

by Ryhage and Stenhagen (7).

The spectra and the interpretations of the mass fragment patterns, as they appear in this review paper, or in the original publications will be (and in fact have already been) of considerable assistance to the fatty acid and lipid chemist using mass spectroscopy in the solution of his problems. Its usefulness in this regard has been acknowledged by several research workers, including some who will appear on the program of this symposium (8,9).

The papers which appeared on the applications of mass spectroscopy to fatty acid and lipid chemistry during about the period of the late 1950's into the first years of the 1960's were mainly survey papers. They are reminiscent of the survey papers in infrared absorption spectroscopy which appeared some ten to fifteen years ago which described the spectra of pure long-chain fatty acids, esters, glycerides and many derivatives, giving frequency positions of characteristic bands and correlations of these bands to organic functional groups which gave rise to them. This survey period, which in the history of the applications of mass spectroscopy to lipid chemistry was dominated by the contributions of the Swedish workers, is now coming to a close. We are now no longer reading papers concerned with *mass spectrometry* and its potential applications to fatty acid or lipid chemistry. We are beginning to see more and more papers dealing with *problems in fatty acid and lipid chemistry* which are being solved with the aid of the mass spectrometer.

This does not mean that additional survey-type papers will not appear. There is, of course, considerable overlap between the period of survey papers describing spectra of pure compounds and actual applications to practical problems. In a review written in 1961, Dutton (9) said, "Analytical applications of mass spectroscopy to lipids are largely yet to be made." We can now report that they are being made. When preparing the manuscript for the chapter in Markley's "Fatty Acids" (10) dealing with spectral properties, about 1957, we searched the literature for at least an isolated example of an application of mass spectroscopy to fatty acid chemistry, and abandoned the idea because there just were not any. In a proposed revision to up-date this material, a section on applications of mass spectroscopy contains some 50 or 60 references.

In these introductory remarks only a very few specific applications can be given as examples. Certainly the studies on phtiocerol by the Swedish workers (11-16) should be cited. The brilliant elucidation of the structure of this compound probably represents the first example of the establishment of structure of a lipid material principally by means of mass spectrometry. The Swedish workers are also responsible for a practical method for locating the position of the double bond in long chain compounds by deuteration with deuterium hydrazine and subsequent mass spectra analysis (17). In this country Paschke, Peterson and Wheeler have made practical use of mass spectroscopy in the elucidation of dimer acid structures (8,18,19). Rubenfeld et al. (20), in a study of straight-chain alkylbenzenes, has applied mass spectroscopy to detergents and Sonneveld and colleagues have applied the technique to animal fats in the analysis of butterfat (21).

This is the new era which is just getting underway, about which we are to hear much today. And, as the fatty acid and the lipid chemist appreciates more and more this valuable tool, the mass spectrometer, we predict we will see an ever increasing number of papers in the literature of fatty acid and lipid chemistry dealing with the applications of mass spectroscopy.

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Pioneer Member Dies



J. J. Ganucheau

J. J. GANUCHEAU (1918), Honorary Member of AOCS since 1964, died July 18, 1966, in New Orleans.

At the time of his death, he was serving as a consulting chemical engineer, having retired from the Wesson Company (Wesson Division of Hunt Foods) in 1962, after 44 years of service.

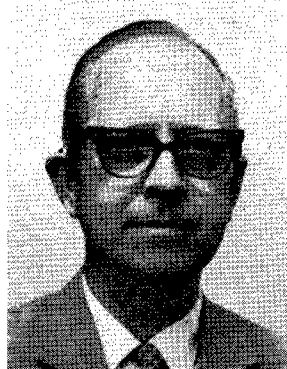
In a JAOCS Commentary, dated March, 1959, Mr. Ganucheau wrote: "The fact that the AOCS is one of the foremost scientific organizations in the world was not brought about by chance but by men."

He himself contributed the following committee service to AOCS: Crude Mill Operations, 1930-33, Chairman, 1933-34; Refining, 1930-34; Third Vice President, 1936-37; Advertising, 1938-42; Second Vice-President, 1942-43; Uniform Methods, 1942-62; Soap in Refining Oils, 1943-62; New Orleans Resident Representative 1954-; Governing Board, 1954-57; Soapstock, 1955-62; By-Laws Revision, 1959-60; Honorary Member, 1964.

His dedication to AOCS was recognized and deeply appreciated by his friends and co-workers, and his achievements will be remembered.

Borden Award to R. T. Holman

R. T. HOLMAN (1946), professor of biochemistry at Hormel Institute, University of Minnesota, Austin, Minnesota, has been named winner of a \$1,000 Borden Award in Nutrition for 1966.



R. T. Holman

The award recognizes outstanding research on the nutritive significance of compounds of milk and was awarded by the American Institute of Nutrition. The award consists of an honorarium and a gold medal, provided by the Borden Co.

Dr. Holman was recognized for his research in the metabolism and quantitative requirement of essential fatty acids in animals and man.

Dr. Holman holds several editorial posts, including that of Associate Editor, *Lipids*. He organized the symposium on mass spectrometry of lipids (Cincinnati, 1965), and the symposium on essential fatty acids (Los Angeles, 1966).