

over, if there were no credible American nuclear umbrella to offer protection, Japan inevitably would acquire its own strategic deterrent; it already has the technological competence to manufacture ICBMs, SLBMs, and long-distance strategic bombers on its own.

2. *To prevent Japan from becoming a Communist-led nation.*

A highly regimented, singleminded Communist Japan would have wreaked havoc with the U.S. sphere of influence in the Asia/Pacific region, and the U.S. would have been hardpressed to hinder the expansion of communism in Southeast Asia.

Even with the Peace Constitution of 1947 that forbade every kind of armament and military activity, General MacArthur and Special Ambassador Dulles ordered the Japanese Government to build a Self-Defense Force. This was not so much to fight off foreign invaders as to suppress a potential internal Communist revolution. Whereas geopolitical considerations would dictate that a country maintain considerable air and naval strength for its defense, Japan has spent more than half its defense budget on the army.

The treaty is fulfilling its second purpose: to keep Japan a capitalist country in the U.S. sphere. The strength and popularity of the Japan Socialist party (JSP) and the Japan Communist party (JCP) have been diminishing gradually but steadfastly. Today, the JSP has a mere 148 seats in both houses of the Diet and the JCP only 43; the Liberal Democratic party has 424. What is more, income is distributed more equally in Japan than in any other industrial democracy. In a land where 90 per cent of the people consider themselves middle class, few feel the need for a Socialist or Communist government.

3. *To use the Japanese archipelago as a base for U.S. military operations.*

Postwar military strategists in the U.S. thought the Japanese archipelago the most strategically desirable base in Asia for fulfillment of the Projection of Power strategy and the Blue Water strategy. And, in fact, no country was more suitable to America's logistical needs than Japan, with its educated and efficient people, industrial power, and political stability.

This remains as true today as when the treaty was signed, a fact confirmed just last year by John H. Holdridge, assistant secretary of state for East Asia and Pacific affairs, in a statement before the House Foreign Affairs Committee: "A major tangible benefit to the U.S. is our ability to maintain forces and bases in Japan, the mission of which is not just the defense of Japan [against Communist aggression] but support for the projection of U.S. power in contingencies elsewhere in Asia. It would be virtually impossible to find an adequate substitute in the region without incurring enormous additional costs."

It would appear, then, that the mutual security treaty is still important to the maintenance of the balance of power in the Asia/Pacific region and that it is somewhat imprudent to judge the treaty "an anachronism," as Mr. Shapiro did. Likewise, it would appear to serve neither the U.S. nor Japan were Japan to become, as Professor Shimizu recommends, an independent nuclear power. A Japan left alone in the Far East without any reliable ally, surrounded by three redoubtable military powers—the U.S., the USSR, and the PRC—might once again become an aggressive country, and suffer the loss of its own pluralistic democracy as well. The alternatives to an independent foreign policy—an alliance with the USSR or the PRC—are equally unpalatable.

Neighboring countries are eager to avoid a repetition of history. According to Henry Kissinger, writing of one of his visits to China, "Zhou Enlai acknowledged that Japan's ties to the U.S. braked militarist tendencies in Japan....Indeed,



China now urged the closest cooperation between the U.S. and Japan." And "Mao did not want free-floating Japan playing off other countries against each other, for that would whet chauvinistic appetites." Philippine President Ferdinand Marcos has made it quite clear to the U.S. Government that rapid buildup of Japanese forces would be "uncomfortable" for his country. Indonesian Vice-President Adam Malik stated frankly that "We are scared. Japan must not be allowed to rearm. That is something that all Asians fear." The fact remains that the value of the mutual security treaty for the U.S. and Japan—and for the other nations of the Asia/Pacific region who derive security and commercial benefit from a power equilibrium in the area—is incalculable.

Yet because Japan has become the world's third richest nation, it is quite proper for the American government to ask Japan to share the burden of common defense, as President Reagan has done. But care must be taken that it be done in such a way that there is a sense of proportion and it avoids stirring up Japan's ideosyncratic nationalist passion.

Among American leaders, the view of former Secretary of State Cyrus Vance is considerate and sensible. "Japan should strengthen her military forces," he said in an interview with *Shokun* last year, "but...the purpose of her military forces is the defense of Japan, not the defense of the Pacific Ocean. If Japan expands her forces more than the limit of this purpose, it will destabilize the balance of power among Asian nations and cause unnecessary fear for them."

Currently Japan is seventh or eighth in the world in defense expenditures. It *should* build up its conventional military forces steadily in order to help the U.S. maintain a counterbalance against the Russian threat in the Pacific. Nevertheless, to raise its military spending to the level of NATO nations (3.5-5 per cent of GNP), as the American president has suggested and has been demanded by several American congressmen while excoriating Japan for its "free ride," is senseless and dangerous. For one thing, Japan's GNP is about half that of the U.S. and a bit smaller than that of the USSR. Military spending at that level would make Japan the third military power in the world. Should

this come to pass. one has little reason to expect that Japan will be as compliant with American foreign policy as in the past. Then too, that part of Japanese public opinion that has been criticizing the Japanese Government for being "too subservient to America" as a result of its "humiliation diplomacy" will increase its demand that Japan follow an independent course.

If Japan were to become an aggressive, acquisitive Asian maverick once again, no nation—including Japan itself—can possibly gain any long-term benefit.

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EXCURSUS 2

Thomas Land on PULP & PROTEIN

Canadian scientists at the Chemistry and Biology Research Institute in Ottawa have developed an inexpensive fungal process to turn old newspapers and other cellulose waste materials into nutritious animal feed. The British-based multinational corporation Imperial Chemical Industries (ICI) has already invested more than \$200 million over eleven years in the production of single-cell proteins for animal foodstuffs; and this process has been developed further by Hoechst of West Germany, which has managed to produce a promising food for humans. Once Rank Hovis McDougal, Europe's fourth largest food manufacturer, launches commercial production of a fungal product for human consumption, global competition will become intense. The emergence of the relatively inexpensive carbohydrate-conversion process offers the potential for enormous profit as well as for meeting global nutrition needs at a time of mounting mass hunger.

The first patents for the manufacture of synthetic food products were issued as early as the turn of the century. However, it was only in the 1950s, after the development of crude oil-based single-cell proteins for animal feed, that the industry made major advances. Oil-based single-cell proteins rival such traditional protein sources as soy-meal and fish-meal but, unlike some modern products, they are not suitable for human consumption. This is partly because

their high nucleic acid content is harmful to humans and partly because of the possibility that residues of the culture-medium in the petroleum-derived food products may cause cancer in the long term.

Textured vegetable proteins, largely derived from soybean and interlaced with a binder as well as coloring and flavoring agents, are already being used on a large scale in chopped-meat extenders, sausages, pies, and ready-to-eat products. These defatted flours have overcome widespread cultural prejudices against the novel high-protein products. They carry no associations with bacteria or cancer and their nucleic acid content is low enough for safe human consumption. However, vegetable proteins lack sufficient quantities of essential amino acids, which determine the quality of protein, and must therefore remain for some time an addition to, rather than the basis of, a balanced diet.

The new Canadian process, intended for agricultural use only, exploits the 50 per cent cellulose content in waste pulp, breaking it down to its constituent sugars and acids. The presence of acid usually kills all microorganisms; but the Ottawa scientists have developed a fungus that is immune to acid and feeds on the sugars, in turn providing a valuable animal feed. ICI already markets an animal feed, a single-cell protein comprising the dried remains of a bacterium grown on methanol. It is said to be twice as nutritious as soy-meal. The corporation's first continuous-fermentation plant produces up to 160 tons of protein pellets daily.

Hoechst has taken the process further by using a similar material but removing some of its undesirable components—such as nucleic acid—and making them into profitable byproducts. The remaining cells yield a powder that many scientists consider a sound basis for human food.

The forthcoming manufacturing venture of Rank Hovis McDougal has already absorbed an investment of \$30 million in research alone. Its product is a microscopic fungus grown on a feedstock of syrup of food-grade starch. It contains all the amino acids needed for healthy growth, and its nucleic acid level is below the maximum permitted for human consumption. It evokes no fear of cancer.

Great commercial secrecy surrounds the new food technologies, which are likely to attract further rival research and will eventually be made available to manufacturing interests in many countries under license.

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COMING

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