

**Then and Now**

**By Michinari Hamaguchi**

**President, Nagoya University**



It was in the fall of 1975 and having graduated from the department of medicine at Nagoya University, I was working as an intern at Ogaki Municipal Hospital. I felt as if I had lost my bearings—having aspired to be a surgeon but was now wondering whether I really wanted to become one. In September, my half-year training in surgery, which ran through the summer, had ended and I was transferred to the hospital's department of respiratory medicine. In contrast to the surgery department, my work in this new department went at a much more leisurely pace. It was these experiences that left me feeling disoriented.

Driven by a desire to become a surgeon, my initial training had been exhilarating. Nevertheless, the long and arduous hours doing “manual labor” I experienced during the some three months of my internship in surgery left me feeling exhausted. As a young intern, I was also beset by a strong sense of incompatibility with the team approach to surgery. I can vividly recall that feeling to this day. Through the windows of the respiratory medicine ward, I would look out across the bullet train tracks to an expanse of rice fields and agonize about “where my life would drift.” I realized that I wasn't well-adapted to studying surgery over the span of a decade while working in a tightly organized system that required docile submission coupled with pinpoint accuracy—and enduring vitality. This revelation stunned me, but more so “warped” me into a new direction. Some 35 years have elapsed since then.

I was determined to try my hand at basic research; as might be expected, however, I did not have a clear strategy in mind. Furthermore, the research environment was totally different then from what it is today. Not having the net to access, information had to be obtained by copying English papers and articles. It was also a turbulent time with campus strife still smoldering in Japanese universities. Though I was interested in

biochemistry and physiology, there were virtually no instructors to teach it. Therefore, I turned for guidance to Prof. Toshisada Matsumoto, whose lab was of the highest standard in these fields. Looking back, I believe he may have been my savior. He would never get aggravated at the views and actions of his oafish disciples, but would tolerate them even when they were at odds with his own inclinations.

Even at that, I was still drifting—wondering if I could ever become a full-fledged researcher. Two years into my graduate studies, my father was hospitalized. In and out of the hospital after that, he finally passed away in the last year of my graduate course. I had resolved to be a researcher, but was now wondering whether that determination was but a figment of my own aspiration—deepening my feeling of hollowness. I questioned whether I really should be pursuing this path. Amidst that quandary, I decided to compose a research plan of some 30 pages, write a paper, and try to get grant. If I succeed in doing these three things I would continue doing research; if not, I would choose another path.

Though the process had its twist and turns, I managed to complete an experiment of my own design. Because of a lack of funds in carrying it out, I had to make due with a syringe in place of a column; and counting the number of droplets, I had to use my hands to fractionate, not having a fraction collector. Through it, I succeeded in reconstructing the RNA polymerase of a paramyxovirus. By that time, Prof. Matsumoto had already retired. For that work, I obtained my first Grant-in-Aid. Receiving that notice of grant award solidified my resolve. That first grant charged me with new life as a researcher. I shall never forget that moment.

Back to the present, the Grant-in-Aid program is approaching a major turning point. I say this for two main reasons: First is the massive fiscal deficit gripping the nation. This year saw for the first time Grants-in-Aid paid in installments, with the unprecedented situation of only 70% of grants having been disbursed by July. Second is the Great East Japan Earthquake that struck in March and the continuing problem of contamination from the nuclear power plants. This has caused an increased portion of the national budget to be allocated to dealing with that situation. It has also caused a lack of trust to spread among the public in science and technology as a whole, exasperated by a negative sentiment regarding nuclear power generation.

The latter problem is not unlike what I have experienced over long years of working in

my own specialization of medicine. Despite WHO's appraisal of Japanese medicine being of a top world level, frequently occurring medical mishaps have spawned a lack of public trust in Japan's overall medical system. To dispel this distrust, medical professionals and practitioners in Japan have established a set of principles—namely, transparency, equality and accountability. Shedding the “tell-patients-what-but-not-why” style of medicine practiced in Japan since the Meiji Period, the turnabout sought is premised on a principle of “inform and consent.”

Amidst Japan's milieu in the aftermath of the earthquake, even the slightest misstep can blur people's perception of science and technology, causing even deeper seated mistrust among a wide swath of the public. Accordingly, we have entered a new era in which greater transparency and accountability are expected with regard to the utilization of and results attained from Grants-in-Aid. In this respect, what concerns me most are large grant projects, particularly those funded by selling “innovation” as their objective. First of all, innovation can be defined as completely new technologies and concepts translatable into creating new values and societal changes. It is generated by research on matters heretofore considered insurmountable through a long process of trial and error. This being the case, the idea that a grant project implemented based on annual research plans over a period of just five years can generate innovation is, itself, theoretically irrational. Such short projects with pie-in-the-sky themes create a public perception of “empty dreams” lacking tangible outcomes. The Japanese people should not be mistaken as unenlightened. This sort of research modality will eventuate even more strident demands for accountability over the long term.

That said, I believe dreams to be essential in pursuing research. Research devoid of them is meaningless. However, attainability depends on the researchers' ability to rigorously evaluate and manage their own work. The more research is aimed at achieving a researcher's dream, the less it should require large amounts of funding. Rather, what's needed is steadfastness over a long period of endeavor. From this viewpoint, I ardently advocate the strengthening of basic research if milestone strides in innovation are to be made within Japan. Yes, we've entered a new era, one in which enhanced support and increased funding for advancing basic research is needed.