

fects of impure water; Chapter twelve on water purification, and Chapter thirteen on scavenging of towns and sewage disposal, are very complete indeed for a book of this size. Under the head of sewage disposal he has withdrawn all descriptions of the chemical methods of treatment, but has very fully explained the theory and working of the bacterial tank and filters, which he very justly maintains should be adopted wherever irrigation cannot be advantageously carried out. His discussion of river pollution by the general introduction of sewage and the wastes of human life and occupation is brief, but sufficiently pointed to show that few streams can be used with perfect safety as sources of public water supply.

In speaking of the disposal of the dead, the author makes a strong plea for cremation, but deems it in the highest degree improbable that, for many generations at any rate, there will be any appreciable change in the practice of interment, sanctioned as it is by usage, sentiment and prejudices. He considers the fear that cremation would, by precluding subsequent examination, serve to conceal, if not offer an inducement to, crime as exaggerated or groundless, and shows how cremation might be made to lead to the detection of crime as it has already done in Italy, by exacting a more rigid system of certificates of death from the medical attendant, and in doubtful cases a post-mortem examination.

Chapters fifteen and sixteen, on preventable diseases, immunity and disinfection, are fully up-to-date and of great value, as is also the chapter on school hygiene, especially the discussion of the excessive and misdirected mental work. His long and practical experience as a physician, sanitarian and school manager entitles him to speak with authority on the subject. His chapters on the health in the workshop, comparative mortality of various professions and trades, meteorology, climate and health resorts contain a fund of useful information not generally found in a work of this character. On the whole the student of hygiene is to be congratulated upon the appearance of this very accurate and complete book.

GEO. M. KOBER.

*Forstästhetik.* By HEINRICH VON SALISCH. Berlin, Julius Springer. Second edition. Octavo, paper cover. Pp. 314. Illustrated with sixteen full-page heliotypes and fifty-nine half-tones and figures.

This book treats of woodland scenery in its relation to the science of forestry. The author describes in detail the scenic beauty of the artificial forests of Germany. These have long been subjected to systematic methods of treatment, and although the ostensible object has been solely to increase the practical value of the forests, they have incidentally been given a distinctive character that is well worth our study. The subject should interest Americans because the forestry movement that is now so rapidly gaining ground in the United States must, in its practical application, ultimately affect our wooded landscapes.

The book comprises two parts, the first of which opens with an introductory chapter on the relation between the economic and the æsthetic aspects of forestry. Then follow several chapters on the nature of beauty and our capacity to understand its various modes of expression. The remainder of Part I. shows how this beauty is revealed by the various components of the forest.

In Part II. the author enters into a careful discussion of the æsthetic effects that are due to the various operations of forestry, such as the construction of road systems, the choice of species in renewing the forest, the methods of sowing and planting, and the different systems that regulate the cutting of the timber. The concluding chapters treat of certain principles of landscape art that in the author's opinion may advantageously be applied to the practical forestry of Germany.

The author is thoroughly familiar with his subject in its utilitarian as well as its æsthetic aspects, and has produced a work of decided value. His manner of treatment shows exceptional powers of discrimination, particularly in matters of taste. The book contains many extracts from writers who have incidentally touched upon forest æsthetics, thus affording an opportunity for a broad but liberal criticism of the various points of view. While Mr. von Salisch therefore does not

claim originality for some of the ideas advanced, and while it may even be said that his book is in several respects incomplete, he has at least given unity and connection to the scattered materials at his command. Moreover an interval of seventeen years, which has elapsed between the first edition and this second appearance of the work, has enabled him to enrich it with many new thoughts and suggestions and to add a number of beautiful and interesting illustrations.

Mr. von Salisch's book is unique in that it presents the first comprehensive discussion of forest æsthetics. It will commend itself to landscape artists, in spite of the fact that certain portions are technical and can be thoroughly understood only by persons who are familiar with the subject of forestry. It should have distinct value for the student of æsthetics, especially Part I., which contains many interesting suggestions regarding the philosophy of beauty. But to the professional forester 'Forstästhetik' should prove especially valuable and interesting because it throws a flood of light upon the broad possibilities of his profession. As our country is devoting more and more attention to conservative forestry, he naturally asks how his work will affect the natural beauty of our landscapes. 'Forstästhetik' shows him how the beauty of a forest may be brought out to special advantage by a forester of taste without affecting its usefulness, and is thus calculated to give him a clearer insight into the scope and dignity of his profession.

G. FREDERICK SCHWARZ.

BUREAU OF FORESTRY.

*Elementary Zoology.* By VERNON L. KELLOGG. New York, Henry Holt and Company. 1901. Pp. xv+492.

Kellogg's 'Elementary Zoology' is planned to meet the requirements of a laboratory guide and of a reading text in introductory zoology. The book is divided into three parts: the first dealing with the structure, functions, and development of animals, the second with systematic zoology, and the third with animal ecology. The text proper is followed by appendices on the needs of the

pupil, the equipment of the laboratory, and the rearing of animals and the making of collections. The volume is concluded by a good index to subjects and illustrations.

Judged from the standpoint of a laboratory guide the book gives a wide selection of types, and these are dealt with in an unusually satisfactory way for an elementary treatise, the descriptions being neither too exhaustive nor too superficial. Everywhere, however, too much information is given the student. Why ask if the alimentary canal of the toad (p. 8) is uniform in character, and in the same paragraph describe the stomach as an *enlargement*, the small intestine as *slender*, and the large intestine as *larger* than the small intestine? With figures and with descriptions of this kind the book is bound to sap most of the life from the laboratory work. A good laboratory guide should be built upon leading questions, which incidentally include a good terminology, and it should be in the main without illustrations. It follows from this that a book designed to be of an informational character and also a laboratory guide is bound to be somewhat of a failure in one direction or the other.

From the standpoint of an elementary reading text much can be said in favor of the volume. It is written with unusual accuracy and the small errors so commonly met with in elementary works of this kind are here noticeably absent. The defects are chiefly omissions. It seems hardly fair to use the title zoology for a book that nowhere contains even a brief exposition of the animal body as a working machine, and that from cover to cover makes no mention of the host of animal forms known only as fossils. Of course, the chief task of the author was to omit, but it seems scarcely wise to carry this to the point of excluding the fundamental results of animal physiology and of paleozoology.

As a piece of book-making the volume is serviceable. The search for novel illustrations has often led to the use of poor photographs where good drawings would have been much better. It is questionable whether the pupil will gain much from such a figure as that of