

# NOT FOR PUBLICATION

INSTITUTE OF CURRENT WORLD AFFAIRS

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Scientific Choice in Japan  
I: The Advisers

27 Lugard Road, The Peak,  
Hong Kong.

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Mr. R.H. Nolte,  
Institute of Current World Affairs,  
366 Madison Avenue,  
New York 17, N.Y..

Dear Mr. Nolte,

On my journeys through Asia this past year I found a world of difference in many countries between official reports on the status of science, and reality. For example, the simplicity of the scientific advisory and decision making machinery of the former was in marked contrast to the complexity, often chaos, of the latter. Nowhere was this complexity more apparent than in Japan.

In this letter I will discuss some of the groups which, one way or another, are involved with top level scientific decisions and policy making in Japan; the sort of scientific decisions which C.P. Snow called the "cardinal choices". For example; Should Japan look towards atomic energy as a source of power? Should the Japanese government discourage the import of foreign technology and encourage domestic industrial research? To what extent should Japan co-operate (or compete) with other nations in space research, antarctic studies and oceanography? How can Japan best use science as an instrument of foreign policy? These are all questions which require scientific and other expert advice, but in the final analysis the answers are political and must be made by the Prime Minister and his Cabinet.

But who poses the questions and who gives the expert advice? The following gives a partial answer. It is not complete, mainly because the topic is so complex and I was not in the country long enough to find out all the answers. The different groups can be divided into those which officially (i.e. those which are empowered by law) give advice to the Prime Minister, and those which make their ideas known and unofficially try to influence the Prime Minister on matters of scientific policy.

## OFFICIAL ADVISORS

Council for Science and Technology: This, the most senior and supposedly most important of the Prime Minister's science advisory groups was established in 1959 with the purpose of promoting a "consistent and integrated policy" for science and technology. The Prime Minister himself is chairman of the eleven man council which includes several ministers and other authorities on science, appointed by the Prime Minister. Only the President of the Science Council, who is ex-officio a member of the Science and Technology Council, is not directly or indirectly appointed by the Prime Minister.

The Council is not empowered to offer advice of its own free will, but only to deliberate on problems passed on to it by the Prime Minister. In addition, any decision reached by the Council must be unanimous, i.e. any member has the power of veto (I gathered that it

is mainly the Finance Minister who uses the veto). Thus, as one of the Council members told me, "Our resolutions tend to be weak in order to satisfy everyone". In fact the recommendations made by the Council in its five years of existence have mainly set long range research targets. This is a part of its terms of reference, but the Council appears to have been rather ineffective in coping with the more controversial policy matters.

The Science Council of Japan: The Science Council was established in 1949, ten years before the Science and Technology Council, for the purpose of "promoting the development of science and permeating it into administration, industry and the nation's life".

Although many countries have a science council none are quite like this one. The feature which makes it unique is that the 210 members (30 in each of 7 divisions) are elected for a three year term of office by the nation's scientists. (A degree or a number of published papers are sufficient qualifications for voting eligibility.)

Members of the Council are mostly, although not exclusively, members of the academic profession. They have a dual function, to arrange Japanese participation in international science, and to advise the government on matters of scientific policy. It is the latter function which makes the Science Council so interesting, and so unique. Nowhere else in the world do a nation's scientists have the collective responsibility and ability, by law, to advise the nation's leaders on matters which pertain to science. How well does this work? Is it something which might profitably be copied by other countries, or has the experiment been a failure? I put these questions to Professor Tomanaga, one of Japan's foremost scientists and currently President of the Science Council.

From his reply, and from the reports and comments of other Japanese scientists it is possible to form some impressions of the fortunes of the Council since it was established fifteen years ago. There is little doubt that it has performed its purely scientific functions well. Japanese participation in international science is well known to all scientists who attend international conferences, and those foreign scientists who attend conferences in Japan, organized by the Science Council, testify to the excellence of the organization and arrangements. But what about its relations with its own government? How effective has it been in persuading the prime minister to implement the policies which it has recommended to him? Most people agreed that "it has not been very effective."

There are a number of reasons for this. The Science Council was born shortly after the end of the war during the first flush of democratization. Scientists throughout the world and particularly in Japan felt they had a voice which should be heard by politicians. But the peculiarities of the voting system for membership in the Science Council gave a majority of votes to the younger scientists and intellectuals in the urban areas. Politically, these men were frequently to the left of center. Also the very nature of the responsibilities of the Council appealed to the more politically minded scientists to stand as candidates. The result

was that a majority of the elected members were socialists. The recommendations of the Council to the prime minister consequently reflected a left-wing attitude. This would not have mattered so much if it had not been the Conservatives who were in power! They resented being told what policies to follow by a group of scientists, and particularly by a group which was known to favour the socialist party. At first the government just ignored the Council, scorning what it called the political naivety of the scientists. Prime Minister Yoshida is reputed to have called the Council "a dangerous animal". He tried to force it into oblivion, but did not succeed. As a result the scientists' recommendations became more and more opposed to the policies of the ruling party, and the government for its part, more or less automatically rejected any proposal from the Council.

Another crisis in the history of the Council came in 1959 when the Science and Technology Council was established, usurping many of the functions of the Science Council. Understandably there was much bitterness about this, but the Council survived and more recently, under Professor Tomanaga, better relations between the Science Council and the Government have prevailed. Nevertheless many people have begun to question its utility. There is not much point, they say, in the scientists having a voice if it is always ignored. The Council has an uncertain future. Professor Tomanaga is using his influence and prestige to gain a more effective place for the Council's voice in the making of scientific decisions. If he fails, it seems likely that Yoshida's wish will come true and the Council may sink into oblivion.

The Atomic Energy Commission, The Space Activities Council, and The Council for Ocean Science and Technology: These three quite separate bodies complete the list of official science advisory groups to the Prime Minister. Members of all the Councils are appointed by the Prime Minister and each is charged with the responsibility of advising him on policy matters pertaining to the Councils' interest.

#### UNOFFICIAL ADVISORS

In addition to the official advisory groups there are many other organizations which try to influence the Prime Minister in his cardinal choices. Many pose the questions as well as suggest the answers. Foremost are those government agencies and ministries which are charged with implementing scientific policies. They have their own ideas on what they should be doing and make quite certain the Prime Minister knows what these are. The following are brief notes on some of these groups:-

Science and Technology Agency: Established 1956, reorganized 1959. Is a government administrative organization for science policies. Its terms of reference gave it the job of planning and drafting science policies, but like the National Science Foundation in the U.S., it has found this difficult to carry out. Now its main functions appear to be co-ordination of existing scientific activities and the overall planning and promotion of science not already implicit in the work of other organizations and agencies. It does a good job of collecting and analysing information, but it has never got the support of either the academic scientists who fear any sort of government control, or the other government scientists who resent interference in the work of their departments.

Ministry of Education: Its views on science largely reflect the ideas

of the academic scientists at universities, i.e., it tends to stress the importance of basic science.

Ministry of International Trade and Industry (MITI): Runs most of the government research laboratories, and has a large scientific staff. Its viewpoint reflects the use of science for purely economic and practical purposes.

Foreign Ministry: Is responsible for science attachés, and has interest in the use of science as an instrument of foreign policy.

Japan Science Foundation: Formed 1959 during meeting at the Prime Minister's residence of representatives of government, politics, science and industry. One of the functions is to "volunteer advice to government on science and technology on behalf of the financial world which sustains it".

Council for Industrial Planning: Example of group representing a particular interest, in this case the electrical power companies. Formulates plans and policies on economic and scientific matters and uses influence to have its policies implemented by government. Has high success ratio of recommendations submitted to recommendations implemented.

In addition to these there are other groups which include other ministries, Diet members, newspapers, and university students, who form opinions on matters of scientific policy, and who do their utmost to influence the decision makers.

All this simply means that there is no single science policy making authority, that decisions are still made largely on an ad hoc basis and as one person put it, "Top level scientific choices depend on which minister or pressure group has done its homework best". In fact I got the impression that the unofficial advisers were often more effective at influencing decisions than the official advisers.

The Japanese themselves are far from satisfied with the present arrangements. There have been efforts to set up a basic science policy research institute within the government, so that a better approach can be worked out. This has been turned down, but the Committee for Administrative Reorganization has recently completed the draft of its report. Although it is not yet published, I gathered that some of its recommendations are relevant to the question of scientific decision making. Apparently the report will recommend much greater government control in science. This is bound to be resented by the academic scientists and the Science Council can be expected to fight hard to make its own voice more effective. In fact, I was told that the Science Council, Science and Technology Agency, Ministry of Education, and MITI, have all submitted to the government their own versions of a science law in which they outline what they think should be done to improve the process of scientific decision making in Japan. Japan's entry into OECD should also prove a stimulant to her re-thinking on science policy matters. In any event, the next year or so promise some fundamental changes in the organization of Japanese science.

Yours sincerely,

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