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PROCEEDINGS OF THE SOUTH AFRICAN PHILOSOPHICAL SOCIETY

L. Péringuey & Geo. S. Corstorphine

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PROCEEDINGS
OF THE
SOUTH AFRICAN PHILOSOPHICAL SOCIETY.

ORDINARY MONTHLY MEETING,
held at the conclusion of the Annual General Meeting.

August 31, 1898.

THOMAS STEWART, F.G.S., M.I.C.E., President, in the Chair.

MESSRS. C. F. JURITZ, J. C. WATERMEYER, C. L. W. MANSENGH,
and C. T. HOLLAND were elected ordinary members of the Society.

MESSRS. HAROLD A. FRY, of Johannesburg, HENRY RIX-TROTT, of
Port Elizabeth, and LANGHAM DALE, of Cape Town, were nominated
for election as ordinary members.

MR. W. L. SCLATER's motion, "That the Council takes into con-
sideration the holding of the ordinary meetings at 4.15 p.m. instead
of 8 p.m. on such afternoons as they shall decide," was carried.

The list of additions to the Library was read.

MR. D. E. HUTCHINS read a paper on "National Forests."

ORDINARY MONTHLY MEETING.

September 29, 1898.

THOMAS STEWART, F.G.S., M.I.C.E., President, in the Chair.
Sixteen members present.

MESSRS. HAROLD A. FRY, HENRY RIX-TROTT, and LANGHAM DALE
were elected ordinary members of the Society.

DR. W. KOLLE, DR. C. E. PIERS, and MESSRS. G. LEITH and C. A.
LEDoux were nominated for election as ordinary members.

MR. PÉRINGUEY's motion "That the Council be instructed to take
the steps necessary for the incorporation by Royal Charter of the
Society under the name of 'Royal Society of South Africa'" was
discussed, and after discussion the meeting adopted Dr. GILL's
amendment "That the question of incorporation of this Society by
Royal Charter be referred to the Council for consideration and
report."

The list of additions by exchange and donation to the Library was
read.

DR. MARLOTH read a paper entitled "Notes on the Mode of Growth
of *Tubicinella* on the Right Whale."

ORDINARY MONTHLY MEETING.

October 27, 1898.

THOMAS STEWART, F.G.S., M.I.C.E., President, in the Chair.
Twelve members present.

Dr. W. KOLLE, Dr. C. E. PIERS, and Messrs. G. LEITH and C. A. LEDOUX were elected ordinary members of the Society.

Messrs. W. A. OAKLEY, R. E. BROUNGER, T. S. MACEWAN, O. F. MONIER-WILLIAMS, and C. FULLER were nominated for election as ordinary members.

Miss WILMAN exhibited an interesting photograph taken by Dr. Molengraaff on the farm Doornpan, near Mooiklip, Vryheid District. It shows Dwyka Conglomerate lying upon shales of the Barberton Formation (Swazieland Schists), and the latter exhibit undoubted glacial striations.

Mr. F. TRELEAVEN exhibited some Australian butterflies, the property of Mr. C. Fuller.

Mr. W. L. SCLATER exhibited bird skins collected for the South African Museum by Messrs. W. and H. F. Francis, including those of *Guttera edouardi*, *Herodias rufiventris*, and *Pternistes humboldti*, the latter new to the South African fauna.

Mr. A. P. TROTTER directed the attention of members to a sun-spot which was visible at the time, and with the help of a telescope enabled them to view the phenomenon.

Mr. J. R. SUTTON's paper, "Do the Mining Operations affect the Climate of Kimberley?" was read.

The list of book and papers received was read.

ORDINARY MONTHLY MEETING.

January 26, 1899.

THOMAS STEWART, F.G.S., M.I.C.E., President, in the Chair.
Nine members and seven visitors present.

Messrs. W. A. OAKLEY, R. E. BROUNGER, T. S. MACEWAN, O. F. MONIER-WILLIAMS, and C. FULLER were elected ordinary members of the Society.

Mr. H. L. L. FELTHAM and Dr. W. W. STONEY were nominated for election.

A list of books and papers received was laid upon the table.

Mr. J. C. WATERMEYER's paper, entitled "Notes on a Journey in German South-West Africa," was read.

ORDINARY MONTHLY MEETING.

March 27, 1899.

T. STEWART, F.G.S., M.I.C.E., President, in the Chair.

M. F. ROHDEN, Esq., was nominated for election as an ordinary member.

H. L. L. FELTHAM, Esq., and Dr. W. W. STONEY were elected ordinary members.

Mr. W. L. SCLATER exhibited copies of Bushman paintings found on a krantz at Schoombie, and of others from Basutoland representing scenes of battle and the chase.

Dr. T. MUIR showed certain herbaria, the outcome of prizes he offered to schools and children a year ago to encourage a practical interest in botany.

Mr. H. P. SAUNDERS read a paper on "Boring for Water in the Colony." Mr. Saunders said there were few districts in the Colony in which careful and competent selection would not discover sites where, within 200 feet of the surface, considerable supplies of water would be found, an average of 10,000 gallons per diem being easily obtainable by use of a wind pump from a three-inch bore. Increasing the diameter of the hole on the more favourable sites would often give 50,000 gallons per diem by pumping. During six years' experience in boring for the Government Mr. Saunders had never failed in striking water either in the Malmesbury Beds or in the Dwyka Conglomerate. It was futile to expect large supplies from deep boring in the Colony.

Mr. G. ALSTON said that his measurements, taken over many years, showed that the subterranean water-level was gradually sinking. He suggested that the Government should repair the loss by making a double or treble line of large dams in the upper portions of the country, from which water could be forced into the porous strata to make good the loss caused by tapping at lower levels.

Dr. PIERS corroborated the sinking of the water-level, and agreed that it was due to excessive tapping of the underground supplies.

Mr. McEWEN called attention to the boring at Matjesfontein and Tweedside, where water had been struck at a depth of 400 feet to the amount of 50,000 gallons a day.

Mr. WESTHOFEN said that last year the Government had nineteen drills in use; 367 holes were bored, with an aggregate depth of over 26,000 feet; in 325 of the holes water was found, and of these 258 yielded more than 1,000 gallons per diem. The Government was spending £16,000 to £18,000 a year on this work, and all they got in return from the farmers was perhaps not more than £3,000.

The CHAIRMAN suggested that it would be well if systematic observations could be made of the quantity of water flowing in the Orange River at a given point, and then a comparison of this with the amount that reached the sea. The difference would give some idea of the amount finding its way underground.

Mr. WESTHOFEN said they did that on a small scale by observations taken on a few rivers, where notes were made of the rainfall, and gaugings taken of the volume of water in the river. It had been found that the latter was only about one-sixth of the total quantity received on the drainage area.

The CHAIRMAN said that in the case of the Orange River the proportion must be even smaller, as he understood observations showed that the water at the railway bridge was only a fraction per cent. of the total rainfall. It would be an interesting and valuable study if some regular work in this direction were undertaken.

ORDINARY MONTHLY MEETING.

March 30, 1899.

T. MUIR, LL.D., M.A., Vice-President, in the Chair.

Dr. G. S. CORSTORPHINE gave notice of motion that the Society return to the former day and hour of meeting, viz., Wednesdays at 8 p.m.

M. F. ROHDEN, Esq., Oudtshoorn, was elected an ordinary member.

Dr. GILCHRIST exhibited several specimens obtained by the Government trawler, the *Pieter Faure*. These included (1) several species of Veritillum from the east coast, Table Bay, and St. Helena Bay; (2) other species of Alcyonarians; (3) several species of fish, one of which, a small flat fish allied to the genus *Rhombus*, was found on the Agulhas Bank, though its adult form was not yet known.

Dr. MARLOTH mentioned that he had heard that the German Deep-sea Expedition on the *S.S. Valdivia* had rediscovered one of the Bouvet Islands.

Mr. L. PÉRINGUEY showed some stone implements found at Stellenbosch and Paarl, which he considered the oldest types yet found in South Africa. He intended to lay an exhaustive account of these implements before the Society at a future date.

The list of books and papers recently received was laid on the table.

ORDINARY MONTHLY MEETING.

April 27, 1899.

T. STEWART, F.G.S., M.I.C.E., President, in the Chair.

L. CRAWFORD, Esq., D.Sc., Professor of Mathematics, South African College, and THOMAS QUENTRALL, Esq., Inspector of Mines, Kimberley, were nominated for election as ordinary members.

After discussion of Dr. CORSTORPHINE's motion to return to the former day and hour of meeting, it was agreed that the Secretary should obtain the opinion of all the town members.

Mr. W. WESTHOFEN exhibited a piece of granite found many years ago in one of the quarries in the gardens, showing a perfect cross formed by felspar crystals.

The following paper was read: "Notes on the Occurrence of Alpine Types in the Vegetation of the Higher Peaks of the South-Western Region of the Cape," by R. MARLOTH, Ph.D.

ORDINARY MONTHLY MEETING.

May 31, 1899.

T. STEWART, F.G.S., M.I.C.E., President, in the Chair.

A. D. MILLAR, Esq., Durban, and Dr. J. HANAU, Carnarvon, were nominated for election as ordinary members.

L. CRAWFORD, Esq., D.Sc., Professor of Mathematics, South African College, and T. QUENTRALL, Esq., Inspector of Mines, Kimberley, were elected ordinary members.

The PRESIDENT announced that a majority of the town and suburban members had voted for the meetings being again held on Wednesdays and in the evening.

Professor VAN DER RIET exhibited (1) bituminous shale from Ermelo, Z.A.R., containing 43 per cent. volatile matter; (2) a fine specimen of Apophyllite from Kimberley; and (3) a Theriodont skull from Groot Vlaakte on the Karroo.

Mr. E. J. DUNN, F.G.S., read a paper entitled "Notes on the Dwyka Coal Measures at Vereeniging, Transvaal."

ORDINARY MONTHLY MEETING.

July 12, 1899.

T. STEWART, F.G.S., M.I.C.E., President, in the Chair.

The following gentlemen were nominated as ordinary members: S. S. HOUGH, Esq., M.A., Royal Observatory; A. STRUBEN, Esq.,

Cape Town ; Hon. Dr. W. Berry, The Speaker, House of Assembly ; J. A. MASSON, Esq., Surveyor-General, Natal ; W. OSBORN, Esq., Public Library, Durban ; J. A. FRANCIS, Esq., Durban ; D. DON, Esq., Durban.

A suggestion was made by the SECRETARY that each member reading a paper before the Society should write a summary for the press, so that country members might get better information of the Meetings.

The CHAIRMAN thought this a subject with which the Council might deal.

Dr. GILL described the work which was being done in spectroscopy at the Royal Observatory. He gave an account of the new spectroscope which had been designed by himself and erected by the liberality of Mr. Maclean.

Mr. SCLATER gave an account of the discovery of an ancient stone in excavations carried on in Adderley Street. He had deciphered the inscription as follows :—

“ Charles Cle chiefe command of *Palsgrave Elizabeth* and *Hope* arrived ye XXIIII. June and dep. for Bantam ye XX. July 1619. Thomas Brockendon, Cape merchant of the *Palsgrave*. ”

He had communicated with Mr. Ravenstein on the subject, who had referred the matter to Mr. W. Foster, of the India Office, from whom he had received a letter stating that on looking through the records of the East India Company he found that the fleet in question sailed from the Thames in March, 1619. The *Hope* had made several previous voyages, but the *Palsgrave* (1,083 tons) and *Elizabeth* (978 tons) were new ships built by the Company in the previous year. The chief was Commander Charles Clevenger (Cle of the inscription), who hoisted his flag in the *Palsgrave*. At the Cape they seemed to have met the *Lesser James*, homeward bound. It was customary for the Company's sailors (as also the Dutch) to cut such inscriptions for the information of succeeding ships, and the particulars thus obtained were continually repeated in the letters home. At times letters were buried and inscriptions engraved near at hand giving intelligence where they might be found. Sir Thomas Roe, on his way to India in 1615, had an inscription cut recording his embassy, and indeed there must be many such buried stones in Cape Town and its vicinity.

Mr. SCLATER also exhibited the photograph of the skull of a gigantic lemur which had been sent to him from Madagascar. For the skull itself the price of £8,500 was asked.

The CHAIRMAN gave a short account of underground water in the Transvaal. Very little had been done in South Africa with regard

to underground water, and the geological conditions of this Colony did not show that we could look to any great supply in future from underground sources. But it was quite a different matter with the Transvaal, where dolomitic limestone covered large areas.

ORDINARY MONTHLY MEETING.

August 9, 1899.

T. STEWART, F.G.S., M.I.C.E., President, in the Chair.

The Minutes of last meeting were read and confirmed.

The list of books presented to the Library was laid on the table.

The following gentlemen were nominated for election as ordinary members at the next meeting: CHAS. T. GRAY, Esq., Commissioner of Mines, Natal; J. B. MOFFAT, Esq., Native Affairs Office, Cape Town; H. BEARD, Esq., B.A. (Cantab), Cape Town; W. TYSON, Esq., F.L.S., Department of Agriculture, Cape Town.

The following gentlemen were elected ordinary members of the Society: Hon. Dr. BERRY, Messrs. S. S. HOUGH, Esq., M.A., J. A. MASSON, Esq., W. OSBORN, Esq., J. A. FRANCIS, Esq., D. DON, Esq.

The meeting then resolved itself into the

ANNUAL GENERAL MEETING.

The Hon. Secretary read the ANNUAL REPORT:—

The number of Ordinary Meetings held has been eight, at which eight papers were read. Six of these papers are now being printed, and will form Part I. of Volume XI. of the Transactions. During the year Parts II. and III. of Volume X. were issued. These two Parts contain 372 pp. and 6 plates.

The Books and Pamphlets belonging to the Society's Library have been catalogued, and are now arranged in the gallery of the reading-room of the Public Library, where they may be consulted. The Catalogue is in duplicate, one set of slips being in the Library, the other with the Secretary.

The Society's Transactions have been sent to 110 Societies and Institutions, and in return 251 publications were received during the year.

There are 132 ordinary members and 2 honorary members now on the roll; 23 were elected during the year, 1 died, and 7 resigned.

(Signed) L. PÉRINGUEY, *Hon. Secretary.*

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The Hon. Treasurer read the statement of Receipts and Expenditure as follows :—

THE HON. TREASURER IN ACCOUNT WITH THE SOUTH AFRICAN PHILOSOPHICAL SOCIETY, JULY 1, 1898, TO JUNE 30, 1899.

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
To Balance in Bank, June 30, 1898	408	8 1	By Printing Transactions..	243	14 0
„ Subscriptions	174	14 0	„ Preparing and Reproducing Plates for Transactions	49	2 8
„ Sale of Publications ..	23	8 6	„ Freight	4	3 6
„ Subscriptions for <i>Valdivia</i> Dinner	39	18 0	„ Preparing Card Catalogues of Library ..	10	17 5
„ Repayment by South African Museum for Plates.. ..	18	19 6	„ Stationery and Printing	11	4 0
			„ Attendant at Meetings	5	0 0
			„ <i>Valdivia</i> Dinner	39	18 0
			„ Petty Cash (chiefly Postages, Carriage, and Bank Charges	23	5 0
			„ Advance (to be repaid) ..	30	0 0
			„ Balance at Bank, June 30, 1899	248	12 11
	£665	18 1		£665	18 1

(Signed) W. L. SCLATER, *Hon. Treasurer.*

Audited and found correct.

(Signed) W. F. PURCELL, } *Auditors.*
M. WILMAN, }

The voting for President and four members of Council resulted as under :—

President : L. PÉRINGUEY, F.Z.S., F.E.S., &c.

Council : G. S. CORSTORPHINE, B.Sc., Ph.D., T. MUIR, M.A., LL.D., W. L. SCLATER, M.A., T. STEWART, F.G.S., M.I.C.E.

ORDINARY MONTHLY MEETING.

September 27, 1899.

L. PÉRINGUEY, President, in the Chair.

DR. GILCHRIST showed a series of flat fish ova in different stages of development.

The following gentlemen were nominated for election as ordinary members at next meeting : J. F. QUEKET, Esq., F.Z.S., Natal ; G. M. CLARK, Esq., M.A., Government Electrician, Cape Town ; W. G. MASON, Esq., B.Sc., Principal of Agricultural School, Elsenberg.

The following gentlemen were elected ordinary members : Messrs. CHAS. T. GRAY, J. B. MOFFAT, H. BEARD, and W. TYSON.

Dr. GILL gave a summary of Mr. J. R. Sutton's paper, "The Winds of Kimberley."

Mr. P. L. SCLATER, Sec. Z.S. Lond., on the invitation of the President, addressed the Society on the subject of a Zoological Garden for Cape Town.

Mr. Sclater, on bringing the subject before the Society, said he was naturally much interested in it, seeing that for the past forty years he had had the honour of occupying the position of Secretary to the Zoological Society of London. It was naturally, on that account, his endeavour on every opportune occasion to interest others in this particular branch of science. In bringing the subject before them, he proposed to divide his remarks into three parts. In the first place, he would say a few words about the value of zoological gardens generally; secondly, he would refer to the special value of such an institution to Cape Town; and thirdly, he would suggest one or two ideas with respect to the most practical method of promoting such an interesting and instructive scheme.

In so progressive a city as Cape Town it was hardly necessary for him to labour upon the point of the educational importance of such an institution. As a means of scientific study of various animals, it offered advantages to the student and observer which could not otherwise be obtainable without long and tedious journeys into the remote parts of the country. Every foremost nation of Europe had its "Zoo," and France deserved the prime order of merit for having, in the beginning of the present century, taken the initiative in this branch of natural history by laying the foundations of the world-famed Jardin des Plantes. In Holland also there were excellent Zoological Gardens, particularly at Amsterdam, Rotterdam, and the Hague; while at Berlin, Cologne, Frankfort, Vienna, and other cities, the same method of combining instruction with innocent amusement was carried out. All the large cities of America, such as Washington, Philadelphia, and New York, were likewise provided with such institutions. In Australia, Melbourne, Sydney, and Perth had their Zoological Gardens, and other important and growing communities in that part of the globe were following suit.

At the present moment the only Zoological Garden on the continent of Africa was the small but well-kept enclosure at Cairo, under the direction of Mr. Stanley Flower, the talented son of the late Sir William Flower, formerly Director of the British Museum. Mr. Sclater was also aware that Pretoria, in the Transvaal Republic, wanted to have its Zoological Garden, and he had been much pleased

to confer on the subject with Dr. Gunning, the Director of the State Museum at Pretoria, when he was here a few days ago. Cape Town seemed to Mr. Sclater to offer many advantages for the establishment of an efficiently directed Zoological Garden. It was a most delightful place of residence, the climate was all that could be desired, and the facilities of communication with other parts of the world were beyond comparison, taking geographical conditions into account. They all knew better than he could tell them that the energies and forces of civilisation had practically driven the large game of South Africa into the wilds. They could not see an ant-bear, nor feast their eyes upon a lion in its native lair. They had to visit that excellent institution, the South African Museum, in order to view them, beautifully stuffed, and enclosed in glass cases. But surely a live lion was a better creature to look at than a dead one! It was a curious fact that of all the different species of antelopes 110 or 120 belonged to Africa, but they were all being gradually destroyed as civilisation advanced; and it ought to be one of the privileges of Cape Town to show to its own population and to visitors, living specimens of the graceful animals which in years gone by used to roam freely over the valleys, plains, and slopes of South Africa in their thousands.

Mr. Sclater admitted that the most difficult part of his subject was the solution of the problem—how to establish in this city a Zoological Garden under the most practical economic conditions. But after discussing various plans, he was disposed to recommend the formation of a Cape Zoological Society, the subscriptions of members to go towards forming the nucleus of a fund for its establishment. He expressed a hope that not only the Government, when funds were available, but the City Corporation would contribute towards the encouragement of so deserving an institution, and he suggested that, by way of a beginning, the vacant ground at the back of the Museum might be set apart for the initiatory “cradle-space” of a Zoological Garden.

A discussion followed Mr. Sclater's address, and opinions were expressed by several members as to the relative desirability of a Zoological Garden in or near Cape Town, or a large reserve area being shut off to allow native animals being preserved. A proposal had formerly been made that the peninsula south of Simon's Town should be so utilised. Dr. E. B. FULLER gave notice that he would move at next meeting “That the Council of the Society be instructed to take up the question of the founding of a Zoological Garden in Cape Town.”

Dr. MUIR proposed a vote of thanks to Mr. Sclater for his interesting and stimulating address.

ORDINARY MONTHLY MEETING.

November 1, 1899.

L. PÉRINGUEY, President, in the Chair.

The Minutes of the last meeting were read and confirmed.

Dr. E. B. FULLER's motion, "That the Council of the Society be instructed to take up the question of the founding of a Zoological Garden in Cape Town," was carried unanimously.

Captain A. E. PAKEMAN, East London, was nominated for election as an ordinary member.

The following gentlemen were elected ordinary members: Messrs. J. F. QUEKET, G. M. CLARK, and W. G. MASON.

Dr. MARLOTH exhibited various Diptera, Hemiptera, and Coleoptera which he had caught in the snow near the summit of the Matroosberg in October. He had also found diatoms, and the eggs and larvæ of insects. So far he had no proof, however, that any insects were confined to such regions.

The PRESIDENT said that true Alpine forms of insects had been found by M. Raffray in Abyssinia, and that they were known on Kilima Njaro, but not further south.

The PRESIDENT exhibited a clay pot of native manufacture recently presented to the South African Museum by Mr. Wood, of East London. The pot is not of Kaffir make, but might be referred to those natives who have left their traces in the "Kitchen-middens."

The Secretary read a paper by the Hon. J. D. HUGO, of Worcester, on "Vitalism."

Drs. MARLOTH and HUTCHEON expressed their interest in Mr. Hugo's paper.

ORDINARY MONTHLY MEETING.

November 29, 1899.

L. PÉRINGUEY, President, in the Chair.

The Minutes of the last meeting were read and confirmed.

J. H. C. KRAPOHL, Esq., B.A., Concordia, and R. BROOM, Esq., M.D., B.Sc., Port Elizabeth, were nominated for election as ordinary members.

Captain A. E. PAKEMAN, East London, was elected an ordinary member.

Dr. J. D. F. GILCHRIST exhibited a number of marine specimens, including a new species of *Hippocampus* from Knysna, a new Anchovy from Zwartkops River and Saldanha Bay, and a new Crustacean.

The PRESIDENT recorded the deciphering by Mr. Donald Ferguson of the inscription on an old stone which has been in the South African Museum since 1855. (See *Transactions*, XI., Part 2, pp. 196–201.)

Dr. J. D. F. GILCHRIST read a paper on “The Genus *Paraplysia*, with Description of a New Species.”

Mr. ROGERS read a paper by himself and Mr. E. H. L. Schwarz on “The Orange River Ground Moraine.”

ORDINARY MONTHLY MEETING.

January 31, 1900.

L. PÉRINGUEY, President, in the Chair.

Messrs. WM. ANDERSON, Government Geologist, Natal; J. M. ORPEN, Surveyor-General, Rhodesia; G. WATERMEYER, Interpreter Supreme Court; and B. R. MACMILLAN, Department of Agriculture, Cape Town, were nominated for election as ordinary members.

Dr. R. BROOM, Port Elizabeth, and Mr. J. H. C. KRAPOHL, Concordia, were elected ordinary members.

The SECRETARY stated that the Royal Geographical Society, the Geological Society, and the Royal Astronomical Society, London, had intimated that their publications would in future be sent to the Society's Library. The Cambridge Philosophical Society had presented a complete set of its Proceedings, and had promised to forward future numbers.

Mr. CHAS. F. JURITZ, M.A., Cape Town, read a paper entitled, “The Soils of the South-Western Districts of the Cape Colony.”

ORDINARY MONTHLY MEETING.

March 28, 1900.

P. RYAN in the Chair.

His Excellency Sir ALFRED MILNER, K.C.B., G.C.M.G., was nominated for election as an ordinary member by the President and Secretary.

MESSRS. WM. ANDERSON, Natal; J. M. ORPEN, Rhodesia; G. WATERMEYER, and B. R. MACMILLAN, Cape Town, were elected ordinary members of the Society.

Mr. E. H. L. SCHWARZ exhibited portions of a fossil reptile which had recently been discovered in the course of the geological survey of the Uitenhage District.

The SECRETARY read a note on "Ocean Currents, Sand-dunes, and the Wreck of the *Ismore*," by Mr. Garwood Alston.

Mr. C. STEWART communicated a paper on "River Bars and Ocean Currents," by Captain A. E. Pakeman of East London.

ORDINARY MONTHLY MEETING.

May 2, 1900.

L. PÉRINGUEY, President, in the Chair.

The Minutes of the last meeting were read and confirmed.

Prof. H. E. S. FREMANTLE, B.A. (Oxon.), South African College, was nominated for election as an ordinary member by Messrs. CORSTORPHINE and PÉRINGUEY.

His Excellency Sir ALFRED MILNER, K.C.B., G.C.M.G., was elected as an ordinary member.

Mr. SCLATER exhibited a portion of a bone found at a considerable depth below the surface in Grave Street, and presented to the Museum by Colonel Feilden. The bone was obviously the upper portion of the radius and ulna of a large ungulate animal; it appeared to be too large for an ox, and Mr. Sclater suggested that it might perhaps be that of a hippopotamus. If this was so, it was interesting as confirming the statement in Van Riebeeck's diary, that hippopotami were in the habit of wallowing in the marsh which formerly existed on the site of what is now Church Square.

The Rev. Dr. F. C. KOLBE read a paper entitled, "Ultimate Analysis of Our Concept of Matter."

The lecturer first briefly stated the four prevailing views on the subject—the mechanical, the dynamic, the vortical, and the Scholastic or Aristotelian. The first analyses the world into separately existing atoms, and accounts for all diversity of phenomena by their relative motions. The second reduces the universe to centres of force. The third analyses matter into an almost entirely indeterminate substratum, absolutely homogeneous, into which variety of form is introduced by energy alone. The fourth admits no differentiation at all in the substratum, takes account rather of the combinations of particles than of the particles combined, and analyses the world into an indeterminate matter placed in existence by a hierarchy of forms. The first two theories being for various reasons rejected, the lecturer stated that the purpose of this paper was to reconcile the third and the fourth. This he did by showing how slight a change Lord Kelvin would

have to make to identify his substratum with that of Aristotle, and how desirable it was to make that change.

The question of energy and form was somewhat more complex, but by two illustrations Dr. Kolbe showed how it was likely or possible that vortices singly were very different from vortices in combination, and that therefore scientists might very well admit that Aristotle was right in fixing his analysis on the forms rather than on the elements. Thus a *modus vivendi* might be set up, in which scientists would gain the benefit of more accurate psychology and philosophy, while Aristotelians would be able to enlarge their bounds by the whole progress of modern science.

ORDINARY MONTHLY MEETING.

June 6, 1900.

L. PÉRINGUEY, President, in the Chair.

The Minutes of the last meeting were read and confirmed.

On the motion of the PRESIDENT, it was resolved that the Society congratulate Sir David Gill on the honour which Her Majesty the Queen had conferred upon him; and that Dr. Thomas Muir be congratulated on his election as a Fellow of the Royal Society, London.

Prof. H. E. S. FREMANTLE, South African College, was elected an ordinary member.

Dr. G. H. CLIFTON, Knysna, was nominated by Miss WILMAN and Dr. CORSTORPHINE, and Prof. W. RITCHIE, South African College, by Drs. BEATTIE and CORSTORPHINE, for election as ordinary members.

The list of books received since last meeting was laid on the table.

The PRESIDENT intimated that Part I. of Vol. XI. of the *Transactions* had been issued to members.

Mr. W. L. SCLATER exhibited a curious relic of Napoleon's sojourn at St. Helena, in the form of a steel cross-bow, provided by the English Government for their Imperial captive's pastime. Annexed to the old-time weapon was a certificate by John Desfontein of the H.E.I.C. service, then in charge of the stores depôt on the island, worded thus: "This patent steel cross-bow, made by A. Forsyth & Co., patent gunmakers, No. 8, Leicester Square, Leicester Street, London, sent to St. Helena, for General Buona-parté—£24. Cleaning, etc., etc. (since), with additional new silk

strings, apparatus, etc.—£8. Total, £32." It was presented to the South African Museum in 1875 by Mr. John Broadway.

MR. SCLATER also exhibited a series of photographs of birds and their nests taken by Mr. R. H. Ivy, in the neighbourhood of Graham's Town. Among them were the following: *Cossypha bicolor* the Piet-mijn-vrouw—*Monticola rupestris*, the nest of which contained an egg of the solitary cuckoo (*Cuculus solitarius*) distinctly visible in the photograph owing to its darker colour—*Dryoscopus cubla*, the Puff-back Shrike, showing the bird with its powder-puff-like feathers of the back erected—*Tockus melanoleucus*, the Horn-bill—*Pratincola torquata*, the South African Stonechat—*Cestropus natalensis*, the Lark-heeled Cuckoo, which differs from most of its relatives, in building its own nest and hatching its own young.

DR. J. D. F. GILCHRIST exhibited:

(1) A Gadoid fish, belonging to the genus *Haloporphyrus* and probably a new species, found by the Government steamer in trawling about 40 miles off Cape Town, in over 100 fathoms.

(2) Four fishes showing luminous organs, viz.: a *Monocentris* from shallow water, Mossel Bay; an *Argyropelecus*, a *Paraliparis*, and a *Scopelus* from over 100 fathoms off the Cape Peninsula, probably all new species.

(3) A number of new Alcyonarians which had been procured by the Government steamer and described by Prof. Hickson, F.R.S. These included the new genus, *Acrophytum claviger*, and three new species—*Heteroxeina capensis*, *Sarcophytum trochiforme*, *Gorgonia capensis*.

(4) Specimens of *Veritillum* illustrating the difference in size of the fauna of the east and west coasts of Africa, the eastern forms being larger than those from the west coast.

(5) A specimen of *Agriopus torvus*.

(6) A new species of Anchovy from East London, this being the second species of the genus *Engraulis* discovered in South African waters.

Dr. F. PURCELL exhibited specimens of all the known South African species of "Peripatus," including, in addition to the three previously described forms, four others recently described by himself in the "Annals of the South African Museum," making seven in all, viz.:—

Peripatopsis capensis (Grube), with 17 pairs of legs.	}	from the Cape Peninsula.
P. balfouri (Sedg.), with 18 pairs of legs.		
P. leonina, Purc., with 21–22 „ „		
P. Sedgwicki, Purc., with 20 „ „	}	from Knysna.
P. clavigera, Purc., „ 17 „ „		
P. moseleyi (Wood-m.), with 20–22 pairs of legs.		
Opisthopatus cinctipes, Purc., with 16 „ „	}	from Natal and the Eastern parts of Cape Colony.

Of these the last-named form is the most interesting, as it differs so much from all the others that a new genus had to be created for its reception. It was discovered by the Rev. J. A. O'Neil at Dunbrody, Uitenhage Division. It resembles the Australian forms in several respects.

Dr. Purcell maintained that the supposed great antiquity of "Peripatus" was very doubtful, depending as it did on the supposition that the tracheæ of the tracheate Arthropods could only have originated once, for it is now known that true tracheæ have originated independently in at least three different ways, for instance in two ways in spiders and in a third way in insects. It would be reasonable to suppose, therefore, that "Peripatus" may also have acquired its tracheæ independently of those of the insects.

In the discussion which followed, Dr. Corstorphine stated that the peculiar distribution of Peripatus had some bearing on the question of its antiquity. Dr. Gilchrist thought that the presence of tracheæ could not be overlooked, and, if not conclusive, was at least some evidence of the close relationship of Peripatus to the ancestral insect.

In reply Dr. Purcell mentioned that the distribution of Peripatus might be accounted for by the drifting of the animal on logs, as the creature could easily live for at least six months without food.

ORDINARY MONTHLY MEETING.

June 27, 1900.

L. PÉRINGUEY, President, in the Chair.

The Minutes of the last meeting were confirmed.

The following gentlemen were nominated for election as ordinary members: Messrs. WILLIAM CRAIG, A.M.I.C.E. and WILLIAM ROBERTSON, M.R.C.V.S., by Messrs. B. R. MACMILLAN and L. PÉRINGUEY; Mr. C. W. MALLY, Assistant Entomologist, by Messrs. PÉRINGUEY and CORSTORPHINE; Major W. E. M. STANFORD, C.M.G., by Messrs. CORSTORPHINE and SCLATER.

Prof. W. RITCHIE and Dr. G. H. CLIFTON were elected ordinary members.

The SECRETARY read a letter of thanks for the Society's congratulations from Dr. T. Muir.

Mr. E. H. L. SCHWARZ exhibited copies of some Bushman drawings which he had found near Nieuwoudtville.

Along with the usual reproductions of men and animals, there are

certain puzzling figures which have not been recorded from other localities. One of these consists of a rude slipper-like form with seven bars across it; another is a circle with seven peripheral radiating bars, and a third shows three concentric circles, from the outer of which there extend twenty-one bars. Mr. Schwarz thought that the first-mentioned figure might be a tally.

Mr. McEWEN suggested that the recurrence of seven and its multiple, might indicate that the other two were also reckonings of some sort.

Dr. PIERS mentioned that there were many scratched drawings at Wagenaars Kraal, in the Nieuwveld, where some of the older drawings had been copied by subsequent natives.

Dr. CORSTORPHINE exhibited a piece of limestone showing very typical cone-in-cone structure. It had been found on a *débris* heap at Kimberley and forwarded to the Museum by Mr. Gardner Williams.

Dr. Corstorphine gave a short note on an old beach deposit on the site of the South African Brewery at Woodstock, which had been brought to his notice by Mr. A. W. Ackermann, Architect, Cape Town.

Immediately adjacent to the railway, excavations for foundations have been made down to the underlying Malmesbury slate. The sections nearest town show a layer of shells and water-worn boulders, some 3 feet thick, resting on the slate and covered by about 3 feet of sand and soil, but within 30 yards the deposit entirely thins out. The shells all belong to species found on the present beach, viz.: *Lutraria oblonga*, *Bullia rhodostoma*, *B. Lavigata*, *Patella argenvillei*, *Crepidula hepatica*, *Turritella knysnænsis*.

A copy of a report on a submarine disturbance, from the Magistrate at Walfish Bay, forwarded by Mr. Stanford, was read by the Secretary. The Magistrate stated that on May 31st or June 1st last, a new island appeared about 100 yards N.E. of Pelican Point. The island was about 150 feet long by 30 feet wide, and stood 12 feet above high water. It was composed of a tenacious clay; soundings gave 7-10 fathoms around it; steam was observed rising from the clay, and an intense smell of sulphuretted hydrogen was perceptible, even at a distance of 5 miles.

Mr. W. L. SCLATER read a paper entitled, "Notes on the so called 'Post Office Stone,' and other inscribed stones preserved in the South African Museum and elsewhere."

ANNUAL GENERAL MEETING.

August 1, 1900.

L. PÉRINGUEY, President, in the Chair.

The Report of the Council and the Treasurer's statement were adopted.

Mr. L. PÉRINGUEY was unanimously re-elected President.

Mr. H. BOLUS, Dr. J. D. F. GILCHRIST, Sir DAVID GILL, K.C.B., and Dr. MARLOTH were re-elected Members of Council for the ensuing two years.

REPORT OF COUNCIL FOR YEAR ENDING JUNE 30, 1900.

During the past year eight ordinary meetings have been held, at which, in addition to various short notes and exhibitions of specimens, eight papers were read.

Part 1 of Vol. XI. of the *Transactions* containing seven papers and nine plates was issued to members early in June, while the first proof of Part 2 was returned to the printer during the same month.

The number of Institutions to which the *Transactions* are sent is 110, and the Society's Library has been increased by donations of 180 volumes and papers during the year.

The cataloguing of the Library is being continued on the plan mentioned in last year's report.

The membership of the Society is still increasing, the members at June 30 being: Honorary Members 2, Ordinary Members 148.

The Council has to record with regret the deaths of four members: Mrs. Barber, Prof. F. Guthrie, Rev. Mr. Muller, and Dr. A. C. Stark.

The financial position of the Society is extremely gratifying, as will be seen by reference to the balance-sheet annexed. The Treasurer further reports that out of the 148 Ordinary Members, 87 are town members paying an annual subscription of £2, and 61 are country members paying an annual subscription of £1, so that the Society as at present constituted should from this source obtain an annual income of £235. It will be seen that during the present year only £202 16s. 0d. has been received. This is to a great extent owing to the war and the fact that many of our members are resident in the Transvaal. The arrears due to the Society in the matter of subscriptions amount to £76, of which the greater portion may be regarded as a safe asset.

During the year £109 15s. 2d. was received from sale of *Transactions*.

Owing to the fact that during the last year we have not paid for the printing of Part 1 of Vol. XI. of the *Transactions* there is a large balance amounting to £480 10s. 11d. in hand as against £248 12s. 11d. at the commencement of the year. As it appeared to be bad finance to have so large a sum lying idle at the bank, the Council has placed a sum of £300 on fixed deposit with the Standard Bank, bearing interest at the rate of 3½ per cent. per annum.

Signed for the Council,

L. PÉRINGUEY, *President.*

GEO. S. CORSTORPHINE, *Secretary.*

THE HON. TREASURER'S ACCOUNT WITH THE SOUTH AFRICAN
PHILOSOPHICAL SOCIETY, JULY 1, 1899, TO JUNE 30, 1900.

RECEIPTS.			EXPENDITURE.		
	£	s. d.		£	s. d.
To Balance at Bank, June 30, 1899	241	12 11	By Preparation and Reproduction of Plates for Transactions	51	6 6
„ Repayment of advance (see last year's statement)	30	0 0	„ Printing Notices of Meetings, &c., &c.	12	10 0
„ Subscriptions	202	16 0	„ Purchase of Stationery	7	6 6
„ Sale of Publications ..	109	15 3	„ Typewriting of MSS. ..	2	15 6
			„ Freight of Books and Transactions from Europe	4	9 9
			„ Payments for attendance at meetings and clerical assistance	7	0 0
			„ Petty expenses (chiefly postage)	23	0 0
			„ Repayment to S. African Museum for Annals ..	1	10 0
			„ Bank Charges	0	15 0
				£110	13 3
			Balance as per Bank Book	480	10 11
	£591	4 2		£591	4 2

W. L. SCLATER, *Hon. Treasurer.*

We, the undersigned members of the South African Philosophical Society, hereby declare that we have examined the above account, compared the receipts with the counterfoils of the Receipt Book, the cash payments with the Vouchers, and the balance with the Bank Pass Book, and have found the same correct.

W. F. PURCELL, }
M. WILMAN, } *Auditors.*