Meetings

Theory and Practice of Classification in Diverse Disciplines

Workers in a given academic field frequently are "discipline-bound"; they are so busy keeping up with their own area that they have little time to survey other disciplines for methods and techniques that they could use profitably in their own work. The structure of institutions (for example, academic departments in a university) further reinforces the barrier to interdisciplinary communication. In the field of classification, which is a fundamental activity of most sciences, the Classification Society aims to overcome these barriers.

Founded in Great Britain in 1964, the Classification Society has as its main purpose the promotion of cooperation and interchange of views and information among those interested in the principles and practice of classification in any discipline that uses them. As a result, its membership includes anthropologists, biologists, computer and information specialists, geologists, librarians, linguists, psychologists, soil scientists, and others. The society seeks to provide unique services to its members. These include symposia on classification that are not limited to one discipline and a project under consideration that will result in a bibiography of current articles dealing with the theoretical and applied aspects of classification. Supplements to the original bibliography will be issued periodically.

Business of the society is conducted by a committee elected by the membership. The society has two branches, the European branch and the North American branch. Current membership numbers around 500, divided equally between the two branches. Annual dues are U.S. $3, and they entitle members to receive copies of the bulletin of the society, which contains contributions of both a formal and informal nature. (Membership applications may be obtained from the secretary, Dr. Theodore J. Crovello, Department of Biology, University of Notre Dame, Notre Dame, Indiana 46556, or from Dr. A. J. Willmott, Department of Computation, University of York, Heslington, York, England.)

The first annual meeting of the North American branch was held 8 to 9 April 1970 in Columbus, Ohio, at Battelle Memorial Institute. Both invited and contributed papers were presented. Some explored the common characteristics of classification, regardless of the discipline. For example, J. Kruskal (Bell Telephone Laboratories) provided explicit illustrations of the many kinds of classification (or clustering), considering such aspects as the purpose of the analysis, the kinds of data that can be utilized, and the use of classification in conjunction with other procedures to achieve a given goal.

The theory of classification and of particular classification algorithms was investigated by several speakers. These included a consideration of the synergistic value of the simultaneous use of cluster, network, and multidimensional scaling analysis by F. J. Rohlf (Biology, University of New York, Stony Brook). H. Chernoff (Statistics, Stanford) described metric considerations in the k-means method of cluster analysis. L. Orloci (Botany, Western Ontario) described information-type measures of diverence and their application in biological classifications. R. B. McCammon (Geology, University of Illinois at Chicago Circle) discussed the dendrograph as a graphical aid to classification.

Applications of classification were described from many fields. These included a presentation by H. Friedman and R. Goldwyn (IBM) on interactive data analysis, a case study of physiologic classification, and interpretation of the critically ill. T. Deeming (Astronomy, University of Texas, Austin) considered the classification of stars and galaxies. R. Christal and J. Ward (U.S. Air Force) described the use of hierarchial grouping in job analysis and personnel research. E. Gloye and R. J. Marcus (Office of Naval Research) discussed the role of classification to enhance a medical-chemical data base. R. E. Beschel and P. Y. Wong (Biology, Queen's University) presented a method for the classification of lichen communities.

The general feeling among those attending was that much could be gained if workers in diverse disciplines would routinely pause and analyze the activities of workers in other fields. This feeling was emphasized by D. Hull (Philosophy, University of Wisconsin at Milwaukee) who delivered the banquet address. Copies of the abstracts of all of the talks will be available for a limited time from the undersigned.

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Coulomb Energies in Nuclei

An informal meeting to discuss Coulomb energies in nuclei was held at the University of North Carolina at Chapel Hill on 1 and 2 May 1970. The available information on the charge and matter distributions in atomic nuclei, on Coulomb displacement energies, the progress in experimental techniques, and the interpretation of the data in terms of nuclear dynamics were summarized.

Because the electrostatic interaction is well known and because Coulomb interactions in nuclei occur only between protons, charge-dependent effects in nuclei may be used to give important information about nuclear structure. The Coulomb interaction is contained in the static part of the electromagnetic field, the dynamic part of which gives rise to gamma-ray transitions. The details of the energies of meson (μ^-, π^-, and K^-) states and electron states are sensitive to the Coulomb field of the nucleus.

A feature of the meeting was the bringing together of experts in meson physics, in high energy electron scattering, and in low energy nuclear structure. The advantages that would be gained if workers in these fields used the same models and parameterizations, drew upon each other's interpretations, and established a uniform notation were clearly brought out. The topics covered can be grouped roughly as follows: (i)