

might be played by market processes and government dictation in improving pollution conditions?

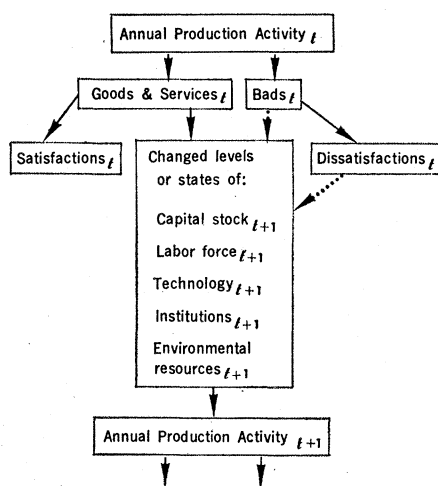
In particular, pollution fees, noted briefly in the book, would be a major change in economic institutions. Such fees would alter relative prices and hence the projections. An emissions tax on gasoline would be likely to reduce the estimate of a fourfold increase in gasoline consumption between 1960 and 2000 (p. 245) and might possibly increase demand for mass transit systems. Fees on wastes might stimulate the kinds of recycling that the authors only hope for (p. 334) or simply assume will happen (p. 340). What is desirable might become commercially feasible if appropriate taxes on social bads existed. For example, the shipment of mineral slags (p. 310) to markets or the use of algae as fertilizer (p. 449) could be thereby stimulated.

There is yet another troublesome oversight: pollution feedback on the stock of environmental resources is largely neglected. Cumulative pollution may cause this stock to deteriorate. The nation's capacity to produce goods in $t + 1$ may then be reduced because of decline in the quality or quantity of environmental resources. This would tend to counter improved technology and investment. Business, consumer, and government perceptions of this effect could stimulate technological and institutional changes to reduce pollution. Chapters 6, 10, and 11 do consider the cumulative effects of "bads" and calculate the projected buildups (atomic waste, gutted land) in the year 2000, but elsewhere they are overlooked. For example:

1) What would be the significance of the quantity of nitrogen and phosphorus nutrients entering the water systems in the year 2000 via chemical fertilizer and feedlot runoffs and sewage wastes (pp. 418-22) if the lakes and rivers were no longer capable of supporting life or waste-degrading bacteria?

2) The sale of pesticides is projected (p. 395) but not the estimated buildup in parts per million in lower and higher forms of life. This buildup may already be dangerous, as is acknowledged on pages 379 and 447.

3) The use of chemical fertilizer in the year 2000 is projected (p. 403) but no measure of the depleted capacity of soil to fix nitrogen. The fertilizer need per acre to achieve a fixed yield is probably rising. Because of irriga-



tion, there has been a degradation of agricultural land from increasing salt content in the San Jacinto Valley of California.

4) Other conditions of environmental quality in the year 2000 that are not measured are the concentration of carbon dioxide in the air; the level of background radiation; the acid content of surface waters from accumulation of sulfur dioxide washout; contamination of underground water from deep wells used for waste disposal (on page 65 such wells are regarded as a solution rather than a problem).

But overall, we find much to applaud in this book. One merit is Hofstra Uni-

versity's successful endeavor to have students do serious work on this important public issue; the level of student accomplishment is quite high. Another is Van Tassel's sensible economic model and his use of the RFF projections to provide a common framework for the students' independent efforts. Further, the book takes the welcome view that pollution is a problem for rational analysis and discussion rather than mysticism, propaganda, or political manipulation. On the other hand, some of Van Tassel's major conclusions—for example, his preference for slower growth in national output—cannot be drawn directly from the component studies. It can be argued logically that if high standards of environmental quality are to be attained the resources are more likely to come from an expanding than from a stable or slow-growth economy.

The virtues of the book outweigh the defects. It is easy to criticize such a study for omissions, much harder to remedy them in this new interdisciplinary field. We recommend the book as a serious effort and a substantial accomplishment.

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Perspective on Japan

Japan's Managerial System. Tradition and Innovation. M. Y. YOSHINO. M.I.T. Press, Cambridge, Mass., 1968. xvi, 292 pp. \$12.50.

Social Change and the Individual. Japan Before and After Defeat in World War II. KAZUKO TSURUMI. Princeton University Press, Princeton, N.J., 1970. xiv, 442 pp. \$15.

Japanese Society. CHIE NAKANE. University of California Press, Berkeley, 1970. xii, 158 pp. \$5.

Japan's economic miracle will undoubtedly stir America sometime in the 1970's as Russia's success in launching Sputnik did in 1957. Unlike the awakening to Sputnik, the awakening to Japan's economic achievement will result not from a single event but from the gradual awareness, first among business

and government leaders and then among the general public, of the scope of Japan's progress. This response may lead to a self-regenerative movement in the United States, to xenophobia, or to both, and the impact may well be more profound than that of Sputnik.

Already Japan has surpassed America in producing cameras, tape recorders, ships, and even pianos. Japan has the world's fastest trains and the world's largest steel company. With a population less than half that of the United States, the Japanese are now constructing more private dwellings than we are. A year ago, when computer science was offered on Japanese educational television over a million copies of the course textbook were sold. We can expect spectacular Japanese improve-

ments in, for example, housing, computers, and even pollution control.

Paradoxically, Japan's success in doing what America has promoted and admired will lead to new strains in Japanese-American relations. The origins of the strain will be more psychological than real, for both the U.S. and Japan benefit enormously by their mutual trade, their cooperation for peaceful development, and their participation in international organizations. When the relatively small-scale but meaningful problems of economic competition do arise, the danger is that they will lead to displays of national pride, with political overtones going back to World War II. One can only hope that America will respond by producing more goods that are capable of competing on the world market rather than by protecting goods like textiles and shoes that are not. One hopes that we will be realistic in our expectations and prudent in our responses.

Perspective in understanding Japanese society is urgently required by Americans, and one can do well by starting with these three books. They help one to see that Japanese government and business are not happily united into a giant Japan, Inc., and that the Japanese are not gross-national-product automatons.

The book by M. Y. Yoshino, a graduate of Stanford Business School and a professor of business administration at the University of California at Los Angeles, is the best work in English on Japan's management practices. The postwar business leaders, as described by Yoshino, are energetic men who rose on the educational ladder and then through the management hierarchy on the basis of their talents and performance. Their basic philosophy, as reflected, for example, by the Keizai Doyukai (the Japanese Committee for Economic Development), supports private enterprise that is profit-motivated but that accepts a responsibility for the general economic welfare of the nation and of the workers in particular.

In comparison with America, the triad of Japanese leadership (businessmen, politicians, and bureaucrats) does try to work together in an atmosphere of trust, and the government does make an overall effort to help firms that will help the Japanese economy, particularly those capable of producing exports that will be competitive in the future world market. However, the relationship between firms and between firms and the government is far from simple har-

mony, as one can see, for example, from some knock-down-drag-out fights between MITI (Ministry of International Trade and Industry) and firms that have been reluctant to accept the "administrative guidance" of the government.

Although many of the prewar trusts (Zaibatsu) maintain a loose association and cooperate to help develop new industries, it is vastly oversimplified to say that the Zaibatsu were rebuilt after the American occupation. The power of the new combination to control the behavior of the member components is a far cry from the commanding position the old one enjoyed in the 1930's. To the extent that there is a commanding power in the new combination, it lies with the bank, which has some control over distribution of funds to the component parts, but the bank has no leverage over successful components able to manage their own financing through their own profits or outside sources.

Many American businessmen who were teaching the Japanese in the 1950's and 1960's will probably be studying Japanese management practices before the end of the 1970's. Japanese organizations may be slow and cumbersome in decision making, and they may have a low degree of specialization and their employees little sense of individual responsibility; but by stimulating a sense of involvement in the company's general effort they excel in maintaining high motivation to work for the company. All this is carefully detailed by Yoshino.

The author of the next book, Kazuko Tsurumi, is the daughter of a famous Japanese writer and sister of a distinguished professor of philosophy, and was one of the first women from any country to receive a Ph.D. at Princeton. She describes with sensitivity the impact on the individual of the great events of recent decades: militarization in the '30's, the war effort of the '40's, the eclipse of the emperor system, and the rise of the postwar democracy. Like many of Japan's leading intellectuals, Tsurumi is struck by the conversion of Japan's radicals to the nationalist effort of the '30's, a conversion which raised profound moral questions that were revived as the reconversion to democracy took place in the late '40's. For the '30's and early '40's she describes not only the content of the moral education, but the context and the hierarchy in which it was communicated, all of which came apart in 1945.

Tsurumi not only traces the postwar

democratization of family relations; she precedes this with an account of the impact of the war on family relations: the experience of fatherless families and evacuated children, the grief of those whose friends and relatives were killed in overseas fighting, the bombing of Tokyo and Hiroshima. She traces the postwar difficulties of communication between parents and children in a world undergoing fantastically rapid change. The description of the student movement was written before the 1969 student uprisings, but she describes the 1960 demonstration from the vantage point of a sympathetic older intellectual. She traces the lack of interest of students in their classes, their eclectic and sentimental Marxism, and their effort to live up to their ideals without losing sight of their own future.

For those seeking facile generalizations to characterize Japan, Chie Nakane provides one of the more accurate overviews. She writes in the genre of Ruth Benedict's famous *Chrysanthemum and the Sword*, but among Japanese anthropologists she is known as a rugged fieldworker—"Japan's Margaret Mead"—and feminist. Having been born in China and done fieldwork in Tibet and India, Nakane has an international breadth rare among Japanese intellectuals, but her intellectual approach stems essentially from her years in England as a student of British structural anthropology.

In this essay, Nakane traces the deep commitment of individuals to the group, the hierarchical relationships that develop between group members, the relation between members of different hierarchies, the importance of prestige and group position as the basis for relations, the individual's relatively undifferentiated role, and the ranking of groups in the society as a whole. In her conclusion, Nakane describes on the one hand the use of "democracy" to attack prewar autocracy and strengthen group egalitarianism and on the other hand the overwhelming pressure for an individual to adapt to his group and the lack of a contradictory value system to inhibit this adaptation.

It is problematic whether Americans will be able to keep Japan in proper perspective in the 1970's, but the high quality of recent work on Japanese society provides the intellectual tools for those who are willing to try.

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