

## The Japanese-German Cooperation in Cancer Research: History, Presence, Future

The 6. Japanese German Workshop on Cancer Research took place in Tokyo from 12-14 December 1988 under the title: Human Tumor Viruses. At the end of this meeting I had the honor to present the following concluding remarks:

It was a pleasure to participate in this very successful workshop in which very interesting research reports from various laboratories in both our countries were presented and accompanied by stimulating discussion. In addition, we all had the chance to meet good old friends again and to make new acquaintances. This aspect can be regarded as being one of the predominant goals attained during this workshop. It is to be hoped that this meeting will lead to the establishment of further cooperative projects in cancer research and also to a further increase in the exchange of scientists between the two. These bilateral workshops will continue to take place in the future, the next ones having already been planned for 1989 and 1990.

It is well known that scientific contact and cooperation between German and Japanese scientists can be traced back for more than two centuries. Since these contacts were always fruitful for both countries, I would like to follow some of them back in history.

The first German physician who had contact with Japan was Engelbert Kaempfer (1651-1716) who, during the Genroku Era around 1690, was employed by a Dutch trading company which had a trading settlement in Deshima/Nagasaki. The next physician who had the opportunity to visit Japan, in this case during the Bunsei Era around 1822, was Philipp Franz von Siebold (1796-1866) from Würzburg. He was also employed by the same Dutch trading company and again had his station in Deshima. He became the consulting physician of Japanese noblemen and was allowed to open a private Medical School in the town of Nagasaki. He studied the flora, fauna and ethnology of Japan, which at that time, was rather unknown to Europeans. Later he wrote his famous book "Nippon" which can be said to have opened Japan to Europe. In the Meiji Era, several German physicians worked in Japan, mainly in Tokyo, and brought European medical science to Japan. Erwin Bälz (1849-1912) for instance, was Professor at the University of Tokyo for 26 years from 1876-1902.

The most fruitful and remarkable period of German-Japanese scientific cooperation was during the time which I like to call the pathological and bacteriological era of medicine around the end of the nineteenth and the beginning of the twentieth century. During this time, the pathologist Rudolf Virchow (1821-1902) formulated the famous sentence "omnis cellula a cellula" which I think is still one of our fundamental dogmas in cancer research. It was also during this time that Robert Koch (1843-1910) discovered the mycobacterium tuberculosis in 1882. In this context, we must mention the name of the famous Japanese bacteriologist, Shibasaburo Kitasato (1852-1931), who worked so successfully with Robert Koch from 1885 to 1892. He was awarded as first foreign scientist in Germany with the title "Professor" in 1892. Further famous Japanese scientists of this era are, for example, Sahachiro Hata (1872-1930), who worked between 1908 and 1910, first with August Wassermann (1866-1925) and later with Paul Ehrlich (1845-1915) and Sumao Tawara (1873-1952) who worked from 1903 to 1906 with the pathologist Ludwig Aschoff (1866-1942) in Germany.

This successful Japanese-German cooperation resulted in a number of new discoveries and developments which are alive in termini technici such as the Ehrlich-Hata-Therapy (Salvarsan Therapy of Syphilis) or the Aschoff-Tawara Node. In addition to these above mentioned findings, which resulted from research performed by a Japanese scientist working as a guest in a German institute, I should also like to give an example of a finding made simultaneously in institutes in both countries. This would be for example the discovery of the special type of dysentery bacillus by Kiyoshi Shiga (1870-1957) on the one side and by Walther Kruse (1864-1943) on the other side, which today is called the Shiga-Kruse bacillus.

With regard to cancer research in particular, the first contact between Japanese and German scientists began when the Professor for Internal Medicine of the University of Berlin, Ernst von Leyden (1832-1910), invited the Dean of the Medical Faculty of the University of Tokyo to the International Cancer Congress in 1908 which he was organizing at that time in Berlin. Later on,

the well-known Japanese cancerologist Tomizo Yoshida (1903–1973) worked at the Institute of Pathology in Berlin with Robert Rössle (1876–1956).

It is also interesting to remember that during the twenties and thirties of this century, a “Japan Committee” existed at the “Notgemeinschaft der Deutschen Wissenschaft” which was the predecessor organization of the present “Deutsche Forschungsgemeinschaft,” the German Research Society. This “Japan Committee” was founded by several generous donations from the Japanese industrialist, Hajime Hoshi (1873–1951). It was predominantly with this money that the research of the Nobel prize winner Fritz Haber (1868–1934) at the Kaiser Wilhelm Institute, today the Max Planck Institute for Physics in Berlin, was supported. This again emphasizes the close scientific bond in between our countries.

After this short tour through the Japanese-German medical history, I come now to the situation today. Everybody knows that there are a great number of common contacts and cooperative projects being cultivated. They are being supported by various organizations in both countries and need no further mention. I would rather like to draw your attention to the exchange of scientists between the two and the chances which offer these exchanges. In Japan there exist a great interest to study and to work in Germany. This interest is in various fields, such as Philosophy, German Language and Literature and, of course, in the Medical and Biological Sciences including basic and clinical research. On the German side, the German Academic Exchange Service (Deutscher Akademischer Austauschdienst, DAAD) offers a number of fellowships to Japanese scientists as does the Alexander von Humboldt Stiftung. For instance, in 1987, this latter foundation provided altogether 129 fellowships for Japanese scientists, of which 54 fellowships were awarded for medicine and life sciences. There also exist an award of DM 75.000.—, the Philipp Franz von Siebold Award, which was created in 1978 by the former President of the Federal Republic of Germany, Walter Scheel. This is awarded every year to a Japanese scientist of high scientific quality. The donation, by the way, is provided in order to finance a longer period of research in Germany.

On the Japanese side I may particularly mention the Japan Society for the Promotion of Science (JSPS) which very efficiently supports the cooperation between Japan and Germany and also provides fellowships to German scientists. Many German scientists including myself, acknowledge the support of this society which allowed a longer scientific visit in Japan. In addition, the Science and Technology Agency and the Ministry of Education, Science and Culture provide postdoctoral fellowships for scientists from various countries. With regard to cancer research, I may especially mention the Foundation which is supported by the programme of the “Comprehensive 10-Year Strategy for Cancer Control” the so called “Nakasone Programme.” This foundation provides fellowships for foreign researchers to work in cancer institutions in Japan. In this brief summary I have mentioned, only the main organizations so that the list of supporting institutions cannot be considered to be complete.

I hope that my remarks have given you an impression about the scientific relationship between the two in the past and the possibilities for scientific exchange and cooperations which exist today. I would be very happy if this report would stimulate Japanese-German contacts and cooperations in the future.

Since I was chosen to give the concluding remarks, I have the honor and the pleasure to express in the name of all German participants of this workshop our great appreciation to the Japanese organizers. This is not only for their great endeavor in organizing this workshop but also for the generous hospitality bestowed on us during the last few days. This will remain in our memories for a long time and will stimulate our common research in the future.

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Klaus Munk

*Institute of Virus Research  
Deutsches Krebsforschungszentrum  
Im Neuenheimer Feld 280  
6900 Heidelberg  
Federal Republic of Germany*