

THE INDUSTRIAL STRUCTURE OF JAPAN IN THE 1980s

NOBUYOSHI NAMIKI

I. THE COMPLETION OF THE FIRST ROUND IN MODERNIZATION AND RATIONALIZATION

—A Summary of the Situation up until the 1970s—

THE following two phenomena are very important in the understanding of industrial trends in Japan for the 1980s. (1) The postwar rationalization and modernization of Japan began in its manufacturing industries, and the process has completed a full cycle through the modernization of the “dining out” industry of the late seventies. (2) The rationalization and modernization of the Japanese economy in the eighties will be a very balanced process, concurring within every industrial sector, from manufacturing to the “dining out” industry. This implies that its pattern will differ from the previous one, and will not necessarily start with manufacturing industries and “wind up” with service industries. In the following I will elaborate on the reasons for this change.

A. *Rapid Modernization*

Japan made considerable recovery through the priority production system employed during the postwar reconstruction period. From 1952, however, the rationalization and modernization of key manufacturing sectors became the main objective in economic development efforts, and actually laid the foundations for the present Japanese industrial structure. Such a scheme appears to be the only logical choice for a resource-scarce industrial society which has to finance imports of staple foodstuffs, raw materials, and energy with export of manufactured goods. So, it is a natural outcome that first priority was given to the rationalization and modernization of the manufacturing sector. In fact, many leading industries had determined their future orientation and established the basis for future development during this time, which include the iron and steel industry, the automobile industry, the diversified machinery industry, the electronics industry, the petrochemical industry, the chemical fertilizer industry, and the aircraft industry.

The rationalization and modernization program for manufacturing industries continued steadily through to the seventies. The iron and steel industry imple-

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mented its first plan for rationalization and second plan for rationalization during the post recovery period of 1952–60, and reached the level to become a viable competitor in the international arena. It did not stop its rationalization and modernization planning here however, and although in 1973 the rate of installment of continuous steel casting equipment was only 21.2 per cent, by 1979 this figure had more than doubled to 52.8 per cent. The yield rate for rolled steel also went up from 83.4 per cent to 89.0 per cent. This production ratio from the continuous steel casting equipment of the output is the highest in the world, and the industry is in a very strong position in regard to increased yield rates and lowered costs.

The first real passenger car assembly line was completed at the end of the fifties, and since then improvements in the quality of automobiles, and the updating of production equipment, have been carried out smoothly. Toyota's *kamban* ("signboard") method is one example of the above, and is an extremely original production method within manufacturing. Furthermore, recent developments in car electronication have had remarkable effects on car performance: e.g., electronic-controlled fuel jets, vaporizers, ignition controls, and exhaust fume recyclers for the engine; various kinds of meters, electronic timers, wipers, automatic light controls, air-conditioning, and car stereos; and some safety devices including electronic-controlled anti-skid devices, fault indicators, automatic speed adjusters, and seat belt interlocks. Although I will not refer to them in detail here, other industries also went through respective rationalization and modernization processes.

The industries which underwent rationalization and modernization at the same time as, or a little later than, manufacturing industries were either tertiary industries connected to manufacturing industries or tertiary industries strongly resembling manufacturing industries. Such industries include (a) large wholesale firms and trading firms, (b) finance and insurance companies, and large enterprises dealing in real estate, (c) transportation and communications industries, (d) electricity, gas, water, and thermal supply industries, and (e) service industries specifically dealing with offices.

From their very beginning, Japanese trading firms developed as modern enterprises, and so it was only natural for them to take up modernized operations with the flourishing postwar import-export trade. These same trading firms were the most progressive in the mechanization and automation of office work. Most finance and insurance companies belong within the sector of mega-corporations, implying that the rationalization and modernization of their operations occurred at the same time as that of the manufacturing industries. The rationalization and modernization of transportation and communications industries, however, were realized at a much slower pace due to their necessity in arranging infrastructure. Railways, road transportation through trucks, sea transport, airplanes, and the wide distribution of telephones, etc., developed slowly but surely.

Public utilities, including electricity, gas, water, and thermal supply industries, cannot be totally separated from the manufacturing process in their core of operations, and hence reached rationalization and modernization at around the

same time as other manufacturing industrial sectors. Japan's electric power operations are predominantly large-scale operations, and this industry's rationalization and modernization, from the fundamental processes of generation, transmission, transformation, and power distribution right through to administrative operations, are on at least an equal par with the rest of the world. The same applies here to the gas industry. The thermal supply industry is also a highly advanced industry, as reflected in the district heating system implemented in Osaka. Japan's waterworks, which constitutes the main operations of the water supply industry, does not fall below the standards of other countries either. The last stage of the water supply process, that is, the actual contact with consumers in the domestic context, however, is managed by municipal water authorities and private water service shops, and therefore there are areas which are still in need of rationalization and modernization. In regard to terminal distribution operations, in order to protect the interests of water service shops, the municipal water authorities seem to be so far refraining from issuing the strict and detailed regulations.

The last industry to mention here is related to the supply of services to offices which includes the automobile repair industry, the information service industry, various types of leasing businesses, and so on. Its rationalization and modernization kept up with that of other industries because many of its services were directed to the already modernized industries, and also because the service industry for business itself was a new industry.

B. *The Modernization of the Retail Industry*

The industry which was left behind in the rationalization and modernization of the manufacturing industry and tertiary industries related to the manufacturing industry, was the personal service industry within the tertiary industry. The first, within this category, to go ahead with rationalization and modernization was the retail industry. The distribution revolution theory which grew out of the late sixties reflects this development, and inherent problems can now be seen more objectively and in a longer perspective.

At the international level, the distribution revolution first gained momentum in the latter half of the nineteenth century with the opening of France's first department store Au Bon Marché in Paris in 1852. This was followed by Great Britain's Whiteley in 1863 and Harrods in 1866, and Germany's Bertheim in 1870. All of these department stores reflected the increased purchasing power in cities which emerged with the development of modern industry. In the United States, Macy was established in New York in 1858 and Wanamaker in Philadelphia in 1861, indicating that their debut in the "department store era" occurred virtually simultaneously with Europe.

Japan's first department store appeared in 1904 as the Mitsukoshi Draper's Store. It had been previously known as the Echigoya Draper's Store, established in 1673. Mitsukoshi Draper's Store dropped the title Draper's Store to become Mitsukoshi Inc. in 1928. Japan was approximately half a century behind other advanced countries in the establishment of department stores.

Chain stores followed department stores. One good example of chain stores was A & P which claimed the highest sales of any American retailing enterprise up until the 1950s. The next thing to arrive were supermarkets in the 1930s. They were built on sites distanced from conventional chain stores and set out to meet the consumer needs of city residents through installing large car parking lots and keeping up a rich stock of goods. Supermarkets were estimated to operate at a 9 per cent margin, whilst the margin percentage for independent retailers was 40 per cent and for chain stores, 25 per cent.

Discount houses made the next contribution within the distribution revolution, and first appeared in the suburbs of New York in 1954. Accompanying the migratory movement of the population out into the suburbs, the American distribution industry then entered an era of new regional developments, and developed suburban supermarkets on the K-Mart model, and then big shopping centers. In recent years, new convenience stores have also been built to meet the consumer needs within cities.

Japan, which lagged half a century behind in its development of department stores, never entered the "chain store era," but moved straight into the development of supermarkets some thirty years after other countries had. Despite business conditions differing radically in Japan from the United States, discount houses dealing in such items as cameras and spectacles emerged twenty years after they had been introduced into the United States. This time lag decreased even further with Japanese convenience stores to five to ten years, and the recent box stores are keeping perfectly equal ground with other Western countries.

C. *The Dining Out Industry Boom*

Along with the innovations made in distribution, modern management in hotels and Japanese inns, the setting up of sports and recreational facilities for golf, *pachinko*, and ten-pin bowling, and a growth in *juku* ("preparatory schools") and other educational institutions, all became the trend. During this rationalization and modernization process, competition forced some sectors to inevitably suffer decline, such as the movie industry. Last came the "dining out" industry in the modernization process of the personal service industry.

The recent "dining out" boom is really the second of its kind because there was a "dining out" boom preceding it during the Taishō period (1912–26) of Japan. The rising middle class of this time made the first "dining out" boom economically feasible, and foods such as *soba* ("noodles"), *sushi*, *unagi* ("broiled eel"), and Chinese dishes became popular. Of course, most of the "dining out" restaurants actually originated in the Edo period (1603–1867), and *sushi*, for example, was an easy "fast food" for those citizens living in Edo (Tokyo), with tuna *sushi* being the most common in the Fukagawa District. Restaurants emerged in the first "dining out" boom were going to be selected during the second boom. This is because the current "dining out" restaurants have taken over the role of conventional ones and are also meeting new consumer needs through suburban family restaurants.

The oil crisis coincided with the rush of activity to rationalize and modernize

the "dining out" industry. It also forced investment and labor demands to come to a halt, first in the manufacturing industry and then in other industries. This phenomenon, however, actually contributed to the rise in the "dining out" industry, from the angle of procurement of finances and labor, and this in turn appealed to the general public. The "dining out" industry is expected to make further progress into the eighties. However, the one danger within this industry is that of adopting an excessively optimistic stance and of tending to be overinvestment. There seems to be a limit to the market share of the recent "dining out" industry, in the same way as the share of large-scale retail shops in any commercial region is said to be limited to 30 per cent. A proprietor of restaurants once made the following remarks, "Within the metropolis, at least, the number of restaurants is approaching explosion point." I very much doubt that he said this simply to hold other competitive businesses in check.

The rationalization and modernization of Japan's postwar economy clearly appear to have begun in the manufacturing industry and "wound up" in the "dining out" industry. The repeatedly celebrated "tertiary industry glorification theory" however, especially in relation to the "dining out" industry, gives the impression that Japanese social changes are about to occur. This theory is an erroneous assumption and very misleading. It should not be treated as an industrial theory, but rather as a cultural theory the emphasis of which is on satisfying human needs. It touches on problems effecting all industries, from primary to tertiary industry, and all aspects of human life. I therefore feel it is inappropriate to relate it exclusively to the tertiary industry, and I want to bring it up for further examination in the following.

II. THE DIRECTION OF THE 1980s

Japan's rationalization and modernization basically completed its "first round" by the seventies and the various industrial sectors had become sufficiently stable by the eighties to proceed with the balanced rationalization and modernization programs. A good approach to the study of changes in the industrial structure of the eighties is the consideration of the speed in which these changes will occur. The following phenomena will alter the industrial structure: (1) changes in needs, (2) changes in technology, and (3) changes in the international economic environment.¹ Let us look at the kinds of changes to emerge in the eighties as a result of the above phenomena.

A. *Three Requisites to Change within the Industrial Structure*

There are two kinds of changes in needs—changes in needs accompanying changes in the economic growth rate, and changes in the structure of each need. In the case of the former, if there is a high growth rate, the rate of investment in plants and machinery in final demands must certainly be raised. For example,

¹ For reference see my publication, *Nihon bunka no keizaigaku* [Economics of Japanese culture] (Tokyo: Daiyamondo-sha, 1979).

with an approximately fixed capital coefficient, if there is a 10 per cent growth rate, 20 per cent of GNP will be invested in plants and machinery of private industry. Furthermore, if the growth rate drops to 5 per cent, the rate of investment in plants and equipment is reduced to 10 per cent of GNP. In the case of investments exceeding this rate, however, the obvious result is overproduction. In fact, such a change appeared quite dramatically in the Japanese economy after the oil crisis and resulted in a sudden decrease in the domestic demand for iron and steel production goods, industrial machinery capital goods, and so on. This decrease in turn led to big changes in the industrial structure.

One example of the changes within the needs structure is a changing trend in the household consumer expenditure whereby demands have moved from goods to services. Also in regard to investment in plants and equipment, the move from investment aimed at increasing production to pollution-preventive investments reflects a change in the content of needs. Taking into account the changes of needs of the eighties, a decrease in production of capital goods related to investments in plants and machinery, which occurred immediately after the oil crisis, is not likely to reoccur if the growth rate is approximately 5 per cent.

A point to be raised in relation to the above is the relative increase in exports. A deteriorating trade balance, increased exports, and the maintenance of a growth rate through this export increase, do not necessarily imply change in needs to accompany change in the growth rate, although increase in export can be seen as contributing to transformation of industrial structure. Also, in regard to contents change in each demand category, household consumption definitely follows the trends of change which have existed up until the present. Owing to financial difficulties, the government will be forced to reduce its amount of investment expenditure. Moreover, the rate of productive investment in plants and machinery is likely to increase.

In the area of technical changes, the change from natural to synthetic fibers has naturally had deep repercussions on the industrial structure. Farmers have had to turn to the production of alternative agricultural products now that natural fibers are no longer in demand. In this way and others the technical changes resulting from this phenomenon have had widespread effects on the entire economy. The eighties, however, will probably experience relatively poor technical changes. Of course, improvements in technology in specific areas will continue and many new products should result from the achievements of the future. Despite this, however, in making a comparison with the past, the influence of technology is expected to fall relatively due to a fall in basic innovations.

We have finally arrived at the discussion of changes in the international economic environment. These changes, incidentally, are seen as becoming the most influential, in the future, of all the three previously listed phenomena. Their degree of influence can be well understood if the rise in oil prices is regarded as one particular change. However, even if the crude oil situation is left aside from the discussion, the influence of changes in the international economic community will still increase at a rate unknown in the past. The increasingly rapid

process through which newly industrialized countries are achieving industrialization heavily contributes to this situation. These countries are in a similar situation to Japan in that they must expand their exports in order to procure necessary oil supplies. Henceforth, the impact of such exports on the United States, Europe, and Japan will very likely grow.

Despite a slight, inevitable delay, China is gradually acquiring an influential status in international economy. The decade of the eighties will serve as a preparatory stage to the modernization of the Chinese economy. This implies that China will be incapable of being a heavy impact on the world economy in the eighties. However, we can expect China to be making considerable progress in various industrial sectors by the nineties, when we will no longer be able to ignore Chinese influence on the world economy. Japan has a closer relationship with China, both historically and geographically, than do the United States and Europe. It follows that if Japanese corporate businesses were to conclude long-term import contracts, etc., and import large quantities of light industrial products from China in the eighties, Japan could not afford to ignore the outcome of such a transaction, irrespective of its actual scale.

The first two factors altering the industrial structure, that is the changes in needs and technology, will possibly have less and less of an influence on changes in the industrial structure. On the other hand, the third factor of changes in the international economic community should exert a greater influence on Japan's industrial structure. One conclusion that can be drawn from an overall perspective of all three phenomena is that the speed of change in the industrial structure of the eighties will decline. Despite this general decline, however, industries affected by imports, etc., will definitely experience partial, significant changes.

B. *Prospects of the Influence of Needs*

Let us next examine the many problems faced by industries in regard to needs in the areas of food, clothing, housing, health, education, leisure demands, and social integration.

1. *Future initiatives in the food industry*

Firstly, the speed of the trend to dine out rather than eat at home is expected to decline in the eighties. Once at a meeting with members of food industry management, I heard them talk about restaurant proprietors in Australia and other countries being concerned that the number of customers eating at suburban restaurants would fall on account of the rising fuel prices. Contrary to this concern, I feel that rises in fuel prices in Japan would have no effect, as such, on the number of people using suburban restaurants, because Japanese customers do not have to drive far to get to a restaurant.

On the other hand, I think we can almost expect a trend in Japan whereby people will turn from dining out to eating at home. The continuation and strengthening of the dining out trend appears as quite a natural one when one takes into account the growing number of housewives now in the work force. However, during the low growth period of the eighties I tend to think that people

will seek communication channels made possible through eating at home with one's family, in preference to the convenience attached to dining out. In the same way as "skinship" between mother and infant through breast feeding has become more highly valued than the administering of infant formula, so will the public come to realize that eating at home offers far more than its obvious economical and dietary advantages. Of course, the demand to dine out will continue to play a certain role due to the housing situation in Japan and other factors. Yet, at the same time, it is an unquestionable reality that this role will not increase continuously in the future. I am not rejecting the convenience nor the economical merits attached to dining out here. However, just as today's television viewers no longer accept all that the television culture is offering them, the public cannot accept this dining out culture either, if seriously interested in nurturing healthy family life.

What turns will developments actually take within the "industrialization of eating"? I perceive two possible directions—one concentrating on the convenience and economization of eating, the other, on the "leisureization" of eating. The former will be encouraged because of the limit on time we can actually afford to devote to meals. It thus follows that the delicatessen industry and "take-out" foods will develop on the one hand, and the supply of foods from the food processing industry will be encouraged.

I often get the feeling when speaking with leaders of the Japanese food processing industry that they should be both more conscious of their social responsibility, and more ambitious. They talk unconcernedly of the superiority of the delicatessen industry in comparison with their own activities. Yet the way I view the situation, the management of food processing industry should be aiming at coping with the delicatessen industry through its food production. It is understandable that the food processing industry is perplexed by the problem of how to materialize "industrialization of eating," because Japanese cooking varies according to seasons, requires many different kinds of foods, and has no set combinations for its "menu of the day." In America and other countries, contents of frozen foods such as the TV dinner² can be easily standardized. In Japan's case, however, such standardization is difficult because the contents of a set *bentō* box vary according to the season, and from restaurant to restaurant. Greater efforts must be made on the part of the food processing industry in Japan to overcome this problem, and I would like to see its management demonstrating more initiative, and using all that the delicatessen and dining out industries have achieved so far as a valuable reference source.

Distribution-related problems will be another focus of attention in the food processing industry of the eighties. The main commodities carried by the recently opened, first branch store of the Daiei-affiliated box store, are durable and semi-durable foodstuffs such as bottled and canned items. With the increase in the market of these commodities, a serious problem is foreseen between the food

² A frozen full-course meal which is packed into an aluminum foil container and heated up in an oven before eating. It actually creates more TV viewing time and can also be eaten in front of the TV set.

manufacturers and the supermarkets as to which party will take control of the distribution of durable foodstuffs. K-Mart, an American corporate business which has been very innovative lately, now produces up to 25 per cent of the goods it actually handles, and most of these goods happen to be durable foodstuffs. Endogenization and the lowering of purchasing costs of foodstuffs are technically a wise strategy in distribution business, especially due to the fact that the contents of durable foodstuffs do not alter a great deal. Japanese large-scale retail corporations also appear to be following a similar strategy. Thus, in the eighties, such a trend will seriously affect the major food processors should the progress of the distribution-related problems turn out unfavorable to them.

2. *The tough arena of the textile industry*

The beginning of 1979 saw a temporary boom within the clothing industry due to favorable business circles. The boom, however, proved to be nothing more than the temporal result of a reduction in output and stock. Fundamentally speaking, the problems facing the textile industry are far from reassuring.

The textile sector is generally divided into three subsectors—upper, middle, and lower—according to the manufacturing process each subsector industry undertakes. The upper-process industry, encompassing fibers and fabrics, etc., has been “revived” due to the opening up of the new field of artificial leather, and further efforts to diversify into new areas will be increasingly important for its future. Prospects for the middle-process industry however, are far less optimistic.

Those people operating lower-process textile businesses, such as apparel makers, firmly believe that with the world of fashion developing as it is, the most powerful section within the future textile industry will be the lower level, as opposed to the upper level. Some big apparel corporations such as Renown, Kashiyama, and Wacoal conceive the lower level, in due course, gaining a greater strength within the power structure between the lower and upper levels. It is quite understandable that the management of the ten traditional spinning and weaving manufacturers and also the synthetic fiber mega-corporations should be so unwilling to accept this change in the structure. Nevertheless, such a change seems to be inevitable. One strategy the upper level textile corporations can employ is that used by ICI and Courtaulds in Britain, whereby they gained control of the lower and middle levels through obtaining the majority of shares of the firms. Another possible strategy is that taken up by Du Pont of the United States, whereby it strongly persuaded customers of the superiority of its own products, thus guaranteeing reliable marketing channels and continuing to act in cooperation with lower and middle level corporations.

Neither of these strategies were employed by the Japanese textile manufacturers. The strength of spinning and weaving corporations is declining and incapable of really following through the British strategy, and their synthetic fiber sector lacks the necessary authority to carry out the Du Pont strategy. The only remaining strategy appears to lie in the promotion of diversification.

The management of corporations within the lower level ideally seek to use

its initiative in reorganizing the middle and upper levels through the selection of fibers from the upper level to meet the requirements of its own product planning, the firm establishment of sales techniques, and the administration of dyeing processes, etc. Such operations, if successfully carried out, should subsequently remove the necessity for mega-corporations at the middle and upper levels, and manageable small- and medium-sized enterprises in turn become the desired alternative. In Japan, upper-level mega-corporations developed not as the result of a domestic demand, but rather on account of the large-scale export of thread and textiles, requiring mass production, having been a key economic goal in the past.

3. *Design—the focal point in housing*

The limitation in materials is the most serious problem of the following three aspects of housing industry—materials, design, and function. Judging from the results of the "House 55 Project," administered by the government, which attempted to create a new conception for housing through the development of new materials, very little progress has been made in the field of materials. Hence, problems of housing industry have come to mean those problems related to planning and design, and the "conquest" of housing equipment and the interior. Remarkable progress has been made up until now in housing equipment and the interior, and although domestic electric appliances admittedly do not offer a total definition for all forms of housing equipment, they have considerably upgraded our mode of living. The "high quality" housing we see around us today has basically only taken design and planning into consideration in its construction. Costs involved in the construction of this kind of housing are, of course, very high. This regrettable phenomenon of design having become the main focus within the trend for "high quality" housing, is the outcome of delayed industrial production of housing.

It is debatable as to whether any moves will be made to remedy this situation in the eighties. Judging from the present state of the housing industry, and in the event of progress ceasing in the field of materials, improvements in residential life for the eighties will not go beyond the continued expansion of high-cost design housing.

Broadly speaking, however, newly constructed houses are larger in floor space than traditional ones, meaning that up to three generations will now be able to live together in the extended family system. Let me add that the many problems attached to the extended family system are not altogether housing-related problems, but dually encompass more complex psychological and economical problems. The important point to note here though, is that without the initial space for an extended family unit to live in, the individuals concerned have no choice whatsoever in the selection of the ideal living unit.

4. *Improvements in the medical system*

An improved hospital system is probably the very first thing to be examined from an industrial perspective on public health. Brighter atmospheres and better

functioning in hospital wards, as well as adequate supplies of the many kinds of testing apparatus available today, are just some of the areas receiving attention. Wall systems, for example, providing ward facilities on actual walls, are utilized. Patients prefer comforts and better medical care in spite of higher medical fees being imposed. The hospital system is experiencing an endless series of improvements. Personally speaking, I would prefer to relax at home and sleep long hours to prevent myself from becoming ill, rather than have to enter one of these modernized hospitals. Despite my feeling this way, however, the general trend of improvements in medicine will no doubt continue on its predestined course.

The next problem medicine is now facing is that of the pharmaceutical industry. The number of large foreign pharmaceutical manufacturers planning to directly penetrate the attractive Japanese pharmaceutical market in the eighties should increase dramatically. As a result of this, Japanese pharmaceutical manufacturers who have relied on foreign technology for their new medical supplies will have to attempt a different basic stance. Up until now, they have been able to maintain high returns. Yet from now on, they may be forced to lower these profits amidst the strengthening of international competition in the eighties. This decade will definitely experience a wide range of improvements in Japan's medical system, and also from the angle of preventive medicine, research into "health foods" and weight control programs should gain a greater momentum.

5. *Education and recreation*

The underlying prerequisite to fulfilling the needs in education lies in the revision of the Japanese entrance examination system. Unfortunately, the "education mama" syndrome is likely to intensify in the eighties. All kinds of education programs will appear as a result of this, aimed at pouring knowledge into children from a very early age. Moreover, the market will become saturated with new products ranging from printed matter to more advanced audio-visual aids, to help children memorize lessons in the Japanese language, arithmetic, and English, more effectively.

I am wondering what will become of the ideals of children's education described in such books as J. J. Rousseau's *Emile* and F. Fröbel's *Human Education* (*Grundzüge der Menschenerziehung*), when education undergoes such change. Of course, a traditional outlook on education does not offer the perfect solution for education today. However, the Japanese educationalists are ignoring their duty to diagnose the actual problems involved and to draw up necessary revision policies, and are not making any proposals whatsoever concerning the direction in which they feel young children's education should be heading. I would go as far as saying that all individual parents truly believe that young children should simply be allowed to play with other children—nothing more, nothing less. Yet at the same time, in letting their children do this, they feel they would be acting irresponsibly in regard to the children's future. They therefore are compelled to follow the behavior of other parents in regard to the intensive education of their children.

Today, electronic computers and many other industrial aid devices feature in education. In fact, it is generally held that mechanical devices are essential for children's as well as adult's learning, especially now that the era when one was taught that "repeated reading makes the meaning clear" has well and truly left us. However, as long as education functions on the independent efforts of pupils and for the cultivation of an ability to reason, it thus follows that pupils should not be overly relying on such mechanical devices during the learning process.

I am of the opinion that Japan reached a satisfactory level in the construction of recreational facilities by the seventies. Major health resorts are now all designed to cater for the one night stopover trips which Japanese companies conduct. In fact, when walking down the main corridor of a Japanese inn in a resort such as Atami, one feels still right in the middle of the hustle and bustle of Ginza, Tokyo. Breakfast is no different. One lines up in a huge dining-room for a self-service breakfast. Except for the indisputably high quality of the meals and buildings, the treatment one receives when in such inns is on an equal par with that of army barracks. I never revisit these kinds of places, and suspect that most other people only go along with this whole "business" due to professional obligations or for other unavoidable reasons. The same can be said for golf that is combined with business, and as far as I know, it could only be the very dullest of persons who actually gets out and enjoys this particular kind of golf.

Japanese should give more serious thought to the society's prevailing philosophy on recreation before starting to actively voice opinions on recreation-related problems. To indulge at this point, in discussions on how industry can meet recreational demands, without a deeper discussion on how the Japanese actually use their leisure time, will only reduce Japan to a greater chaos it has already experienced in its past.

C. *The Direction of Social Integration*

There are two problems I wish to expand on in regard to social integration. The first concerns the "municipal era." This slogan is very significant in so far as it is acting as a great incentive to all those people employed in municipal self-governing bodies. The work being done at the municipal level in the construction of the Portopia in Kobe City is a truly commendable piece of work. Kanagawa Prefecture's idea of construction of an educational and cultural center is another reflection of efforts to demonstrate the local character of this region, and I am fortunate enough to have been personally involved in this particular project. Chiba City is another municipal working seriously with a local culture revival project. The places I have mentioned here are only a few of many active regions throughout Japan, the continued efforts of which are fundamentally promoting the decentralization of Japanese society.

The second problem involves the defense of Japan. The American-Soviet military confrontation is becoming more and more serious, as the recent Afghanistan crisis has shown us, and whether Japan likes it or not it is under

pressure by the United States to strengthen its independent defense efforts. Japan has said it will spend up to 1 per cent of GNP on defense. It is now thought that this figure will be maintained to sustain its defense in the future. In recent years, however, defense expenditure has dropped to 0.8 per cent of GNP, and if it is to be raised to 1 per cent and this increase is all channelled into a greater purchase of arms, the overall expenditure on arms will more than double. The proposal to strengthen precision-guided arms is meeting with strong support, and if such arms are selected, electronic weapons which offer a powerful defense and are effective in relation to their cost, will be the chief purchase. The employment of these arms is expected to stimulate the electronics industry, and it therefore appears logical for future research to be carried out in this particular field.

So far I have examined the relationship between respective needs and industry. In the following section, I would like to look at specific problems found within individual industries.

III. GROWING INDUSTRIES AND RECEDING INDUSTRIES

Firstly let us look at the problems of individual goods, and then the problems of respective industries.

A. *Directions of Corporations' Expansion*

The 1980s will not experience very many big innovations. Yet on the other hand, corporations will all be seriously taking on the task of developing new, "intricate" goods. I propose six categories for these developments—(1) the development of "mini-hit" goods, (2) advancements in market segmentation, (3) progress in automation, (4) the development of new goods to meet new needs, (5) the application of new technology, and (6) the upgrading of the image of conventional goods.

"Mini-hit" goods are goods such as mattress dryers produced by home electric appliance makers. On gauging a potential need, they aim to fill in discrepancies found within conventional goods. Today consumer electronics manufacturers are quite keen on inventing small-sized home appliances such as diaper dryers and coffee makers fitted with grinders, and they are expected to continue with such production in the future. The product-life cycle of these goods, however, is predicted to be very short on account of the possible flooding of this sector with new manufacturers competing alongside the original manufacturers.

In the past, small- and large-sized garments were not sufficiently supplied by the "ready-made" clothing sector because it concentrated only on the manufacture of standard-sized garments. This situation has since been remedied, and today small- and large-sized garments appear on shop racks together with conventional standard-sized garments. The same kind of phenomenon is likely to appear in the fashion for middle-aged and elderly people who up until now have received little consideration in regard to different designs and colors, etc.

TABLE I
REAL DOMESTIC PRODUCT

Kind of Economic Activity	REAL DOMESTIC PRODUCT										Average			% Composition			
											Growth Rate						
	FY	1975	1978	1979	1981	1984	1984/1979	1975	1978	1979	1984	1975	1978	1979	1984		
1. Industries	196,710	236,505	250,333	274,528	321,737	5.1	95.0	94.9	95.1	95.6	4.0	3.4	3.2	2.7			
(1) Agriculture, forestry, and fishing	8,336	8,386	8,512	8,683	8,999	1.1	4.0	3.4	3.2	2.7	0.5	0.5	0.4	0.4			
(2) Mining	949	1,154	1,162	1,198	1,289	2.1	47.3	48.8	49.1	49.7	5.0	4.6	4.6	4.5			
(3) Manufacturing	98,043	121,543	129,364	141,373	167,023	5.2	2.6	2.4	2.3	1.9	1.3	1.3	1.2	1.2			
① Food and beverages	10,336	11,401	12,051	13,275	15,176	4.7	3.8	3.9	3.9	3.9	1.6	1.5	1.4	1.3			
② Textile products	5,431	5,873	6,111	6,264	6,523	1.3	1.7	1.7	1.7	1.6	7.9	7.3	7.4	6.9			
③ Pulp, paper, and paper products	2,752	3,341	3,518	3,704	4,053	2.9	2.0	2.0	2.0	2.0	4.8	4.8	4.8	4.8			
④ Chemicals	7,882	9,807	10,279	11,041	12,976	4.8	1.7	1.7	1.7	1.7	3.8	3.8	3.8	3.8			
⑤ Petroleum and coal products	3,241	3,622	3,731	3,949	4,259	2.7	4.3	4.3	4.3	4.3	1.7	1.7	1.7	1.6			
⑥ Nonmetallic mineral products	3,610	4,196	4,368	4,658	5,389	4.3	2.0	2.0	2.0	2.0	7.9	7.3	7.4	6.9			
⑦ Basic metal	16,343	18,304	19,366	25,428	23,327	3.8	3.8	3.8	3.8	3.8	2.0	2.0	2.0	2.0			
⑧ Fabricated metal products	4,189	5,053	5,356	8,570	6,670	4.5	6.0	6.0	6.0	6.0	4.2	4.4	4.7	4.9			
⑨ General machinery	8,656	10,907	12,324	13,548	16,473	6.0	7.1	7.1	7.1	7.1	4.8	6.6	6.7	7.4			
⑩ Electrical machinery	9,886	16,491	17,662	20,259	24,915	7.1	7.4	7.4	7.4	7.4	5.9	6.6	6.6	7.4			
⑪ Transport equipment	12,241	16,427	17,380	19,617	24,886	7.4	8.6	8.6	8.6	8.6	0.7	0.7	1.0	1.1			
⑫ Precision machinery	1,551	2,360	2,563	3,023	3,866	8.6	4.8	4.8	4.8	4.8	5.8	5.5	5.6	5.5			
⑬ Others	11,925	13,761	14,635	15,942	18,500	4.8	9.2	8.6	8.6	8.4	1.7	1.6	1.6	1.6			
(4) Construction	18,970	21,339	22,619	24,925	28,303	4.6	10.6	10.3	10.3	10.6	3.6	3.9	3.8	3.9			
(5) Electricity, gas, and water supply	3,450	3,995	4,187	4,700	5,529	5.7	5.4	5.7	5.7	5.7	4.7	4.9	4.9	5.1			
(6) Wholesale and retail trade	21,906	25,745	27,130	30,071	35,571	5.6	4.1	4.1	4.1	4.1	8.8	8.9	8.9	8.9			
(7) Finance and insurance	7,460	9,778	10,125	11,145	13,174	5.4	4.0	4.0	4.0	4.0	2.1	2.1	2.1	2.1			
(8) Real estate	9,839	12,092	12,890	14,587	17,014	5.7	0.9	0.9	0.9	0.9	0.2	0.2	0.2	0.2			
(9) Transportation and communication	9,624	10,322	10,921	12,293	15,018	6.6	—	—	—	—	—	—	—	—			
(10) Services	18,133	22,151	23,423	25,553	29,812	4.9	—	—	—	—	—	—	—	—			
2. Producers of government services	8,242	9,753	10,063	10,492	11,142	2.1	—	—	—	—	—	—	—	—			
3. Producers of private nonprofit services to households	1,809	2,313	2,390	2,555	2,970	4.4	—	—	—	—	—	—	—	—			
Import duties	377	590	559	537	543	-0.6	—	—	—	—	—	—	—	—			
Imputed service charges	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
Total	207,138	249,161	263,345	288,112	336,392	5.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0			

Source: "The Medium Term Economic Forecast (1980-1984)" (Tokyo: Japan Economic Research Center, 1980).

The utilization of automated machinery, such as robots in manufacturing processes, will increase in manufacturing and other industries. In fact, this power-saving machinery sector should act to steadily expand future markets for the machinery industry.

A wide range of developments are expected to take place in areas where there are new needs such as housing exterior, the raising of efficiency in offices, medical equipment, fire prevention systems, educational equipment, and the adoption overseas of the "product in hand" system following the "turn key" system in plant construction and operation. Housing exterior can encompass anything from gateposts and iron gates to small objects for the garden, and these ready-made manufactured goods, following on from interior facilities, are finally contributing to a housing exterior market. The range of goods used to raise the efficiency in offices is unlimited and can include anything from office machinery such as copy machines and computers to wall system installations. Much progress has already been made in the areas of medical equipment, fire prevention systems, and education, and further progress should continue steadily. The development in the above areas also contribute to a certain amount of expansion into overseas markets.

If the "turn key" system is employed operations and management of the plant is taken over by the customers on completion of the construction of the factory. The "product in hand" system, however, requires the construction executors to take on the responsibility for the running, maintenance, and security of the factory after its completion. Greater research into the latter system on the part of Japan could provide it with a new source of foreign income. The major problem here lies in the training of capable people, and generally speaking, Japan's "internationalization" in the eighties necessitates the training of an internationally-minded, skilled work force for all sectors of the economy.

Advances in laser communications are the most remarkable of all the recent advances being made in technology. Through the increased capacity for communication laser communications are helping to create a closer communication network. Large corporations must start placing their respective headquarters outside the big cities in order for a true "municipal era" to materialize. Such a trend towards decentralization will emerge, nevertheless, with the perfection of communication channels. The fact that the headquarters of many firms in the United States and other countries are located outside major metropolis has provided Japan with valuable "food for thought." The concentration of Japanese corporations' headquarters in Tokyo reflects the politicization of the economy. The liaison offices of large American firms are reported to be on the increase in Washington lately, whilst on the other hand the concentration of large firms in Japan continues to comprise their headquarters themselves. If the independence of private industry from politics becomes a future target for Japan, and if there is a growth in the relative independence of private industry from banking systems, then expansion in communications will contribute to the decentralization of companies' headquarters, and in turn, the creation of a real "municipal era."

New materials such as those found in various kinds of ceramics, engineering

plastics, and so on, also play a role in the new technology of Japan. Further progress is expected in the field of energy, in things such as energy-saving buildings, experiments in solar heating, solar batteries using amorphous semiconductors, and long-term research on potential channels for soft energy.

The upgrading of the images attached to conventional goods is becoming more and more popular in Japan. One example of such promotion can be observed in rice wine *sake* manufacturing, whereby bottles and labels are being designed to promote the image that rice wine is really very similar to whisky. Nowadays image promotion of conventional goods is imperative, and there are two approaches to this particular image promotion. The first approach aims to add a modernity image to conventional goods, as the rice wine example illustrates. The second approach operates in exactly the opposite way to the first and emphasizes the "history" behind conventional goods. An example of this latter approach can be observed in the image promotion of bean paste *miso*, stressing its inherent "country life flavor." Both these approaches will remain as the two basic alternatives within image promotion and simply involve the stressing, or altering, of the tradition behind conventional goods. The previous example of rice wine proves useful again at this point, because its traditional "flavor" can also be advertized through the use of expensive pieces of pottery, etc., as wine bottles. So it is with many goods that their inherent qualities can be advertized through both approaches.

The strong feature of contemporary goods is their element of novelty which, of course, does not necessitate any image upgrading. Even so, the consumers need to be convinced of such goods' special functions, practicability, and superiority.

B. *Industries to Watch Closely*

Next, I would like to examine problems within major industries. Owing to limited space however, I will focus on industries which happen to be shouldering a great number of problems, and also industries we should be carefully watching in the future.

1. *The oil refinery industry*

Reconstruction of the entire business circle may be unavoidable due to difficulties in the procurement of crude. Managements of oil refinery corporations are very concerned for the future planning of their industry because of the advancements being made in alternative energy resources, and a certain proportion of these corporations will no doubt start entering this field of alternative energy.

Japan could only proceed with the generation of alternative energy through fossil fuel if it had the cooperation of other countries, because it is lacking in necessary raw materials. In the event of Japan receiving overseas cooperation, it is still unclear whether the operation would be carried out mainly by government bodies, mainly by private industry, or totally by private industry, relying on no government aid whatsoever.

One area of alternative energy which oil refinery corporations could go ahead

lies in the utilization of solar energy. However, this is an electronics-related field, requiring the expertise of specialists, and the cooperation from corporations specializing in this discipline will present problems for oil refineries. As the above points imply, the oil refinery industry is bound to see enormous changes in the eighties.

2. *The paper, pulp, and ceramic industries*

The paper and pulp industry enjoys a more stabilized growth at the present, but despite this the problem of procuring necessary raw materials from abroad still remains. The ceramic and quarrying industry also enjoys a similar stable growth and its prospects look relatively bright because there should be no immediate depletion in domestic raw materials, such as was predicted once. On the other hand, its demand growth is on the decline and the successful tackling of this problem may require a restraint on cartel-like method as has often been practiced in the past, and a careful study on how a balance can be returned to the industry.

3. *The chemical industry*

The chemical industry is struggling to find out a way to fine chemicals, which so far has been achieved by individual companies in the area of biochemical research, etc. Japan is lagging considerably behind West Germany, which has the world's leading chemical corporations.

Petrochemistry's chief concern will be in the coexistence of petrochemical plant abroad in countries such as Saudi Arabia, Iran, and Singapore, with domestic petrochemical plants. Coexistence is only possible if the construction of foreign petrochemical plants can be smoothly achieved, and at this stage even this cannot be guaranteed. Theoretically speaking, the central issue involved should be the planning of a satisfactory balance between the domestic and foreign operations. As the situation stands at the present time, any wrong steps made in Iran would essentially have delicate repercussions on planning in Saudi Arabia.

The competition with American petrochemistry presents another complex problem. Japanese specialists on this problem believe that the resource bases in the United States will make a rapid transfer from natural gas to naphtha and in doing this, lessen the relatively weaker position of present-day Japan in relation to the United States. Meanwhile, Japan may be expelled from the Southeast Asian market until this changeover process has been completed, and I feel that this point deserves our immediate attention.

4. *Iron and steel and non-iron metals*

Iron and steel will enter the stage of both domestic and international plant and machinery expansion in the eighties. Joint investments are very likely to be made because of the limited locations available within Japan. Although this issue is more relevant to the latter half of the eighties, the adjustment of the interests of iron and steel companies will pose a problem. Japan should also

be receiving many invitations to open up operations throughout the world by the latter half of this decade. In fact, the next project to follow Kawasaki Iron's Tubarão Project will probably be started during this period.

In regard to non-iron metals, aluminum will reach a dramatic turning point in the eighties due to the continuing rises in energy costs strangling the domestic aluminum smelting industry. The aluminum smelting corporations have suddenly become aware of their reality and are at present furiously establishing bases for production overseas. These corporations predict that this very movement will result in the closing down of domestic aluminum smelteries, and also a transformation to import firms and aluminum products manufacturers. There is much doubt as to the question of whether this actual process will run smoothly or not, because of the worsening in energy cost I have just discussed.

5. *The machinery industry*

A key area of concern for the machinery industry is the extent of exportation of general and heavy electrical plants in the eighties. Japan's economic growth rate will be around 5 per cent, implying that there is a clear limit to its domestic demands. In other words, exportation holds the key to the industry's future developments, and this in turn is subject to the conditions of export credit and the strengthening of political relations with importing countries.

6. *Home electric appliances and electronic machinery for industry*

Problems within consumer electric and electronic appliances industry focus on the discovery of a prospective domestic "winning" product to succeed color television. It is too early yet to judge whether VTR can claim this title or not. Moreover, I must regrettably add here that it is questionable whether the present level of television media contents is of sufficiently high to invite its viewers to record them and make them watch for the second time.

Another problem concerns intensified activities abroad in which the Japanese consumer electronics companies have suddenly become involved. I am hoping that the industry's plans for expansion are free from any misconceptions.

The manufacture of electronic machinery for industry and electric and electronic components should be another active arena throughout the eighties due to the steady expansion of needs in computers and other computer-related machinery. The critical issue at stake, however, is whether this sector can successfully manage an export market in the United States.

7. *Automobiles, ships, and precision machinery*

Problems affecting the automobile industry are subject to the trend towards international "corporatization." The industry has so far rather refrained from entering overseas manufacturing, when contrasted to the consumer electronics industry, and understandably so. A further expansion of direct exports however, whilst obviously beneficial both to the automobile corporations concerned and to Japan's balance of payment, would make importing countries oppose to it. And Japan would have to give her considerations to the respective interests

of these countries and to make direct investments overseas. Nissan and Toyota will follow Honda's example in the United States.

Japan is now confronted with the strong competition in shipbuilding industry from developing countries and is left with no other choice but to improve the quality of its ships. The impression I got when once speaking with the representatives of Japanese shipbuilding enterprises was that they are fully aware of the extremely low international ship demand after the oil crisis, but all hold an optimistic view of the competition with the developing countries. Furthermore, ordinary shipbuilding enterprises appear to be only considering diversification into shipbuilding-related sectors, whereas I would think a much more comprehensive diversification is truly required.

The precision machinery sector, regarded as the most suited sector for the Japanese labor force, can prosper in the future. Physical power of labor is not required in its production process. On the other hand, recent automated production processes are demanding an acute alertness in workers. Productivity in precision machinery industry, measured on an international scale, indicates that Japanese work force produces some 50 per cent more than Occidental counterparts. It thus follows that development potential in precision machinery, also indebted to its unique production techniques, will take on a favorable stance in the eighties.

C. *The Direction of Identity Concious Industrialization*

I will not enter into any further discussion on specific industries. Rather, I would like to conclude here with a phenomenon which I have called identity concious industrialization. It is a condition through which workers can find personal fulfilment in their working lives. Objectively speaking, Japan's competitive power has not been supported by its top management so much as by the relatively brilliant performance of those people working below the middle management level. Those workers have worked more diligently than their counterparts in other countries. Japan's top management is not necessarily superior to its counterparts, for example in the United States, in knowledge, training, and drive. One would have to say though, that the devoted efforts of those workers below the middle management level have lessened the relative gap between the Japanese and U.S. economic productivity.

At a time when it is felt that American society could all too easily move from a recession to virtual collapse, if Japanese society can maintain its valuable workers below the middle management level her chances of sustaining a comparatively superior industrial system will be guaranteed. The high possibility of alteration of social classes through generation changes, and the maintenance of working environment which provides a deep, satisfying meaning to the lives of its workers, are two very significant tasks for Japan in the future. Here concludes the first part of the definition of identity concious industrialization.

The second part consists of the obligation on the part of the manufacturing industry to create products which are going to really satisfy consumers in the 1980s. Through this obligation consumers will grow aware that things do not

always have to be mass produced, sold on mass, and be of low cost and price. Equipped with this new awareness they can then appreciate that a wider variety, limited production, and raised costs and prices of products are resultant phenomena. Let me express this idea in another light. Translated poetry books sold in Japan have only ever contained the Japanese translation, even though a reader needs to read both versions to gain a true appreciation of poetry. An anthology containing both versions is the better alternative.

I feel it is time manufacturers sat down and started to reflect on many aspects of their past product planning to find out the new possibilities.