

holds good in the case of the parts already issued, we should like, nevertheless, to see a little more method displayed in the grouping of the species contained in the forthcoming parts.

In the second place, since more than one species is now for the first time made public property, it may prove as serious an oversight as it is an irreparable one, that the exact date of the issue of the several parts has not been permanently recorded on the title-pages. Moreover, these new species, instead of being rendered conspicuous as such by the familiar symbol *n. sp.*, are ascribed to Dr. Thorell, with the simple addition of the words "Thorell MS." No doubt the considerations of courtesy expressed by this ascription are worthy of all praise; but it will be as well to bear in mind that the species are for the first time described and figured in a work, not by Dr. Thorell, but by Mr. and Mrs. Workman. It is, consequently, within the bounds of probability that some of us may feel inclined to question the right of the latter two authors thus to constitute the former the founder of these species; seeing that his sole claim to the title rests upon an unpublished suggestion respecting their names, coupled with a privately expressed opinion that they were new forms.

We should also like to suggest that a little more precision in the printing of the figures would greatly add to the value of the plates, without much increasing the cost of their publication. If this and the other alterations we have ventured to propose are adopted for the remaining parts, it is certain that the work, when complete, will rank as one of the most important contributions to the natural history of spiders that has appeared in the last quarter of this century.

R. I. POCKOCK.

#### THE PLATEAU REGION OF SOUTHERN FRANCE.

*The Deserts of Southern France; an Introduction to the Limestone and Chalk Plateaux of Ancient Aquitaine.*

By S. Baring-Gould, M.A. With illustrations. In two volumes. (London: Methuen and Co., 1894.)

THE region described by Mr. Baring-Gould, lies, roughly speaking, to the south and south-west of Auvergne, forming a kind of border-land to that country and the Cevennes. Most of it goes by the name of Les Causses. This is a limestone region, furrowed deep by gorges, and pierced by caves. On the eastern side it rises, in three steps, from the neighbourhood of the Gulf of Lyons to the central *massif* of ancient granite and schists and of comparatively modern volcanic-rock; on the western side it falls, in like manner, to the sandy lowlands on either bank of the Garonne.

The scenery of these gorges is always striking and often grand; the finest cañons being those traversed by the Lot and the Tarn. Mr. Baring-Gould's first mention of the former river may serve as an example of the characteristic scenery.

"Near its cradle it passes under the frowning Causses of Sauveterre, then it cleaves the limestone of the Rouergue, and afterwards winds and writhes like a serpent through the Causses of Quercy. Everywhere, at every stage, it affords surprises; the scenery is sublime and quaint. On both sides the cliffs are encrusted with

castles and domestic habitations, built half into the crags. Churches and towns stand on the tops of the cliffs, and look down on the boats that glance by. In its sinuosities it washes overhanging scars, without leaving soil at their feet on which to plant a foot, whereas an alluvial meadow, rich and rank, is on the farther bank; then, suddenly, the capricious river turns to the opposite side and treats it as the first. Consequently a road was only to be carried up the Lot valley by means of tunnels and bridges."

Among the natural wonders of this region, its caves and swallow-holes are not the least. These Mr. Baring-Gould seldom ventured to examine in person, but he quotes extensively from M. E. A. Martel, one of their most adventurous explorers, and gives some excellent illustrations. The latter remind us of similar features in the Carinthian Alps to the north of Trieste, and in the Carboniferous Limestone districts of our own country, with which Prof. Boyd Dawkins has made us familiar in his book on "Cave Hunting." In exploring these underground regions a human interest is not always wanting; for the investigator may come across the skeleton of a suicide or the remains of prehistoric man, while the stalactites are sometimes remarkably fine.

It is unfortunate that Mr. Baring-Gould did not get some friend, more expert in geology, to look over the proofs of his book. His references to that subject are often wanting in clearness and precision, and thus are sometimes rather perplexing. This is perceptible even on the title-page, where he speaks of the "limestone and chalk plateaux." But "chalk" is a "limestone," so we conclude that the author uses the term in a limited sense, whether it be the descriptive or the geological. But if the former, then, so far as we are aware, the soft white limestone which we call chalk does not occur in the Cretaceous system of Southern France; and if the latter, some distinctive epithet, such as "Jurassic," should have been inserted before "limestone." Such a statement as this also is puzzling: "The lowest stage (of the Causses) . . . is of chalk with a layer of lias above it in places." This is incomprehensible, unless Mr. Baring-Gould uses chalk merely as a synonym for light-coloured limestone (which he often does, unless we misunderstand him), or some strange faulting has occurred (which seems highly improbable). The following passage, also, will hardly satisfy either a zoologist or a geologist:

"The Dolomitic limestone is held to be coral rock built up under water by the industrious insect that is at present forming reefs and islands in the Pacific. At the time when these tremendous masses were composed, the lias lay at the bottom of a warm shallow sea, and on its banks the coral worm worked. Gradually the bottom of the sea sank, and as it sank, so did the insects build upwards towards the light and warmth. After a lapse of ages the whole was upheaved. . . . As the construction is vertical, the structure is vertical, and as the coral insects twisted and turned about sponges, masses of seaweed, and avoided cold currents, the whole mass of rock abounds in hollows in which water accumulates, and in passages through which rivers run."

These, however, are trifling blemishes, which can be readily put right in a second edition. The book is delightful reading, and is full of interesting information, at which we have only time to glance. Mr. Baring-Gould, among other things, gives a good account of the curious fire-hills of Cransac, produced by spontaneous com-

bustion, in the coal basin of Decazeville and Aubin. His description also of the irreparable mischief wrought by the reckless destruction of forests, is well worth reading, for it must be remembered that the weird desolation of the limestone plateaux is a thing of comparatively recent date, and an indirect consequence of the French Revolution. Of the rock shelters of the "reindeer age" in the valley of the Dordogne and of other rivers, he has much to say, and of the dwellers in "holes of the rock" down to the present day; for these caves have been enlarged, or faced with masonry, or actually excavated, at various dates, and in some cases are still inhabited. Of the dolmens and other megalithic remains which are common on the plateaux region, Mr. Baring-Gould writes as one who has made a study of the subject. Perhaps some of his ethnological speculations may not meet with universal acceptance, but they are, at any rate, worth considering. The book contains many curious bits of folk-lore, as we might expect, and narrates sundry remarkable historical episodes in the mediæval struggle between France and England, and in the sanguinary conflicts of Huguenots and Romanists. A chapter is also devoted to the romantic, though often discreditable, story of Joachim Murat, who was born at a dirty little "bastide" of the same name on the Causse de Gramat, near the source of a tributary of the Lot. The book, in short, while it indicates the author's cultivated tastes and wide range of reading, directs the attention of travellers to a region of singular and varied interest, which hitherto has received but little notice even from the French themselves. It is only inadequately described in Reclus' great work, "Géographie Universelle." It has not, however, escaped the indefatigable emissaries of Baedekker, who gives, in the volume on Southern France, a succinct account of the district, evidently founded on personal knowledge. Armed with the little red book, and Mr. Baring-Gould's more bulky volumes, a rich reward undoubtedly awaits the visitor. The guide-book will direct his steps aright; Mr. Baring-Gould's pleasantly written and admirably illustrated volumes will give him abundant information about the chief points of interest, whether physical, archæological, or historical, and will be an unfailing resource during those hours of enforced leisure, which, on a journey, are apt to become tedious.

T. G. BONNEY.

### OUR BOOK SHELF.

*An Elementary Treatise on Theoretical Mechanics.* Part I. Kinematics. Part II. Statics. By Alexander Ziwet, Assistant Professor of Mathematics in the University of Michigan. (London and New York: Macmillan and Co., 1893.)

AMERICAN mathematicians have always followed the system of the French and continental school, so that the progress of the American student in analytical development has not been arrested and stunted by the excessive reverence of the Newtonian methods prevalent in this country.

According to the continental system a student is introduced at the earliest possible stage to the Cartesian methods of geometry and to Leibnitz's extensions in the domain of the Differential and Integral Calculus; and then, even with a comparatively small equipment of analytical knowledge, hardly extending beyond an

acquaintance with the notation, he is prepared to study and appreciate a work like the present; while the English student is kept back by clumsy antiquated methods, on the pretext of developing his geometrical and general reasoning powers.

This work is intended as an introduction to the science of theoretical mechanics, adapted to the particular wants of engineering students who, with the characteristic practical energy of their race and age, will not desire to be kept marking time over the rudiments.

The general treatment of the subject is elegant and complete, and valuable collections of illustrative examples are introduced at the different stages. One of these, however (ex. 6, § 276), caught the eye, as requiring amendment; as also the Fig. 29 of the catenary.

An old friend, the problem of the beam in a bowl—in other words, of a spoon in a teacup—given as ex. 20, § 151, deserves separate discussion, and a complete solution in the text.

The present opportunity is favourable for expressing to Prof. Ziwet the thanks of mathematicians in this country for his valuable Report of Prof. Klein's Lectures on Mathematics, called the "Evanston Colloquium," held before members of the Congress of Mathematics in connection with the World's Fair at Chicago, at Northwestern University, Evanston, Ill.

*By Order of the Sun to Chile to see his Total Eclipse, April 16, 1893.* By J. J. Aubertin. Pp. 152. (London: Kegan Paul, Trench, Trübner, and Co., 1894.)

TWO years ago Mr. J. J. Aubertin, having seen a copy of NATURE for October 13, 1892, containing a letter on the then coming solar eclipse, went home and dreamed a dream. In his vision the Sun visited him and ordered him to gird up his loins, and go to the desert of Atacama and watch the eclipse. This brief explanation is necessary in order to account for the rather clumsy title of the book before us. Mr. Aubertin, regardless of the belief that dreams should be reversed, and that he was seventy-five years of age, travelled to Chile, and, meeting Prof. Schaeberle there, became one of the eclipse party. He was, however, more an interested layman than a scientific observer, and therefore his book is of very little value to astronomers. In fact, the book is chiefly taken up with tittle-tattle of interest to very few beyond the parties concerned. A picture of the corona, as seen by the author, is very pretty, and compares favourably with the impressions recorded by observers of the phenomena before photography monopolised the field as a coronal artist. But at the present time, the results of visual observations of the corona are regarded with suspicion, and rightly, for they never afford any very definite information as to the true form and structure of the sun's surroundings. However, Mr. Aubertin faithfully records what he saw, so his observation must be accepted. The book contains Prof. Schaeberle's photograph as a frontispiece.

*Reise nach Südindien.* Von Emil Schmidt. Mit 39 Abbildungen im Text. (Leipzig: Wilhelm Engelmann, 1894.)

HERR SCHMIDT'S book is a plain, straightforward narrative of a tour through Southern India, in the course of which he visited Madras, Travancore, made an excursion to Cape Comorin, proceeded by Trivandrum to Cochín, and thence by Coimbatore to the Anamalai Hills, going afterwards to the Nilgiris, and finishing at Calicut. The object of the journey was mainly to study the native peoples, and numerous ethnological photographs give a certain value to the book. There is, however, nothing new in the way of an important contribution to science in the work, which is most interesting as showing the impressions produced on an intelligent and observant German by a visit to Southern India. The style is lively, but perfectly serious, and cannot fail to be of much value in Germany, where it appears few books have been pub-