

PREFACE

IUPAC Commission I.2 on Thermodynamics has since 1969 arranged an international conference during every second summer (with the exception of 1977-80 when, for complicated reasons, a gap of three years was allowed). The dates and locations of the twelve conferences were as follows.

1. 1959 Fritzens-Wattens (Austria) 20 to 25 August
2. 1961 Ottawa (Canada) 14 to 17 August
3. 1963 Lund (Sweden) 18 to 23 July
4. 1965 Vienna (Austria) 22 to 27 July
5. 1967 Heidelberg (F.R.G.) 12 to 15 September
6. 1969 Warsaw (Poland) 31 August to 4 September
7. 1971 Orono (U.S.A.) 12 to 14 July
8. 1973 Baden-bei-Wien (Austria) 3 to 6 September
9. 1975 Montpellier (France) 26 to 30 August
10. 1977 Ronneby (Sweden) 23 to 26 August
11. 1980 Merseburg (G.D.R.) 26 to 29 August
12. 1982 London (U.K.) 6 to 10 September.

We present here the ten Plenary Lectures, one for each of the Sections into which the Conference was divided, and the Rossini Lecture, from the 1982 Conference held at University College London from 6 to 10 September 1982. (Among those present in London in 1982, who had been at Fritzens-Wattens in 1959, were Drs J.D. Cox, F. Kohler, H. Mackle, M.L. McGlashan, J.S. Rowlinson, H.A. Skinner, L.A.K. Staveley, I. Wadsö, and E.F. Westrum, Jr. At least one, E.F. Westrum, Jr., had been at all twelve conferences!)

The Plenary Lectures given at London were as follows.

1. Thermochemistry: Dr Margret Månsson (Sweden)
2. Heat capacities and phase transitions: Professor H. Suga (Japan)
3. Critical state: Dr J.M.H. (Anneke) Levelt-Sengers (U.S.A.)
4. Gases and gaseous mixtures: Professor C.M. Knobler (U.S.A.)
5. Liquid mixtures (at low pressures): Dr K.N. Marsh (Australia)
6. Fluid mixtures (at high pressures): Professor G.M. Schneider (F.R.G.)
7. Dilute solutions: Professor L.G. Hepler (Canada)
8. Molten salt mixtures: Dr Marcelle Gaune-Escard (France)
9. Metallurgical thermodynamics: Professor C.B. Alcock (Canada)
10. Biochemical thermodynamics: Professor I. Wadsö (Sweden)

The Rossini Lecture: *From bisbyite to Schottky and back again.* (Progress in the morphology of heat-capacity curves or Schottky contributions for chemists.) was given by Professor E.F. Westrum, Jr. (Previous Rossini Lecturers had been as follows.

- 1975 Professor F.D. Rossini: *Fifty years of thermodynamics and thermochemistry.*
- 1977 Professor H.A. Skinner: *The thermochemistry of organometallic compounds.*
- 1980 Professor S. Sunner had been appointed Rossini Lecturer but died on 3 June 1980.)

The Committees are grateful to the U.K. Experimental Thermodynamics Conference for agreeing to forego their usual biennial meeting at Easter 1982 in favour of support for the International Conference, and to the British Gas Corporation for their most generous and informative reception held at Watson House on the evening of Thursday 9 September 1982.

The next Conference, the thirteenth in the series, will be held at McMaster University, Hamilton, Ontario, Canada from 13 until 17 August 1984. The Chairman of the organizing committee is Dr P.A.G. O'Hare, Argonne National Laboratory, Chemical Technology Division, Argonne, Illinois 60439, U.S.A.