retain the comforts of modern

living, but the masses of the Earth's people will suffer. One is reminded of the news media reports of the wealthy environmentalist who, reputedly, stockpiled tremendous tanks of fuel and heating oil during recent oil shortages. One wonders, also, how many of the "soft energy" advocates have provided "back-up generators" for their homes, when the "brown-outs and black-outs" leave the common people "shivering in the dark!"

In conclusion Greenhalgh warns that, if nuclear power production is suppressed, the *present* needs of the people of the Earth will require that *many more* coal-fired plants be built within the next 20 yr. Thus the acid rain, carbon dioxide pollution, and mining hazards will be vastly increased. If it be contended that such power levels are not necessary, the facts given in the Brandt Commission report of 1980—"North-South: A Programme for Survival"—must not be ignored: "One American uses as much energy as 3 Swiss, 9 Mexicans, 53 Indians, and 1072 Nepalese." Energy-hungry people know "the necessity for nuclear power."

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Born Secret—The H-Bomb, The Progressive Case and National Security. By A. De Volpi, G. E. Marsh, T. A. Postal, and G. S. Stanford, Pergamon Press, Elmsford, New York (1981). \$17.50.

The *Progressive* case stemmed from the effort by the U.S. government in 1979 to prevent the publication of an article entitled "The H-Bomb Secret" by Howard Morland in the *Progressive* magazine. This book is a discussion (from the authors' viewpoint) of the issues surrounding that case. The authors were deeply involved in the case, initially as technical consultants for Howard Morland and subsequently as technical experts for the *Progressive's* side of the legal case. As one might expect, the book strongly supports the *Progressive's* position and the actions and positions of the authors.

The *Progressive* monthly published in Madison, Wisconsin, was founded in 1909 by Robert LaFollette. It focuses on political analyses and opinion and is described as having "a more or less respectable following among people to the left of the political center." Howard Morland is a free-lance reporter for the *Progressive*. He is described by the magazine as a "peace activist." In 1978, Morland conducted a very effective research program to "break" the secret of the hydrogen bomb. He spent about six months reading all the unclassified literature on the subject that he could find and using his press credentials to get access to experts on the subject as well as access to unclassified areas in some installations involved in