third chapter, "The golden age of individual bibliographers," that is so interesting to the bibliographer of today. For here are described the various problems confronting the 19th century bibliographer who was trying to index a rapidly expanding literature. The importance of this period is that we are today mainly following the same principles of indexing and we are encountering the same difficulties that Plocquet saw and tried to overcome. In conclusion, the author points out that the problems which beset medical bibliography in the past are the same today, only the quantity has changed, not the quality. Notwithstanding the development of mechanical aids, it has not been possible to work out methods for solving the index requirements of modern medical science. The individual bibliographer is still the key to indexing.

The work closes with a list of references and medical bibliographies published since 1500. A well organized author index to bibliography and a general index concludes the monograph. In very readable style and well documented, it gives an excellent comprehensive picture of medical bibliography, both past and present, the difficulties encountered, how they were solved, and the meaning this has for those who are trying to solve the problem of medical indexing today.

WILLIAM DOSITE POSTELL
Louisiana State University School of Medicine

Physics and Applications of Secondary Electron Emission. H. Bruining. McGraw-Hill, New York; Pergamon Press, London, 1954. xii + 178 pp. Illus. $5.

This is a survey based in large part on 393 papers related to the emission of electrons from different kinds of substances in the solid state, from the discovery of the phenomenon in 1902 through 1952. The first seven of the 10 chapters are on physical aspects and the last three are concerned with application aspects. These three chapters are on electron multiplication, disturbing effects that arise from secondary emission, and desirable effects produced in electronic tubes of various kinds. It is evident that a complete theory of the mechanism of secondary electron emission does not yet exist, and that the author has surveyed the various approaches that have been made.

The monograph fulfills its primary purpose quite adequately. It falls a little short of being an elementary textbook since part of what is said in chapter 1 assumes knowledge of the terminology and ideology of later chapters, and in a few spots the sentences lack the details desirable in a textbook. As a reference for the researcher and a guide for the advanced seminar student, the book is excellent.

The chronological list of 393 references appears to be exhaustively complete. The references published during the first 30 years after discovery of secondary electron emission are almost all American or German, about equally divided. The first Japanese reference is dated 1933. It is interesting to note that the Russian references begin abruptly with six in 1936, marking the start of a period of intensive activity that yielded 40 papers in 6 years. These references drop as suddenly to a low rate of occurrence, and none are listed after 1947.

SHERWOOD GITHENS, JR.
Physical Sciences Division,
Office of Ordnance Research, U.S. Army,
Durham, North Carolina

The Infrared Spectra of Complex Molecules. L. J. Bellamy, Methuen, London; Wiley, New York, 1954. xvii + 323 pp. Illus. $7.

In recent years infrared spectroscopy has assumed an increasingly important role in the industrial research laboratory and has taken its place along with other physical methods of analysis, such as optical spectroscopy, x-ray diffraction, and mass spectroscopy. It has been adequately demonstrated that, as a method for the recognition of structural groups in compounds, for the recognition of compounds in mixtures, and in quantitative analysis, it is applicable to classes of problems not easily, if at all, handled by other methods. So widespread are the applications of infrared spectroscopy to allied fields that many investigators with various backgrounds are finding it advantageous to employ infrared methods and to learn the basic methods of interpretation of the spectra obtained. With the exception of the general and elementary discussion by Barnes, Gore, Liddel, and V. Z. Williams, and the more recent and fuller account by Randall, Fowler, Fuson, and Dangl, there has been no single work to which the investigator could go for information on this subject. To be an effective worker in this field demands a wide knowledge of and experience with the absorptions by a great many compounds containing the same or similar structures. Since the literature is scattered over many journals and years, this knowledge is difficult to come by. It is, therefore, my opinion that there has long been a need for a book such as this one, and that present investigators and students alike owe a debt of gratitude to Bellamy for having correlated and reviewed critically this great mass of empirical data.

Bellamy's treatment of this complicated subject is orderly and clear. The knowledge that is necessary in structure recognition and correlation is, to a large extent, empirical in nature. Bellamy has made a critical survey of the existing data on which such correlations are based, and he has drawn conclusions that will be of aid to new and old workers alike in pursuing independent recognition researches. He has divided the mass of information into four parts consisting mainly of the following topics: part I, C—O and C—H linkages; part II, C—O and O—H linkages; part III, C—N and N—H linkages; and part IV, vibrations involving other elements or elements of inorganic origin. Each part is then further broken