

Vivisection

THE editor of NATURE has no room for proofs; I must, therefore, confine myself to statements of facts which "A Student of Medicine" can verify by consulting the books I shall name.

Prof. Schiff is the author of several works detailing an enormous number of vivisections. Some six years ago the "Gazetta d'Italia" calculated that, of dogs alone, he had used in his laboratory 14,000—supplied to him gratuitously by the municipality of Florence—besides great numbers of other animals otherwise procured. Afterwards he received only about eight dogs a week from the police, and, in consequence, posted up an advertisement offering a franc for every dog brought to him, and a *bonus* upon ten dogs brought by one person. In the "Physiologie de la Digestion" he says: "I am forced to cut the vocal cords of the greater number of my dogs, lest their nightly howlings should compromise my physiological pursuits."

In Prof. Schiff's "Lezioni di Fisiologia Sperimentale" will be found ample justification of my statements with regard to the character of the vivisections performed by him. I regret much that there is no room to quote examples here. It will be observed by the reader of these "Lessons of experimental physiology," that the nature and duration of the majority of the experiments render the administration of chloroform either impossible, or at the best, utterly inadequate to hinder suffering. The animal is either *distinctly sensible* throughout the experiment, or has been already operated on some days previously, being preserved in a mangled and paralysed condition for further experiment.

As regards the "anæsthe-ia," I have to-day questioned a medical graduate, who resided seven years in Florence while Prof. Schiff lived there, and was constantly in his laboratory. He says that, although chloroform was commonly administered on tying down the animals (he believes, for the convenience of the operator), no pretence was made of keeping them under the influence of the anæsthetic after the preliminary incision, and that—as in fact is conclusively proved in Prof. Schiff's own works—mutilated animals were reserved from day to day, and from week to week, for further investigation.

If since leaving Florence and publishing his "Lessons" Prof. Schiff has mended his ways, I am sincerely glad to hear it. Should such, indeed, prove to be the case, public opinion at Florence—which ran high against him and his doings—must be credited with some share in the reformation.

In conclusion, let me say in regard to the discourteous charges of "error," "ignorance," and disregard of "facts" so freely brought against me by your correspondent, that if in this case any person is amenable to them, it is certainly not one who, being perfectly acquainted with the works both of Prof. Mantegazza and of Prof. Schiff, bases her estimate of their performances on *their own explicit statements*.

ANNA KINGSFORD

11, Chapel Street, Park Lane, W., April 14

[MRS. KINGSFORD'S letter was forwarded to our correspondent in Geneva, who sends the following reply:—]

In reply to Mrs. Kingsford's letter, I have the following remarks to offer:—

1. If Mrs. Kingsford is "perfectly acquainted" with the works of Prof. Schiff, she must know that there exists a small book in which he has explained in detail his methods of vivisection, &c. The title is: "Sofra il metodo seguito negli esperimenti sugli animali viventi nel laboratorio di fisiologia di Firenze." It first appeared in 1864; the second enlarged edition bears the date 1874. The book is written in a popular style, so as to render it easy even for the uninitiated to understand what vivisection is, and how it is practised by Prof. Schiff; it should be read by every person desirous of forming an unbiased judgment on the subject.

2. My letter was a reply to the accusation brought against Prof. Schiff of perpetrating "horrible tortures," "atrocities," &c. The *number* of dogs used for experiments (which number is erroneously stated), and the price supposed to have been paid for them are evidently irrelevant to the question. Moreover, you will find stated on p. 53 of the above pamphlet, that Prof. Schiff never accepted a dog unless its owner assured him that he would otherwise kill it himself; and I can corroborate from personal recent experience here in Geneva the further statement in the same passage, that if a person likely to be a kind master offers to take one of his dogs, he is always ready to give it away.

3. I regret to find that Mrs. Kingsford allows herself to

misquote. The passage in the "Physiologie de la Digestion" referred to is on p. 291 of vol. i.: "Je suis *obligé* de faire subir la section des *nerfs laryngés à beaucoup* de nos chiens." The section of the vocal cords is a dreadful operation, that of the nerves in question so slight, that if performed on dogs whilst at their meals, they do not leave off eating! To this I can testify. Moreover, you will notice that Schiff says, "Je suis *obligé*," and the fact is he was *forced by the police* in Florence to cut the nerves in question; not indeed on most of his dogs, but on those which were not used for vivisection properly so called, but were kept during long periods for other (and perfectly painless) observations, such as those detailed regarding the very dog mentioned in that lecture (see the 13th lesson, p. 325).

4. People not versed in physiology are not competent to draw conclusions from a work such as the "Lezioni di Fisiologia sperimentale." Mrs. Kingsford herself offers an example of how gross the errors are into which they may fall when she declares that in the majority of experiments the administration of anæsthetics is either "impossible or inadequate." On p. 70 of the pamphlet "Sofra il metodo," &c., Schiff says: "Nello stato attuale delle nostre conoscenze non esiste un *solo esperimento* praticato nell'animale vivente, al quale non si possa, e quindi non si debba, togliere il carattere di crudeltà mediante l'uso degli anestetici;" and lower down: "Da 25 anni non mi sono neppure una volta veduto nella necessità di escludere l'uso degli anestetici." On p. 52 he writes: "Brediamo dover aspettare finchè ogni traccia di sensibilità, e l'effetto meccanico delle sensazioni sia scomparso."

5. To the medical graduate's statement and insinuations I oppose Prof. Schiff's affirmation and my own knowledge of his character and scientific habits. It is curious that this gentleman, after having spent seven years in Prof. Schiff's laboratory, should be ignorant that *chloroform* is never used by him (see p. 49).

6. That many animals which have been operated upon are kept alive for ulterior observations is expressly stated in my first letter, and any person, however ignorant of science, can understand that whole branches of physiology can only be studied under the condition of this being so. They are kept not only as Mrs. Kingsford so pathetically exclaims, "from day to day, and from week to week," but sometimes from year to year." The question at issue is whether they suffer or not, a question easy to decide by their appearance, appetite, and demeanour. And the fact is they *do not suffer*, a statement any one can corroborate who chooses to come and look at the dogs in the School of Medicine here. *Why* they do not suffer is explained in detail in the pamphlet referred to above.

7. Prof. Schiff has *not*, alas, "mended his ways in deference to public opinion;" he tells me that never since the year 1847 has he departed from the methods detailed in the book quoted at the beginning of this letter.

Geneva, April 23

B.SC., STUDENT OF MEDICINE

Red Variable Stars—"Variab. Cygni (Birmingham), 1881," &c.

THE above star, so called by Schmidt in the *Astr. Nach.*, No. 2421, is now a striking object of 8 magnitude. On December 21, last year, it was certainly not over 12, and, probably, it was less. This appeared about its minimum, and its maximum seemed to have been attained on June 6, when it was 8 mag., as at present. On May 22, when I first found it, it was about 9. If it is now at maximum, there must be a striking inequality in its periods of decrease and increase, but perhaps it will go on to a greater magnitude this time than before.

U Cygni (No. 553 in my Red Star Catalogue) seemed last night (April 28) to be smaller than I ever saw it previously, and under 11 mag. Its colour was, however, very marked. The blue star near it (Arg. +47° 3078), which I have long considered to be slightly variable (see Catalogue), seems now at a maximum of 8 magnitude, though contrast with its diminished neighbour, may have some effect on its apparent size.

No. 448, in which I have also detected variability, is now about 8.5, and as deeply coloured as when I first found it in April, 1876.

J. BIRMINGHAM

Millbrook, Tuam, April 29

Matter and Magneto-electric Action

THE very interesting lecture by Mr. Spottiswoode on the above subject incidentally throws light upon a phenomenon which probably has puzzled some other of your readers besides myself.