History of the Journal of Lipid Research

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On the occasion of the twenty fifth year of publication of the *Journal of Lipid Research,* it is of interest to review its history. Although the first issue of the *Journal of Lipid Research* was not published until October 1959, it had a prolonged period of gestation. In the period commencing in 1950, methodology for the study of lipid metabolism developed at an explosive rate. In the area of lipid chemistry, the decade began with improved and simplified methods for determining cholesterol first by modification of the Schoenheimer-Sperry method (1) and later by the development of the Abell-Kendall method (2) which has remained the standard to the present time. Somewhat later a method for the direct determination of triglyceride was described by Van Handel and Zilversmit (3). Parallel to these events was the development of methods for separation of lipids with the introduction of silicic acid chromatography by Borgström in 1952 (4) with further refinements by Hirsch and Ahrens in 1958 (5). Thin-layer chromatography made possible rapid separation of lipid classes using small amounts of lipid. Gas–liquid chromatography developed by James and Martin (6) revolutionized fatty acid separation and analysis. Work on this technique continued in the United States with the development of improved detection systems (7).

At the same time that these developments in lipid methodology were occurring, the role of lipoproteins both in plasma and tissues became apparent, and this opened up an entirely new area of investigation. In 1949, Gofman and his coworkers described the use of analytical ultracentrifugation for quantitation of lipoproteins (8) and in 1950 (9) they applied this technique to the study of atherosclerosis. At about the same time, alterations in lipoprotein patterns in atherosclerosis and related diseases were found by Barr, Russ, and Eder (10) using Cohn fractionation for separating lipoproteins. Zone electrophoresis was also used for separation of lipoproteins. However, preparative ultracentrifugation (11) eventually superseded the other methods for most purposes. Despite these important developments in methodology most journals were unwilling to accept papers whose scope was limited to methodology. This was especially true for the rapid developments in gas–liquid chromatography and Dr. E. H. Ahrens, Jr. and his colleagues at Rockefeller University, who were actively working in this field, began to discuss publication of a handbook on lipid methods.

At about the same time (1957) the National Heart Institute appointed a Committee on Problems of Lipid Analysis consisting of Drs. Evan Horning (chairman), Ahrens, Lipsky, Mattson, Mead, and Turner. The following year (April 1958) this committee endorsed the idea of a methods handbook. Immediately thereafter Dr. Ahrens wrote a letter to Dr. Elsa Keiles, Executive Secretary of the Metabolism (and Nutrition) Study Section. He proposed the development of a loose-leaf methods handbook to which workers would contribute methods developed in their laboratories, and suggested that the NIH might be interested in supporting this effort. In May of 1958 the Metabolism and Nutrition Study Section approved the concept. After some arm-twisting on the boardwalk in Atlantic City, Dr. Donald Zilversmit accepted Ahrens' offer to be the first editor; by the end of that month Zilversmit submitted an application to the NIH for publication of a methods handbook. He proposed publishing a loose-leaf manual so that additions and replacements of outdated sections could be mailed quarterly. At that time he indicated that Dr. Ahrens and Dr. Joseph Bragdon would serve as co-editors and that a number of associate editors would also be appointed. The application was approved by Council, and in August, 1958 a grant of $16,502 was awarded. Dr. Zilversmit spent the summer of 1958 at Rockefeller University, and after innumerable discussions with Dr. Ahrens and Dr. Jules Hirsch, with advice from Drs. Stanford Moore, William Stein, and George Palade, the handbook concept was abandoned in favor of publication of a high quality journal; this change was approved by the Heart Council at its November meeting. In order to keep the journal in the hands of research workers, a nonprofit corporation, Lipid Research, Inc., was formed. The first Board of Directors of Lipid Research, Inc. comprised a number of distinguished investigators in the area of lipids: Drs. Edward H. Ahrens, Jr., Joseph H. Bragdon, Herbert E. Carter,

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Jules Hirsch, Irvine H. Page, W. Henry Sebrell, and Donald B. Zilversmit. The Editorial Office opened in Memphis with one secretary, and the subscription rate was $6/year. Dr. Zilversmit was Editor, and Drs. Bragdon and Hirsch were Associate Editors.

The first issue appeared in October, 1959. In an editorial on the first page Dr. Zilversmit reviewed the thinking that had led to the publication of the *Journal.* He noted that it would be published quarterly and that it offered its readers a representative selection of original work in the chemistry, biochemistry, enzymology, histochemistry, and physiology of the lipids. In addition, it would include invited reviews and a section "Notes on Methodology" devoted to prompt publication of modifications of existing lipid methods. Another section, "New Methods", would list new lipid methods currently published in other journals.

It is noteworthy that although methodology was uppermost in the minds of the founders of the *Journal,* the first paper was a review entitled "Biosynthesis of Fatty Acids and Cholesterol Considered as Chemical Processess" by J. W. Cornforth (12) who subsequently received the Nobel Prize in 1975. Of the fifteen original papers in that first issue, only five were on methods and at least five were on metabolism. There was a paper by Dr. Zilversmit (Editor) and papers by two future editors, Drs. Daniel Steinberg and Richard Havel.

Dr. Zilversmit was succeeded as Editor by Dr. Steinberg at the NIH in 1962 (Vol. 3). In 1964 (Vol. 5), the *Journal* moved to Rockefeller University with Dr. Ahrens as Editor. The publication and circulation management of the *Journal* was assumed by the Rockefeller University Press. Dr. Ahrens instituted a new position, that of Executive Editor, and he brought Dr. Peter Woodford from Europe to fill that position. With such a position it was possible to allow the Editor to concentrate on the most important aspect of his editorship: the evaluation of papers for publication. The Executive Editor assumed the responsibility for editorial processing, including implementation of editorial policy and subject editing, and publication management, including financial management, liaison with the publisher and the printer, and other activities related to journal management and production.

During the latter part of 1968, Dr. Ahrens appointed five investigators in the New York area to serve as Associate Editors. With the increasing diversity in the lipid field as well as the increased demands on the editor, it was felt that special assistance was needed if the Editor was to function "with a sense of satisfaction in the quality of his work" (13). Each manuscript was assigned to an Associate Editor who read the article and evaluated the comments of the editorial board member and reviewers, and often wrote an additional review. Although more often than not the editorial decision of the editorial board member and/or reviewers was sustained, the final decision had to receive the approval of the Associate Editor and the Editor. Under the leadership of Dr. Rapport, who succeeded Dr. Ahrens as Editor, the biweekly or monthly meetings of the Associate Editors (known as the Editorial Committee at that time) became firmly established as a "modus operandi" for the Journal. Each succeeding Editor has continued this policy and has appointed a group of Associate Editors working near or in the same city as the Editor.

Dr. Maurice Rapport became Editor in late 1969, and Dr. Lewis I. Gidez became Executive Editor. In 1971 FASEB (Federation of American Societies for Experimental Biology) became the *Journal's* publisher and took over circulation management. This organization has continued to serve these functions to the present time. The editorship moved to San Francisco in 1973 under Dr. Havel. He served for 3 years and was succeeded in 1976 by Dr. Erwin H. Mosbach in New York, who also served a 3-year term. In 1979 Dr. Donald M. Small in Boston became Editor, and he served for a 4-year period. The current Editor, Dr. Julian B. Marsh of Philadelphia, assumed his position in 1983.

The course of the *Journal* has not been without trials and tribulations. NIH auditors concluded that monies set aside as a reserve fund could not be held for the *Journal,* and required their return in 1963. In 1969 the NIH grant was terminated, and since then the *Journal of Lipid Research* has been totally self-supporting. The lack of a reserve fund was a cause for considerable concern and negotiations were carried out with a number of organizations with the aim of finding a sponsor that would assume financial responsibility for the *Journal.* However these efforts were unsuccessful, as were efforts to obtain a commercial publisher who would maintain the high standards of the *Journal* and, at the same time, keep subscription costs at a level that would assure the broadest distribution. The Board of Directors ultimately decided to continue publication without outside financial backing. Fortunately, the *Journal* has continued to thrive and grow and has remained financially solvent. It is noteworthy that there are very few journals that do not have organizational or commercial sponsorship.

The growth of the *Journal of Lipid Research* is illustrated in **Fig. 1** which shows the number of pages published in 2-year periods. The *Journal* was published quarterly for the first six volumes (through 1965). However the number of submitted papers increased to such an extent that with Volume 7 (1966), the *Journal* began bimonthly publication. By 1977 the growing number of submitted papers warranted expanded publication, and from 1978

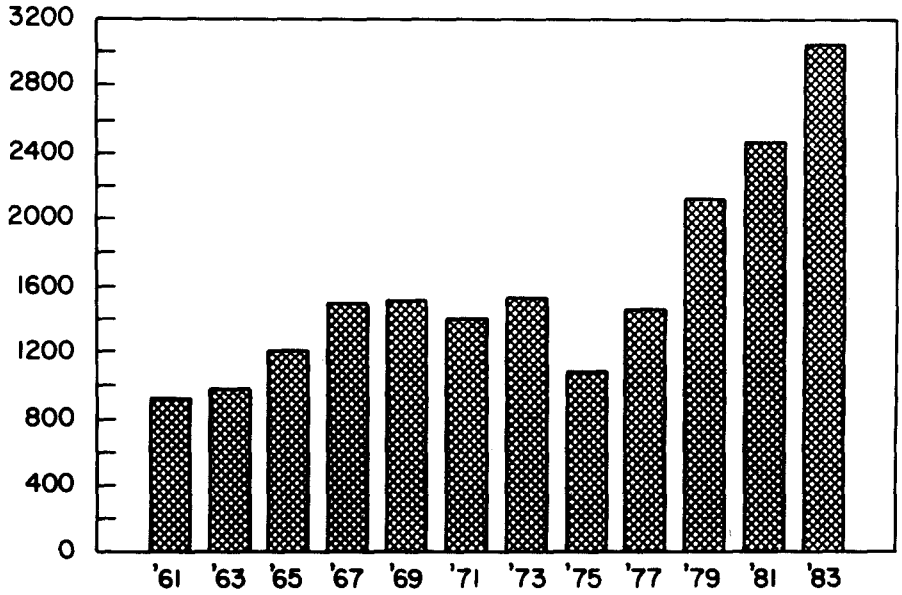

Fig. 1. Pages published 1959/60–1983 (2-year periods).

through 1981 eight issues per year were published. Nine issues were published in 1982, and in 1983 the *Journal* became a monthly publication.

As noted above, the dissemination of lipid methodology was a "raison d'etre" of the *Journal*. Thus it is not surprising that a relatively large number of papers on methodology were published in the early years of the *Journal* as shown in **Fig. 2.** From 1971 through 1975, fewer papers on methodology were published, but there was a resurgence of interest in methodology in the late 70's and early 80's. As might have been expected, the early years also produced a large number of papers on lipid composition and fatty acid analyses. Indeed, there were even more of these papers than methodological papers during this period. By 1983, however, such papers were infrequent.

In the first 24 volumes (through 1983) the *Journal* published 2077 regular papers, 49 review articles, and

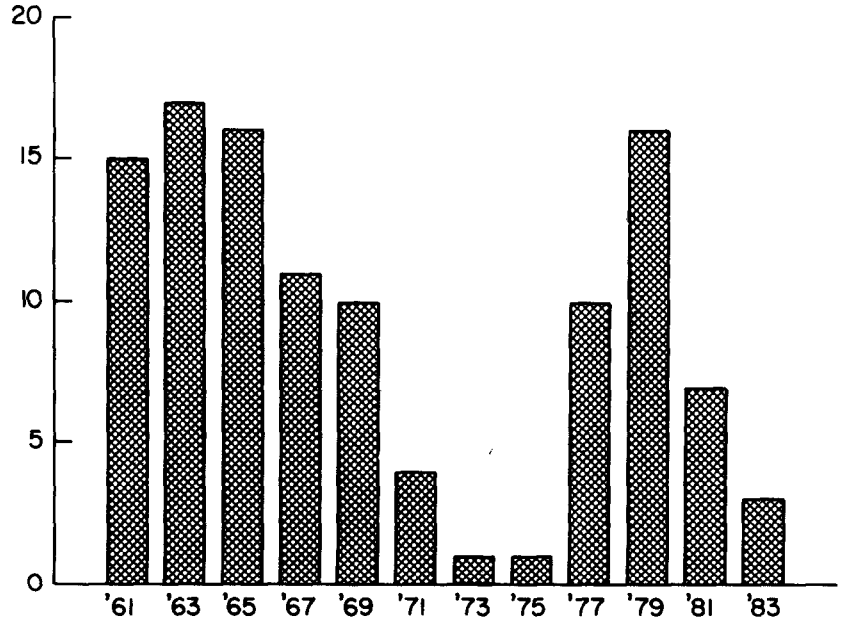

Fig. 2. Methodology papers published (2-year periods).

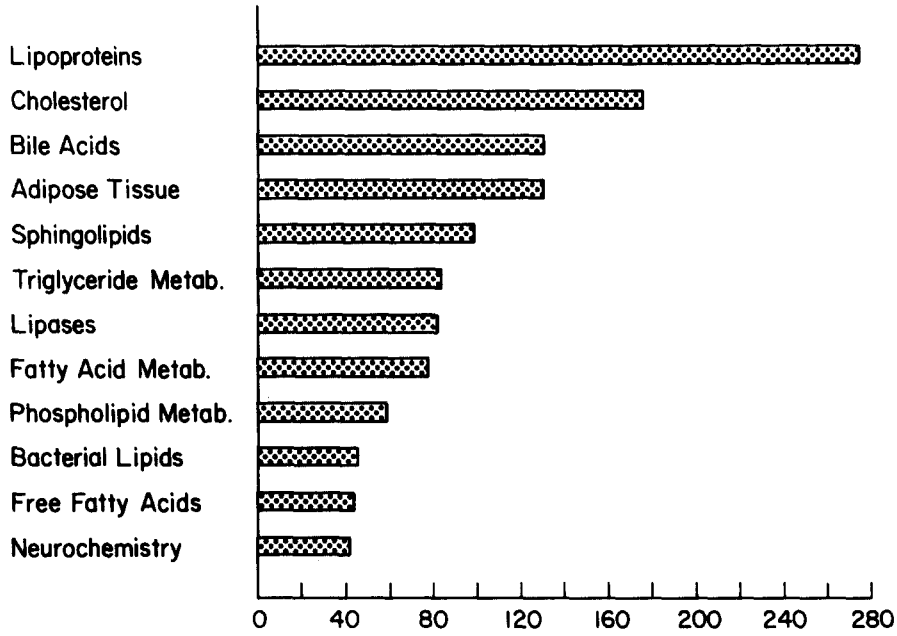

Fig. 3. Number of papers published 1960–1983.

445 Notes on Methodology. Each paper and review article was assigned to a single category that represented the major subject of the article. (Notes on Methodology were excluded.) More than 50 areas were identified, and **Fig. 3** shows the number of papers published in the top twelve categories.

Papers published in the *Journal of Lipid Research* have always been frequently cited. In an article by Dr. Eugene Garfield, President of the Institute for Scientific Information (14), the *Journal of Lipid Research* was ranked 48 out of the 565 most frequently cited journals surveyed by ISI[r] in terms of the 1969 impact factor.[2] Thus in 1967 and 1968, the *Journal* published a total of 235 articles, and in 1969 there were a total of 876 citations for these articles, giving an impact factor of 876/235 = 3.728. The *Journal* was ranked 59th out of 206 surveyed journals in 1974 (15). In 1977, the *Journal of Lipid Research* ranked 6th out of 37 core biochemical journals worldwide, being outranked by the Journal of Molecular Biology, the Journal of Biological Chemistry, the Journal of Cyclic Nucleotide Research, Biochemistry, and the European Journal of Biochemistry (16). These relatively high rankings are a reflection not only of the scientific merit of articles published by the *Journal of Lipid Research,* but also of the high standards of editors, associate editors, editorial board members, and reviewers who have worked with the Journal.

The next twenty five years

Production techniques have advanced markedly in the last 25 years and composition establishments and printing firms have for many years applied new computer technology to the publication process. However, although authors now make more and more use of word processors to prepare their manuscripts, little has changed in the way editors and publishers handle submitted manuscripts, and in most instances today, the production process begins with a typed manuscript. In the next 25 years this time-honored procedure will change drastically. Electronic interface between author and editor, editor and publisher, and publisher and printer is now possible, and the "machine-readable submission" is a realistic expectation.

It can be anticipated that over the next 25 years the content of the *Journal* will also change significantly. Twenty five years ago it became possible to separate and quantify individual lipids and fatty acids easily. Now it has become possible to assign specific biological roles to specific lipids, e.g., platelet aggregation factor, and many of the metabolites of arachidonic acid. In the early sixties the heterogeneity of the protein moieties of lipoproteins was first described. This led ultimately to the understanding of the metabolism of lipoproteins in terms of cell biology with discovery of specific apolipoprotein receptors. Clearly, future studies of the inter-

[2] The impact factor is the number of times a journal has been cited divided by the number of articles published during a specific period of time. In the examples given, the papers were published in the two-year period preceding the year in which they were cited.

action between blood constituents and the vascular wall will lead to a greater understanding of atherogenesis. There has also been considerable progress in the elucidation of the molecular biology of these processes; this is just the tip of the iceberg. In the next several years such studies can be expected to provide understanding of the mechanisms involved in the regulation of lipid metabolism at the molecular level. We anticipate that the *Journal of Lipid Research* will play an important role in the reporting of these developments and will continue to serve as a recognized standard of excellence for scientific publication.

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