or in the form of spray, directly to the mucous membrane of the throat and the larynx.

— Some of the friends of M. Chevreul propose to present him a medal on his hundredth birthday, which comes the 31st of August. This medal will bear in relief a portrait of Chevreul engraved by M. Roty. Subscriptions should be addressed to M. Louis Passy, secrétaire perpétuel de la Société nationale d'agriculture de France, 18, rue de Bellechasse, Paris, France.

— The *Athenaeum* states that Mr. Blanford, the meteorological reporter to the government of India, has drawn up a memorandum to accompany the charts of temperature and rainfall. The temperature being reduced to its equivalent at sea-level, the hottest tract in India is a portion of the Deccan plateau between Bellary and Sholapore. The hottest region of the peninsula is really the eastern coast from Vizagapatam southwards and the plains of the Carnatic and northern Ceylon. In intra-tropical India, except as modified by the elevation of the country, the temperature increases from the coast inland, the west coast being cooler than the east coast. Sind and Rajputana are the driest portion of India. In the greater part of India, May is the hottest month in the year, except in the Punjab and Sind, where, owing to the lateness of the rains, June is hottest. Of those stations, the temperature of which has been pretty accurately determined, the hottest in May is Jhansi: the coolest region is Assam, where the May rains are very copious. The mean annual rainfall of the whole of India is about forty-two inches, varying from nearly five hundred inches at Cherra Poonjee, to about three inches at Jacobabad. The provinces most subject to famine are the north-western provinces, Behar, Rajputana, the Carnatic, the North Deccan, Hyderabad, Mysore, Orissa, and the northern Circars.

— M. E. Grimaux exhibited to the French academy of sciences, at the *séance* of June 15, some unpublished printed documents showing the action taken by the commission on behalf of Lavoisier, at that time (1792–93) under arrest as a farmer-general. From one of these documents it appears, that, in consequence of the said action, the illustrious names of Laplace, Delambre, Borda, and others, were themselves removed from the commission on the 3d Nivôse of the second year of the republic (Dec. 26, 1793).

— A few years ago Dr. J. B. de Lacerda of Rio de Janeiro made extensive experiments upon antidotes for snake-bites, and finally settled upon the hypodermic injection of a solution of permanganate of potash as being the most efficacious. This remedy has also been used lately in Brazil against hydrophobia. One planter reports having used it over a year ago in two cases of persons bitten by rabid dogs. So far, these persons have shown no symptoms of hydrophobia. A colleague of Dr. Lacerda, however, treated by this method two patients who had been bitten by a rabid cat. One of them received the hypodermic injection fifteen minutes after having been bitten. As yet he shows no ill effects from the wound. The second, a child, was treated twelve hours after having been bitten, and died seven weeks later with all the symptoms of hydrophobia.

— The Brazilian government has directed Prof. Emil Goldi to investigate the disease of the coffee-plants. This disease was investigated by Capanema about four years ago, but no satisfactory conclusion was reached as to its character or the remedy for it. In the mean while it has been spreading.

— The sundry civil bill, as considered in the senate, restores the pay of the coast survey officials (changed by the house) to the figures now existing; it also appropriates $10,000 for salaries and expenses of the National board of health.

LETTERS TO THE EDITOR.

A most extraordinary structure.

ASIDE from the publicity which your theosophical correspondent has given the error which unfortunately crept into one of the plates in a recent contribution of mine to the Proceedings of the Zoölogical society of London (*Science*, vii. No. 177), the subject, I understand, has created no little comment in other quarters. Indeed, so thoroughly has it been discussed that I should have entirely disregarded this additional notice of it, had it not been that the attention thus called to it by this theosophist of the Smithsonian institution, placed it before your readers as 'a most extraordinary structure.' Surely it must be a structure most extraordinary to have excited any wonder in the eyes of a Smithsonian theosophist, when, in view of the fact that the published researches of Prof. Elliott Coues, another theosophist of the Smithsonian, called for no comment whatever. The succinct account of the researches I refer to, were published by Professor Coues in the New York *Nation* (Dec. 25, 1884), wherein this author in referring to his examination of ghosts, says "I myself, personally, have repeatedly by physical, chemical, and microscopical examination studied detached portions of them [ghosts], as hair, nails, or pieces of any substance which may envelop them more or less completely."

The fact of the matter is this, in both the figure and text I described the right humerus of a humming bird for the left. Mr. F. A. Lucas the osteologist of the Smithsonian discovered the error and courteously pointed it out for me. But Mr. Lucas did not write the letter in *Science* signed 'a theosophist,' and notwithstanding the fact that I am personally acquainted with the members of the staff of that institution, I know of no theosophist there who has

made sufficient progress in the study of the morphology of the Trochilidae to have detected the error in question. If there be such a person he has not up to the present time communicated the results of his studies to the world.

As soon as the error was clear to me, I immediately made a full series of corrected drawings, which, with additional notes upon the subject, are now in the hands of Dr. Sclater, the editor of the Proceedings of the Zoölogical society.

It pains me far more that the plates of such an elegant publication as the Proceedings of the Zoölogical society is, should be marred, even to the slightest degree, through any error of mine, than I regard how that error may reflect or affect myself. Fortunately, in the present instance it in no way alters the conclusions arrived at, and so far as I am aware there are but few, if any anatomists, who have not at one time or another been equally unfortunate. Even Huxley's famous 'Anatomy of vertebrates' seems to fulfil a useful end, notwithstanding the fact, that this eminent biologist contends on the 322d page of that work, in describing the stomach of a ruminant, and referring to the mucous membrane of the reticulum, says "it is raised up into a great number of folds, which cross one another at right angles, and, in this way, enclose a multitude of hexagonal-sided cells." Still this statement would make no one believe that few people living could render a better description of the digestive apparatus of a ruminant than Professor Huxley.

R. W. SHUFELDT.

Fort Wingate, N. Mex., July 3.

Barometer exposure.

The discussion concerning this subject has thus far had regard mainly to the use of the mercurial barometer and for meteorological purposes. Possibly light may be shed on the general subject by a few observations made in the field with an aneroid. From the nature of its construction it yields more quickly to rapid oscillations of atinospheric pressure. Moreover, field-work presents greater variety of conditions of exposure, and is consequently more suggestive of the controlling circumstance in any anomaly.

The following observations derived from experience, upon the western prairies of the Mississippi valley, may not be without value in this connection.

1. In gusty winds the index of the barometer oscillates very perceptibly to each gust. A variation of .01 of an inch has been observed.

2. In steady wind the barometer reads very differently, according as it is held to the windward or leeward of the body. In a wind which I cannot characterize more definitely than as a stiff breeze, I have noted in such relations a difference of .02 of an inch, the barometer being about three feet above the level surface. When desiring accurate readings in a strong wind, the mean between the windward and leeward readings should be taken, and, if the wind be gusty, the maximum reading in each case.

3. Upon flat-topped buttes I have found the barometer indicating considerably less pressure in the calm just back of the windward edge than in the wind at the edge.

Such buttes offer an inviting field for experimentation on this subject. They are often quite symmetrical, frequently have horizontal strata running through them to serve as convenient planes of reference, and are not infrequently isolated upon an extensive plane.

Attention to barometer exposure is evidently as important to hypsometry as to meteorology.

J. E. TODD.

Tabor college, Tabor, Io., July 3.

A bright meteor.

Last evening at fifteen minutes past eight o'clock a meteor of unusual size was observed. Its apparent size was, by rough estimate, six times that of Venus at its (Venus') brightest; and that, though it was quite near the moon, which was past its first quarter. Its altitude was about 30°, and azimuth perhaps S. 10° W., and its motion downward and eastward at about 50° from the horizon.

Its disappearance was with a slight scattering of fragments, but no explosion was heard.

S. H. BRACKETT.

St. Johnsbury, Vt., July 12.

Inoculation for the prevention of yellow-fever.

It is generally understood among educated people in Rio de Janeiro that all persons are not equally liable to attacks of yellow-fever. I believe I am safe in saying that but few native Brazilians die of it, the greatest number of deaths being among the following: newly arrived foreigners, and especially those who live in the poorer quarters of the city, or who lead dissolute lives, sailors, and persons of a lymphatic temperament. If there is any foundation for these popular theories, might it not be possible for an observant person to inoculate seven thousand individuals from the same or similar localities in Rio de Janeiro without running an average risk or fairly testing the system employed?

The efficacy of Dr. Freire's inoculation against yellow-fever can scarcely be considered as having been put to a fair test, therefore, until something is known of the persons inoculated, their nationality, time of residence in Rio de Janeiro, temperament, occupation, circumstances, and personal habits.

JOHN C. BRANNER.

Indiana university, Bloomington, Ind.

Bird-killing sparrows.

So much has been said of late for and against the English sparrow, that the following note may not be uninteresting as evidence.

Quite recently, upon the Capitol grounds, I observed a sparrow in the act of slowly killing a brown humming-bird. When discovered, it had seized the struggling victim in its talons, and was picking it vigorously about the head. Whenever disturbed, it caught the neck of its fluttering prey in its bill, and, after flying a few feet, alighted, and renewed its bloody work. At first I supposed the victim to be a sphinx moth; but, although every attempt to release the captive was futile, the identity of the humming-bird was unmistakable. Soon the first sparrow was joined by another, and then the scene of murder was carried into a copse beyond the reach of my observation.

To those who attribute the destruction of our American birds entirely to the demand for wings for ladies' hats, as well as to those who deny the quarrelsome habits of the sparrow, this piece of information may be of value.

C. D. WHITE.

National museum.