year's meeting recevied partial support from The Population Council as well as from various commercial sources. It was organized, as before, by H. P. Klinger. Approximately 50 people attended. The participants thank Professor G. Stalder, medical director of Children's Hospital, who served as host, and the City Council of Basel for hospitality. There are no printed proceedings.

SALOME GLUECKSOHN-WAELSCH
Department of Genetics,
Albert Einstein College of Medicine,
New York 10061

Calorimetry

Calorimetric techniques and their applications were discussed at the 24th Calorimetry Conference, held at the Wentworth-by-the-Sea near Portsmouth, New Hampshire, 14–16 October 1969.

The Huffman Memorial Lecture is a feature of the conference and is presented by a man selected on the basis of excellence in thermochemistry and thermodynamics. In 1969 the address was given by Ward N. Hubbard (Argonne National Laboratory), leader of a group engaged in fluorine combustion calorimetry. Hubbard summarized the heat of formation data obtained for some 30 fluorides by direct combustion of the elements in fluorine; he discussed the periodicity of derived bond energies when plotted against atomic number of the central atom. The plot also served to indicate where additional data are needed.

Reports were made on measurements of specific heat at low temperatures and their interpretation in terms of phenomena such as phase transformations in alloys and organic compounds, magnetic ordering in ferrous molybdate and tungstate, antiferromagnetism of $DyPO_4$, and molecular motion in clathrates and polymers. The effect of isolated heavy impurity atoms in a light host lattice was discussed at the 1967 Conference; measurements have now been extended to higher temperatures and higher concentrations to test theoretical explanations. Papers on the specific heat of liquid helium provided tests of theoretical predictions of the interaction potential between He^3 atoms and critical point behavior of He^4. Difficulties in measuring the heat capacity of plutonium carbide due to self-heating were described.

A continuing concern of thermochemists is the accuracy of experimental methods; several papers offered data affording cross-checks by different approaches. The rotating bomb method for heat of combustion of organic chlorine and bromine compounds was checked against solution thermochemistry by means of the hydrochloride and hydrobromide of trishydroxyaminomethane (THAM) at the Thermochemical Center, Lund, Sweden; results were in good agreement. The enthalpy of neutralization of THAM with aqueous HCl has been proposed as a standard exothermic reaction for solution calorimetry; a series of researches at several locations was reported by S. R. Gunn which related this quantity to the long-established heat of combustion of benzoic acid. A direct measurement of the enthalpy of neutralization at the National Bureau of Standards is not in agreement to the desired degree; further work is apparently needed. A new determination was made at Argonne National Laboratory of the enthalpy of formation of aqueous HF by means of the enthalpy of reaction of fluorine and hydrogen to form liquid HF combined with the enthalpy of solution of liquid HF in water. The result did not agree within experimental error with recent data by other approaches; a selected value satisfactory to all is not yet established. New data on a Calorimetry Conference specific heat standard, Al_2O_3, were reported from the National Bureau of Standards.

New equipment which was described included data acquisition systems for low-temperature specific heat calorimeters, a solution calorimeter, a liquid nitrogen boil-off calorimeter, and solution, titration, and mixing calorimeters. A high precision water bath (Tronac, Inc., Orem, Utah) achieves a long-term stability of 0.0003°C. A microcalorimeter developed at the University of Colorado was applied to the study of the myoglobin oxygen reaction with impressively precise results. A design for miniature platinum resistance thermometers for low-temperature calorimetry was approved and a manufacturer is now being sought to produce such thermometers commercially.

Information about the 25th Calorimetry Conference may be obtained from E. D. West, National Bureau of Standards, Boulder, Colorado.

G. C. SINKE
Thermal Research Laboratory,
Dow Chemical Company,
Midland, Michigan 48640