

AWARD OF MEDALS

The Seventieth Annual Award of Medals was held on Wednesday, June 11, 1980, at 10:00 a.m., in the presence of His Majesty the Emperor.

The function was opened with an address by the President, in which he made a brief statement of each award. Then the Medals and Prizes were presented to the respective recipients.

After this, congratulatory addresses were given by the Prime Minister and the Minister of Education.

The function was closed at 11:25 a.m.

THE RECIPIENTS OF THE PRIZES AND THE SUBJECTS OF THEIR STUDIES

Yoshio OKADA

Cell Fusion and Cell Engineering

Okada discovered the cell fusion phenomenon by HVJ (Hemagglutinating Virus of Japan, synonym: Sendai virus). It was first observed *in vivo* and then set up successfully for *in vitro* cell fusion reaction in 1957 and 1958. The basic characteristics of cell fusion reaction *in vitro* were published in 1962. In these papers, the most effective conditions for cell fusion were demonstrated practically, including factors such as temperature shift from 0°C to 37°C, pH range, reaction medium, reaction conditions and the use of UV-inactivated virus, etc. These conditions have become established as the standard method for cell fusion. In 1963, it was found that cultured cells of a wide range including human and animal cells can fuse by HVJ. Heterokaryon formation between human and mouse cells was demonstrated in 1965. These results were valuable for somatic cell genetics using heterokaryons or hybrids, which started internationally in 1965.

In classic genetics, an individual animal body is understood as only the phenotype of the genomes of a fertilized egg, then, a somatic cell is only one member of the whole body. However, since Carrel (1912) demonstrated the growth of cells from a tissue of chick embryo *in vitro*, it became possible to handle a somatic cell as an autonomous individual in a Petri dish. A complete set of genomes derived