

***Some Thoughts about Grants-in-Aid
for Scientific Research***

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It was in 1966 when I returned to Japan to accept a position in a Japanese university that I first realized the considerable importance that Grants-in-Aid have to university research. I found that within the Japanese university system, each member of the faculty was given a lecture budget that mainly covered teaching undergraduate students; when it came to research, however, they had to exert an individual effort to acquire Grants-in-Aid. The student riots had begun at Japanese universities, delaying the start of my research. It was a time when the overall national budget for Grants-in-Aid was only a bit over ¥6 billion a year, said to be about the same amount as the R&D budget of a large electrical appliance company. In subsequent years, the Grants-in-Aid budget was increased, reaching over ¥100 billion in the 1990s, with talk, as I recall, of raising it to ¥200 billion.

The Science and Technology Agency (STA) had a special Coordination Fund for Promoting Science and Technology, which supplied funding to Japan's national research institutes. At that time, STA also commissioned research to universities, spurring an abundance of joint research projects. Indeed, it was a period of dramatic research advancement. In 1995, the Ministry of International Trade and Industry (NEDO) disbursed grants directly to universities for the first time—a landmark that deserves special mention within the evolution of Japan's university system from the Meiji Period.

Even before STA was merged with the Ministry of Education and Science, various proposals were devised and implemented for improving the Grants-in-Aid system. For example, a new grant category "Specially Promoted Research" was established, allowing the purchase and use of large-scale research equipment. Within the Council for Science and Technology Policy, a special fact-finding committee was set up to craft strategies for promoting research in priority fields. Posting its deliberation on a webpage, the committee's activities attracted the interest of university administrations and faculties. In me, its output evoked a feeling that the amounts of Japan's Grant-in-Aid funding were too small—decimals different from those provided in the government's special

account budgets for other fields such as agriculture and electronics. It was with a sense of impatience that I wanted to see these amounts increased.

Grants-in-Aid's Contribution to Education

Humans are Japan's most valuable resource. Accordingly, education is of paramount importance to Japan. Whereas Japan can be appraised the emphasis it has placed on elementary and secondary education. Looking to the nation's future development on the other hand, Japan has not been sufficiently perceptive of the imperative for providing quality higher education. Grants-in-Aid can make a significant contribution to developing the kind of graduate school education that fosters people capable of tackling new challenges. Even if it takes time, it is of vital importance to cultivate this kind of people. That said, regular scholarships are shrinking, and do not provide wide enough coverage to develop the needed caliber of human resources. What's more, the government is moving toward applying a "select and merge" corporate rationale to education and research.

Doubling the Grant-in-Aid Selection Rate for Fundamental Research

Since the incorporation of the national universities, it has become all the more necessary to acquire Grants-in-Aid to carry out fundamental research. This has added another dimension to the role of Grants-in-Aid. Currently, Grants-in-Aid under the category of fundamental scientific research support the widest spectrum of basic research. Increasing the selection rate under this grant category should be effective in widening the range of the researcher population. I don't think that raising the rate from the current 20 some percent to even 50 percent would have the effect of lowering the overall quality of the funded research. It would, however, make it possible to experiment with various latent possibilities, which in future years may incubate into significant scientific breakthroughs. The kinds of research results that earn Nobel Prizes are the product of successive researchers' effort over long periods of time—they are born of research that has contributed to the step-by-step advancement of scientific fields. Without question, each sprouted from a tiny research seed. Accordingly, widening the range of researchers and research endeavors is the first step to achieving epoch scientific milestones. In this light, there is a clear necessity to augment funding for fundamental scientific research by ¥200 billion. Given the overall size of Japan's national budget, that should not be impossible.

Eliciting Public Awareness in the Need for Grants-in-Aid

Since the national universities were incorporated, their budgets have been cut by one percent a year. This will undoubtedly exert a harmful impact on them. Much of university education is done by way of research, creating a close relationship between Grants-in-Aid and education. When discussing why Grants-in-Aid are not being increased despite their importance to university education, a reason often given is that the general public does not consider university education or research to be all that imperative—the rationale being that it would be inappropriate for the Ministry of Finance to increase the Grant-in-Aid budget without public demand to do so. It is also important in developing Japanese society for researchers in the humanities and social sciences to receive Grants-in-Aid as well. Despite the benefits such research can yield for society, members of the public have yet to understand its importance either. For the public to grasp the importance of expanding the range of fundamental research in advancing science, they will first need to possess or acquire an interest in science itself. Therefore, the most important thing that needs to be done in “normalizing” public opinion is to cultivate people’s cognitive ability. In this vein, a dialogue is being advanced on how to elevate people’s scientific literacy. For the public to participate functionally in contemporary discussions on, let’s say, genetically modified crops, they will need to be imbued with the kind of knowledge that gives the ability to make scientifically informed judgments. While the better dissemination of information is an urgent issue, so is the problem of fostering basic scholastic ability needed to enhance the public capacity for scientific understanding. To solve it will require improving the quality of education. Concomitantly, there is an acute need to foster highly qualified educators. Improving the quality of compulsory education will also improve the quality of informed public opinion. Though it’s said that haste makes waste, there is an urgent need to move forward quickly in cultivating good educators. Just how to go about doing this should be considered within a context in which Grants-in-Aid are used as a tool to help universities and graduate schools solve this problem by improving educational performance.