with their class numbers. With this arrangement it is possible to locate immediately any publication, even if only its origin is known. The chief advantage of the scheme lies in the fact that all material with cross references on any given subject are immediately available.

For agricultural workers in special lines the classification may not be complete enough but this may be easily remedied by preparing an outline for more minute classification. For the purposes of the writer the heading insecticides and fungicides was further subdivided and this has been very satisfactory so far. As the worker in insecticides and fungicides is often called upon for chemical information in other closely related lines such as parasiticides, germicides, weed killers, poisons for vertebrate pests and the like, it has often been debated whether the classification should belong under economic entomology, where it now is, or agricultural chemistry, or whether there should not be a special heading under agriculture for the entire subject or group of subjects. In such a case, the entire branch might be included under the heading "economic toxicology." This name the writer believes to be original and it appears to fill the need for a name for such a diversified and yet closely related group of subjects.

As to the actual storage of pamphlets, any of the suggestions found in the various communications are of value, provided the unit holder be not too large to facilitate the location of any particular publication.

M. R. Miller
Insecticide and Fungicide Laboratory,
University of California

QUOTATIONS

FINANCIAL SUPPORT FOR THE NATIONAL RESEARCH COUNCIL

At the request of the President of the United States, the National Research Council has been engaged during the past year in mobilizing the research forces of the nation. It has been an enormous task, to which many of the most brilliant workers of the country have given their undivided time. The work has gradually and logically centered at Washington, and the research forces of the country are now quickly available to any department of the government. Development has proceeded to the point where this organization can be truly considered a going machine, forming a connection between the research workers of the country-at-large and the government, and serving as a valuable coordinating influence. With the preliminary work now accomplished, its full value will be more and more nearly attained with each succeeding day.

For the continuance of the work, however, funds will be necessary. Up to the present its operations have cost the government absolutely nothing: office rent, stationery, postage, clerical assistance, etc., have been provided by private contributions, and the time of members of university staffs has been contributed by the respective institutions. For so important a body such an existence is too precarious. If the government needs war material it pays for it and a willing citizenry furnishes the funds through taxation. Are the brains of our scientific men less valuable in this crisis than coal or cotton? As an American citizen we hope that Congress before adjournment will supply adequate funds for the carrying on of the work of the National Research Council on the most intensive and extensive scale possible. We are unwilling to believe that the government of the United States is so pauperized that it must depend on "the passing of the hat" or that it is willing to continue to draw further upon the seriously impaired incomes of our universities in order that the salaries of the men engaged in this work may be met.—*Journal of Industrial and Engineering Chemistry.*

SCIENTIFIC BOOKS

The Principles of Aerography. By Alexander McAdie. Rand McNally & Co., Chicago. 1917. 318 pp., 8vo, 51 ills., 59 charts and diagrams.

"The Principles of Aerography" deals with the most recent advances in meteorology. As to its title, turning to Murray's Dictionary[1]

[1] "A New English Dictionary," 1888, Vol. 1, p. 146.

we find the following: "Aerography, description of the atmosphere. 1753 Chambers Cycl. Supp., 'Aerography, a description of the air, or atmosphere, its limits, dimensions, properties, etc.' 1818 in Todd." This long-forgotten synonym for "meteorology" Professor McAdie seeks to restore as a title for the study of the atmosphere particularly in relation to human safety and progress. The word "meteorology" is so well-intrenched, however, and so comprehensive, that it is not likely, in our generation at least, to be replaced by "aerography."

The purpose and scope of the book are summarized in the opening sentence of the preface, ". . . to present this new knowledge [of about the last ten years] in a convenient form even if considerably condensed." There is much direct quotation. Thus we have here a useful supplement to American text-books in meteorology, of which the last comprehensive one was published in 1912. The points emphasized are necessarily not the well-known tenets of the science, but its recent developments. "Stress is laid on modern methods of attack and the practical application of whatever knowledge is already available." The most noteworthy feature is the exclusive use of metric and absolute units.

Unfortunately, coherence and clearness seem to have been sacrificed to brevity in the attempt to make the book a college text; with short chapters, numbered sections, and paragraph headings. The successive chapters are: "A brief history of meteorology; units and symbols; temperature scales; thermodynamics of the atmosphere; stratosphere and troposphere; the circulation of the atmosphere; the major circulations; the minor circulations; forecasting storms; the winds; the water vapor of the atmosphere; condensation; dust and microbes; atmospheric electricity; precipitation; floods and notable storms; frosts; [and] solar influences." The lack of a more systematic arrangement of the material probably will be a serious obstacle in the way of the use of the book as a text-book.

The subjects included are, for the most part, well chosen, though many are too briefly discussed. The consistent use of metric units of measurement and weight, and the absolute scale of centigrade temperature and of atmospheric pressure is highly commendable. The author's tables in these units, and his interpretations of aerodynamics place these complexities within reach of the well-taught student. The student, however, may be confused in having absolute pressure units presented as "kilobars" when they are commonly known as "millibars." "Kilobar" has historic precedence over "millibar," it is true; but "millibar" is the internationally accepted term.

On account of omissions or the tantalizing shortness in the treatment of many interesting subjects, the reader may wish that Professor McAdie's book were twice as long. For example, few students probably can understand the brief explanation of energy used in expansion (p. 43); and some may search in vain for an explanation of the prevailing westerly winds. Seeming contradictions are confusing: thus, a statement of the presence of great polar low pressures is followed by a mention of polar high pressures (pp. 54 and 56). It is hard to reconcile the following statement with all other mentions of the temperatures of the upper air: "10° A. Effective temperature of space. At an elevation of 80 kilometers (50 miles) the temperature ranges from 5° to 10° A." (p. 287). This is contrary to the radiation theory of the temperatures of the stratosphere (pp. 50 and 51); and up to 30 kilometers, at least, there is no observational basis for this assumption. Again, some one might ask why the temperature of the atmosphere is below the effective temperature of space. In some places the discussion hinges on quantities depending on perhaps three variables, of which only one is stated: on p. 43, the weight of a cubic centimeter of dry air is stated without mention of temperature and pressure; on p. 58, deflecting force is evaluated without specification of the latitude. Many of the erroneous or weak places in the book are ascribable to brevity. An error may be noted here (p. 139): "[In the atmosphere] if there should be no gradient [of temperature], we should have the density

the same throughout, and the temperature at the highest level would be the same as below." Density could not be the same, for the air is compressible. Finally, a student may wonder at the apparent accuracy with which downpours of rain are measured in all kinds of places, when he sees, for instance, that in a rainstorm lasting "0.0083" hours it rained at a rate of 480 mm. per hour (p. 216).

The volume will probably be of greatest value as a reference accompaniment to a well-ordered course in meteorology. As a reference book for the advanced student, however, it is lacking in footnotes or bibliography; but it offsets this with its wealth of tables computed only with difficulty, and of illustrations and diagrams drawn from valuable, inaccessible sources.

Charles F. Brooks
Washington, D. C.

Cancer, Its Cause and Treatment. II. Volume. By L. Duncan Bulkley. New York, Paul B. Hoeber. 1917.

The author believes, as he explained in his preceding book and as he further elaborates in the second volume, that cancer is essentially excessive intake of animal proteid which is a constitutional disease, due to a faulty nitrogen metabolism. He maintains that it is an excessive intake of animal proteid which is responsible for the great prevalence of cancer. There are additional factors in the etiology of cancer, but they are of relatively minor importance. In the second volume the author records in greater detail his investigations into urinary and blood changes in cancer and some results of his treatment which consists essentially in a vegetarian diet aided by a certain cathartic. In addition the author accepts the views of Ross, according to which cancer is due to a lack of balance in particular mineral salts of the body, especially in the salts of potassium. Dr. Bulkley finds the conclusions of Ross confirmed in his own practise, in which he noticed that a prescription containing potassium acetate gave eminently satisfactory results in the treatment of cancer.

Leo Loeb
Washington University Medical School

THE VANISHING INDIAN

The progress of miscegenation among many of the Indian tribes has progressed to a degree that is surprising even to those who for many years have been studying the Indian. While the total number of "Indians" as recorded by the census increases from decade to decade, the fact is that this increase is due wholly to that of mixed bloods; the full-bloods of pure strain are in most localities rapidly disappearing and in a considerable proportion of the tribes have become actually extinct or are on the point of extinction.

Two remarkable examples of this fact have just been experienced by the writer. For years a growing necessity in American Anthropology has been to determine the physical type of the Shawnee, once a large tribe and one of considerable historic importance. No great difficulty was apprehended in this task, as the tribe is still well represented. The most promising part of the tribe was that of the so-called "absentee" Shawnee, on the Shawnee Agency in eastern Oklahoma. They count 569 individuals, quite a few of whom are generally regarded as "full-bloods."

Due to a grant of $100 from the Committee of One Hundred on Research of the American Association for the Advancement of Science, the writer was able to visit the tribe during the early part of August of this year. To his great disappointment the task of finding some pure-bloods became exceedingly difficult. Quite a few of the Indians were found to be "full-bloods," but on inquiry into the family history it was generally learned that the subject was a mixture of Shawnee with the Oneida, Delaware, Creeks, or some other tribe. In conclusion, there were found but three individuals who so far as they or their friends knew were full-blood Shawnee. Two of these were old women and one an old man, all near or over 70 years of age, and two of the three were sister and brother.

The next tribe visited were the Kickapoo, the main body of which to the number of 211 is settled about McLoud, Oklahoma. They were said by the old Shawnee to be practically