Head flat, not very distinct from neck, scaled, with following exceptions :—Rostril, anterior frontals; nasals (double, with the nostril between); mental; upper (12) and lower labials.

Gular depression; small groove anterior to orbit; orbit surrounded by scales; eye small, pupil vertical, iris silver grey, with dark longitudinal streak.

Rudimentary hind limbs, scales small, greatly increasing in size as they approach ventrals; colour above greyish brown, vertebral series of dark brown irregular spots, confluent towards neck; lateral series of dark brown spots. Belly whitish, mottled with dark brown; post orbital dark brown streak.

Length of specimen 21 in. A sand snake of sluggish disposition, especially during day-time.—Did not attempt to bite when handled.

Fam. *Elapidæ*. Gen. *Ophiophagus*. *O. Elaps*.—The Hamadryad, a male specimen caught by snake charmers at Agumbi, Western Ghauts, South Canara. Since dead, the skin having been secured by a member of the Basil Mission. I measured the snake when alive, and found it to be 10 ft. 6 in. but it was probably more, as it strongly resisted being stretched out. Colour brownish black, with about thirty bands on fore part of body, formed by dull yellowish interstitial skin. A yellow V mark with the apex towards head on upper part of hood: dark band beneath hood.

The Canarese call the snake "Kalinga havre," and state it to be common in the jungles along the Ghauts. I hope before long to procure a live specimen.

Fam. *Crotalidæ*. Gen. *Trimesurus*. Sp.—Scales 21, ventrals 153, subcaudals 58. Head scales strongly heeled. Colour dark reddish brown, irregularly marked with pale reddish brown, forming pale centred lateral ocelli. A series of pale yellow irregular dots arranged in a lateral stripe. This specimen has been forwarded to Dr. J. Shortt, F.L.S.

A specimen of the *Daboia elegans*, the Tic Polongo of Southern India and Ceylon, was lately brought me having the belly pure white, unmarked with the usual brown spots.

A Tahsildar in a Northern Talug reports the occurrence of a large venomous snake, black above and red beneath. This I think will prove to be *Callophis* (*Elaps*) *nigrescens*.

Mangalore. E. H. PRINGLE

BRITISH MEDICAL ASSOCIATION.—ABSTRACT OF DR. SANDERSON'S ADDRESS ON PHYSIOLOGY

IN his address on Physiology before the British Medical Association, Dr. Sanderson gave a *résumé* of the most important physiological work that has been done during the past year. Commencing with the circulation of the blood, he considered it to be resolved into several constituent processes, such as arterial pressure, velocity of blood-current, and contraction or relaxation of muscular fibre. He referred to a very elegant method adopted by Dr. Marey of Paris, and illustrated by him to the members of the Association, by which the influence of arterial resistance on the heart's rapidity may be demonstrated on the excised heart of the tortoise, the number of pulsations being proved to vary inversely as the *resistance* and not as the blood pressure, a fact previously known, but not before so clearly illustrated. He then referred to the observations of Mr. Dewar and Dr. M'Kendrick, in which they have shown that the normal electromotive force in the optic nerve is reduced in intensity when it is receiving the impression of light, a "negative variation" of the current being the result. Dr. Jackson's and Dr. Ferrier's pathological and physiological studies as to the localisation of the sources whence originate some of the voluntary movements in certain parts of the surface of the brain were shown to have a very important bearing on the progress of cerebral physiology; Dr. Ferrier having arrived at a method by which one at least of the highest functions of the nervous system can be brought under the control of experimental investigation. With reference to the part played by Bacteria in the living organism, Dr. Sanderson remarked that observations respecting them were, though very numerous, not sufficiently connected to allow of a ready summary; the facts added during the year being, first, that in certain persons apparently healthy, and in many animals, organisms belonging to this class are always found in the blood; secondly, that in all acute inflammations which are attended with the destruction of living tissue, Bacteria are to be found in the exudation liquids; and thirdly, that in relapsing fever living beings are present in the blood, which exhibit characteristic forms.

Dr. Sanderson in the latter part of his address gave many reasons in favour of the combination of the study of medicine with that of physiology. It has been said that theoretical physiology has led to injurious medical treatment, *e.g.*, to the over-feeding and over-stimulating treatment of disease; to the unreasonable disuse of venesection; to the neglect of antimony and other so-called antiphlogistics, and to the purgative treatment of cholera. But are the theories on which these changes of treatment have been based, physiological in the proper sense? Decidedly not. Taking the action of mercury as an example. It has been proved to have no influence in increasing the secretion of the liver; nevertheless, blue-pill is of undoubted value in certain well-defined disturbances of the digestive organs. From these facts, however, it is not right to assume that mercurial remedies are useless, or that they act beneficially by exciting the secretion of bile; such inferences are not physiological, but result from the manner in which practical men throw undeserved discredit upon Science by attempting to apply its facts without any sufficient knowledge of their bearing. Therefore it is highly desirable for the welfare of both Medicine and Physiology that a distinct line of demarcation should be drawn between them.

The speaker then entered upon subjects of a more purely medical nature, giving an excellent *résumé* of the present position of our knowledge respecting the nature of fever and pyrexia generally.

LAKES WITH TWO OUTFALLS

SOME years ago a discussion took place concerning the possible or actual existence of lakes possessing outlets into two distinct watersheds, so as to render one watershed continuous with the other. If even one such lake could be shown to exist, the question would of course be resolved in the affirmative. I have frequently heard mentioned as an instance a certain lake at the summit of the Romsdal in Norway, and having lately spent a day or two at each end of this lake, I have taken advantage of the opportunity to examine each of the outlets with care. I have thus convinced myself that it ought not to be quoted as a proof of the natural existence of such lakes.

The piece of water in question is called the Læsöskougens Vaud, or sometimes the Lesje Værks Vaud; it lies between the posting stations of Mölmen and Lesje Jernværks, at an elevation of 1,992 Norwegian feet, or 2,050 English feet above the sea level, occupying, for a length of about seven miles, the highest part of the great valley which in its south-eastern part is known as the Gudbrandsdal, and in its north-western part as the Romsdal. There can be no doubt that from the eastern extremity of the lake flows a small stream, which forms one of the sources of the Laagan or Logen River, while from the western extremity descends a much larger stream, which is the principal source of the river Rauma. Since the Logen, after passing through Miösen Lake, becomes a part of the great river Glommen, and thus falls into the Skaggerat at Frederichshald, while the Rauma reaches the sea through the Romsdal Fjord, it follows that the whole of the south-western part of Norway is encircled by water.

On examining the eastern exit of the lake, however, it soon becomes apparent that the outflow is artificially regulated. The water is retained at this end by a great

barrier of boulders, gravel, and sand, which has doubtless been heaped up by glacial action. At the north-eastern extremity this barrier is narrowed until it resembles an artificial embankment, and at this point a channel has apparently been cut for the purpose of supplying water power to the works situated immediately below. The actual stream of water forming the first source of the river Logen had a depth at the time of my visit of three feet, with a width of about six feet; it flowed through a rectangular channel, paved at the bottom and sides with large boulders, and sustained by timbers. Although these timbers are now nearly rotted away, it is evident that the channel had at some time or other been carefully formed. The water power is at present used for a saw-mill, but it was, no doubt, originally employed to furnish the blast for an old iron furnace, which has given the name of Lesje Jernværks to this place. The furnace has been abandoned, as I was informed, for the last eighty years, and from the dates upon the ironwork of a neighbouring house I think it likely that the works were erected at least 150 years ago, a length of time which would perhaps be sufficient to account for the natural appearance of the stream below the works.

I also examined the western exit of the lake with care. The first break in the level of the water occurs at a wooden bridge which slightly restrains the outflow. The stream flows strongly here, with a width in all of about 45 ft., a maximum depth of about 2 ft. 9 in. at the time of my visit, and an average depth of about 2 ft. After falling about 9 in. at this point, the river flows in a steady deep stream through a perfectly natural channel for about an English mile, with a very slight fall, after which its descent becomes gradually accelerated. I have no doubt that this considerable stream forms the natural outlet of the lake, but that a lowering of the water in the lake to the extent of three or four feet would stop this outflow altogether.

Now when we speak of a lake with two outfalls, I presume we mean one with two natural and permanent outfalls, and in this sense the Læsöskougens Vaud cannot be adduced as an instance at the present day. It is just possible that the lake had a natural outlet at Lesje Værks before the artificial channel was cut, but it is highly improbable, and we should require good traditional or documentary evidence to that effect before we could assume it to be so. Such evidence would probably be very difficult to obtain, and could only be obtained by some person intimate with the Norsk language Moreover, I judge from the nature of the outfall at this end, that if it were not looked to from time to time, the stream would eventually widen and deepen the channel through the barrier of loose sand and gravel, and finally lower the level of the water by many feet, so as to destroy the outflow into the river Rauma.

I write the above without having previously entered into the subject, and without being able to refer to any information about it. On *à priori* grounds it seems very unlikely that there should exist any lake with two distinct outflows. For in order that such a state of things should exist permanently, either there must be no erosion of the channels whatever, or the erosion must proceed with exact equality, otherwise one stream will augment at the expense of the other, and its eroding power being thus increased, it will more and more tend to sap the supplies of the other stream. The condition of things would, in fact, be that of unstable equilibrium, which could not long continue to exist.

Colonel George Greenwood, who is, I presume, the same as the former active correspondent about this subject, visited this lake last summer, as appears from the entry of his name in the day books. I am not aware that he has since published any opinion, but the lake seems, so far as I can judge, to support his view of the matter.

W. STANLEY JEVONS

THE NEW BIRD OF PARADISE

AT the last scientific meeting of the Zoological Society of London for the past session, I had the pleasure of exhibiting and describing specimens of a new Bird of Paradise recently discovered by Signor Luigi Maria D'Albertis, in New Guinea. As it will be some time before the part of the Society's "Proceedings" containing the record of the business transacted at the meeting on June 17 can be issued, and as I am informed that some knowledge of the existence of this singular bird has been obtained in another quarter, I am anxious to secure to Signor D'Albertis the honour of his discovery by a somewhat earlier publication of such a description and figure as will enable the bird to be recognised by other naturalists.

*Drepanornis** *albertisi*, as I have proposed to call this fine bird, in honour of its energetic discoverer, belongs to the long-billed or Epimachine section of the Paradiseæ, and is, perhaps, more nearly allied to *Epimachus* than to any other described form. But it is very distinct from *Epimachus* as regards its long, thin, and much curved bill, shorter legs, and shorter, squarer tail, not to speak of the peculiar tufts of feathers which are characteristic of the male sex only. The general colour of the plumage of the male *Drepanornis* is brown above, and lavender-grey below. The naked rim round the eye, and a bare space at the back of them on each side, are of a bright blue. On each side of the front before the eye rises a short tuft of bright, coppery, metallic green feathers. A large patch of similar scaly feathers covers the chin and throat. Two large tufts of feathers spring from each side of the breast, and form conspicuous ornaments when erected. The upper pair of these peculiar tufts have a mass of brilliant coppery red at the base of their feathers, terminated by a dark band. This metallic colour is only exposed when the plumes are raised. The lower pair of tufts, which are much lengthened, and in a state of repose reach beyond the lower third of the tail, are margined by a splendid purple band. The lower part of the breast is likewise crossed by a narrow band of bright green. The middle of the belly and vent are white, the tail of a nearly uniform pale chestnut.

The above description will give some idea of the special peculiarities of the male *Drepanornis* in full plumage. The female, as is the case in all the true Paradiseæ, is very different in colour, though alike in form. Her plumage is above of a nearly uniform bright brown or rufous, below paler, and crossed on the throat, breast, and sides of the belly, by numerous small irregular black wide cross-bars. The naked space round and behind the eye is coloured bright blue, as in the full-plumaged male. The beak, in the single specimen sent, is still longer than in the male, but this may be an individual peculiarity. The whole length of the male *Drepanornis*, from the tip of the bill to the end of the tail, is about 14 in., that of the wing, from the carpal joint, 6 in., of the tail, from the base, 5½ in., the outer tail feathers being about 1 in. shorter than the middle pair. The bill measures 3¼ in. from the front along the curvature, the tarsus 1¾ in.

The figure of the *Drepanornis* herewith given is reduced from the lithograph prepared for the "Proceedings" of the Zoological Society, which will form the 47th plate of the volume for 1873, and will be published as soon as the second part is ready.

Signor D'Albertis obtained his examples of this remarkable bird during his recent excursion into the interior of New Guinea, at a place called Atam, which is situated at an elevation of about 3,500 feet above the sea-level in the Arfak mountains. In an account of his journey

* The name originally given at the Zoological Society's meeting of June 17 was *Drepanephorus* (δρεπανηφόρος) *falcem gerens*. (See NATURE, viii. p. 195.) But this term having been previously applied by Sir Philip Egerton to a genus of fossil fishes, I proposed (NATURE, viii. p. 192) to convert the bird's name into *Drepanornis* (δρέπανον *falx et* ὄρνις *avis*).—P.L.S.