

Opening Japanese R&D

By Toshio Iwasaki

The old problem of trade friction has recently been joined by a new issue: technology friction. In a way, they are complementary. Just as much of the trade friction has arisen because consumers worldwide have sought the superior quality and low prices that Japanese products offer, this price-quality would have been impossible without Japanese technology.

Today, technological advances are rapidly changing the face of the Japanese industrial structure and increasingly propelling Japan into leading-edge, high-tech field. Not only has Japanese technology largely caught up with the rest of the world, it is a major force pushing back the frontiers of science and opening new horizons for the future.

How are we to account for this blossoming of technological prowess? One factor, of course, has been Japanese intellectual curiosity—including the educational attainments that encouraged and satisfied this curiosity. The second factor is Japan's paucity of resources. It was massive anxiety over how a resource-poor country could make its way in the world that gave such force to the drive to learn from other people's examples and to acquire world-class technology during the postwar recovery.

And the third factor is the jungle of competition where Japanese technological skills have been honed. Japanese companies know that they have to have state-of-the-art technology to make the outstanding products they need to survive in the fiercely competitive domestic and international markets. They know that R&D is essential for the company's long-term survival and that, despite the immediate hardships that it may impose, investing in R&D will pay off in the long run. The fact that Japanese companies swore off military technology and devoted themselves to consumer products after the war has also enhanced their R&D efficiency.

And perhaps the fourth factor is that researchers work in teams, enabling them to understand and respond to a diversity

of consumer demands that the lone researcher would be unable to handle. It is parallel research developing pure applied technology.

All of these factors have worked to Japan's advantage and enabled Japan to achieve its present position as one of the world's leading industrial economies. Yet precisely because technology has been so important, it is coming under increasing international scrutiny in connection with trade problems. Frontier research is the womb of tomorrow's industries, and anxiety about the future thus gives rise to research friction.

Japanese technology has learned much from Euro-American technology, especially from American technology. Science knows no national borders, and innovative seeds that had trouble growing elsewhere found fertile ground in Japan. Yet it is precisely because science is so transnational that the flow must also go the other way. To limit this to a one-way flow could easily and understandably fan the flames of techno-nationalism.

Considerable effort is thus being made to ensure that Japanese R&D is open to researchers from around the world and that Japanese technological advances are available to all. Just as there is a major push to transfer technologies to the newly industrializing and developing economies, so is there renewed emphasis on cooperative research and personnel exchanges with the other industrial countries.

In the Cover Story for this issue of the *Journal*, some of Japan's leading experts look at the realities of Japanese R&D. I find it most encouraging that the Human Frontier Science Program (first proposed by Japan at the 1987 Venice Summit) and other programs are fully open to broad international participation in the spirit of cooperation.

The *Journal* welcomes letters of opinion or comment from its readers. Letters, including the writer's name and address, should be sent to: the Editor, Japan Economic Foundation, 11th Floor, Fukoku Seimei Bldg., 2-2 Uchisaiwai-cho 2-chome, Chiyoda-ku, Tokyo, 100 Japan. Letters may be edited for reasons of space and clarity.

Revealing Picture

The Seiki-Dienst conversation in your recent Cover Story on Europe was timely and interesting, but for us Europeans the most revealing part of it may well have been the illustration that accompanied it.

Apparently an average Japanese as far as any impression of the economy goes, your illustrator unwittingly betrayed the stereotype image of European products that is held, with official encouragement I am afraid, by the average Japanese: low-tech fashion and sundries. Granted, it is rather difficult to make a competent and attractive drawing of a cryogenic connector or tank ring for space rockets, or even of a jet engine, but an illustrator who can draw a BMW car (the only industrial product in the European half of your drawing!) can certainly also draw at least one of the following typical and attractive European successes in Japan: Airbus airliners, Ariane rockets, Aerospatiale helicopters, etc.

Now the matter of typical and visually attractive European aerospace products successful the world over but not in Japan (fighter planes, satellites, radars and other airport and ground equipment, etc.) could also be a topic for another drawing—or for another serious piece of conversation on a definitely major irritant.

Jean-Louis Claudon
Chairman

*Aeronautics and Space Committee
European Business Community in Japan*

Focus on People

I would like to see more articles about the international activities of Japanese businesses and businessmen, especially problems overseas and with non-Japanese. These could include topics like the human problems in the internationalization and globalization of Japanese multinational corporations, about which we do not read enough anywhere; the special features of human resource development (HRD) in Japan, and local HRD practices which might be of interest to people overseas—this could range from *seishin kyoiku* such as *zazen*, written

from an objective viewpoint without advocacy one way or the other, or *jigoku kunren* and the types of companies who are using this, and what are general attitudes in Japanese business to such quasi-military training; but also including references to more analytical or systematic training programs presented by, say, the Japan Management Association. And there is still a great need for articles about the special problems of Japanese-Western communications.

In this same area, I am in disagreement with Daizo Kusayanagi about his enthusiasm for his self-created slogan, "Let's Love Differences," for the 1988 International Sister-cities Fair. The essence of international sense is not loving differences but loving individuals. This is a critical difference. Differences are abstract, even stereotypical. Differences can be and often are merely superficial, concealing underlying similarities. Kusayanagi's slogan might be good marketing, but it is not good psychology, and may even divert people from the only and real goal, which is mutual understanding.

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COMING UP

The July/August issue of the *Journal* will focus on Japan's economic cooperation with developing countries in its Cover Story item. As the second-largest economic power in the free world, Japan is striving to contribute to the international community by enlarging its economic assistance to developing countries.

Yasuhiko Torii, a professor at Keio University, will examine ways for Japan to fulfill this responsibility, and an evaluation of Japan's economic assistance will be made using case studies.

Gaston Sigur, a professor at George Washington University and former U.S. assistant secretary of state for East Asian and Pacific affairs, and Takanori Aeba, an NHK news commentator, will discuss political dynamics among the U.S., Japan and Asian countries.

Deficit Bond Issues Predicted to Hit Zero

The Ministry of Finance says the government goal of bringing deficit bond issues to zero by fiscal 1990 can be achieved barring extraordinary developments.

The ministry's "Medium-term Fiscal Outlook," recently submitted to the Diet, sets as the precondition for attaining the objective the elimination of revenue shortfalls expected in fiscal 1990 through 1) discontinuing transfers to the government's bond consolidation fund (sinking fund), and 2) limiting annual growth in general expenditures to some 3%, around the same level as in fiscal 1989.

The ministry outlook says efforts for fiscal reform should continue even after the goal is attained, and that debt servicing as a percentage of the general-account budget should be reduced over the long term.

According to the ministry estimate, revenues will fall short of expenditures by ¥3,870 billion in fiscal 1990, provided current systems and measures remain in effect. When the ¥2,720 billion to be transferred to the bond consolidation fund is deducted, however, the shortfall drops to ¥1,150 billion.

In addition, the ministry estimates the annual rate of increase in general expenditures for fiscal 1990 at 6.5%, and says the revenue-expenditure gap could be completely closed by reducing the rate to about 3%, thereby eliminating the need to issue new deficit-covering bonds.

Meanwhile, the ministry estimates the ratio of taxes and social security contributions to national income, the so-called "people's tax burden," will rise to 38.8% in fiscal 1989 from 38.5% in fiscal 1988, despite major tax cuts to be carried out as part of a comprehensive tax reform introduced on April 1. This is because higher public pension and insurance rates will in-

Posters promoting government bonds. As the revenue-expenditure gap has narrowed, there has been less need to issue new deficit-covering bonds.

第119回10年国債 お申し込みメモ	
利率	年4.98%
償還	10年
募集期間	平成3年4月20日(20日募集開始)～平成3年6月30日
募集額	1兆円
募集日	平成3年6月30日
募集期間	平成3年3月30日～平成3年3月31日



Real estate and housing as well as the automobile industries registered sharp increases in their advertising spending in 1988.

crease social security contributions. The ratio will "rise to some extent" after fiscal 1990, the outlook says, because of the increase in the ratio of old people in the population and other factors.

The ministry began preparing its medium-term outlooks in fiscal 1981 as a tool for gauging the success of its fiscal reconstruction efforts. The annual fiscal outlook presents annual estimates for the next three years, and assumes no changes in existing systems and measures. The report also explains the ministry's "basic thinking" on fiscal reform.

Advertising Spending Tops ¥4 Tril. Mark

Spending on advertising in Japan surged 12.0% in 1988 to ¥4,417.5 billion, topping the ¥4 trillion mark for the first time. It was the first double-digit year-on-year increase since 1979, and reflected a continuing business boom, according to "Japanese Advertising Expenditure in 1988," which was compiled by Dentsu, Japan's biggest advertising agency.

In addition to brisk personal consumption, Dentsu attributed the big increase

in advertising yen to heavy advertising by the newly privatized Japanese Railways Group companies and NTT, and heavy advertising keyed to the Seoul Olympic Games and the opening of the Tokyo Dome stadium.

On a more lasting level, Dentsu said, Japanese companies marketed a greater variety of new products in 1988, while advertisements by foreign companies and ads pushing foreign products increased as Japan's imports expanded. Dentsu cited the popularization of new lifestyles as another factor contributing to the increase in advertising. One example, "early morning shampooing" among young people, was itself largely triggered by clever advertising.

A breakdown of advertising expenditures by industry shows that advertisements placed by the real estate and housing industry increased 20.0% over the preceding year, the leading category for a second year. The increase reflected competition spurred by the condominium boom, as well as heavy advertising for three-story wooden frame houses and for the washstands needed for morning shampooing. Advertising by the financial and insurance industry registered a 17.1% increase as it marketed a flood of new financial and insurance products.

Spurred by brisk personal consumption, 13 of the 17 industrial classifications registered double-digit increases in their ad outlays, including the home electrical appliance and audio-visual equipment industry at 16.5%. The automobile industry, too, recorded a 16.3% increase in advertising expenditures as there was a boom in demand for more expensive cars.

Broken down by media, advertising in magazines increased 14.9% in value over the preceding year to ¥296.2 billion. The year saw the launch of a number of new glossy women's journals. Newspaper inserts used more color and more pages, with spending gaining 14.0% to ¥1,126.7 billion. The increase in print media advertisements was the largest in years. New media, such as CATV and Teletext, which registered a sharp year-to-year increase of 34% in 1987, increased only 9.9% in 1988 to ¥7.8 billion. "Prices for new media equipment are still high, and their diffusion into ordinary homes has been slow," the Dentsu report said.

TV advertising expenditures increased 12.1% to ¥1,316.1 billion, and radio advertising expenditure went up 8.8% to ¥187.9 billion. Dentsu predicts an 8.5% increase for advertising expenditures in 1989.