

all these and other extraordinary structures, as well as of the arrangement of blossoms in general, and even the very meaning and need of sexual propagation, were left to be supplied by Mr. Darwin. The aphorism "Nature abhors a vacuum" is a characteristic specimen of the Science of the Middle Ages. The aphorism "Nature abhors close fertilisation," and the demonstration of the principle, belong to our age, and to Mr. Darwin. To have originated this, and also the principle of Natural Selection—the truthfulness and importance of which are evident the moment it is apprehended—and to have applied these principles to the system of nature in such a manner as to make, within a dozen years, a deeper impression upon natural history than has been made since Linnæus, is ample title for one man's fame.

There is no need of our giving any account or of estimating the importance of such works as the "Origin of Species by means of Natural Selection," the "Variation of Animals and Plants under Domestication," the "Descent of Man, and Selection in relation to Sex," and the "Expression of the Emotions in Man and Animals,"—a series to which we may hope other volumes may in due time be added. We would rather, if space permitted, attempt an analysis of the less known but not less masterly, subsidiary essays, upon the various arrangements for ensuring cross-fertilisation in flowers, for the climbing of plants and the like. These, as we have heard, may before long be reprinted in a volume, and supplemented by some long-pending but still unfinished investigations upon the action of *Dionæa* and *Drosera*—a capital subject for Mr. Darwin's handling.

Apropos to these papers, which furnish excellent illustrations of it, let us recognise Darwin's great service to Natural Science in bringing back to it Teleology: so that, instead of Morphology *versus* Teleology, we shall have Morphology wedded to Teleology. In many, no doubt, Evolutionary Teleology comes in such a questionable shape, as to seem shorn of all its goodness; but they will think better of it in time, when their ideas become adjusted, and they see what an impetus the new doctrines have given to investigation. They are much mistaken who suppose that Darwinism is only of speculative importance and perhaps transient interest. In its working applications it has proved to be a new power, eminently practical and fruitful.

And here, again, we are bound to note a striking contrast to Mr. Brown, greatly as we revere his memory. He did far less work than was justly to be expected from him. Mr. Darwin not only points out the road, but labours upon it indefatigably and unceasingly. A most commendable *noblesse oblige* assures us that he will go on while strength (would we could add health) remains. The vast amount of such work he has already accomplished might overtax the powers of the strongest. That it could have been done at all under constant infirm health is most wonderful.

ASA GRAY

THE AUSTRALIAN MUSEUM

THE authorities of the British Museum may congratulate themselves on their not being the only governing body which is considered to be on an antiquated and improvable foundation, which calls for a

radical and speedy change. In Australia the same cry has been raised before the Parliament of the Colony, with respect to the Museum at Sydney. There the biological collection seems to be much in need of improvement, of a greater spirit of enterprise in its management, and of a more liberal view being taken by its authorities of the rapid advances which are adding day by day to the importance of the subject which it so materially assists in teaching.

We may reasonably ask, what is given as the cause of this want of energy and progressive spirit in the colonial institution? Curiously enough it is the same as that which is being urged by all scientific men in this country against our national collection, which has found its most powerful expression in the Report of the Royal Commission on Scientific Instruction and Advancement of Science, noticed by us a short time ago (*NATURE*, vol. ix. p. 397), namely, that it is in the hands of a body of irresponsible trustees with a distributed authority, instead of under the management of a paid superintendent, who alone is accountable for all that is done.

It is the so-called "conservative spirit" of the authorities against which so much evidence of inefficiency is becoming so prominent. Science—and Natural Science especially—has been making such rapid progress of late years, that the mechanism by which it has to be taught, the elaborate nature of which is only fully understood by those who are actual workers within its confines, has not a sufficient inherent "go" to do the work expected of it. Just as by means of manual labour it was possible to thrash the cereal products of this country with profit in former times, whilst in the present day foreign competition makes the much more speedy steam apparatus absolutely essential; so when libraries of ancient manuscripts and the beautiful artistic remains of bygone days were the subjects which formed the most important topics for the consideration of the museum government, the bodies of trustees worked very well. The task they had on hand, being stamped with the name of fine art, was rather a pleasure than a labour; and the members of the board derived a *prestige*, and other advantages, from being able to follow their wonted tastes without any feeling of incompetency, or any scruples as to the general acceptance of their decision.

The biological element in our national collection has, however, introduced a different state of things. Those who can afford, from their pecuniary advantages, to spend their time and energies in unremunerative committees, are not the class who dirty their hands with the preliminary training necessary for a zoological or a botanical education. Neither of these subjects were whipped into them at Eton or at Harrow; they were too old to begin them, except perhaps in a very amateur manner, at Oxford or at Cambridge; and consequently when they find themselves appointed to any authoritative post in after life they set to the work with the antipathy they have always felt against "stinks."

How can a body so constituted be expected to forward the progress of Natural Science? The subject is a modern one. It is in need of hard organising work being done by experienced men who take a true interest in the object to be attained. Such men must be paid, not by paltry salaries no better than that of a banker's clerk; for

how can men of ability and education be expected to present themselves as candidates for the posts, when there are so many much more remunerative ways in which they may get a larger competency?

If we look round at our public institutions we find that the machinery of those which prove themselves to be the most successful is that in which a single officer has the control, he being frequently re-elected, and responsible only to a body which criticise all his actions, and to which he refers all serious questions of finance and management. Inefficiency on the part of the officer under this arrangement allows of his replacement without difficulty, at the same time that he is continually kept up to his work by the superior governing body, who find it a much easier task to detect faults than they would to remedy them themselves.

The case of the Australian Museum is somewhat peculiar. That institution seems to be in the hands of a few collectors of the old school, who treat it as a plaything of their own, rather than a public institution, supported by public funds. They have a curator, Mr. Gerrard Kreffit, of whose very high scientific position in the mother country they cannot be fully aware, or they would be more liberal to him, and give him more opportunities for the employment of his abilities. The naturalist who on seeing the curious new mud-fish from Queensland was enabled to say from a superficial examination, that it "is allied to *Lepidosiren*, and is *Ceratodus*"—a statement which Dr. Günther's superb monograph on that fish so strongly substantiates—and who has done such excellent work with regard to the Marsupialia, both recent and extinct, deserves greater opportunities than he evidently possesses under the tender mercies of amateur trustees, especially when they include among their numbers men such as a Mr. Macleay, who has thought it worth his while to refer to this journal in terms which clearly indicate either that he has never heard of it or of the Royal Commission whose recommendations we reproduced, or that he has not the least sympathy with the subjects of which it treats; the latter of which tendencies must make him quite unsuitable for the position which we regret to see he holds as one of the governing body.

The complaint of Mr. Cooper, who applied for a select committee to inquire into and report upon the condition and system of management of the museum, was that—

"As a rule a body of trustees was not the proper body to manage such institutions. Persons who were unpaid and irresponsible did not take that interest in the institution they ought to do, and would not devote their time to it. The Government found the whole of the money to pay the cost of the institution, and surely they ought to have a voice in its management. In asking for the committee, he had not the slightest desire to censure the trustees. He believed they did the best they could, but many of them could not devote the time that was necessary."

In the discussion which followed it was shown that on all occasions it is difficult to get a quorum, except on an occasion like that in which it was proposed to employ the museum-building as a ball-room during the visit of the Duke of Edinburgh to Sydney, when of the twenty members of the committee, the ten official were in favour of its employment as such, in opposition to those who sat by election.

A committee was finally appointed to consider the question of appointing a permanent officer, and if they then conclude their deliberations by placing Mr. Kreffit in a position worthy of his scientific attainments, they will confer as great a benefit on zoology generally, as they will show a power of appreciating worth, independent of petty party-spirit.

RIBOT'S "ENGLISH PSYCHOLOGY"

English Psychology. Translated from the French of Th. Ribot. (Henry S. King and Co.)

SEEMING that the doctrines of the English school of Experimental Psychology are "unknown, or very nearly unknown, in France," M. Ribot has certainly done a very useful work in giving to the French people an analysis of the conclusions in mental science arrived at by Hartley, James Mill, Herbert Spencer, A. Bain, G. H. Lewes, Samuel Bailey, John Stuart Mill. The most substantial objection that could be urged against such an undertaking is the difficulty of doing satisfactorily the thing attempted. In no department of knowledge claiming the name of Science is there so little settled doctrine; indeed, Mr. Lewes has just told us in his "Problems of Life and Mind" that there is still wanting the materials for its construction as a science; nor is there in any science so little agreement among the authorities, or so great probability that honest application may be rewarded with an entire misapprehension of their meaning. The book before us is of course M. Ribot's answer to this objection; and we are bound to say that, considering the special difficulty of the task, and remembering the object he had in view, it is a very worthy and valuable performance. While there is probably not one of the writers whom he has undertaken to expound who would not object to his rendering of one or other of their opinions, all must, we think, agree in regarding M. Ribot as a highly appreciative student, and must feel grateful to him for this attempt to spread their opinions. Indeed to us M. Ribot seems rather to err in the direction of wishing to present in the most favourable light, and to make the most of, the views of each writer in turn.

Partly, perhaps, to this same amiable disposition may be referred the impression of greater agreement among the authorities given by a perusal of M. Ribot's pages than by a study of the authors themselves. Mr. Herbert Spencer is, and with all justice, placed at the head of our psychologists; and Prof. Bain is made to differ from him in no essential particular—an interpretation which we are inclined to believe would be accepted much more willingly by Prof. Bain himself, who now recognises the doctrine of inheritance, and would fain have it understood that his disagreements with Mr. Spencer on some other points "are more apparent than real," than by his less clear-sighted disciples. The account of Prof. Bain's theory of the *supposed* acquisition of voluntary power opens with a statement that here we have "the idea of progress, evolution, and development." But the instructed student in these matters must know that the growth of voluntary power that Prof. Bain would explain is not the evolution of Mr. Spencer; it is, on the contrary, a description of the manner in which, according to his imagination, each individual acquires those