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BOOK REVIEW

R. Mavrodineanu: Bibliography on Flame Spectroscopy, Analytical Applications, 1800–1966, $2.00; National Bureau of Standards (1967).*

THIS bibliography covers 5113 references to works on analytical flame spectroscopy that have appeared from about 1800 to 1966. Although emphasis is toward analytical applications, over one thousand fundamental works on basic flame phenomena are included as well. The bibliography is divided into three main Sections: 1. Emission, 2. Atomic absorption spectroscopy, and 3. Electrical discharges having the aspect of combustion flames. The Section on Emission is subdivided into historical works, books, theses, reviews, bibliographies, chapters in books, fundamental papers, instrumentation, analytical procedures, and less familiar flames. The Section on Electrical discharges contains works on RF discharges, plasma arcs, and arc-and-spark-in-flame. Each reference contains the authors, the title of the work (always in English), and complete bibliographical information. The main Sections are preceded by brief introductory comments and subject indexes which help the reader to single out, for example, all papers on the analysis of soils or on the determination of a specific element. The collection of papers on analytical procedures was intended to be exhaustive rather than selective. A rather arbitrary selection has been made of fundamental flame works dealing with items such as flame temperature, geometry, radiation, reactions and ionization. It is, obviously, difficult to draw a line here between studies that might contribute to the understanding of analytical flame spectroscopy and others that are only of interest in combustion research.

The appearance of this Bibliography will be greatly welcomed by the scientist who wants to orientate himself in any field of application or basic understanding of flame spectroscopy. This holds the more so, since the available material is scattered over a large diversity of journals, theses, proceedings of symposia, etc. Moreover, the literature is now growing at such high rate, that it is practically impossible for an individual worker to keep abreast of all publications that are relevant in his particular area. All those who know Dr. Mavrodineanu's expert qualities in compiling flame literature from his earlier bibliographies on flame spectroscopy, covering the period up to early 1959, will be most grateful that he has undertaken the tremendous task of composing and indexing the present bibliography. In the Preface, the publication of periodical supplements is announced and all authors of new papers in this field are kindly requested to send reprints or complete references of their works to Dr. Mavrodineanu.

As was to be expected, great pains have been taken to the completeness and exactness of all bibliographical data. A minor correction should be made in the reference of the literature cited by No. 4 in Section 1.2, which has not been translated into Polish but into Czechoslovakian. The average American will not be much shocked by this confusion about Europe's geography.

Some suggestions and questions could be raised about the organization of the material. The language in which a paper is written is not indicated. It might not be a pleasant experience for everybody to receive a work from the library that is written in such unintelligible language as the Dutch. The division of the material into broad categories might cause complications when a certain paper belongs to more than one category. It often occurs, for example, that a paper is of interest from an analytical as well as an instrumental point of view. To quote such a paper twice would unduly extend the whole bibliography, but otherwise the information presented would be incomplete. Difficulties then arise also when one wants to check up a given paper that

*National Bureau of Standards Miscellaneous Publication 281 (for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402, U.S.A.).

does not belong unambiguously to one category. A solution could be found by including cross-references between different categories.

One might ask oneself, if a certain selection based on the quality of each paper would not be inevitable, when the literature keeps on growing at a rate of a factor three in seven years. For example, the number of references pertinent to the determination of potassium largely exceeds 500. The analyst who wants to start or to improve such a determination might feel discouraged to consult this long list including disputable or obsolete publications.

Finally, the growing importance of atomic fluorescence methods in analytical flame spectroscopy seems to justify the inclusion of a separate category in future editions of this Bibliography.

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