OBSERVATIONS ON THE LITERATURE ON ANESTHESIA

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Anesthesia had no independent literature before the middle of the last century. References to anesthesia published before that time have been culled from the general scientific literature. Scientific knowledge has progressed from its Oriental beginnings, of which little evidence remains, through the Mesopotamian, Egyptian, Grecian, Arabian and Western phases. Between the Grecian and Western eras more than a thousand years elapsed during which all contact between the two cultures might have been lost if the literature had not been preserved and translated, first into Arabic and then assimilated into the Jewish and Latin literature. The church was largely responsible for the preservation and translation of manuscripts during centuries when scientific progress was dormant. The rescue of valuable manuscripts from Constantinople only a few years before its fall to the Turks, as well as the accumulation of manuscripts from other places, is one of the great achievements of the Medici family of Florence, Italy. This family's collection of books and manuscripts as well as art treasures began what is now known as the Renaissance. Dissemination of this literary material was forwarded by hand-made copies but the invention of the printing press soon accelerated the spread of learning.

The first scientific journal, The Journal des Souavans, was published in 1665. Today 23,000 scientific journals are printed annually; 5,000 of these are medical journals which contain 3,000,000 pages of medical literature each year.

Specialized interest in anesthesia narrows the field of medical literature to comprehensible size. There are now nine journals of anesthesia: 1. Anesthésie et analgésie, the French journal, was not published for a time during the war but recent correspondence announces the resumption of publication.

2. Anesthesiology is now in its seventh year of publication.

3. The British Journal of Anaesthesia managed to continue publication during the war and copies arrived in this country regularly.

4. Current Researches in Anesthesia and Analgesia is now in its twenty-fifth year of publication.

5. Giornale italiano di anestesia e di analgesia has not arrived during the war and its present state is not known.

6. The Journal of the American Association of Nurse Anesthetists only last year was raised to the rank of "Journal," having been a "Bulletin" before that time.
7. Revista Argentina de Anestesia y Analgesia has not arrived in this country since August of 1945.

8. Schmerz Narkose-anaesthesia, the German journal, has not arrived since 1940.

9. Anesthesia Abstracts is in its eleventh year of publication.

In addition to the journals, books constitute another source of literature on anesthesia. An estimated 2,500 medical books are published annually. The Catalogue of Medical and Technical Books for 1946 lists only thirteen books on anesthesia published during the years 1930 to 1944 inclusive.

The accumulation of medical literature has made the founding of medical libraries necessary. There are 324 such libraries in the United States. The largest is the Army Medical Library in Washington, D.C., which contains 419,500 volumes. Of the 5,000 medical journals this library subscribes to, 2,500.

The American Medical Directory contains a list of Medical Libraries of the United States, Hawaii, Philippine Islands, Puerto Rico and Canada. In addition to the literature on anesthesia in these libraries there are many collections pertaining to anesthesia. Dr. Chauncey Leake, in the introductory essay to Keys' "History of Surgical Anesthesia," has listed some of these and I quote his paragraphs on the subject. "The most significant, is that preserved with the 'Ether Room,' the old operating amphitheater at the Massachusetts General Hospital. . . . Among the more extensive collections is that brought together by the late Dr. Logan Clendening in Kansas City, Kansas. . . . His [Sir William Osler's] library at McGill, under the direction of Dr. W. W. Francis, has many fine items. A large collection of American anesthesia literature has recently been acquired by Dr. Josiah C. Trent of Durham, North Carolina. Dr. Lawrence Reynolds of Detroit has built up a splendid anesthesia collection. It is especially rich in European literature. Dr. Emmet Field Horine of Louisville, Kentucky, has also collected in this field. Dr. Harry Archer of the University of Pittsburgh School of Dentistry has developed the best collection relating to the work of Horace Wells. As might be expected, Dr. Arno B. Luckhardt in Chicago possesses a noteworthy group of anesthesia items. The best Priestley material was assembled by the later Edgar Fahs Smith at the University of Pennsylvania. The Historical Library of Yale Medical School under the direction of Dr. John F. Fulton has assembled one of the country's outstanding collections.

"The Crammer Room of the University of California Medical Center in San Francisco shelters particularly fine original manuscript and association items relating to all phases of anesthesia. Dr. Ralph Waters of the University of Wisconsin has also developed an admirable historical anesthesia collection under the inspiration of the late Dr. William Snow Miller. The Frank McMechans labored heroically to
afford appreciation of the romantic interest and history of anesthesia, and their efforts are being worthily maintained by Dr. Howard Dittrick in Cleveland. One of the best collections abroad on the history of anesthesia was brought together at the Radcliffe Infirmary in Oxford by Dr. J. M. MacIntosh."

In order to make these libraries and collections useful they are in charge of specially trained librarians but if the reader does not make himself acquainted with the whereabouts of the libraries, he cannot avail himself of the literature. Schools now require a knowledge of literature as a necessary part of scientific training. The ability to utilize the literature on anesthesia requires some knowledge of the library itself, of the various bibliographic and reference books available, of how to use indexes and catalogues and of the principles of bibliographic citation. Failure to acquire these essentials of the reader's art makes laggards of many in their reading habits. The first step in forming a pleasant and useful habit then should be introducing oneself to the librarian at his place of business and making known one's special interest.

The two indexes containing references to medical literature are *Index Medicus*, volume I of which was published in 1879, and *Index Catalogue of the Library of the Surgeon General's Office, U. S. Army*, volume I of which was published in 1880.

For persons who do not have access to libraries, there are lending facilities which can be arranged with medical librarians or directly with the lending library. Some of these are as follows: (1) members of the American Medical Association may borrow articles listed in the *Quarterly Cumulative Index* directly from the American Medical Association librarian for three days; (2) the American College of Surgeons' Library has a "package service"; (3) John Crerar Library, Department of Medical Sciences, Chicago.

It has been my hobby for more than ten years to search the medical literature of the Mayo Clinic Library for articles of interest to anesthetists. The result of this search is the collection known as *Anesthesia Abstracts*. The purpose of these abstracts is to present as much of the literature on anesthesia as possible to those who have neither the facilities nor the time to search out this material. It has been interesting to watch trends in anesthesia which the reading of more than 6,000 articles necessary to the preparation of these abstracts has made evident.

Failure to publish a new discovery has lost to the individual the credit for the discovery in many instances. Crawford Long waited for bigger cases so that he might make his report more convincing and by so doing started the controversy which still wages as to his right to the claim of having first administered ether for surgical anesthesia.

Too great enthusiasm is sometimes evident in publications of new ideas without adequate trial and proof. All anesthetists are familiar
with the periodic discovery of the "ideal anesthetic" and the subsequent disproof. Some careful authors have the satisfaction of seeing the subjects of their enthusiasms accepted wholeheartedly by members of the anesthesia world. W. T. Lemmon's continuous spinal anesthesia is an example of a new method which was accepted at once and continues to be used increasingly. Conversely, an excellent idea, presented in masterly fashion, sometimes fails to come to the attention of the right persons at the time and may wait for years, often until another similar idea has been accepted before its actual worth is realized. Such is the case of an article written by J. G. P. Cleland entitled, "Para-vertebral Anaesthesia in Obstetrics; Experimental and Clinical Basis," and published in Surgery, Gynecology and Obstetrics in July 1933. In this article the fundamental principles underlying the use of regional anesthesia for obstetrics were presented but several years elapsed before other discoveries brought the same principles into the practice of anesthesia.

Wrong conclusions drawn from correct facts are sometimes the fault of the author and sometimes the fault of the reader. Adverse conclusions may cause a doubt as to the safety of an anesthetic drug or method. A good example of this is evident in the literature concerning pentothal sodium after Pearl Harbor. Some of the opinions are typified in an article by F. J. Halford, "A Critique of Intravenous Anesthesia in War Surgery," published in Anesthesiology in January, 1943, in which Admiral Gordon-Taylor's statement regarding spinal anesthesia is paraphrased, "Intravenous anesthesia is . . . an ideal method of euthanasia." Other and later reports condemned pentothal sodium as a wartime anesthetic. It has been interesting to see the reports from all theaters of war in which this condemnation has been refuted by other authors who correctly concluded that it was not the agent or the method but the manner of administration which was wrong and had the courage to use pentothal and with excellent results.

Misuse of the language, misspelled words, illogical development of an idea as well as wrong conclusions are all evident in the literature on anesthesia. This is regrettable and may engender a doubt in the mind of the reader as to the author's qualification to discuss the subject at all. I doubt whether I would willingly have pentothal administered to me by a person who spells the word, "pendathol," or a spinal anesthetic by one who spells novocaine, "novacane." The services of an editor should be sought by the anesthetist who has a message to present but is unable to put that message into writing in an accurate and intelligible manner.

Much of the literature on anesthesia is repetitious but repetition may serve a useful purpose. To the writer reiteration of facts may be necessary for the logical and clear development of an idea. To the reader repetition may be necessary to understanding, for few persons
learn the first time they see, hear or do a thing but must repeat, often many times, before they know.

Reading will give to the anesthetist a familiarity with the many details of the rapidly growing knowledge concerning anesthesia. If the facts are right, he may accept them into the practice of anesthesia. If they are wrong, he may compare them with the opinions of others and his own experience and by so doing prove their worthlessness and avoid the costly necessity of learning by experience. He need not subscribe to every theory of every author. The real secret of the value of literature in education lies not in the reading alone but in the stimulus to thinking which reading offers. Unless reading gives this stimulus, it has failed of its purpose.

RESOLUTION ON EVIDENCE OF PRACTICE OF MEDICINE

This resolution, passed by the Section on Anesthesiology in San Francisco, and tabled by the House of Delegates at the same session, was reintroduced into the House of Delegates at its supplemental session in Chicago by the Section representative and referred to the Reference Committee on Miscellaneous Business. The Reference Committee offered the following substitute resolution in place of the above:

WHEREAS, The accepted method of notification of the amount of recompense indicated for medical service rendered consists in presentation to the patient or responsible party of a statement or bill for service rendered by the person rendering such service; and

WHEREAS, The amount involved has been established over a long period on an individual basis between the physician and the patient; and

WHEREAS, The fee rendered is usually based on the duration of service in time and effort, responsibility involved, material expenditures, the financial status of the patient and the qualifications of the physician; and

WHEREAS, The practice of anesthesiology has been defined by the American Medical Association as "the practice of medicine"; therefore be it

Resolved, That the House of Delegates of the American Medical Association reiterate its position that the administration of anesthesia constitutes the practice of medicine and the presentation of bills and the collection of private fees for such service rendered by others than recognized practitioners of medicine shall be considered as the evidence of practice of medicine; and be it further

Resolved, That these resolutions be sent to the agencies of each state having jurisdiction for the enforcement of medical practice

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share to teach and train those individuals desirous of learning, and to disseminate information concerning anesthesia. I am reasonably sure that I bespeak the wishes of the editorial board of Anesthesiology when I say that we need more contributions to the journal which are of the highest caliber—papers which indicate results of sound investigative laboratory or clinical work. We are not surfeited with good material.

It should be the duty of every member of this Society to keep informed as to the policies formulated in his local and state medical societies, particularly where anesthesiology is considered. Where opportunities arise, we should actively participate in organizational programs to better the professional and economic aspects of the specialty. If we do not do this, somebody else will participate in these problems and most likely the results will be to our detriment. I urgently ask for your earnest endeavors, and will welcome the assistance of all individuals willing to sacrifice some of their time and energies for our mutual interests.

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acts and also to the secretary of the state medical association of each state.

After this substitute resolution was presented and its adoption proposed, a discussion followed by several members of the House, after which it was duly moved and seconded that it be referred again to the Reference Committee for further consideration, which motion was lost in a standing vote. Subsequently, the resolution was adopted with the following amendment: "This in no way applies to nurse anesthetists in hospitals under the direction, jurisdiction and responsibility of a regularly licensed doctor of medicine."