

Young American scientists and their sense of mission

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Despite completing graduate school and becoming a full-fledged researcher, we often see that researchers are forced to work in a directionless manner, as if having work subcontracted from a professor, because of the conventional lecture system in Japan. This was fine in the past when research themes survived for long duration; however, in current times, when research themes at the forefront are changing daily, professors tend to be left behind unless their research theme is a very meaningful one. Having to choose a research theme that is obsolete and irrelevant to the time they are working can become a great nuisance for young researchers and a waste of valuable time. I hope that during this period, young researchers can at the least decide whether their future research style would be pure or applied research. If not, they might drift off into the sea of research and regret at some point after getting older, wondering what they have been doing all this time. Furthermore, what is important during this young age is finding competitors of the same age group. In this sense, the US and Europe provide environments for researchers to have blessed encounters with each other. If possible, it would be meaningful to bring together excellent researchers and have them live together. What is most important during this period is to dream big and draw a big picture. Researchers need to have the desire to make a change in the world. It is also important for researchers to recognize that such big dreams are nurtured by them as well as by many of their friends.

One of the major reasons why chemistry in the United States has been successful in creating and leading global trends for a long period is the diversity resulting from researchers changing their locations for university studies, graduate school work and postdoctoral research work, as well as also changing their research themes. I also feel that we must not fail to mention the presence of young and skillful assistant professors in the US. Young researchers in graduate schools in the US can be classified as either “Very talented” or “Normal.” Even in the top universities, there may be only one in 10 to 20 researchers who can be considered very stoic and talented. However, such “very talented” professionals have a greater sense of mission to change the world, and study much harder than others, while they are also full of motivation to be the trendsetters for the world. Such people are greatly confident, and you can sense their aura immediately upon meeting them. Top universities seek such talent. Although such systems are also visible in places like Germany and Switzerland, unfortunately in Japan it is rare to see efficient approaches to find and train young researchers. An excellent example of success is when in the past Professor Yoshimasa Hirata of

Nagoya University picked and invited Dr. Ryoji Noyori to Nagoya University from a large selection of candidates, who was still in his 20s and working at the Kyoto University. Unfortunately, I feel that such examples of finding talent rarely take place nowadays. In that sense, the Itsuu Laboratory is a rare and blessed environment.

Professors at Japanese universities are usually expected to specialize in and assume responsibility for one field. As such, in Japan, each university can enjoy various areas of science and technology in all academic fields, much like the “Makunouchi Bento.” The few universities that existed in Tokyo at the start of the Meiji Era received a historic request asking to cover all fields of study properly for the sake of all Japanese people and to create a new society. This was a policy of the Meiji Era government to try and catch up with Europe and the US in a short period of time, although the need for this policy is questionable in the present day. The situation has certainly changed today. Currently, there are numerous universities in Japan, and there is no longer a need for all universities to be like the “Makunouchi Bento.” What Japanese universities need to do today is establish one field that they excel in and become the go-to place worldwide for that field of study. This way, even regional universities can surpass The University of Tokyo. However, Japanese universities that continue to follow the traditional approach tend to look for young professors/instructors specializing in the research field of older professors/instructors, when the latter are set to retire. In most cases, such young professors/instructors are the pupils of the one who retires. Therefore, as young professors are chosen in this manner, more research will be performed in the same field, which will be defended with the utmost devotion. This would not produce innovation that changes the world but rather become a vicious cycle. This approach would only increase the number of smaller laboratories around Japan. Universities in the US and Europe do not have such a tradition of succession in science and technology as seen in the universities in Japan. Overseas universities simply close down laboratories once a professor and principal investigator retires, and newly appointed assistant professors are expected to start a completely new research theme. This process ensures that the university can properly respond to current global demands in science and technology. Furthermore, in the US, the process of hiring a new professor or instructor involves applicants writing a long proposal. In this way, successful applicants are hired when the proposal is more inventive than the global standards, so there is no relationship between the retiring staff and the newly appointed candidates.