— *Vision* —

With Expectation of Great Progress in Organic Electrochemistry

Tetsuo OSA

Organic electrochemistry (OEC) has a long history since Kolbe electrolysis in 1834. Several electroorganic redox processes such as conversion of functional groups had been industrially commercialized in 1920-1940 ages, but most of them were replaced by catalytic ones. Being stimulated by the late Prof. Baizer's hydrodimerization process in 1964, many organic chemists in the world had paid much attention to organic synthesis using electrochemical techniques, and in Japan the academic group of "Electroorganic Chemistry" was organized in 1980. At present, OEC in Japan has been entered in a new era which is characterized by pre-potent hybridization of OEC with various areas of science and technology. As an example of this trend, a scientific research on priority area "New Development of OEC" has started in 1993 by 3 years project, getting grant-in-aid from the Ministry of Education, Science and Culture of Japan. The main topics of the area are design and control of electron-transfer fields, and electro-generation of specific and reactive species and their applications to organic syntheses under 118 cooperators. This project also aims at hybridization of OEC with organic synthesis, coordination chemistry and biochemistry based on common essential of electron transfer. At almost the same time in US, the Electric Power Research Institute and the National Science Foundation have started a joint program "Research in Electrochemical Synthesis" whose topics are well overlapped with the above ones in Japan. The interesting topics of OEC ought to be the same in the world.

With the proper timing, Prof. Koichi Tokuda, Editor-in-Chief of the Editorial Committee of the Society, has planned and completed this special issue by active cooperation of Prof. Tsutomu Nonaka, Tokyo Institute of Technology. The Committee proposed in her invitation that the contributing papers are preferable to contain valuable results and discussion on the wide field of fundamental and applied OEC such as (1) design and control of electron-transfer fields, (2) preparation and properties of modified electrodes, (3) development of organic syntheses, desirably new types of syntheses attained by electrode reactions, (4) creation of electro-mediation systems and electrochemically specific and active species, (5) electrochemistry relating to biofunctional materials, and (6) reaction and mechanism of metal complexes accompanied with electron transfer. Along the above line, more than 10 papers by foreign authors and about 35 papers by Japanese authors appear in this issue. The publication of such a plenty of articles will reveal not only recent high and wide activities of OEC in the world, but also contribute to the development of the wide areas of science and technology.

The author sincerely appreciates the kind invitation to write the forward for this issue by Profs. Tokuda and Nonaka.