

Great as is the invention of Mr. Hughes, the microphone reveals no new property of matter, neither does it show the direct effect of sonorous waves upon partially conducting bodies.
Lemberg University JULIAN OCHOROWICZ

"The Rights of an Animal"

I AM sorry that my review appears to have caused Mr. Nicholson some annoyance, but am not surprised that in his rejoinder he has not attempted to meet any one of my criticisms. As he now expressly avoids the well-known ambiguity which attaches to the word "same," he clearly avows his meaning to be what in my review I supposed it could not be, viz., that animals have "in all respects *identical* rights of life and liberty with man." If this proposition is seriously stated, it does not require a "writer capable of reviewing an ethical essay" to see that it cannot possibly have a place in any such essay, properly so called. And in supposing that this could not be the fundamental proposition which Mr. Nicholson intended to maintain, I did not "forget" that the animals which he allows "to be killed or worked were only allowed to come into life for these purposes." For if the rights of animals are *identical* with those of men, and if the breeding of animals for the purpose of killing them morally justifies the butcher in taking their lives, it certainly follows, for instance, that a physiologist would be morally justified in vivisectioning his own children on the plea that it was for this purpose that he had begotten them. Where such is the necessary ethical conclusion, it is clear that the ethical premises by which it is evolved must be erroneous.

As regard the crustaceans, seeing that they are not "harmful animals," I chose them as a type of the class of animals which Mr. Nicholson plainly says it is in his opinion morally wrong to kill.

I may add that I omitted to mention the "plea" to which his letter in NATURE refers, because it had no relation to the opinion I was criticising—the opinion, namely, that harmless animals ought not to be killed for food. Here, however, is the "plea." "It may be answered that if none of these (*i.e.*, crustaceans) were killed more land animals would be killed for food; that their death allows more land animals to be kept alive for other purposes; and that this sharing of risks is only fair to the latter, the more so as they stand higher in point of intelligence and usefulness. Is this plea sound?" I can scarcely suppose that Mr. Nicholson will thank me even now for reproducing so feeble an argument, and in any case am quite sure that the latter, whatever it is worth, has no reference to the abstract principle which I was examining.

The relevancy of Mr. Nicholson's "protest" I fail to perceive. That "principle" and "self-interest" are not synonymous is sufficiently obvious, but I do not see how this consideration affects my charge of "inconsistency of principle." I simply pointed out that if we have a moral right to slay a harmful animal in order to better our own condition, it involves an inconsistency of principle to deny that we have a similar right to slay a harmless animal, if by so doing we can secure a similar end. And this obvious criticism is not affected by the irrelevant remark that "principle" and "self-interest" are not synonymous.

Again, as I was reviewing Mr. Nicholson's essay, and not Mr. Lawrence's book, I deemed it unnecessary to allude to the "reprints" from the latter, more especially as I saw nothing in these reprints of a nature either "interesting" or instructive. If my omission in this respect is calculated to damage the sale of the essay which I reviewed, I can only express my sorrow that such should be the case; but as I further omitted to state that the pages of the essay are small and very widely leaved, the idea which I conveyed of the size of the book as a whole was certainly not an inaccurate one.

I have taken the trouble to reply to the above remonstrance thus fully because I am conscious of having done what every honest reviewer ought to do, viz., to state what he thinks and to give his reasons for what he states. But as the result in this case has been to dissatisfy the author reviewed, I think it is now desirable to prove, by subscribing my name, that I have no personal *animus* against him.

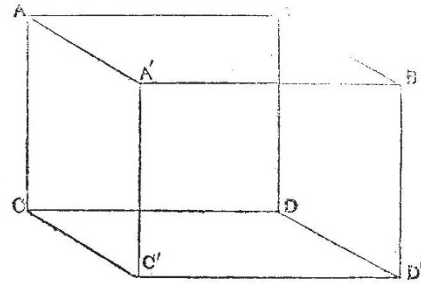
GEORGE J. ROMANES

A Suggestion on the Action of the Oblique Muscles of the Eye-ball

THE action of the so-called oblique muscles of the eye-ball has been a *quæstio vexata* amongst anatomists for a long time,

but I, in all submission, venture to suggest the following experiment which *may* be entertained mathematically. I speak of my own eyes, and the method in which I endeavour to use my oblique muscles, according to authorities.

Suppose I draw a skeleton cube at haphazard thus—



and I *concentrate* my vision on the anterior plane of this cube (*A' B' C' D'*) in the sketch; if I put in action (according to what we believe to be the action) the superior and inferior oblique muscles, the projection is immediately altered, and the plane *A B C D* is instantly the anterior? Pardon my apparent ignorance of physics, but may not some of your many correspondents, without ignoring my anatomical knowledge, make the statement a basis for research. A good explanation for the condition I must confess has escaped me?

It may throw some light on the question as to whether the oblique muscles definitely alter the optical functions of the eye, which is certainly a matter of the greatest practical interest.

EDWARD BELLAMY

Natural History Notes from Burmah

1. *The Dorian*.—The Dorian is a large capsular fruit with four or five loculamenta, each containing one seed which is covered with a layer of pulp, the part eaten. The rind, as well as the seeds, emits a strong odour of sulphide of methyl.

Dorian eaters say that the excellency of the fruit consists in the succession of exquisite flavours experienced in eating it. From my own experiments I believe this to be due to a reaction of the nerves of taste, analogous to that of the retina, which causes the images of objects to appear in their complementary colours when the eye is suddenly shut.

2. It is asserted that the weaver bird has the habit of fixing fire-flies to the side of its nest by means of a lump of mud, for the purpose of illuminating its nest at night. I have not observed it myself. Perhaps some of your readers may have seen or heard of the practice.

3. *Ants*.—There is here a species of small black ant, of which there occur gigantic specimens differing from the others only in size. They seem to act as the elephants of the community, carrying loads that the small ones cannot lift. Sometimes one of these "elephants" may be seen returning to the nest with several of the ordinary size clinging on its back.

Once while taking lunch in the image cave at Maulmain, we observed several large black ants wandering about. A chicken bone thrown in their path was soon discovered, and a messenger was despatched to the nest, from which a compact body of ants soon issued. But by some mistake they took the wrong direction from the nest, and proceeded towards a fragment of plaster that had fallen from one of the statues and lay on the floor of the cave. This they examined all over, and then returned to the nest in a less orderly manner than they had marched out, but at the entrance some other ants met them, who must somehow have given them the proper direction, for they at once changed their course towards the bone, which was soon covered with ants. I think this observation has some bearing on the way in which ants communicate. It is clear that the messenger's signs were misunderstood, and they went so straight to the bit of plaster that it appeared to me that they must have seen it, for sight is the only sense that could have been deceived. The distance was about four feet, and this occurred near the entrance to the cave, so there was light enough if their range of vision was great enough.

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