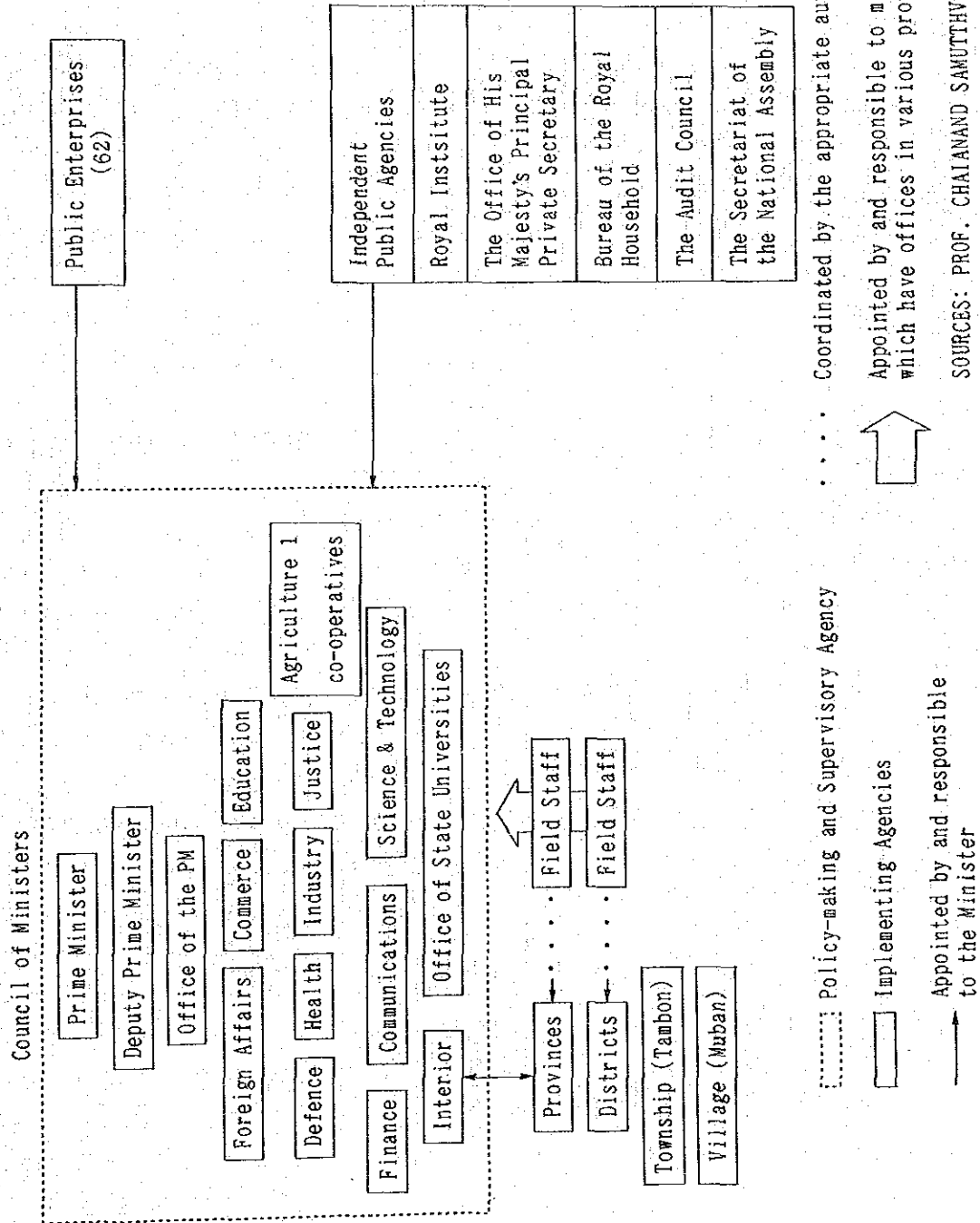


## CONCLUSION

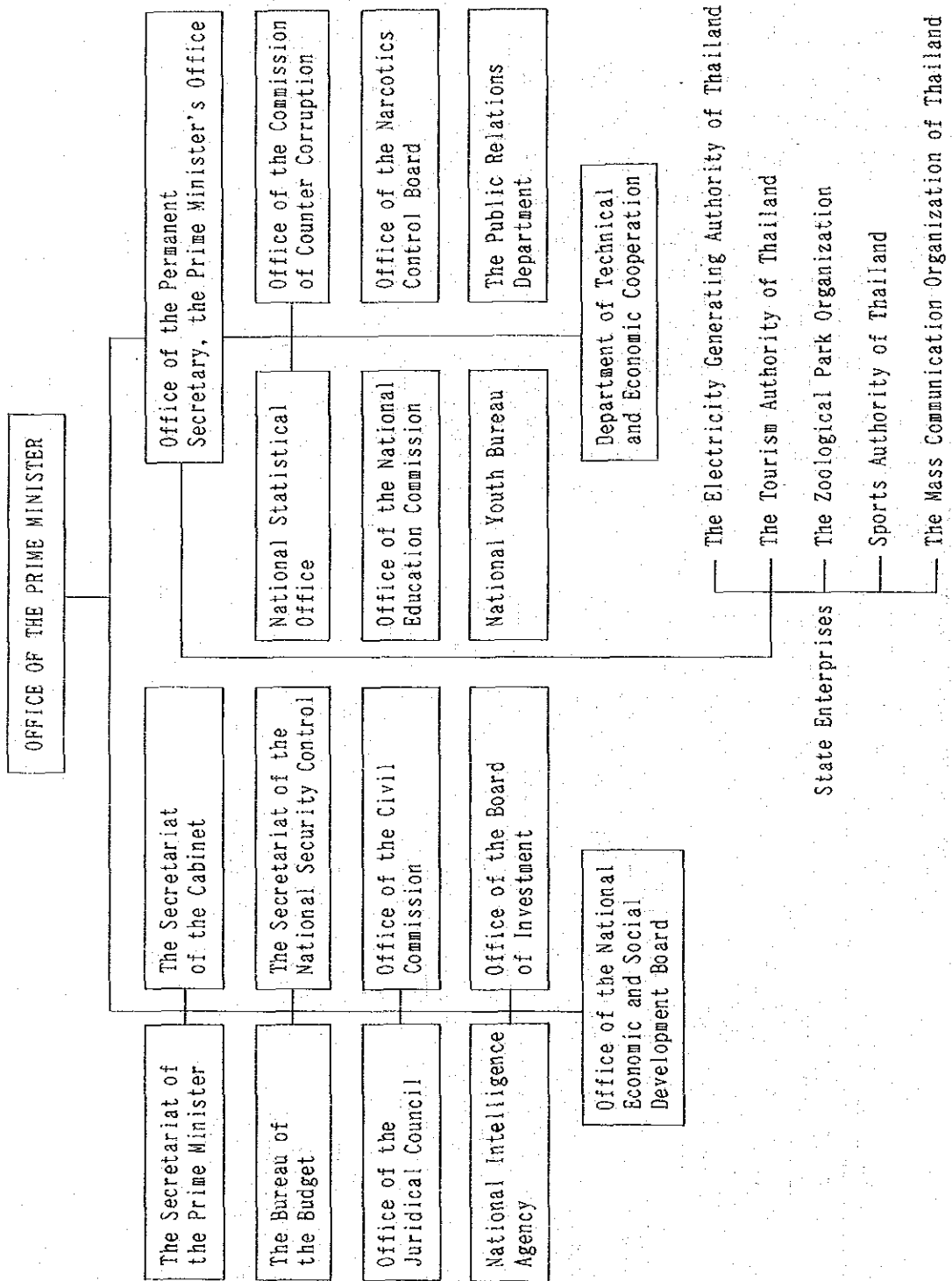
Comparing the information system and public relations activities of the government of Thailand with the function setting of Japanese Public Relations Office, which emphasizes on the principle of co-ordination, simplification of work and economical expense. The information system of the government of Thailand urgently needs an agency to set-up clear-cut division of responsibility among governmental agencies on data collecting, compiling and processing in various sectors. Together with the system of co-ordination for data exchange among governmental agencies which may be an on line basis in order to enhance efficiency and to avoid duplication of work. However, in so doing, the criteria to protect data from unauthorized access to the system must be strictly regulated. The outstanding feature of Japanese government gazettes is the simple form of publishing and the extensive sale system. Regarding governmental public relations, the public relations department of the government of Thailand should be geared to be more co-ordinated with other governmental agencies as far as public relations is concerned. The form of conducting survey and publicity the outcome of each survey to the people of the Japanese Public Relations Office should also be taken into account by the Thai Public Relations Department.

This report may lead to a detailed studies for better understanding in the future.

# The Executive Establishment in 1980



**Organizational Structure of the Office of the Prime Minister**



## SUMMARY REPORT INDUSTRIAL TECHNOLOGY POLICY

by Mr. Leo Figarella Mota  
(Venezuela)

### INTRODUCTION

In my present position, Director of Industrial and Commercial Planning Department of the Ministry of Planning, I am responsible for the making and coordination of macroeconomic policies related to the industrial and trading sectors. Consequently, I have to work together with the Ministry of Industry, the National Council of Scientific and Technological Research, and the External Trade Institute. In such way, Industrial Technology Policy is one of the most important areas directly related to my present position.

### COUNTRY REPORT OF THIS SUBJECT

Over the past years, Venezuela required an industrial policy directed to promoting the competitiveness of the manufacturing sector of the economy. In order for the industrial sector to reap the benefits of its growth potential, both an improvement in quality of the output and a reduction in costs must be accomplished. The new prevailing conditions in the international markets, each time more stringent, coupled with the exhaustion of the final goods import substitution model, impose the need to guarantee competitiveness of the local production. The new policy orientation is directed towards the efficient import substitution and the export promotion, by means of a more efficient use of resources, a growing level of specialization and a better technological domain.

The creation of a competitive industry implies fundamental changes in three areas. First, the creation of an environment in which manufacturers are forced to compete to gain access to the market place, by virtue of the quality and prices, which generates the need to reduce expenses, improve productivity and eliminate inefficient operations, thus, leading to a more successful use of corporate resources.

Secondly, a larger competition will trigger the need to take advantage of

scale economies, promoting corporate specialization. In closed economies, the existing enterprises tend to over diversify their line of production, creating larger costs that in turn reflect on the consumer prices. In an open economy, on the contrary, the reference pattern is set by the international competitor. Under these conditions, the local competitor is obliged to enter into the dynamics of a growing degree of specialization and improvement of quality and productivity.

Finally, a successful integration into the international market requires a greater technological domain by local producers. This technological domain consists not only in the creation and usage of frontier technology, but it also includes the improvement of the managerial and organizational development skills.

Unfortunately, technological innovation is perhaps the weakest element of the Venezuelan productive apparatus.

In an protected market like the Venezuelan one up to now, the role of technology does not correspond to its true nature. In order not to be eliminated from the market, the entrepreneurs often depend on official protection by way of restricting entry of foreign corporations and products. It is assumed that, within certain limits, the consumer must accept the products offered in the market. Thus, technology is only a vehicle for the manufacturer to offer an acceptable product, or at the least a tolerable quality, and not the best product at the cheapest price. There is no incentive to maximize the use of technology, to fully understand it and to introduce continuous improvements, in order to make it suitable for the clients specific needs.

Technology has simply represented, for the typical industrial corporation in Venezuela, another input to be acquired, almost always imported, required to produce whatever is sold. The scarce national technological development should not be seen as a surprise, definitively inferior in comparison with the level of industrialization achieved. The country's industrialization process, based on the above referred import substitution policy, has made nothing less than redundant the development of national technology. Therefore, there is a need, of which the State must have full awareness as to its responsibility, to support the process of formation of specialized personnel, both in the country and abroad; to create information centers and to finance research and development, enhancing the full participation of the private sector.

## JAPANESE EXPERIENCES OF THIS SUBJECT

In order to analyze the industrial technology policy in Japan, it is essential to know the evolution of its industrial policies after the World War II. This evolution can be summarized into four well differentiated periods, as follows: \*1

- The reconstruction period (1946 - 1959) : During that time, Japan reconstructed its war ravaged economy and laid the ground for viable economic growth. The emphasis was made in the supply of basic goods.
- The period of rapid growth (1960 - 1969) : In this decade, Japan actively sought to open its economy to foreign competition by liberalizing trade and the flow of international capital, and, in the process, achieved rapid economic growth. Increased emphasis was placed on the sophistication of the industrial structure through strengthening the heavy and chemical industries.
- The period of qualitative consolidation (1970 - 1979) : This is the period during which Japan devoted its main efforts to improving the structure of supply and demand. Industries with greater degree of knowledge and intellectual activities were given priority.
- The period of maturing as a "10% nation" (1980 - MMMM) : Japan has grown up to "10% nation" in terms of GNP, and contribution to the world as such nation has become important objective. Special emphasis is placed on further intensification of creative knowledge.

According to this classification, the development of Japan as an industrialized country became a reality on the sixties. More specifically, it is considered that the Japanese miracle first appeared during 1962.

From the technological point of view, Japan, as a latecomer to development, presents a typical example of an industrialization process mainly based on borrowed technology. Japan was, and still is, a big importer of technology. In 1971, the total amount of imported technology was 135 billion yen, and 261 billion yen in 1986 (AIST, MITI).

However, this situation is in a period of radical change. Japan has become a net exporter of technology; such exports reached a record in 1989, as per recent data published by MITI (not available). Besides, Research and

---

\*1 Based on paper written by Prof. C. Watanabe

Development (R&D) systems, which have been up to now strongly weighted in favour of applied and development research aimed at developing new marketable products, are being revised and budding new revolutionary technologies grounded in medium to long-term perspectives are coming to view. In other words, more weight is being given to basic research, and the establishment and improvement of R&D systems aimed at the new integration of basic, applied and development research is seen to be an urgent task. In such context, it is expected that the government, the private sector and the academic sector play all together a leading role. In this report, it will be briefly analyzed how the public and the academic sectors are facing the new challenges. Firstly, let's analyze MITI's industrial technology policy.

According to Prof. C. Watanabe, the big challenge of science and technology in the nineties is the creation of an affluent and comfortable earth. This challenge appears in a context of big changes, in which science and technology is one of the bases for the world development and the means to resolve issues faced by all mankind, who is increasing demand for Japan's contribution in that area. Internally, Japan has to solve the problems of being relatively behind in the area of scientific and basic research, and having an increasing seriousness of personnel shortage and a higher calls for comfortable and affluent living standards.

In such context, the Japanese Government, through MITI and its Agency of Industrial Science and Technology (AIST), has developed an industrial science and technology policy bases on the following aspects:

- Promotion of "Techno-Globalism" from a global perspective.
- Promotion of a balanced R&D between Science and Technology.
- Promotion of R&D aimed at realizing comfortable and affluent living standards.
- Accumulation of science and technology assets.

So far, the industrial science and technology policies developed by MITI had been very successful. Needless to mention what had happened in the case of computers and optical lens development, as Prof. Yoshimura explained in his lecture. In both cases, the policy system developed by MITI, based on penetration of the future prospects, formulation of visions and provisions of policy measures, together with the high respect gained by MITI's professionals, were the key of that success.

But all these happened when Japan was more a borrower of technology than a pioneer. Not so long ago, the goal of Japanese research consortia was mainly

to absorb and diffuse commercial technologies already proven in the west. But now, the environment surrounding science and technology is demanding the participation of Japan as a leader. Now, Japan is at the cutting edge in semiconductor manufacturing, materials science and other fields, and government-sponsored research efforts have become far riskier. Now, more expertise is required from all sectors involved in R&D activities: public, private and academic.

In the public sector, it is expected that the leading role in the formulation of science and technology policy and R&D administration, particularly in the promotion of basic research, will be played not only by MITI and AIST, but also the Ministry of Agriculture, Forestry and Fisheries, the Ministry of Health and Welfare, and the Ministry of Post and Telecommunications. It is considered that the technical personnel of AIST and MITI are very well prepared to assume this leading role in the new era of R&D in Japan. However, it seems that it is not the case of the other ministries, specially in the Ministry of Post and Telecommunications and the Ministry of Education. Consequently, a big effort has to be made in improving the capabilities of the personnel of such ministries.

In the academic sector, there is a big administrative barrier that is obstaculizing the participation of universitaire personnel in R&D activities. Besides, it is necessary to provide universities administrative organs with new types of administrative personnel with specialized skills in research management.

As it was mentioned before, one of the most important aspects for success in the projects of basic research is the necessity of joint research efforts among the sectors involved: public, private and academic.

Higher risk factors and escalating costs make such joint projects more necessary. The key to making them worthwhile is realizing that benefits are more likely to come from the process of participation than from attaining the final goals. Participants should seek to extract ideas and spin-off technologies, even if the program is a big success. For example, the U.S. joint research effort to put a man on the moon realized its goal; but the big payoff came not in planting the flag on the moon, but in other areas such as new materials and electronics.

Finally, it has to be said that Japan is well prepared to face the challenges above mentioned, and to eliminate the barriers that could obstaculize the success in the way of being a leader in R&D.



## CONCLUSION

Japan and Venezuela are in different stages of development. It means that the needs for research and Development are quite different.

In the case of Japan, now a fore-runner in technological development, the essential needs are now on basic research on frontier technologies. That represents a big challenge to the government, the private and the academic sector, and it seems to be that all of them are fully aware of this big responsibility finding the way to success in such challenge, will have the consequence that the role of Japan as a technology supplier will become more important in the next years to come.

The case of Venezuela is quite different. We are still a net borrower of technologies. The new economic policies implemented in 1989 are encouraging the needs for a consistent industrial technological policy. We have to make a big effort in making such policy, in training the adequate personnel of the institutions involved, and in encouraging both the private and the academic sectors to joint efforts with the governmental ministries and agencies in research and development activities.



2



4



1

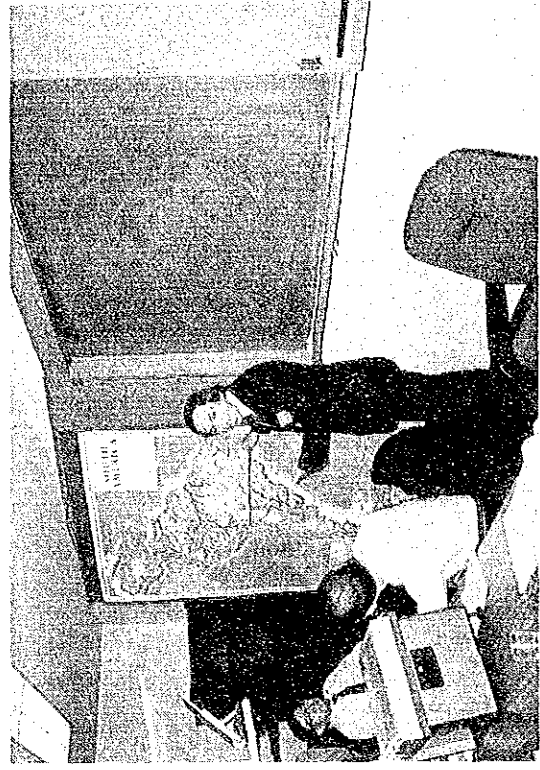


3

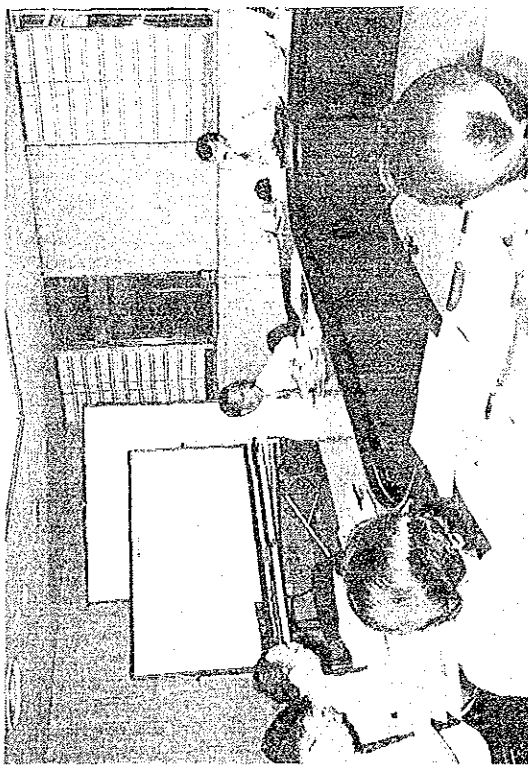
1 - 4 Reports of Comparative Study



6



8



5

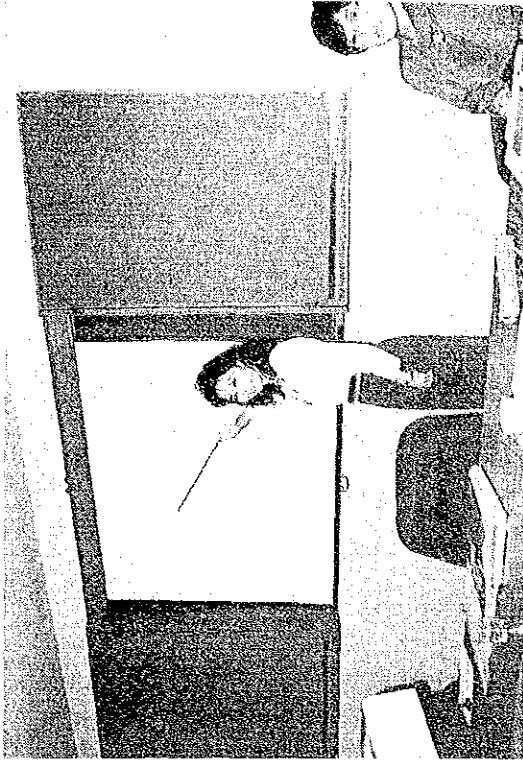


7

5 - 8 Reports of Comparative Study



9



10



11



12

9 — 12 Reports of Comparative Study



#### **IV. OBSERVATIONS AND STUDY TOURS**



## OBSERVATIONS AND STUDY TOURS

### OBSERVATIONS

#### 1. The Improvement of the social & economic infrastructure

##### (1) The Shinkansen (High Speed Railway Network System) Oct. 15, 1990

- (a) Lecture of the history, present situation, and future of the Shinkansen  
by Mr. YAMASHITA, Assistant Director,  
National Railway Restructuring Promotion ;Dept., Min. of Transport
- (b) Observation to the General Control Center of JR Tokai

##### (2) The Sakuma Regional Power Development Oct. 22 & 23, 1990

— Land Development and Industrialization —

- (a) Observation & Briefing to the Sakuma Regional Power Administration
- (b) Observation & Briefing to the Sakuma Power Station, Control Center, & Dam  
by Mr. HIRAOKA, Manager, Sakuma Regional Power Administration Office
- (c) Lecture of the history of the Regional Power Development  
by Mr. MOTEGI, Manager, Sakuma Electric Power Exhibition Center
- (d) Lecture of the Land Development and Industrialization in Japan  
by Mr. FUJIYOSHI, Min. of Construction

#### 2. Industrial Development

Nov. 6, 1990

Observation & Briefing to the Murayama Plant of Nissan Motor Co.

### STUDY TOURS

Oct. 30, 31 & Nov. 1, 1990

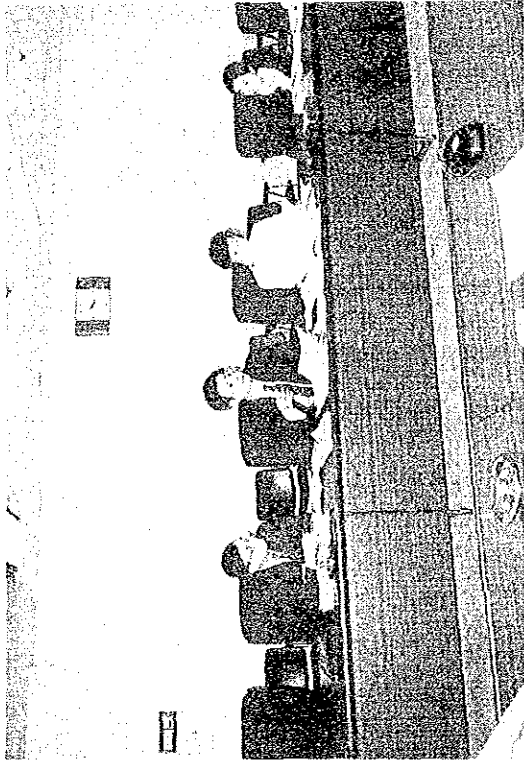
#### 1. Osaka

Observation & Briefing to the Museum of Technology

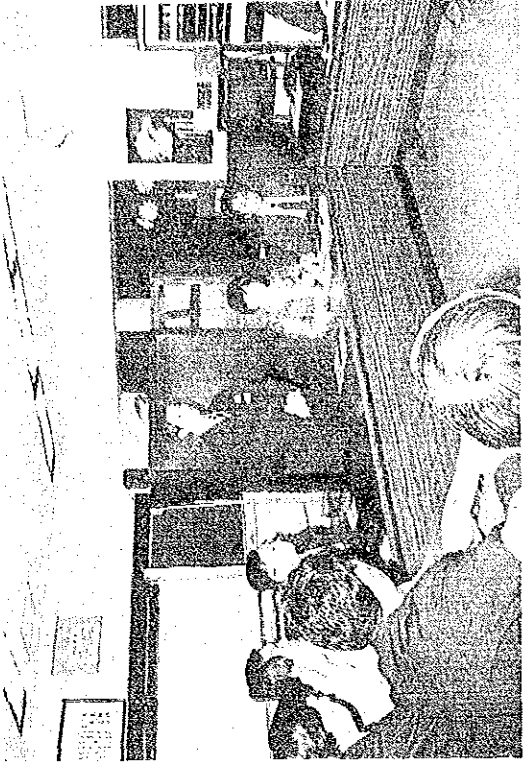
#### 2. Kyoto

Kyoto City Tour

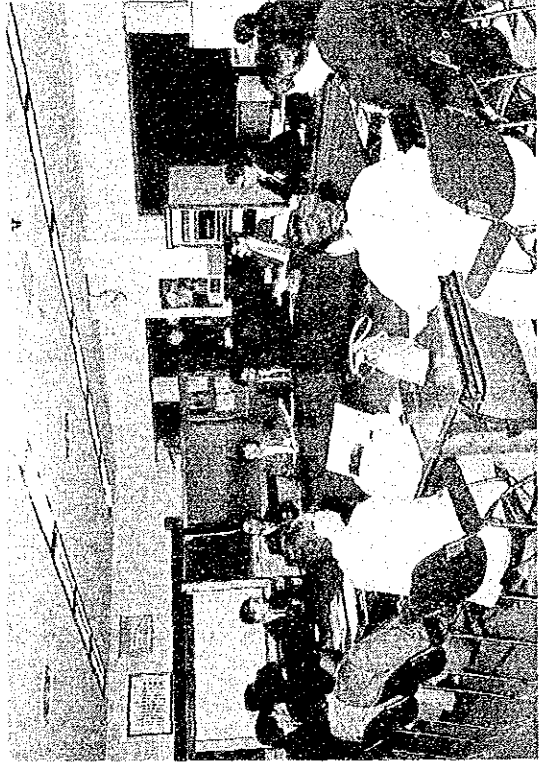




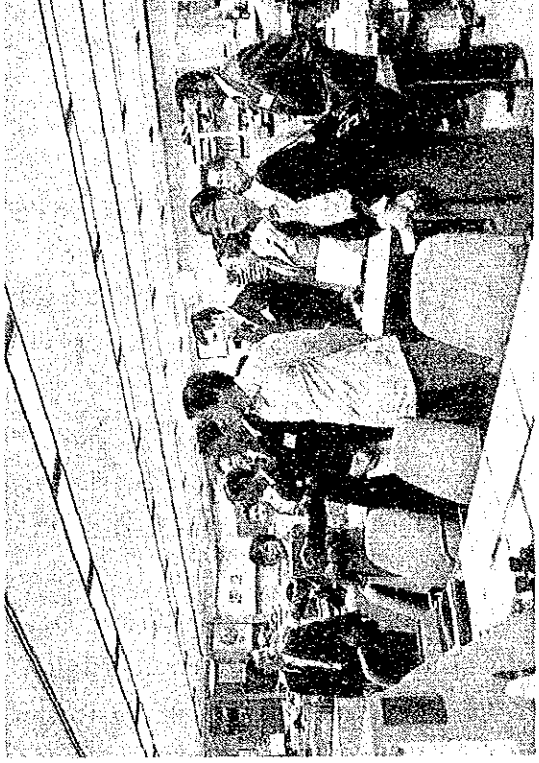
1



2

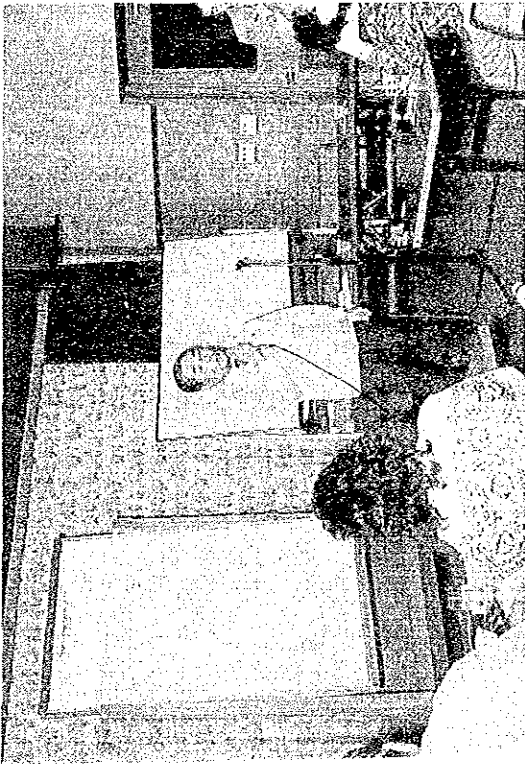


3

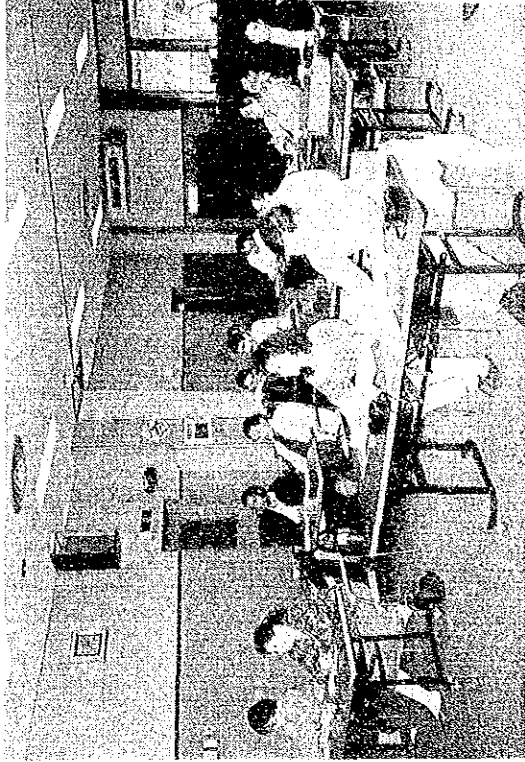


4

1 Ministry of Transport  
2 - 4 Sinkansen General Control Center (JR-Tokai)



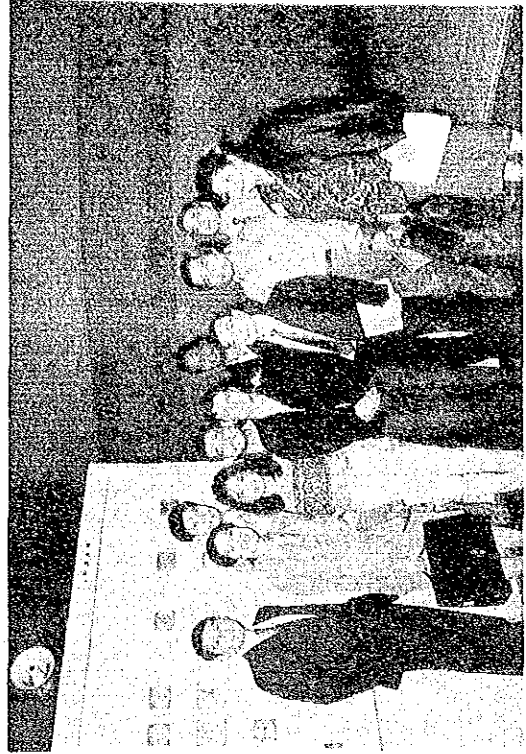
1



2

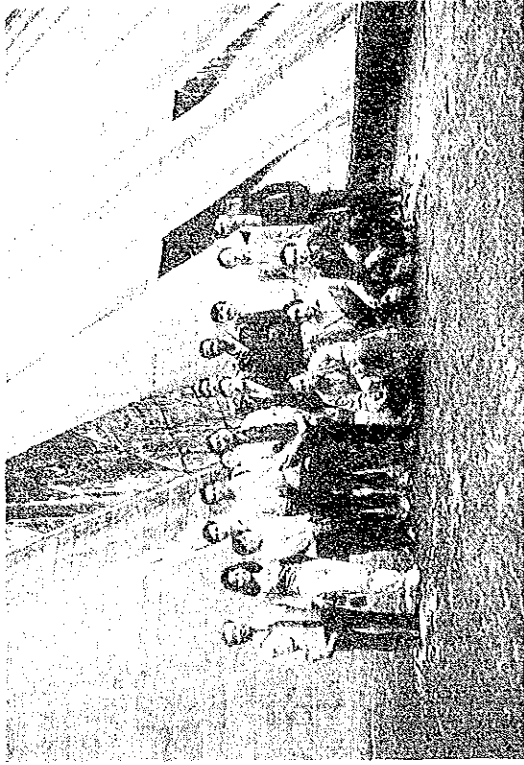


3



4

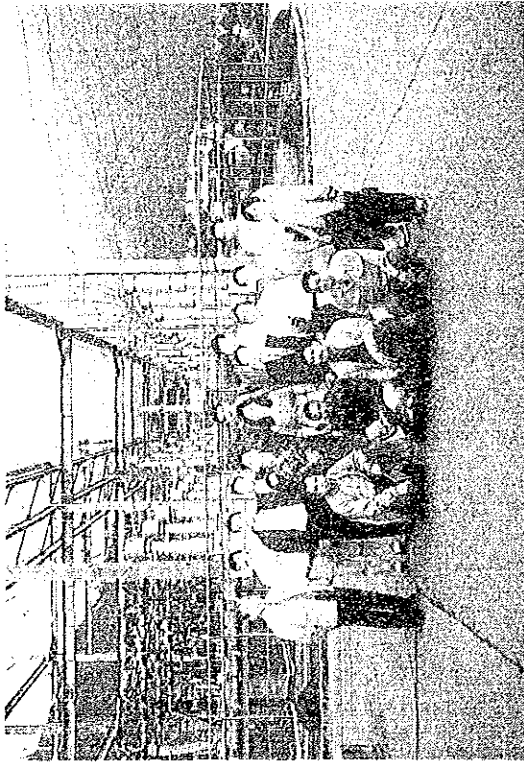
1 - 4 Sakuma Region Power Administration (Power Station)



6



8



5

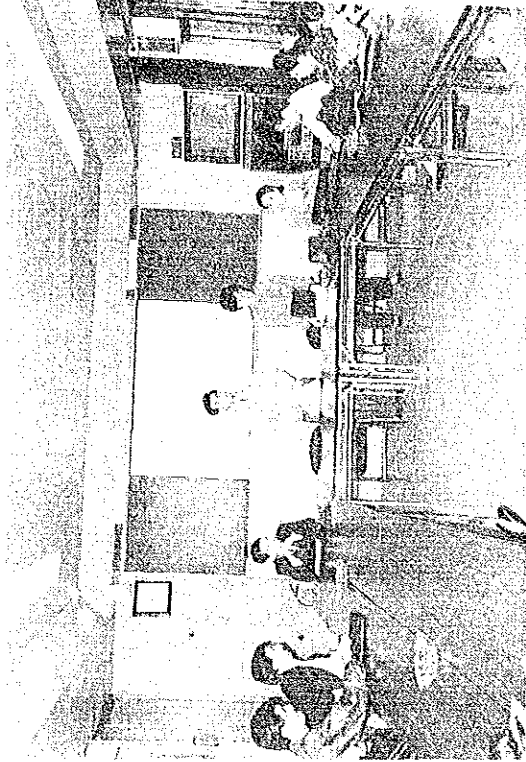


7

5 Power Station  
6 Dam  
7, 8 Reception



9



10



11



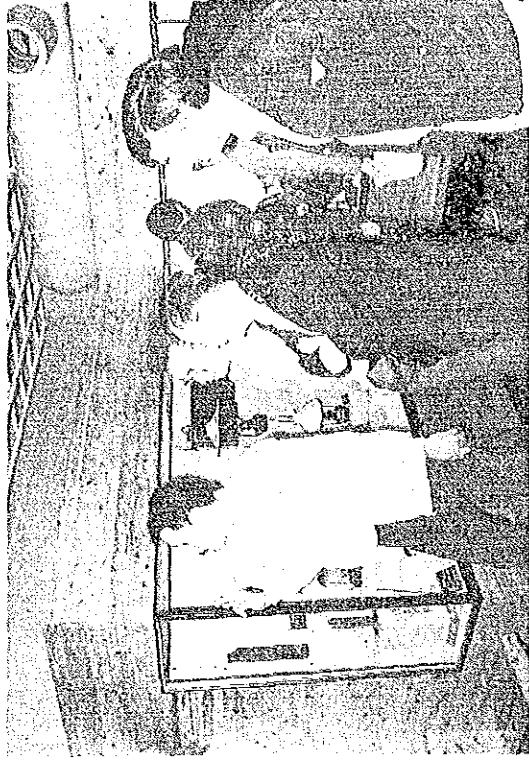
12

9 Reception  
10 -- 12 Electric Power Exhibition Center





13



14



15



16

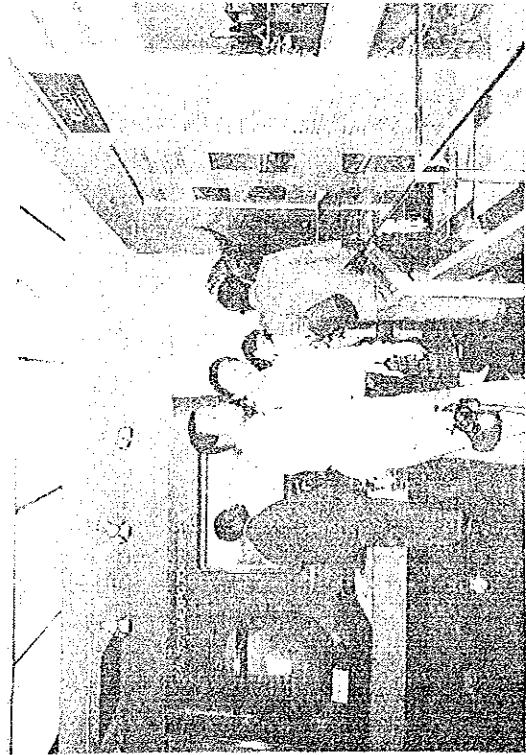
13 - 15 Electric Power Exhibition Center  
16 Lecture by Mr. Fujiyoshi, Min. of Construction



1



2



3

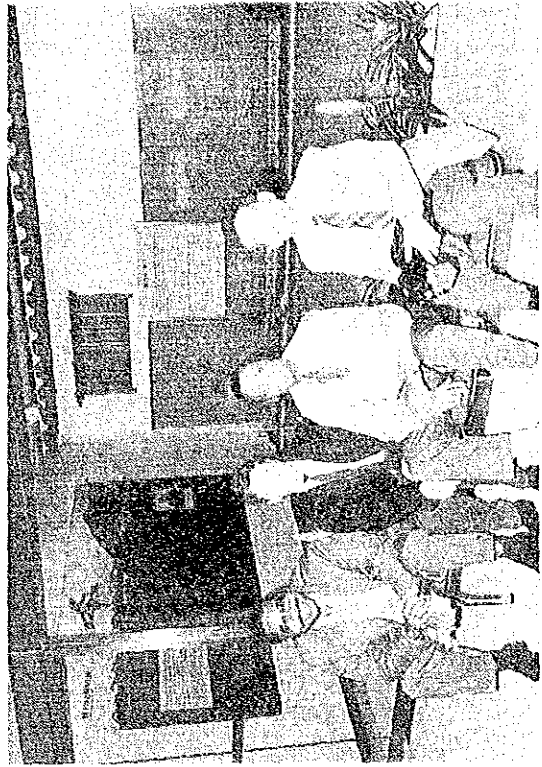


4

1 ~ 4 House of History (Matsushita Electronic Co.)



6



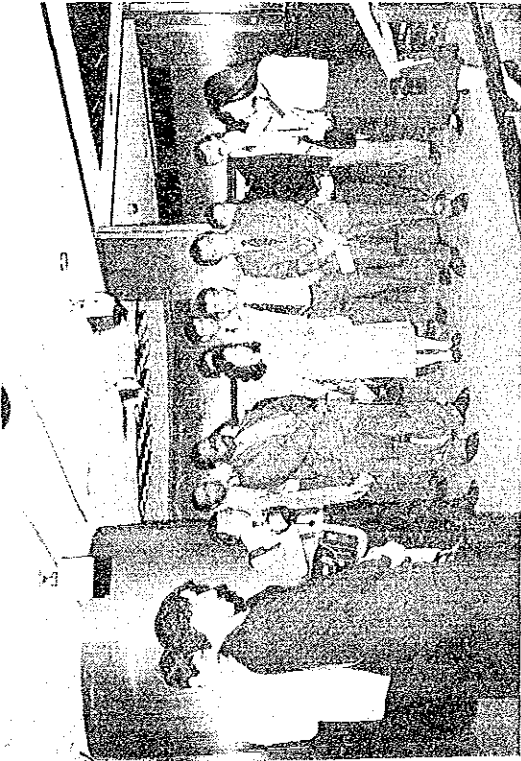
8



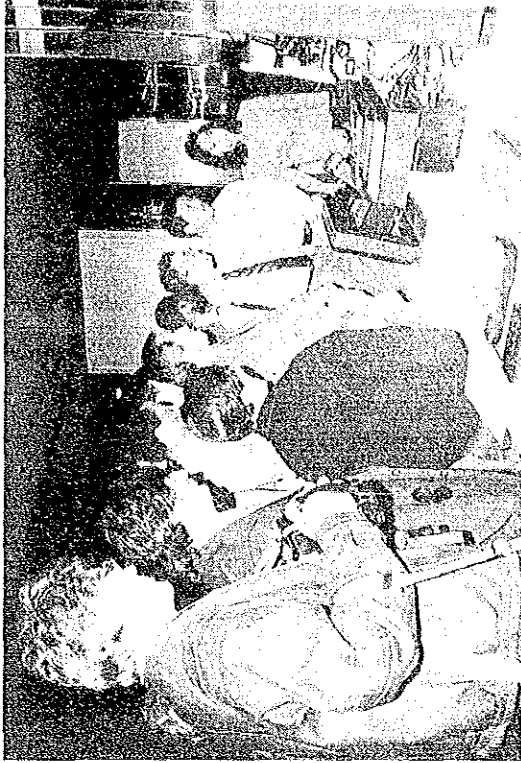
5



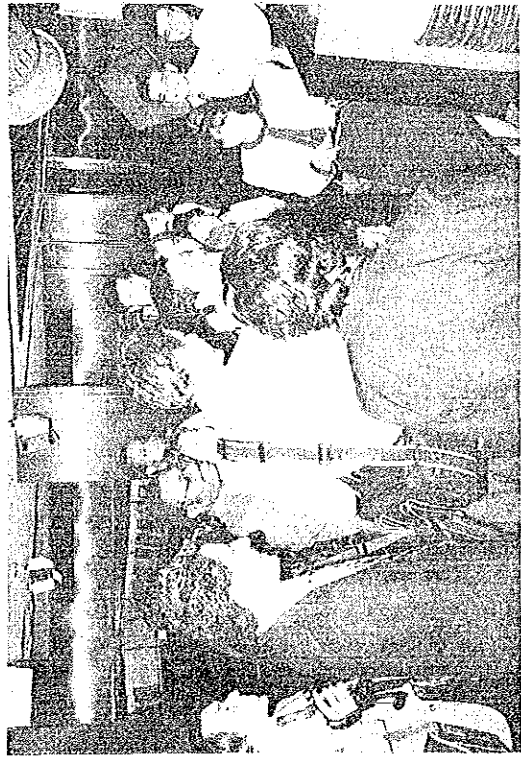
7



9



10



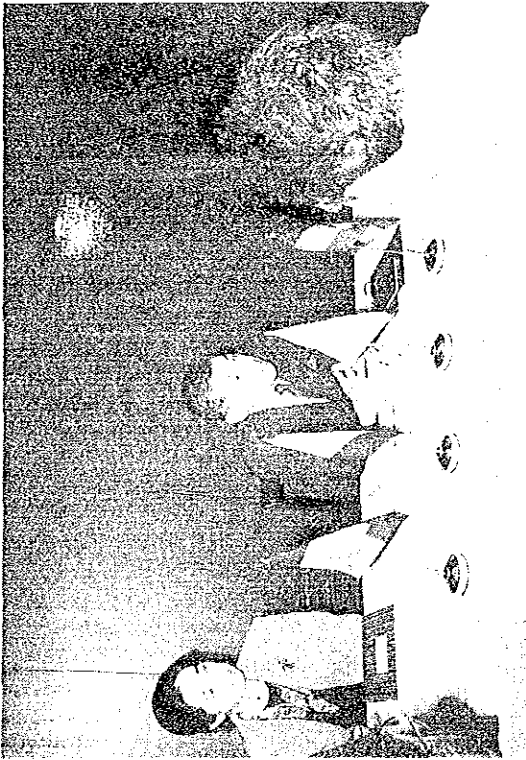
11



12

9 - 12 Museum of Technology (Matsushita Electronic Co.)

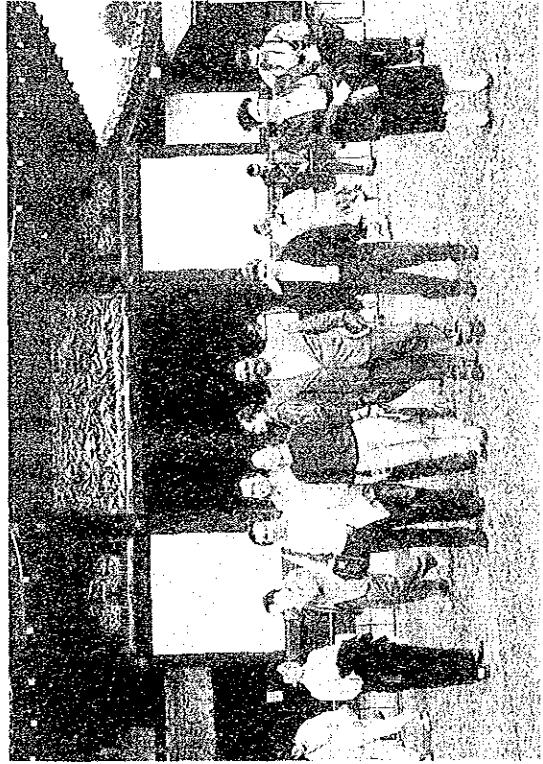




13



14

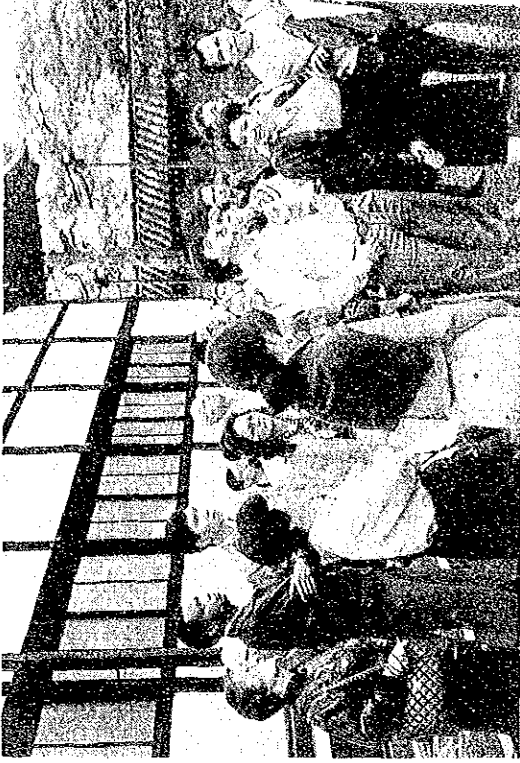


15

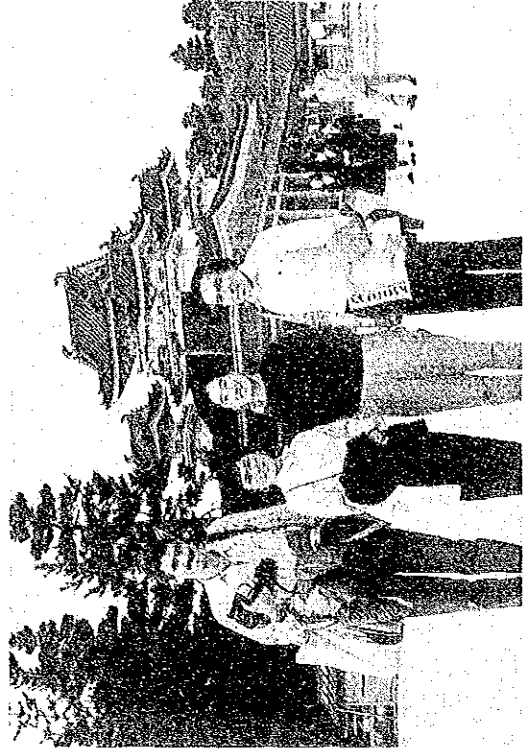


16

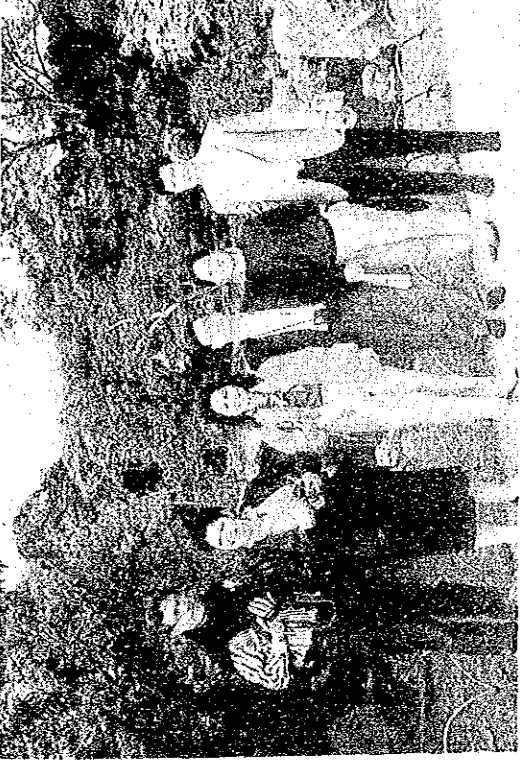
13, 14 Matsushita Electronic Co. 16 Imperial Palace — Kyoto  
15 Nijo Castle — Kyoto



18



20

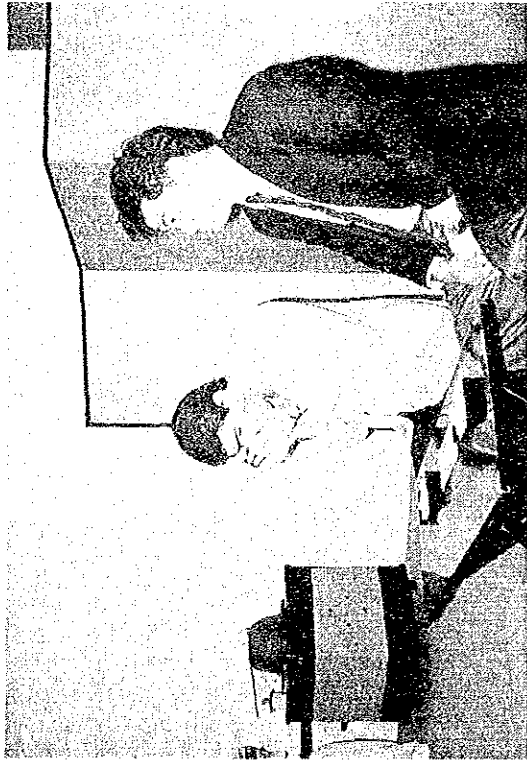


17

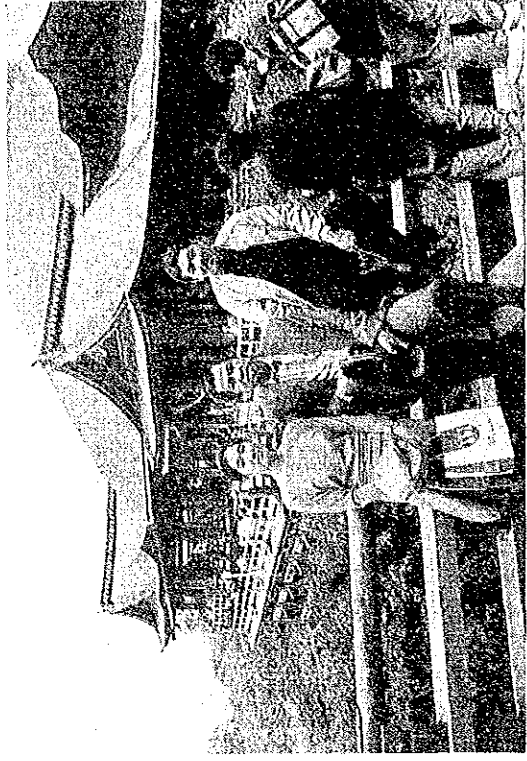


19

17, 18 Imperial Palace — Kyoto 20 Heian Shrine  
19 Kinkaku Temple (Golden Pavilion Temple)



21



22



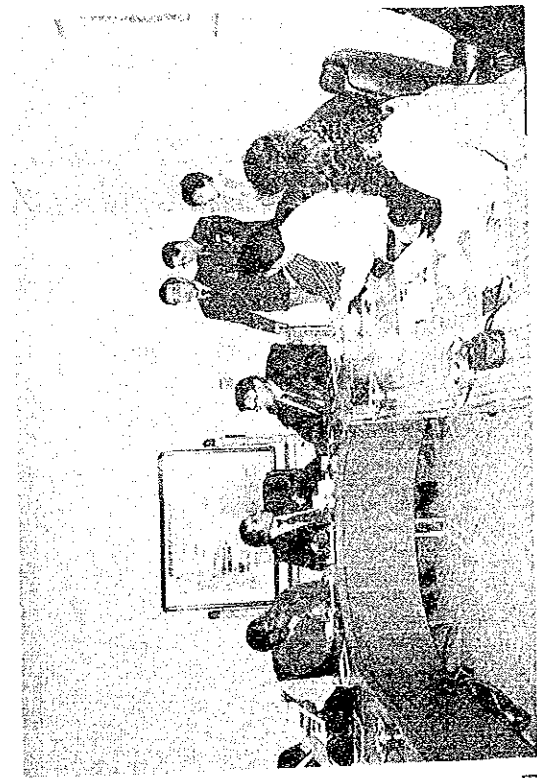
23



24

23 - 24 Kyoto Railway Station

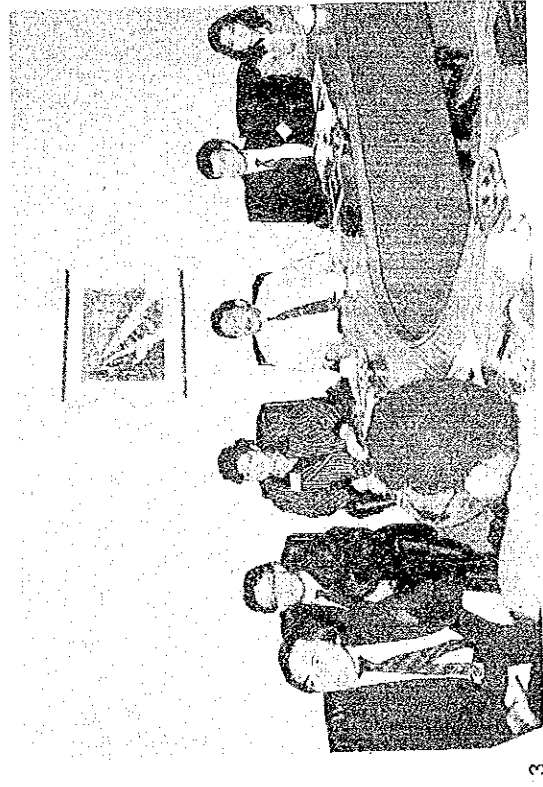
21 Tea Ceremony  
22 Kiyomizu Temple



1



2



3



4

1 - 4 Nissan Motor Co., Ltd., Murayama Plant

