mittee of the British Association for the schedules filled up by the light-keepers on the coast of his county. The necessary documents would doubtless have been readily placed at his disposal, and comparatively meagre as the results might have been, they would certainly have enabled him to give a considerable amount of additional information.

Like most of his fellows, Mr. Christy attaches an undue value to the number of species he is able to register, and his number is 272. We have often wished there would arise some strong-minded man who would clearly distinguish between a member of a fauna and a fortuitous straggler. Still, we gladly allow our present author to be more discriminative than many of his brethren, and highly applaud his exclusion of several species which they, or some of them, welcome—yet he more than once bows the knee to the prevailing Baal. It is bad enough for any British faunist to admit one species of Sooty Tern, especially when the alleged single specimen rests on authority not quite beyond suspicion, and, though not ten years have elapsed, has been “entirely lost sight of”; but the inclusion of a second species dulls one’s feelings, like an anæsthetic—especially when we are told that in this case it is the captor “who has since been lost sight of” (p. 261), though the specimen is (apparently) to the fore. Then, again, what can be more absurd than the admission of *Porphyrio smaragdonotus* (p. 225)—a species of which living examples are yearly imported in great numbers, and one that possesses faculties of escaping from confinement that would have been envied by a Casanova or a Baron Trenck.

It may be urged that we have picked out trifling faults, but we could reply that we have purposely chosen these instances to show two at least of the failings of faunists. Others we might specify of a rather different kind. It is a remarkable fact for ornithologists in general that the Needle-tailed Swift should have flown across the Old Continent from Eastern Siberia to Essex, but that fact does not make it a “British” bird, and the late Mr. Yarrell—generally too prone to naturalize all stragglers—was in our opinion perfectly justified in refusing it a place in his well-known work, while even the subsequent occurrence of two examples in Hampshire does not affect his rejection of it. As regards the inclusion of “stragglers,” the line is in many cases hard to draw, but in one such as this there ought to be no doubt in the mind of anybody who has a decent acquaintance with the geographical distribution of animals.

The present work differs of all others of its kind in two respects, and one of them is deserving of much praise. This is the useful “Biographical Notices of the principal Essex Ornithologists,” which are greatly to the point, and generally, as appears to us, well done, though Mr. Christy is somewhat lavish of the expression “excellent ornithologist.” That would doubtless be applicable to John Ray, who is not included, but in its literal sense to few if any others. Yet men like Sheppard, Hoy, and Henry Doubleday were worthies who left their mark on British natural history, and fully merit all that is said of them, while Christopher Parsons seems to have been one of those diligent observers who delight in hiding their candle under a bushel, and we feel under an obligation to Mr. Christy for bringing him out of obscurity.

Of the other distinctive feature of the work we cannot report so favourably. It is the needless introduction of a considerable number of figures representing the birds mentioned. Some of them, it is true, are reproductions of Bewick’s well-known woodcuts, and therefore right in the main, however poor the imitation. Next, if not equal to them, are the few drawn by Mr. Wolf; but the adaptations of the engravings from Yarrell’s work, if they cannot be called absolutely bad, are objects about as disagreeable as one ordinarily encounters, and there are others, the source of which we cannot divine, that make one shudder, for the draughtsman has evidently copied too faithfully (as the manner is nowadays) the distortions of the bird-stuffer—as witness the figure of the Swift (p. 144), which reminds one forcibly of the impossible tenants of the air in the familiar willow-pattern plate.

To sum up, let us say that with all its shortcomings Mr. Christy’s book is one that must demand the attention of every British ornithologist, for it “means business.” There is no attempt at fine writing in it, and yet its composition has clearly been a labour of love to the author. We trust he may be rewarded by a successful sale, which the populous county of Essex ought to insure, and be able to bring out a new edition. If so, let him eschew his woodcuts, and in their place give us more large type.

HYPNOTISM.

Hypnotism. By Albert Moll, of Berlin. “Contemporary Science Series.” Edited by Havelock Ellis. (London: Walter Scott, 1890.)

THIS book by Dr. Albert Moll, a physician of Berlin, on hypnotism, now presented to us in a becoming English dress, marks a step of some importance in the study of some difficult physiological and psychological problems which have not received much attention in the scientific world of England. The appearance of a text-book on any subject in a set of hand-books such as the “Contemporary Science Series,” indicates a general agreement on the main points of knowledge, and in this case a full admission of the subject to the category of recognized science. Dr. Moll’s work has already been widely accepted as a text-book in the German schools which are beginning to take some interest in his subject. The first edition was published hardly eighteen months ago, and was very rapidly exhausted; the second, from which this English translation has been made, shows good proof of the diligence and care of the author, in the large amount of new matter incorporated with the old, so that on the whole it is well up to date, a matter not so easy to accomplish in treating of a rapidly growing subject such as hypnotism, on which nowadays there are published some 300 books, pamphlets, and articles every year. There has often been in this crowd of minor literature of late years a tone of somewhat indignant, sometimes injured self-assertion, such as is not unnatural to the friends of a young branch of knowledge, who are anxious and perhaps over-anxious to establish its position on equal terms with its seniors. But Dr. Moll’s hand-book embodies an essentially non-combative survey of the full breadth of the subject, including both the details of the physical and physiological conditions of hypnotism on the one side, and on the other the alterations of personality and the more delicate points of

psychological interest ; and it does not refuse to consider with some careful attention the phenomena of telepathy and thought transference in a hypnotic state, such as are judged by Charles Richet, Gurney, Pierre Janet, Oliver Lodge, and others to take place under conditions which render their explanation by the action of the known senses at present inadequate.

Such a comprehensive review of the present position is in need of a far more extensive and careful historical preface than is usually undertaken ; and in this respect Dr. Moll has shown his sense of his responsibilities, and gone much beyond a mere reproduction of the hackneyed account of many of the French writers. He sees that the phenomena generally called mesmeric did not entirely originate with Mesmer (1734-1815), about a century ago ; but can be in part traced back to some of the earlier civilizations (cf. Ebers's papyrus, 16th century B.C.), and assumed some of their more modern forms under Paracelsus (1493-1541) and van Helmont (1577-1644), although, of course, their recent growth has been far more rapid. Mesmer is a man hard to estimate rightly. The final account of him has probably not yet been written, nor the final judgment passed, but Dr. Moll furnishes a sketch of some discrimination, based chiefly on contemporary evidence, and showing some sympathy for the mental and moral bewilderment occasioned by the chaos of the Great Revolution with which he was surrounded in Paris. Since Mesmer, he realizes the steps in advance made by Braid (1843), in recognizing the physiological and psychological importance of a state of attention in what he called no longer mesmerism or animal magnetism, but hypnotism ; by Esdaile in 1845, in demonstrating the complete anæsthesia that was made possible by hypnotism, even in major surgical operations ; by Liébeault (1866), in showing the practical use of post-hypnotic suggestion to dominate at least some morbid habits and minor pains ; and by the schools both of the Salpêtrière under Charcot (1878) and of Nancy under Bernheim (1884), in proving to the general public the permanent importance of a deeper study of the subject.

The survey of the methods of induction and the symptoms of hypnotism is founded on much personal experiment and a wide experience in all the European nations. More than 600 authors are quoted, and more than half of these are contemporary. Though fully half of them come from France and Germany together, yet there is a very considerable total of English, Swiss, Austrians, Americans, Italians, Spaniards, Belgians, Dutch, Swedes, Danes, Greeks, and Russians. Hypnotism is certainly not a limited or local fancy. Last year the four days' discussion of hypnotism under its various aspects at the Congrès International de Psychologie Physiologique, in Paris, by such a large gathering of men from all parts of Europe, not interested merely in the medical side of the subject, but in its total results and their relation to other branches of knowledge, gave very tangible proof of this, as may be seen in their *Compte rendu*. And who are the easiest persons to hypnotize ? It is very common to find those who have had little or no experience themselves confident that they can point out the most amenable subjects, and choosing generally persons with some obvious weakness. But Dr. Moll shows that neither neurasthenia nor hysteria, nor weakness of will, nor any

of the sentimental weaknesses that may be made to render their subjects laughable, really conduce to making them more readily hypnotizable. Hysterical people may be morbidly imitative, and if one is hypnotized many may follow the example, if it is open to their observation ; but taken singly, their hysterical tendencies rather hinder than help their hypnotization (p. 316), a point which has unfortunately been rather obscured by the long and important experiments made by Charcot on the hysterics only ; for, from the success of many of these, it was hastily and incorrectly assumed, before wider trial, that this class of subject was the most easily influenced. Whether there can be any special capacity in the hypnotizer is a point Dr. Moll does not discuss in detail ; he assumes that all of fairly good intelligence are about equal after a little practice at the *technique*. But there are some cases which he mentions (p. 363), of hypnotism at a distance by Dr. Gibert and Pierre Janet, in which, when both the persons hypnotizing and the times of hypnotism were unknown to the subjects, certain persons proved pre-eminently successful (*Bulletins de la Société de Psychologie Physiologique*, 1886, p. 78). The proof or disproof of individual qualifications is, in fact, one of the many difficult points for the settlement of which a wide and very careful experimental research is still necessary. The mesmerists of the early part of the century can be shown to have laid too much stress upon it ; it may be that it is too much overlooked now.

Any exact definition of hypnotism, as of other abnormal states of consciousness, is difficult enough, as Dr. Moll very readily acknowledges. "The two characteristics of hypnosis are suggestibility and the power of ending the state at pleasure" (p. 208), he observes, in agreement with most others who have considered the subject ; but it is not plain how this is consistent with what he has said just before (p. 201), viz. that "to my mind the dividing line between sleep and hypnosis is merely a quantitative difference in the movements." The mental susceptibility would have seemed to us a more important point of variance. But we are glad to say that, on the more difficult points of theory, Dr. Moll promises us another book at some future date, and it seems wise to allow some considerable time for the collection and attestation of the phenomena before attempting the establishment of theory in matters of such traditional difficulty.

That the practice of hypnotism is very useful in the healing art Dr. Moll is convinced, and offers a good deal of technical medical evidence which it would be hardly appropriate to consider here. The power of post-hypnotic suggestion in checking habits of drunkenness, &c., is one which is just beginning to be confirmed from various quarters, and which opens a wide vista. The possible dangers which arise from the hypnotist's power over the patient's conduct need very careful attention, though Dr. Moll is inclined to point with satisfaction to the very few cases in which any injury has been actually done. We could have wished that he had made plainer that most important preventive practice of Liébeault's, viz. that those who are afraid of the dominion of any hypnotist can be and should be protected against it by hypnotization under other trustworthy hands, and by the suggestion that no one can have any hypnotic or post-hypnotic power over them. In his last chapter on

animal magnetism, Dr. Moll practically admits an unexplained residuum of facts, and in the candid temper of his whole book, shows a truly scientific spirit of genuine interest in their investigation.

A. T. MYERS.

OUR BOOK SHELF.

Text-book of Mechanics. By Thomas Wallace Wright. (New York: D. Van Nostrand Company, 1890.)

THIS book is a most excellent treatise on the science of mechanics, and systematically places before the student the principles which underlie the subject. The differential calculus for the most part is used only when a clear advantage is gained by it, and in the earlier chapters of the work two courses are open to the reader, one with and the other without it. The author in a note rather regrets that words for the unit velocity and unit acceleration have not been proposed, as these would simplify matters: the Rev. J. B. Lock, in his late book on "Dynamics for Beginners," has proposed and used two very good words, "velo" and "celo," for unit velocity and unit acceleration respectively.

On the whole, the practical parts are treated more fully than is usual, and the examples throughout are of a very practical and typical character, and not mere numerical illustrations of formulæ. Many examples the author has treated by the graphical method of solution, but he adds a word of warning to the student against making it a complicated weapon for attacking all sorts of problems which are more easily solved in other ways.

Another important point alluded to is the use of approximate formulæ: the rigorous formula always precedes the approximate one, the latter being reduced from the former, so that the degree of approximation can easily be estimated.

The last two chapters deal with the statics and kinetics of fluids, or, as they are more generally known, hydrostatics and hydrokinetics.

Besides numerous examples there are plenty of figures and woodcuts, and scattered here and there are a few historical notes which give a lively interest to the subject.

W.

An Elementary Text-book of Heat and Light. By R. Wallace Stewart, B.Sc. London. (London: W. B. Clive and Co., 1890.)

THIS volume is one of the University Correspondence College Tutorial Series, which are written specially to meet the requirements of the various London University examinations.

Of the twenty chapters, the first ten deal with the principles which underlie the theory of heat, while the second ten treat of those of light. In each chapter the principles and laws on which the subject-matter depends are fully described, and under the heading of "Calculations" the author explains the various laws in mathematical form, concluding with examples worked out, and in many cases questions from well-known examinations. The chapters on light are treated in a similar manner. Those reading this work should be able to obtain a fair grip of these two subjects, the elementary principles being well and concisely expressed.

At the beginning of the second part of the book, on "Light," the author recommences the numbering of the pages, which we think is rather a mistake, as it is awkward in the first instance for reference, and in the second it has necessitated the use of two indexes. The illustrations, one hundred and fifty in number, are very good and accurate, and the work concludes with an appendix containing a paper of questions set at the London Matriculation examinations under the new 1888 regulations.

W.

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The Confessions of a Poacher. Edited by John Watson, F.L.S. (London: The Leadenhall Press, 1890.)

IN an editorial note it is stated that the poacher of these "Confessions" is "no imaginary being." Since that is so, it might have been well for Mr. Watson to explain the precise nature of his own functions as editor. It seems rather odd to find a poacher talking in this way:—"It was the fact that I had, during the small hours of the morning, stood alone on London Bridge. The great artery of life was still; the pulse of the city had ceased to beat. Although bred among the lonely hills, I felt for the first time that this was to be alone; that this was solitude. I felt such a sense as Macaulay's New Zealander may experience when he sits upon the ruins of the same stupendous structure." How much of this is the poacher's, and how much are we to attribute to the editor? The same question often suggests itself, and a good many readers, we suspect, will conclude that at least with the form of the "Confessions" the person supposed to be confessing has had very little to do. The book displays a curious and intimate acquaintance with some forms of animal life, and may be of service in fostering a liking for natural history. Unfortunately, however, grammatical rules are not always treated with the respect which is due to them. Says the poacher: "Whilst preparing my nets and wires, the dogs would whine impatiently to be gone." No doubt the poacher here means that he himself prepared his nets and wires, but what he says is that the dogs prepared them.

Examination Papers in Trigonometry. By George H. Ward, M.A. (London: George Bell and Sons, 1890.)

ONE hundred and twenty examination papers are given in this book; they are arranged progressively and seem to be well chosen, and will be found good substitutes for the questions in the various text-books which become familiar to the student on his second reading. Questions solely on book-work collected together at the end form a useful addition.

Blackie's Modern Cyclopædia. Vol. VII. Edited by Charles Annandale, M.A., LL.D. (London: Blackie and Son, Limited, 1890.)

THIS is the seventh volume of this useful and valuable essence of information, commencing with the word "Potamogeton" and reaching as far as "Skates." The articles on the various subjects are generally well treated, and every reader may find something of interest in them; numerous pictorial illustrations and maps are given. The references to printing, Prussia, railways, Rome, Russia, and Scotland are among the most lengthy in this volume.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

Recent Classification of the Shrews.

DURING the present year some very important work has been done with the *Soricidae*, the family of the Shrews. This has been mainly contributed by the well-known student of the group, Dr. George E. Dobson, F.R.S., the distinguished mammalogist. Dr. Dobson has just published the first fasciculus of Part III. of his work entitled "A Monograph of the Insectivora, Systematic and Anatomical" (Gurney and Jackson, London). This fasciculus deals entirely with the Shrews, it being a quarto illustrated by six fine lithographic plates fully illustrating the dentition of the *Soricidae*, as its text, in the most admirable manner, presents their characters. Even a still more important paper by the same author appeared in the Proceedings of the