## From My Experience with Grants-in-Aid



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## Research Environment and Grants-in-Aid

I came to realize how thankful I was for Grants-in-Aid relatively later than other researchers. That is, I was blessed with an environment in which I didn't need these grants when I started my research.

I began my research in immunology in England. When I was ready to return to Japan, there was no lab that could be called "a home to return to." That is, there were no immunology labs in Japanese universities at that time! There was, however, a researcher who was my senior conducting research on the thymus. (It generates T lymocytes, which play a key role in immunoreactions.) Showing a strong interest in my research, he invited me to work in his pathology lab, where I was able to advance my research without be overly-concerned about whether or not I could get funding or in what amount. At the time, the budgets allocated to university labs in Japan were higher than they are now. Moreover, we prepared in our lab many of the reagents and test materials we used in immunology research. Therefore, what we spent more of was time, not money.

I had another stroke of serendipity when about to start my research in Japan: The day before departing London, I went to my professor's house to say good bye, where I met a Japanese immunologist and a familiar American researcher who were vigorously pursuing immunology research. That chance meeting eventuated an opportunity to report the results of my research in London at symposiums on domain research inclusive of immunology. That, in turn, opened the door for me to participate in a group of excellent researchers passionately engaged in immunology investigation at the breaking dawn of that domain. From them, I was blessed to be showered with encouragement and critique in carrying out my work in Japan. To my delight, this new connectivity would also pay dividends in increasing my research funding. The discussions held in the reporting meetings and confabs held among these researchers afforded a chance to obtain yet-unpublished data and information on new methodologies,

which would not be accessible if I had been sequestered in my laboratory. This information along with the network of colleagues I was able to build became invaluable assets to me as an upstart researcher. Though Japan's own domain research system is said to have some built-in barriers, its positive aspects outweigh the negative ones, so it should be sustained while working to forge improvements.

## State of Grant-in-Aid Applications

In later years, I transferred to a newly established cell-biology laboratory. In its pathology lad, we were obligated to conduct pathological dissections and diagnoses in addition to our research and education-related work. That drove an agonizing wedge into the time I could devote to my research activities. I, therefore, jump at the chance to conduct independent research under a newly hired professor, who had come to our lab from America. This, however, required that I cover all of my research costs by myself, causing me to painfully realize what a valuable asset my status as a university staff had been in allowing me to care-freely pursue my research. Compared to the current research environment with reduced operational funding, the environment in those days was less restrictive. My experience in that cell-biology lab in learning how Grants-in-Aid are allocated and utilized as I worked to incubate my own research themes proved to be good preparation for later when I would run my own research lab.

When I first started to write applications for Grants-in-Aid, an eminent senior scolded me, say "If you lack writing skills, you will not be able to prepare a good grant application." "If your application does not evoke the sense of a quest—a thirst for knowledge in the subject you wish to pursue—then no matter how good the rhetoric may be, the application will after all be nothing more than a composition. A grant application must a "work of art" written in way that captures the full scope of the researcher's knowledge and ability; it is not just a composition." Though this suggestion was more literary than scientific, it had a sharp impact on my thinking. In a comprehensive sense, research involves a process of selecting issues to pursue and choosing and refining a way to explain them so as to enhance understanding. In this sense, it constitutes the crafting of a "work of art." Seeking success in multi-year applications for Grants-in-Aid must be pursued as if an integral part of one's research. Having thus digested that eminent researcher's advice, I reflected on how my application writing had been too stilted with technique, and decided to write in such a way that evokes the sense of a "work of art" in the mind of the reviewer.

## The Grant-in-Aid Screening Process

Finally, I'd like to convey some thoughts derived from my experience of participating in the application screening process of the Grants-in-Aid program. I have various criticisms regarding the system, but I believe that overall the grant-selection process at the Ministry of Education and Science to be a healthy one. I participated in the peer review process for large-scale projects, and would like to relay my impressions of it. Under the grant categories of Scientific Research on Priority Areas (特定領域) and Specially Promoted Research, 10 to 20 reviewers read 40 to 50 applications and give them tentative scores, upon which applications are selected to be referred for a hearing based on an exhaustive exchange of views among the reviewers. At the second stage, the referred applicants receive a hearing from a panel comprising external experts in addition to the reviewers, in which they explain their proposal and answer questions. After the hearings, another vigorous discussion is held regarding which applicants to select for grants. I have participated in both of these discussions. I was greatly impressed with earnest attitude of the reviewers and the serious discussions they held in trying to select the projects that had the greatest potential for vigorous advancement in the future. Witnessing this erased away the sense of hardship I had experienced in conducting the document reviews of such a large volume of applications. Among the finalists, there were many high-quality proposals. After the selections were made, a bad feeling could linger that others should have been chosen, prompting the reviewers to discuss the selection system itself late into the night. In this way, the peer review system, based as it is on fair and earnest discussions, supports the advancement of excellent research in Japan. On the other hand, the huge number of applications that are document reviewed and the time consuming discussions held in this multi-tiered screening process places an exhausting burden on the researchers who carry it out. This, in turn, incurs the risk of lowering the standard of research in Japan. Therefore, I would like to see steps taken that will mitigate the burden placed on the application reviewers.