

“PRESENT JAPAN AND ITS FUTURE ROLE”

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Japan as a military power

Japan caused Asian countries much trouble in the World War II period, and learned that those who rise by force are ruined by force. In the past, Nagamasa Yamada got the favor of King of Shiam thanks to the force of the Japanese town of Ayutaya, with the result that the Japanese town enjoyed prosperity. He was involved, however, in a struggle for power and the Japanese town was ruined. Meanwhile, Chinese has engaged solely in commercial activities, and it is still enjoying its prosperity. (Formation of Southeast Asia, edited by Prof. Yoneo Ishi).

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Japanese peace oriented constitution promulgated in the Post-war II period prohibits the use of force by Japan to settle international disputes.

Military technology had been a major factor for promoting, technical innovation up to date. Japan of the Post-war period has learned, however, that civil use technology is able to promote technical innovation and, at the same time, maintain business activities. Of course, in the field of space, aircraft and missiles, Japanese technology is far behind, compared with that of both the USA and the USSR, however, armament and R & D efforts for military technology have hampered favorable business activities.

Anyway, it is noticeable that the characteristics of technology have changed in the Post-war period.

Japan as a political power

Japan will be passive and continue to keep a low posture in international politics, though it will be less negative when compared with that of military powers.

There was an example of this. In the last presidential election of the Philippines, Japanese Government did not dispatch governmental officers and statesmen to make observation for checking fairness of elections for the reason that such an action might be interference with the internal affairs of the Philippines, while the USA & Britain had dispatched their delegations to check the fairness of the election in the Philippines. I believe the decision of the Japanese government was clever.

As a background of the Japanese passive posture in international politics, there are the following reasons :

Reflection of Japan on the military and political over-presence in Asia in the period of World War II. Japan has a recognition that political power not being backed-up by military power has its limitations in the present international circumstances.

Japan has maintained one homogeneous language, culture and nation for 2000 years, and had maintained an isolationist policy for 300 years up to 100 years ago. Japan recognizes that it is difficult for such a nation to understand other cultures and to make other nations understand its own culture

Japan as economic power

Japanese economic power has a significant impact on the world economy, reflecting that Japanese GNP accounts for 10% of the world gross product and 8% of world trade.

The Japanese economy of the postwar period has continued under favorable economic growth in such circumstances blessed for Japan as those including peaceful international environment, relatively stable world economic situation, continuously increased market supported by revolution in mass consumption, maintained free trade market, buyer's market of primary products, etc.

It can be said that Japan, not having many natural resources and standing as a trade dependent nation has entrusted its existence and security to world peace and a free, stable world market.

Reflecting these factors, Japan must make further efforts for the maintenance of both world peace and free trade in order to secure its existence in the world. It is a Japanese international responsibility.

Trade frictions have extended between Japan and countries including the USA, European countries and ASEAN countries. Japan forecasts a trade surplus of 50 billion US dollars with the USA. Recent yen revaluation over the US dollar will change the situation, but Japanese structure for producing black-ink figures will not change noticeably.

The USA claims that the cause of this surplus is Japanese unfair trade practices. Japan in turn, is proclaiming that this is due to the decrease in international competitiveness of US commodities. Both claims may have some truth. Japanese non-tariff barrier is still relatively high due to complicated bureaucracy, troublesome procedure for the government agencies, human relations in departmentalized society, stiff environmental preservation criteria, etc. Japan should strengthen its posture to protect the free trade system in a variety of fields prior to criticizing the posture and behavior of its counterparts :

Japan as an industrial power

Japan will largely contribute, I believe, to promotion of stable welfare of the world's people through R & D in the fields of applied sciences and advanced technology.

As an example I would like to pickup the anti-pollution auto engine case :

In 1960s, Japanese automobile industry advanced into the R & D of auto engine to cope with anti-pollution measures, and

succeeded in it. These engines consumed less fuel, while they met anti-pollution criteria. This technological advantage became the base for Japanese automobiles to jump into the world auto market.

There was a joke that as countermeasures against airpollution problems, the US auto industry employed more lawyers, meanwhile Japanese auto industry employed additional engineers.

We experienced, it is said, industrial revolution or technological innovation in four cycles for these 3 hundred years. The major factors in this technical innovation are transition in energy and materials.

After the appearance of the steam engine, developed by James Watt in 1965, energy sources for human beings changed four times; that is, wood-coal-water power-petroleum-nuclear fission.

Materials also changed from iron to steel, to nonferrous light metal,-fine chemicals non metals, and now, some say that human being has entered into 2nd stone age. This is because those materials such as glass fiber, SiO_2 , silicon wafer have taken a key role in the industrial society.

As an energy source, we cannot neglect the important role of petroleum and coal for some time, but our energy source will shift to nuclear fission; then gradually to nuclear fusion.

There will also be a shift to solar energy produced by solar cell using silicon. In the future, an age where technology creates energy will come.

I hope that our Japan which has been supplied natural resources for its existance from all over the world will, thereafter, return kindness to the world in the field of energy creation.

More specifically, in the field of energy development, nuclear fusion, amorphous silicon solar cells, and photo synthetic technology, they are yet far from commercial viability, but it is not a day dream, when we think over the fact that this theme is the theme of consent at summit conferences of advanced countries and the progress of science and also the state of the art of present technology.

As for solar cells, the most important problem of technology is, reportedly, how to increase the photo-voltaic conversion rate. In and after the Versailles summit conference, 7 advanced countries decided on vitalization of the world economy through international co-operation in research and development in advanced technology, and selected 18 projects.

Among them, Japan was assigned three themes, i.e., photovoltaic solar energy, photosynthesis, and advanced robotics. The USA researchers in the field of peaceful utilization of nuclear fusion have been activated by expectation that R & D of high power lasor will be promoted by the SDI project. Japan will be able to cooperate in this field.

If energy source development is solved from the long term viewpoint, the food problems situation is also improved. Research and development including that for biotechnology and biochemistry, in particular, will help promote solution of food problems. I believe that Japan should engage in these problems not only from commercial base viewpoint, but also from strategic viewpoint.

Japanese role in the information age

Entering in information age, optical communication, electronics and remote sensing technologies of Japan are playing important roles, along with the launch of Japanese practical use of artificial satellites, for surveillance of resources of the earth meteorogical information, surveillance of oceanic resources, etc.

Japan is planning to set up an earth station network in Southeast Asia and the Pacific area for MOS-1, a Japanese artificial satellite, to be launched in spring of 1986.

Thailand has already begun to strengthen earth stations in cooperation with Japan.

When an information network which connects throughout Southeast Asia is established, it will also contribute to the region's stability and intensification of the region's solidarity. Inspection by artificial satellites will contribute naturally to collect military information as a by-product.

By establishing this station network in Southeast Asia and the Pacific region, monitoring for the prevention of regional conflicts, and monitoring of deployment submarines and missiles becomes prssible, and the network will be able to contribute to the maintenance of world peace through its publication of information aided by advanced high technology.

Table 1. Summary of International Research Cooperation Projects decided at the Versailles Summit

Project name		Lead countries	Main project objectives
I. Stimulating growth conditions through better management of resources	1. Photovoltaic solar energy	Italy/Japan	Acceleration of the practical application of photovoltaics and ensure of reliability through establishment of standards.
	2. Controlled thermo-nuclear	EC/U.S.A	Cooperative research on the design of next generation facilities and other aspects involved in fusion research and development programs
	3. Photosynthesis	Japan	Cooperative research aimed at furthering basic research on photosynthesis and photoconversion, including the development of artificial photosynthetic systems.
	4. Fast Breeder reactors (FBR)	France/U.S.A.	Ongoing collaboration in research on FBR design, safety, safeguards and fuel cycle facilities.
II. Better management of food resources	5. Food technology	France/U.K.	International cooperation in the aspects of food processing, safety evaluation and the special needs of developing countries.
	6. Aquaculture	Canada	Use of existing institution and establishment of a research and development planning group to develop and adapt cool water environment technologies for intensifying the production of fish, shellfish (including crustaceans) and marine plants.
III. Improvement of living conditions, employment, and environmental protection	7. Remote sensing from space	U.S.A.	Expanded cooperation in the area of national and existing multi-national remote sensing activities in support of such international environmental programs as the World Climate Program.
	8. High speed trains	West Germany/ France	Enhancement of cooperation and information exchange between countries which work on high speed ground transport systems and those countries which have an interest in developing such systems in the future.
	9. Housing and urban planning for developing countries	France	Cooperative research on relatively inexpensive dwellings which could improve living conditions for residents of cities and local regions in the developing world.
	10. Advanced robotics	Japan/ France	International cooperation in developing advanced robot systems that avoid the need for people to work in difficult or environments.

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III. Improvement of living conditions, employment, and environmental protection	11. Impact of new technologies on mature industries	France/Italy	Cooperative research on the introduction of microelectronics, informatics, robotics and other new technologies.
	12. Biotechnology	France/ U.K.	Obtaining of essential information that will permit the development of technology at a lower cost than would be possible through purely national programs; and, at the same time, assistance in the training of biotechnologist, for the needs of developed and developing countries.
	13. New materials and standards	U.K./ U.S.A.	Cooperative research to encourage the setting up of codes of practice and specifications on an internationally coordinated basis.
	14. New technologies to be applied to education, vocational training and culture.	Canada/ France	Cooperation in coordinating basic and longterm work aimed at improved access to information and at the effectiveness of training.
	15. Public acceptance of new technologies	U.K.	Assessments of the future impact of new technologies in terms of their complexity, the importance of their introduction, and other aspects.
IV. General increase of basic scientific knowledge	16. Biological sciences	EC	Cooperative research in modern biology, which has the important requirement of collecting, processing, retrieving and interpreting huge quantities of date and information.
	17. High energy physics	U.S.A.	Consideration of an international cooperative program for the conceptual design of a new generation of very high energy accelerators that will require huge sum of money.
	18. Solar system exploration	U.S.A.	Continuation and expansion of the various methods of international cooperation in solar system exploration.

Note : Wide-range cooperation is already under way in the four areas of space conquest, renewable sources of energy, safety research on light water reactors, and deep ocean drilling. These efforts are to be further encouraged.

Source : Report of the Working Group on Technology, Growth and Employment formed at the directive of the Versailles Summit.