

# OKLAHOMA ACADEMY OF SCIENCE PROCEEDINGS INDEXES

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## INTRODUCTION

The year 1975 witnessed publication of the fifty-fifth volume of the Oklahoma Academy of Science *Proceedings*. The fifty-five volumes constitute a record of the activity of its members and a primary source of information about all phases of science of interest both within the state and beyond its borders. As the quantity of material has increased, four cumulated indexes of the contents of the *Proceedings* have been compiled. The latest of these has recently been produced by the authors of this article at the University of Oklahoma using computer-based informational systems to form a powerful new tool to be used wherever the *Proceedings* are consulted. This article is a description of the latest index together with its three predecessors.

The Oklahoma Academy of Science is the premier scientific society in the state. It was organized in December, 1909, by a group of twenty-one scientists from various schools and colleges throughout the state meeting in Oklahoma City. According to an account of the early history of the Academy (1), ten papers were delivered at that organizational meeting although no record exists of their titles or contents. Subsequent meetings have been held each year except 1914, 1918, and 1919 and proceedings of the meetings have been published annually beginning in 1921. The first volume of the *Proceedings* includes not only papers presented at the 9th annual meeting held that year, but also lists of titles of papers presented at each of the previous meetings which had been held since the founding except the first. A selected group of papers from those eight earlier meetings is also published in that first volume. Through the year 1975 over 4000 papers had been presented, most of which were published in the *Proceedings*.

In the first volume no attempt was made to arrange articles by subject, but beginning in 1923 the table of contents was divided into the four subject areas of Biology, Geology, Physics, and Psychology. Variations on these categories have been followed throughout the ensuing years. One can gain an appreciation for the wide range of interest of members of the Academy by an examination of the contents pages of various volumes of the *Proceedings* from across the years. In more recent years that variety of interest can be seen in the newer subject headings of Science Education, Geography (1953), and Conservation (1959), which have been added to the previous divisions. The annual volumes of *Proceedings* have thus become a storehouse of information on all aspects of science in the state. It is on account of this magnitude of material and the diversity of subject matter covered across the years that cumulated indexes are useful. Many volumes since 1957 contain memorial notes for recently deceased members of the Academy and thus provide biographical material that is often otherwise difficult to obtain. This information is also readily accessible through the more recent indexes.

While much of the information pertaining to the so-called "hard sciences" is accessible through special subject indexes, for example *Chemical Abstracts* and *Biological Abstracts*, the large amounts of literature in other disciplines such as geography, education, business, and history are not adequately indexed elsewhere. At the same time, the *Proceedings* indexes are especially convenient for use in obtaining information about Oklahoma in the fields of biology, geology, geography, and social sciences. It is in providing access to information related to Oklahoma that the major subject-oriented indexes are usually least adequate and for which *Proceedings* indexes serve the greatest need.

## PREVIOUS INDEXES

The first index, covering volumes one through ten, was published in 1931 as a bulletin of the University of Oklahoma.

It is both an author index and a conventional subject index (2). The second, published in 1942 with volume 22 of the *Proceedings*, cumulates volumes 11 through 20, 1931-1940 (3). It includes a subject index which arranges material under five broad science headings each of which is further subdivided several times. The third, a vicennial index, covers the next twenty years of the *Proceedings*, volumes 21 through 40, and was published as part of the latest of these volumes in 1960 (4). It too is arranged by broad subject headings as is its immediate predecessor. It includes a necrology index of the same twenty-year period.

#### **FOURTH INDEX PROCEDURE**

The fourth index was produced primarily from information on the contents pages of each of the first fifty-five volumes of the *Proceedings*. However, an examination of contents sheets, especially those of earlier volumes of the *Proceedings*, reveals that much of the information on the contents pages is inaccurate and incomplete. In some instances, a title on the contents page is not exactly the same as it appears at the head of the article within the volume. Where such discrepancies occur, the title as it appears at the head of the article, rather than as it appears in the table of contents, was selected to be used in the index. At the same time, page numbers were added to the table of contents where they had been omitted in the earlier volumes. In this collation process, it was discovered that some articles which had been published in the *Proceedings* had not been listed on the tables of contents. During this collation process, these titles were inserted into the tables of contents for inclusion in the index. Each volume of the *Proceedings* was examined from cover to cover to be sure that the information pertaining to titles and page numbers, as it was contained within the volume, was correctly recorded on the title page.

When this verification and collation process had been completed this information was transferred to punch cards from which the machine-readable print-out of the index was created.

#### **NATURE OF THE INDEX**

The index itself consists of three sections. The first section, an entry index, is an alphabetical list by first author of each of the titles which appears in the *Proceedings* between 1920 and 1975. Articles with joint authorship appear in the entry index only under the name of the first author. Each entry includes the author(s)' name, full title of the article, volume, date, and page numbers. The entry index is the only section of the index which includes full bibliographical description of articles within the *Proceedings*. Articles which are listed in the contents but for which no text was printed in the *Proceedings* are noted as being "by title" in each part of the cumulated index the same way they are designated in the tables of contents themselves. Each entry within this entry list is also assigned a number to which reference can be made from citations in either the author index section or the key-word-in-context (KWIC) subject index section which follow.

The second part is an author index in which all of the authors of papers, both single and joint, are listed. The bibliographical citation beside each author's name in this index includes volume number and page description. Included here also is the entry number which has been assigned to the particular article as it appears in the entry index. By means of this author index and by referring to the entry index, the user may determine the full title and bibliographical description of each of the papers which appears in the *Proceedings*.

The final part of the index is the KWIC subject index. This index is constructed by the computer using titles of all the articles in the *Proceedings* as its base.

All principal words in the titles themselves serve as subject descriptors of the material within the articles. Those principal words are printed in the subject index in alphabetical order with their context words printed before and after on the same line of the index. Thus not only do the key words in the title appear in the subject index, but the context in which each key word occurs is also presented in this KWIC subject index. Biographical articles such as necrologies appear in the KWIC index under names of the biographees the same as they appear in the tables of contents.

Bibliographical information included with the subject entry is the volume number and pages of the article to which the sub-

ject entry refers. Each line in this subject list also includes the entry number that identifies the article in the entry index where full bibliographical information is available.

The three older indexes to the *Proceedings* have been and continue to be valuable tools in gaining access to this literature. This is especially true of the vicennial index published in 1959 with its arrangement by author names under broad subject headings corresponding to the main divisions of the Academy itself.

The most obvious advantage of the 55-year cumulated index is the access it provides to all of the literature published since 1959. This is done by means of a complete author index including all joint authors. The KWIC subject index provides greater in-depth access also to information in the *Proceedings*. And then, of course, the fifty-five year cumulation provides the same thoroughness and depth of access to the older literature which has heretofore been available in a more limited way by its three predecessors.

Besides these immediate benefits, there is the added one which may be realized in the future. To the existing data base of computerized information from which this latest index was produced can easily be added author and subject information of each future volume as it is published. With relatively small investment in time and money, this latest index can itself be kept up-to-date for quick, convenient and thorough coverage of the *Proceedings* as soon as they are published.

The tape of this fourth index in its present form is currently stored at the computer center at the University of Oklahoma. Queries for copies of the print-out may be directed to the university library.

#### REFERENCES

1. C. W. SHANNON, Proc. Okla. Acad. Sci. 1: 8-12 (1921).
2. Okla. Univ. Bull. N.S. no. 525 (1931).
3. Decennial Index to the Proc. Okla. Acad. Sci., vols. 11-20, 1931-1940, Proc. Okla. Acad. Sci. 22: 199-216 (1942).
4. Vicennial Index of the Proc. Okla. Acad. Sci., vols. 21-40, Proc. Okla. Acad. Sci. 40: 156-193 (1960).