Mr. Lockhart says: "If willing helpers can be found to assist in the work of collection, the success of the scheme is assured. Failure can only result from want of co-operation and support."

IN a paper entitled "Thirty-six Hours' Hunting among the Lepidoptera and Hymenoptera of Middlesex," reprinted from the *Journal of Microscopy and Natural Science*, Mr. Sydney T. Klein has some interesting notes on the best methods of capturing Lepidoptera. He has found it very useful to take advantage of "the attractiveness of the ladies among the Lepidoptera gentry." To those who have not had experience, or have not persevered in, this art, he says, the result is truly marvellous, and will sound very much like a fairy tale. The good taste possessed by the males of Lepidoptera is shown to the greatest perfection among the Bombycidæ. On several occasions, when on botanical excursions in Hertfordshire, Mr. Klein has taken with him a female of *Bombyx quercus*, or other Bombycidæ, fresh from the pupa; and, in a wooded country, provided the sun was hot and a gentle breeze blowing, he was certain of having, within ten minutes, a dozen of the opposite sex flying round him, and from time to time even settling on his shoulders or hands. On one occasion, after remaining, as an experiment, for some time on the same spot, he counted over forty of these large moths within fifty yards.

NEGOTIATIONS are being carried on in Denmark for the holding of a Fisheries Exhibition in Copenhagen next year.

AN enthusiastic fish-culturist is trying to introduce scaleless fishes into English fresh waters. In a lecture on Fish, lately delivered at Worcester, and now published, Dr. Francis Day, C.I.E., expresses his belief that they will prove worthless for sport, almost, if not entirely, useless as food, and dangerous to handle on account of the spines with which they are protected. These fishes delight to eat other forms of fish-life. "I obtained," says Dr. Day, "a specimen of a common Indian catfish at Madras, which I placed in an aquarium that contained some carp. It rushed at one of my poor little fishes, and, before I could interfere, seized it by the middle of its back and shook it until it was dead, as a dog kills a rat."

AT the monthly meeting of the Council of the Sanitary Assurance Association on January 10, the Sanitary Registration of Buildings Bill was re-considered. A report on the draft Bill was submitted, with several clauses re-drawn. The Bill was further amended, and ordered to be printed for final consideration at the next meeting of the Council. It is proposed that the new Bill shall be compulsory with regard to schools, hotels, asylums, hospitals, and lodging-houses, and Clause 6 has been made much more stringent in the matter of qualification of persons entitled to give sanitary certificates.

BARON VON MUELLER, who retains the office of Government Botanist to the colony of Victoria, is about to issue a series of plates with descriptions of the acacias (wattles) of Australia. The work will be similar to the "Eucalyptographia," probably the best and most useful of his publications. For diagnostic purposes he makes use of two characters hitherto overlooked, viz. the number of divisions in the pollen-mass and the position of the seed. The retirement of Baron von Mueller from the direction of the Botanic Garden, some few years since, has enabled him to devote more attention to scientific botany and its applications to practical purposes.

DR. GILES, who was attached as scientific member to the Chitral-Kafirstan Mission, is now stated to be in Calcutta, engaged in writing a report on the geology of that region.

CAPT. PEACOCKE, R.E., is said to be preparing a report, with sketches, of his experiences with the Afghan Boundary Commission.

ON Thursday evening last the Society of Telegraph-Engineers and Electricians held the first general meeting of the session of 1887. Sir Charles T. Bright, the new President, delivered an address on the history of the electric telegraph. Speaking of the progress which has been made since the property of the Telegraph Companies was bought by the State, he said that in 1870, when the transfer was completed, there were 48,378 miles of land wires, and 1622 miles of cable wires (irrespective of railway wires), connecting together 2488 telegraph stations. Now the Post Office has 153,153 miles of wire (including submarine wires) in communication with 5097 offices. In addition, the railway companies have 70,000 miles of wire, making a total of 223,153 miles.

THE additions to the Zoological Society's Gardens during the past week include a Red-fronted Lemur (*Lemur rufifrons* ♂) from Madagascar, a Vervet Monkey (*Cercopithecus lalandii* ♂) from West Africa, presented by Mrs. Pawelzig; a Patas Monkey (*Cercopithecus patas* ♀) from West Africa, presented by Mr. George Ellis; a Common Otter (*Lutra vulgaris*), British, purchased.

OUR ASTRONOMICAL COLUMN

NEW VARIABLES IN CYGNUS.—A new variable of the Algol type (D.M. + 34°, No. 4181, R.A., 1887·0, 20h. 47m. 32·5s., Decl. 34° 13′ 59″·5 N.), has been discovered by Dr. Gould. Its period is about three days in length, and it varies from 7·1 mag. to 7·9 mag. A minimum occurred at about 10h. 19m. G.M.T. on January 17. This discovery raises the number of stars of the type to eight, the other seven being Algol, period 2·49d.; λ Tauri, 3·95d.; S Cancri, 9·48d.; δ Libræ, 2·32d.; U Coronæ, 3·45d.; U Cephei (D.M. 81°, No. 25), 2·49d.; and U Ophiuchi (DM + 1°, No. 3408), 0·839d.

Mr. S. C. Chandler, Jun., in a note in Gould's *Astronomical Journal*, No. 148, calls attention to a new short-period variable very close to the above. This star (Lalande 40083, R.A., 1875·0, 20h. 38m. 30·2s.; Decl. 35° 8′ 24″·6 N.) varies from 6·3 m. to 7·6 m. in a little over fourteen days, the increase occupying about four days, the decrease ten days, with a halt in the latter about midway of its course. Mr. Chandler gives for first elements of the star, 1886 October 3·60 G.M.T. + 14d·04 E.

NEW MINOR PLANET.—Prof. C. H. F. Peters, at Clinton, discovered a new minor planet on December 22. This will be No. 264, and the forty-sixth discovered by Prof. Peters.

A NEW METHOD FOR THE DETERMINATION OF THE CONSTANT OF ABERRATION.—In the *Comptes rendus*, tome civ. No. 1, M. Loewy explains how the principle of his method of determining the amount of astronomical refraction (NATURE, vol. xxxiii. p. 303) can be applied to the determination of aberration also. By means of the two reflecting surfaces forming the double mirror placed in front of the object-glass of an equatorial, the images of two stars situated in different parts of the sky appear, in the field of view, side by side; their angular distance is then to be measured in a known direction. To obtain the amount of aberration it is, of course, necessary to measure a properly chosen pair of stars at successive epochs. The first observation is to be made when the stars are at the same height above the horizon, and the second, after a certain interval, under similar conditions. The comparison of the two measures will give a multiple value of the aberration which is independent of instrumental errors. By a proper choice of the angle of the double mirror employed, of pairs of stars selected for measurement, and of the circumstances of observation, M. Loewy contends that, by attention to the details which he specifies, a more accurate value of the constant of aberration can be obtained by his method in an interval of three months than could be deduced by the methods hitherto in vogue, liable as these are to systematic error.

THE MADRAS OBSERVATORY.—In his Report for the year 1885, Mr. Pogson states that the volume of telegraphic longitude determinations in India, and the two volumes of hourly magnetical observations made at Singapore between 1841 and 1845, and at Madras between 1851 and 1855, which were men-

tioned as ready for issue in the last Report, were distributed in 1885. Mr. Pogson's attention was chiefly directed, during the year, to the necessary preliminary investigations for the publication of the meridian-circle observations from 1862 to the present time. The formation of the star ledgers and the deduced catalogues of mean positions for each year were completed for the years 1862, 1863, and partly for 1864, which will form the first of the eight volumes about to be published. The star ledgers for the next three years—1865–67—are also in progress, for the second volume of the series. Except for time observations and determinations of positions of a few comparison stars for equatorial observations, the meridian-circle will be little used until the publication of its past results is accomplished. Only 352 complete positions of stars were determined in 1885, making 52,074 during the past twenty-four years. A few observations of minor planets were made with the equatorials during the year. We are glad to find that there is at length a prospect of the publication of the Madras meridian observations, the long delay in which has been a serious blot on the fair fame of the Observatory.

ASTRONOMICAL PHENOMENA FOR THE WEEK 1887 JANUARY 23–29

(FOR the reckoning of time the civil day, commencing at Greenwich mean midnight, counting the hours on to 24, is here employed.)

At Greenwich on January 23

Sun rises, 7h. 54m.; souths, 12h. 12m. 4·4s.; sets, 16h. 30m.; decl. on meridian, 19° 27′ S.: Sidereal Time at Sunset, 0h. 41m.

Moon (New, January 24) rises, 7h. 14m.; souths, 11h. 40m.; sets, 16h. 9m.; decl. on meridian, 18° 13′ S.

Planet	Rises h. m.	Souths h. m.	Sets h. m.	Decl. on meridian ° ′
Mercury ...	7 38	11 34	15 30	23 0 S.
Venus	8 34	13 4	17 34	17 34 S.
Mars	8 49	13 36	18 23	14 36 S.
Jupiter... ...	1 0	6 2	11 4	11 54 S.
Saturn... ...	14 59	23 6	7 13*	22 6 N.

* Indicates that the setting is that of the following morning.

Occultations of Stars by the Moon (visible at Greenwich)

Jan.	Star	Mag.	Disap. h. m.	Reap. h. m.	Corresponding angles from vertex to right for inverted image ° °
28	4 Ceti	6	19 16	20 13	179 296
28	5 Ceti	6	19 42	20·26	196 281

Variable Stars

Star	R.A. h. m.	Decl. ° ′			h. m.	
U Cephei ...	0 52·3	81 16	N.	Jan. 26,	22 21	*m*
λ Tauri ...	3 54·4	12 10	N.	,, 24,	20 33	*m*
				,, 28,	19 25	*m*
ζ Geminorum ...	6 57·4	20 44	N.	,, 29,	0 0	*m*
S Cancri ...	8 37·5	19 26	N.	,, 24,	0 55	*m*
R Virginis ...	12 32·8	7 37	N.	,, 26,		*M*
V Virginis ...	13 22·0	2 35	S.	,, 23,		*M*
δ Libræ ...	14 54·9	8 4	S.	,, 24,	18 23	*m*
				,, 27,	2 15	*m*
U Coronæ ...	15 13·6	32 4	N.	,, 27,	19 21	*m*
U Ophiuchi...	17 10·8	1 20	N.	,, 25,	3 30	*m*
		and at intervals of			20 8	
R Scuti ...	18 41·4	5 50	S.	Jan. 27,		*m*
β Lyræ...	18 45·9	33 14	N.	,, 26,	3 0	*M*
δ Cephei ...	22 25·0	57 50	N.	,, 28,	1 0	*m*

M signifies maximum; *m* minimum.

Meteor-Showers

On January 28 a radiant near δ Coronæ Borealis is in evidence. The meteors from this radiant are very swift, R.A. 236°, Decl. 25° N. Another radiant giving very swift meteors lies near σ Leonis, R.A. 168°, Decl. 7° N.

GEOGRAPHICAL NOTES

IT is all but certain that Mr. Stanley will lead the Emin Pasha Relief Exploration by the Congo route. He will certainly go to Zanzibar, prepared to follow whatever route circumstances may indicate as likely to prove the most successful. At Port Said he will meet with Dr. Junker, who may give him information of critical importance. At all events, Mr. Stanley and his staff and the whole of the baggage will proceed, in the first instance, to Zanzibar. If a steamer is handy, the Expedition, after recruiting a caravan and laying in a store of suitable goods for trade by the way, will sail round the Cape to the Congo; that at least is Mr. Stanley's present intention. All the available steamers belonging to the King of the Belgians will be placed at his disposal, and probably by the beginning of May he will be at the limit of navigation and ready for his land journey eastwards to Lake Albert Nyanza; if, indeed, he does not give the lake a wide berth westwards and go direct to Wadelai. A camp as a base of operations will be established, as far as safe from the Congo, and left in charge of a trustworthy member of the staff. About fifty donkeys will be taken to carry the heavy baggage, and the caravan will consist of about 100 men, with a few Egyptian soldiers to maintain discipline. The staff consists of half-a-dozen carefully selected men, among whom are two able engineer officers, under whose care the interests of science will be attended to. Four or five carefully rated chronometers and other instruments are being taken, so that we may expect some good results. It is probable that Mr. Stanley will endeavour to solve the Albert Nyanza and the Wellé-Mobangi problem, as well as other obscure points in African hydrography, on his return journey. It is to be hoped that Emin Pasha will not think of coming away, as Dr. Junker states he wishes to do; but if he does, then no doubt Mr. Stanley will be able to make arrangements to carry on the work which Emin has begun so well. Mr. Stanley leaves England to-morrow, and the good wishes of all will go with him. He is confident of being able to reach Emin Pasha by July 1, and possibly may be back in Europe about Christmas; in that case, we fear, he could not do much exploring work.

DR. LENZ has at last arrived at Zanzibar, having taken less than eighteen months to cross the African continent from the mouth of the Congo. A fortnight ago we gave some account of his journey up the Congo from Stanley Falls to Nyangwe and Kasonge; it will be interesting to know what route he followed after leaving the Upper Congo. It will be remembered that Dr. Lenz went out eighteen months ago for the purpose, if possible, of reaching Emin Pasha and Dr. Junker. From Zanzibar the late Dr. Fischer started through Masai Land on a similar errand. In both cases the object has not been accomplished, and no wonder, now that we know the real facts. Much good work, however, has been done by both men. Dr. Lenz is a man of scientific training and experience in African travelling, and there can be no doubt that the results of his just completed journey will be a gain to science. It is possible that Mr. Stanley may meet with Dr. Lenz on his way to Zanzibar; and if so may obtain some information that will be of service on his great expedition.

THE Rev. Thomas Brydges, a missionary in Tierra del Fuego, in the large island of Onisin, among the Ona and the Yagbons, mentions a curious circumstance with reference to the people, illustrating the influence of environment on the acquirement of habits. Between men and women there is a fair subdivision of labour. Among other things, the men make and fit up the canoes, but the women are the rowers. The result is that the women are good swimmers, but the men cannot swim at all. The reason is that often on the coast there is not a single tree to which to fasten the canoes. The women, therefore, after landing their husbands, have to row the canoes to a spot where sea-weed has been massed together, in order to moor the canoes thereon; after which operation they are compelled to swim back. So, also, when the canoe is wanted, the woman has to swim out for it and row back for her husband.

THE current number of the *Mittheilungen* of the Geographical Society of Vienna (Band xxix. No. 10) has a large map of the route from Ango-Ango to Leopoldville, made by Herr Baumann, of the Austrian Congo Expedition, with accompanying remarks, and a comparison with other recent maps of the same part of the river. There is an interesting note by Herr Baumann on the numerical systems of the Why or Wai Negroes and of the Mandingoes. The former, although they have a writing of their own—the Mandingoes use Arab letters—have no expression in their language for 100, and use the English, while the Mandingoes, Bantus, and other tribes can count with ease up to 1000. Herr Baumann also writes on the region around Stanley Falls,