

LETTERS TO THE EDITOR

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Wasp and Bee Stings.

As we are now in the thick of the wasp season, it may interest some of the readers of NATURE to know that cocaine is a remedy for wasp or bee stings. It acts apparently not only as a temporary local anæsthetic, but seems also to have the power of destroying the poison of the sting. I happened to have some 1/6th grain cocaine tabloids for hypodermic injection when a lady was badly stung by a wasp a year or two ago. Such stings have a great effect on her, not only producing a very large and painful swelling, but making her feel more or less unwell for two or three days. One tabloid dissolved in a few drops of water, and applied with the finger at once, almost removed the pain; a second, applied an hour or two after, completed the cure. A few days later I found the cocaine equally effective in the case of a young girl who had been severely stung. Since then I have kept a small bottle of a strong solution of cocaine ready for use, and it has always proved effective. It should, of course, be applied as soon as possible, but only two days ago I found that it gave great relief seven or eight hours after the sting.

If any medical man should happen to read this, may I ask him to say whether it would be safe, in case a person were stung on the tongue, and no doctor could be secured at once, to give a hypodermic injection in the tongue of 1/6th grain cocaine, or whether it would be better to apply the tabloid or a solution externally to the place.

J. F. D. DONNELLY.
September 4.

The "Jelly-fish" of Lake Urumiah.

SOME years ago there appeared in NATURE a letter from Mr. P. L. Sclater, drawing attention to the possibility of the occurrence of a species of medusa in the salt lake of Urmí in Persia.

During my present visit I have had several opportunities of examining the fauna of the lake, and have met with a great abundance of the organisms referred to by Mr. Curzon in his work on Persia (vol. i. p. 533) as "jelly-fish." Near land they are present in such countless swarms that they cannot escape the attention of the bather, and are consequently very well known to the inhabitants of the shores of the lake, who, moreover, deny the existence of any second kind of animal in its brine.

These organisms are Crustaceans, belonging to the order Branchiopoda. Without books, I cannot refer them to their exact systematic position; but they seem to me to resemble the *Artemia* group of varieties of the *Branchipus* type, which are specially adapted for life in strong saline solutions.

The Urmí Branchiopods are of two sexes. The females grow to a length of about 13 millimetres, the males of about 10 millimetres; the former have a faint reddish, the latter a faint greenish tinge of colour. The males are, moreover, readily distinguished by the absence of egg sacs, and by the possession of enlarged anterior clasping appendages, by means of which they often hang on to the females and are towed about by them.

In very shallow water I have also found the larva of a fly in which the tracheæ open at the tip of a bifurcated process which is thrust up to the surface when the larva breathes. There is an abundance of an alga forming small dark green gelatinous masses floating freely in the lake, but up to the present these are the sole vestiges of life I have been able to detect in the salt water.

R. T. GÜNTHER.

Urmí, Persia, July 20.

Science and Art Department Examinations.

FOR more than twenty years I have annually sent pupils in for some of these examinations, and, although at times unable to understand the reason for the adoption of some of the regulations, this is the first time that I have ever ventured to call attention to one or two points connected with the working of the Department. Recently, as is well known, the system of payment which has hitherto been adopted has been altered. It is claimed

that this alteration is an improvement, because it is said to substitute payment by attendance for payment by results; but in reality it does nothing of the kind, for the examinational results are still one of the chief, if not the chief, factors in fixing the amount of grant. Also the amount of payment per attendance is so small that a most inadequate remuneration is given to the teacher. The result of this on the Science Classes throughout the country is, that while possibly only a comparatively slight alteration will be made in the total amount of money paid to large classes—such as the classes in large day schools—the amount paid to smaller classes, especially those held in the evening, where higher work is carried on, will be reduced to such an extent as to threaten the existence of many of them. For example, in a class known to me where work of the highest kind is carried on, and which work has been specially commended by the Inspector in two of his annual reports, the earnings this session will be reduced 75 per cent. If this is the outcome of the new policy, the sooner the Department reverts to the old plan the better for all concerned, and especially for the propagation of scientific knowledge. Of course all teachers are aware of the anomalies which occur in examinations, but the following is a somewhat remarkable instance:—A student sat for the examination in May last in the advanced stage of practical organic chemistry. He was required to answer two questions, and to analyse two substances (unknown), as well as to find the halogen element present in an organic solid, and to determine the melting point of this solid. The written questions were correctly answered, the analyses were correctly done, the halogen was correctly determined, and the melting point of the substance was less than 1 per cent. too low. The description of the practical work was also fairly well done; but this student is returned as having failed, notwithstanding that there are two classes of success, first and second class. It would be interesting to know, in the face of this, the standard the examiners require for a first class success. At the last May examinations the other chemistry results show many anomalies of a somewhat similar character.

D.SC. (LOND.).

BOOKWORMS.¹

THE naturalist frequently spends a good deal of time in abuse of his fellow man, considered in the light of a destructive agent; he points ruefully to the reduced faunas and floras of certain islands, to the Dodo, to the Moa, and to various creatures which have been extirpated by the direct or indirect influence of human occupation of the countries where they once flourished. But there is no action without compensation; and while man has sensibly impoverished the fauna and flora of the world in which he lives in some directions, he has unwillingly encouraged and promoted the welfare of many creatures belonging to humbler groups than those which he has thinned or entirely abolished. The average householder, as he takes his nightly rounds with a view to bolts and bars, is probably not aware that with luck and under favourable circumstances he might meet with nearly one hundred species of insects and other allied forms to whom he has not only furnished secure lodgings, but abundant food. Several species of clothes moth batten upon his Sunday coat; two species of cockroach may or do stalk boldly through his kitchen; and, in short, a host of creatures—some of them importations from abroad, destitute aliens in fact—thrive at the expense of the most formidable enemy of the brute creation. Our libraries afford pasturage to quite a number of small creatures, for the most part beetles, which have found in the dry leather and paper (and doubtless, too, on account of the infrequency with which books are apt to be consulted) a more suitable home than the woods which they presumably at one time inhabited. The Rev. J. F. X. O'Connor, whose interesting little book about bookworms is before us, was led to investigate these destructive creatures by discovering one in an old folio belonging to the library of Georgetown College.

Being a lover of books, it is not surprising to find that

¹ "Facts about Bookworms." By Rev. J. F. X. O'Connor, S.J. (London: Suckling and Co., 1893.)

the author's interest in his discovery was tempered by a reflection upon the enormous damage which the ancestors of his capture had inflicted in their time. He proceeds to remark—perhaps with more truth than freshness—that “books are precious things, for in them lies stored the wisdom of the centuries.” But, although a man of letters rather than a man of science, Father O'Connor divides his booklet fairly—even rigidly—into two parts: one of these is devoted to the literary history of the bookworm, the other to its natural history and depredations. It is upon the latter half that we shall have most to say here.

The expression “the bookworm” is often used; but it is inaccurate, for some seven or eight species, perhaps more, actually do commit depredations in books. Besides, these creatures are not restricted in their diet to books. Dry food of no kind comes amiss, and one of the species which the author refers to, *Dermestes lardarius*, has received its specific name on account of the fact that it delights chiefly in bacon. *Anobium panicum*, another beetle, is fond of books; but it feeds upon almost anything that comes in its way: the most singular food recorded as having been sought out by this exceedingly omnivorous insect is cayenne pepper.

Several other beetles and their larvæ fairly come under the designation of bookworms; and, indeed, it is only in this class of insects that we meet with species capable of producing those elaborately curved tunnels which often disfigure old books, and of which one or two samples are figured by Mr. O'Connor. When uninterrupted in their ravages, some of these beetles are able to progress through the interior of books for quite a long distance, eating their way before them like an earthworm boring through the soil. Messrs. Kirby and Spence, and also Mr. O'Connor, quote an instance of a bookworm which travelled through no less than twenty-seven folio volumes in so straight a tunnel that, by passing a string through the perfectly round hole that it had made, the entire set of volumes could be lifted at once.

To the popular mind the term “worm” implies anything of a smallish kind that scuttles, wriggles or crawls; and with this notion is blended an idea of voracity and omnivorousness. We may fairly therefore put down, as does Mr. O'Connor, the “silver-fish” among the category of bookworms. This creature, *Lepisma saccharina*, is of course not a beetle, but a representative of that archaic group of insects the Thysanura; it is quaintly described by Hooke in his “Micrographia” as “a small white Silver-shining Worm or Moth which I found much conversant among Books and Papers, and is supposed to be that which corrodes and eats holes through the leaves and covers. It appears to the naked eye a small glittering Pearl-coloured Moth, which upon the removing of Books and Papers in the Summer, is often observed very nimbly to scud, and pack away to some lurking cranny, where it may the better protect itself from any appearing dangers.” Unlike the black-headed bookworm, *Ptinus fur* (which it has been suggested acquires its black head from its partiality to black letter books), the *Lepisma* lets printed matter severely alone, and carefully eats round it. The object of the *Lepisma* seems to be rather the paste than the paper or the binding. But it is not select in the matter of diet; and, among other foods, shares with the clothes moth a taste for garments and carpets. It has furnished Hooke with some physiological reflections which we quote from Mr. Butler's “Our Household Insects.” “When I consider,” observes the author of the “Micrographia,” “what a heap of Sawdust or chips this little creature (which is one of the teeth of Time) conveys into its intrals, I cannot chuse but remember and admire the excellent contrivance of Nature in placing in animals such a Fire as is continually nourished and supply'd by the materials convey'd into the stomach, and fomented by the bellows of

the lungs; and in so contriving the most admirable fabrick of Animals as to make the very spending and wasting of that fire to be instrumental to the procuring and collecting more materials to augment and cherish itself, which indeed seems to be the principal end of all the contrivances observable in bruit Animals.”

A less obtrusive though hardly less tiresome foe to the book-lover is an insect which has been called the “Book-louse” (*Atropos divinatoria*). The term “louse,” however, is unnecessarily offensive to the insect, for it is not parasitic and does not belong to the same group as that which contains the obscene *Pediculus*. It is a Neuropteran, allied therefore to the dragonflies. It may be reasonably placed under the heading of bookworms—although Mr. O'Connor has not placed it there—owing to its partiality for paste. The specific name of the insect is connected with the fact that it shares with the Death Watch (a beetle) the habit of producing an ominous ticking sound, carrying terror to the heart of the superstitious. It appears, however, that this is merely an amorous conversation with, or an act of adoration directed towards, the female insect, who is fascinated and overcome by this continued expression of feeling. This sound is caused by the insect knocking its head upon the ground, and it has been wondered, by those who under-estimate the power of love, how so small and tender an insect can create so loud a sound. Nevertheless it seems to be the fact that it does. The author, after dealing shortly with various kinds of bookworms (which are illustrated by not always very good figures), proceeds to the practical consideration of how to get rid of them. He is of opinion that (to speak somewhat hibernically) it is better to stop the mischief before it has commenced. Paste containing such deadly elements as corrosive sublimate is recommended for binding purposes; elsewhere we have seen the suggestion that pepper is a useful article to mingle with the paste. But this would be obviously a substance of no use wherewith to confront that particular kind of bookworm which relishes a diet of cayenne. The general panacea for insects of all kinds is camphor. But here again the bookworm is not to be so easily combated. Specimens of one kind have been found comfortably and confidently nestling beneath pieces of camphor which it was hoped would put a speedy end to them. Possibly the best cure would be to put the books themselves to their legitimate uses, *i.e.* to read them; this would necessitate a constant shaking which would prevent the pest from obtaining a secure lodgment. But considering that the Royal Society of Science of Göttingen in the year 1744, and the Society of Bibliophiles of Mons in the year 1842, offered in vain a prize for the solution of these difficulties, it is not surprising to find that on the whole the bookworm has triumphed over both the bibliophile and the naturalist. In any case it has done us this service: it has furnished the material for a most interesting little book by Father O'Connor.

F. E. B.

THE BRITISH ASSOCIATION.

SECTIONAL FORECAST.

THE destruction of the Colston Hall by fire, just when the preparations of the Local Committee for the Bristol meeting were complete, has given rise to serious difficulties. The best arrangements possible under the circumstances have been made. The People's Palace has been secured for the Presidential Address and for the Friday evening Discourse. For Monday evening the hall of the Young Men's Christian Association has been taken, the use of the People's Palace not being obtainable. Some inconvenience must inevitably arise; but the members will, it is hoped, make due allowance when they realise the difficult position in which the Local