The Canadian Government should absolutely prohibit all shooting on the Bird Rocks and all taking of eggs after the first of June. In pleasing contrast to this Mr. Job tells of the increase of gulls and terns at some localities on the New England coast, where they have been protected. He shows us these gulls and their nests, not only on the ground, but perched in spruce trees, where most of us would hardly think of looking for such birds. The largest colony of gulls described was in Dakota, where Mr. Job found thousands of Franklin's rosy gull breeding in and about a shallow lake, the nests being so numerous as to be often within a few feet of one another. Some of the best views in the book are from this colony, but perhaps the most striking are some of gulls in full flight, taken by Mr. von Bargen in San Francisco Bay.

Not quite all of Mr. Job's hunting was done with a camera, for he gives some very vivid glimpses of sea duck shooting off the Massachusetts coast, although, truth to tell, these are the exceptions.

The ornithologist and the casual reader will find this book most enjoyable, full of pleasantly given information, accompanied by illustrations that illustrate. Some of these are not quite up to the modern standard, but when we read how many of them were obtained we cease to wonder at this, and can only admire the pluck and perseverance that obtained them. F. A. L.

Die Bakterien. By Johs Schmidt and Fr. Weis. Jena, Gustav Fischer. Pp. 406.

The extraordinary development of the science of bacteriology has resulted in the production in the last fifteen years of a large number of manuals and text-books devoted to various phases of this general subject. Books upon general bacteriology have appeared in many languages and it would hardly seem that there could be found room for another work upon the same general subject. The authors of the book before us have, however, found a niche which has been hitherto unoccupied and which they have succeeded in satisfactorily filling. Bacteriology is preeminently a *practical* study. At first it created an immense amount of interest because of its application to the fascinating subject of disease, and more recently because of its intensely practical value to the agriculturist. Most works on bacteria have, therefore, devoted at least a large part of their attention to the practical applications of bacteriology in one direction or another. The works upon bacteriology which may be now found in our libraries are devoted in part to the study of bacteria as scientific objects, and in part to their relations to disease or to natural phenomena with which they have been found to be so intimately associated. The work of Schmidt and Weis leaves out of consideration all practical considerations and all practical applications of bacteriology and is devoted wholly to the study of bacteria from a standpoint of pure science.

The authors divide the subject into three sections. In the first they study the morphology and the systematic relations of bacteria; in the second their physiological relation; and in the third the systematic relations of the most important of the species of bacteria which have been described in literature. The work has the further advantage that of the two authors, one has been able to devote himself to the morphology and systematic study, and the other to the physiological study of bacteria. The result of this is that both sides of the study of bacteriology are more satisfactorily and authoritatively treated than when a single author attempts to deal with both aspects of this somewhat complicated subject. The work becomes, therefore, one of special value; its treatment of the problems considered is clear, concise and authoritative. It shows the greatest familiarity with the most recent advances and discoveries in connection with bacteriology, and presents all of the subject considered in a clear and sometimes in a fresh light, which is very suggestive. The language which is used is simple, straightforward and extremely clear, and on the whole there is probably no work yet published which contains such a clear, concise and authoritative account of the morphology and physiology of these immensely important microorganisms.

This work must be looked upon to a large extent as an *introduction* to the study of bacteriology. After all, most people who study bacteria are sure to study them for their practical bearing upon various topics, rather than for the scientific relations of the bacteria themselves. In order to understand the relations of bacteria to disease, to agriculture or any other practical subject it is necessary, first, to have a tolerably good knowledge of the bacteria themselves. Such a knowledge is furnished by the work in question and this book will, therefore, serve as a foundation for the study of bacteria to students who are interested in the application of these organisms in any direction. No work has yet appeared which gives in such a brief space an equally clear, concise account of bacteria, their structure, their methods of development, their relations to external conditions, their distribution, their physiological relations to environment, etc., as this work by Schmidt and Weis. It is to be hoped that a translation into English may appear.

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An Analytical Key to some of the Common Flowering Plants of the Rocky Mountain Region. By AVEN NELSON, professor in the University of Wyoming. New York, D. Appleton & Co. Pp. 94.

This little book is intended by the author to serve as an introduction to the study of Rocky Mountain plants. About four hundred species are described. It is expressly stated in the preface that the book should not take the place of a manual, and the teacher is warned not to use it for general field work. Plants should be selected for study which are described in the key. If the teacher will keep this warning in mind the work will, without doubt, be found very useful.

Hitherto it has been quite impossible to use modern nomenclature in school work in this region, because there was no work of reference containing the correct names of even our most common plants. Here is a work which, so far as it goes, is entirely modern.

It is a familiar fact, which was known even to Aristotle, that parents think most of their own children, that poets think most of their own poems. It seems now that botanists think most of their own species of plants. At least there are a good many plants in the key credited to 'Aven Nelson.' This apparent nepotism is explained when we examine the work carefully. Many of these favored species are really species quite common, but generally confused with similar species of the eastern states.

The key to the families in the front of the book seems admirably arranged to show the diagnostic characters. The plants selected to represent the different families are well selected. An important feature of the descriptions is the reference to ecological points in connection with the various species and genera. The habits and habitats are given as only one who knows the plants in the field could give them. Professor Nelson's long experience in the Rocky Mountain region has given him a mastery of the subject which no one from the eastern states could possibly have.

It is very much to be desired that in future editions of the work it may be found possible to include a few of the more common species of grasses, since they form such an important part of the earth covering. The reviewer believes that a knowledge of the morphology of the grass flower and fruit is not beyond the grasp of beginners. Species of *Agropyron* and *Stipa,* which are abundant in the region, can well be used with such students.

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SCIENTIFIC JOURNALS AND ARTICLES.

THE *Popular Science Monthly* for July has for its frontispiece a portrait of Asaph Hall, President of the American Association, which has just met at Pittsburgh. Cloudsley Rutter presents some 'Studies in the Natural History of the Sacramento Salmon,' giving many details in the life history of the fish, and showing the movements of the young from the time they are hatched until they reach the sea. Under the title 'A Modern Street,' S. F. Peckham describes the methods and materials employed in laying an asphalt pavement. An abstract is given of the 'Views of Dr.