COLONEL ROBERT JACOB GORDON'S CONTRIBUTION TO SOUTH AFRICAN BOTANY.

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By R. A. DYER.

In preparing my address for this evening I have been guided by the old adage that half a loaf is better than no bread. And were it not for the unselfish assistance of Miss M. Gunn, Librarian of the Division of Botany and Plant Pathology, who has made the collection of data on the life of Gordon one of her hobbies, I should not be talking about him to-night. The alternative would probably have been some dry aspect of systematics.

Robert Jacob Gordon, 1741 - 1795, is the Gordon in South African history, after whom Gordons Bay and Gordons Peak are named, but not, however, the district of Gordonia, which took its name from Sir Gordon Sprigg.

Gordon was a son of Major General Jacob Gordon, of the Scots Brigade, in the service of Holland. He was descended from a Scottish ancestor who had emigrated to Holland far earlier. This son was born with his father's regiment in Guelderland in 1741, and was thus dedicated to an army career from the cradle. He entered the University of Harderwyk in that district, to follow at a distance the great Swedish botanist Linnaeus. After leaving Harderwyk Gordon joined his father's regiment as a cadet. Being of an enterprising and scientific turn of mind Gordon decided to travel.

He first touched at the Cape in 1773 for a short stay and returned here in 1777 as a Captain in the service of the Dutch East India Company. He was placed in charge of the garrison at the Cape, rose to the rank of Colonel and died by his own hand in 1795.

We may read in an obituary in the Gentleman's Magazine of 1796[1] that he was cheerful, sincere and of strict integrity, that his time at the Cape was much taken up in his official duties and in the study of the most abstruce parts of science; that his house, the constant resort of strangers, the seat of hospitality,

at once exhibited the learning of the man, the dignity of the Chief, and the felicity of the husband and father. We may read further, that he was handsome in his person, elegant in his manners, upward of 6 ft. tall, thin, but muscular, active and capable of enduring great fatigue.

He had a command of the Dutch, German, French and English languages and acquired a mastery of some of the native dialects of the Cape. In addition to all his other attributes he was a geographer and skilled draughtsman and biologist.

It is learnt from the Melville papers[2] in the Cape archives that before his death Gordon had shown a certain John Cochrane a trunk full of drawings and observations on the country, which, in the event of his death were to be sent to England to be published and which he relied upon would serve as provision for his family. Cochrane remarked that no man possessed so much knowledge of the interior of the country.

His drawings and notes, including a large amount of topographical data, were taken into safe-keeping by the British after his death.

Britten[3] throws light on the early history of the collection, by the publication of a letter written by Philip Gidley King, in London on May 27th, 1797, to Sir Joseph Banks. It is of such importance that I shall quote freely: "Agreeably to your wish I have informed myself more fully respecting the Papers of the late Col. Gordon, brought to this country by his widow."

"The Charts, etc., are contained in two boxes (which I saw inspected yesterday at the Customs House). The largest box contains, as Mrs. Gordon informs me, a general chart, smaller charts and views of the interior parts of Africa seen and visited by her late husband, in all about ninety-five, with a Manuscript account wrote in Dutch. There are also a few bundles of family papers. The second box contains a very full and large book, in which are arranged upwards of four hundred drawings of natural history, appropriate to the charts and views."

"The charts and natural history Mrs. Gordon informs me were all designed by her own husband, who drew every outline and had them finished under his own eye. As her wish is to have these charts, etc., inspected by such persons as may be deemed adequate to judge of their consequence to this Kingdom, she desires me to request in her name the indulgence of their being permitted to be withdrawn from the Customs House, where they are now lodged without being subject to the duty."

After some considerable delay they were given over for collation to John Pinkerton, who in a report to William Windham in 1806, strongly advised the Government to buy them from Mrs. Gordon, for they were according to him of great importance to this commercial country and to the interests of our oriental colonies.

It would appear that the good advice of John Pinkerton was not acted upon and the collection of drawings, at least, passed into private hands. For just over a century the collection was forgotten, until 1913, when the Strafford Library was offered for sale at Sothebys. Messrs. Maggs Bros.[4] then offered for sale their purchase of (in the words of the advertisement) "the Gordon Collection of Unpublished Contemporary Watercolour Drawings".

The special supplement of their catalogue No. 316 of 1913 informs us that the collection, as it then stood, consisted of at least 64 views and plans, some of very great size (which H. V. Morton[5] recently stated are best examined on the floor), 52 of Natives, reptiles and fishes, 87 of quadrupeds; over 100 plants; and over 100 birds. The collection was bought by a Committee in Holland and is housed in the Rijks Museum, Amsterdam.[6]

The relative Manuscripts were not advertised by Maggs Bros. and have yet to be rediscovered, if, in fact, they still exist. Thus in order to assess Gordon's contribution to the progress of South African botany, one is obliged to review its early history from the works of others.

Records of the South African flora date back to about the middle of the 17th century, when, through Van Riebeeck, the two Van der Stels and various travellers, specimens found their way all over Europe, and mainly to Holland.

South African botany was not given a really solid foundation, however, until the last 30 years of the 18th century. This period opened with the arrival, in 1771, of C. P. Thunberg, a Swede, who has often been proclaimed the father of South African botany. Contemporary with him was Masson, the first gardener to be sent out officially from England to collect plants for cultivation at Kew. Arriving in 1772, he accompanied Thunberg on his second and third important expeditions into the interior between 1773 and 1774. After an absence from the Cape of several years he returned in January, 1786, for a second period, until 1795, the year in which Gordon died.

Andrew Sparrman, 1772 - 1776, another Swede, was not

present at the Cape during Gordon's first visit and left permanently before he returned in 1777. Sparrman's account of his travels are recognised as a most valuable record of the natural history and general condition of the country at that time.

The next figure of note was Lieut. Paterson, who, under the patronage of the Countess of Strathmore, travelled widely in the Cape during the years 1777 - 1779. He made extensive collections of plants for herbarium records, as may be judged from his account of his travels published in 1789 - 1790. His specimens, however, have not been traced.

The flamboyant Le Vaillant breezed into the country in 1781 to depart again in 1785. Several editions and translations of his travels during this period were published not long afterwards.

Emulating England in sending out Masson, two Austrians, Boos and Scholl, were despatched from Vienna by Emperor Joseph II. They were primarily intended to collect plants on Mauritius for the Royal Gardens of Schoenbrunn. They arrived at the Cape in May, 1786, and apparently found the flora so rich and interesting that they remained there to botanise over a wide range. After a stay of one year Boos continued his journey to Mauritius alone, and called in again at the Cape for a short period on his return to Vienna in 1788, leaving Scholl to continue his collecting at the Cape until 1799.

This summary of events makes it clear that Gordon's period at the Cape coincided very closely with 30 years of botanical activity in that region. Let us now retrace the relative events from Thunberg's time in more detail.

From Thunberg[7] we hear of Gordon's early introduction to the Cape flora. Thunberg remarks that in the month of May, between the 13th and 19th, 1773, in company with Gordon and Masson, an English gardener lately arrived, he made an excursion on foot round the mountains situated between the Cape and False Bay. We may assume that Gordon was then little more than a keen student quick to appreciate the advantages of contact with such a master as Thunberg.

Some account of Masson's journeys at the Cape[8] are given in the Philosophical Transactions of the Royal Society, London, 1776, and there are frequent references to his work in other publications of the day. There is, however, no single account of his second period of residence from 1786 - 95, but the publication of his Stapeliæ[9] in 1796, with 41 coloured illustrations,

was an event of considerable importance. The reproductions were made from a collection of paintings made by Masson at the Cape. The question whether Masson was the artist in each case has been an open question and has led to divergent views, some writers suggesting that they were done by the soldier artist Oldenburg, but this is unlikely. Masson[10], himself, writing to his "much esteemed friend" Thunberg in 1789, mentioned that he had discovered more than 20 new species of *Stapelia*, had made figures of most of them and intended giving a monograph of them on his return to England. That he was not the artist of all the illustrations was made clear in an article[11] in Science and Arts, 1818, which reads "and *Stapelia Gordoni* (tab. 40) - - - - - bears on its front the name, "Webber" in Dryander's hand: another figure, apparently of some undescribed Apocynaceous plant, bears a note by Dryander — "Webber, copied from a drawing of Captain Gordon's at the Cape of Good Hope". The drawing of this Apocynaceous plant (Plate 1) now identified as *Pachypodium namaquanum* (half-mens) will be referred to again later.

It is necessary at this stage to introduce in greater detail, the subject of Gordon's botanical illustrations, which were acquired for Holland in 1913. Apparently no one has worked on the originals in detail and it was only recently that the National Herbarium, Pretoria, acquired uncoloured photographic copies of these paintings through the curators of the collection in the Rijks Museum, Amsterdam.

Among these photographs is a print of the original painting (Plate 2) from which Masson's *Stapelia Gordoni* (now *Hoodia Gordoni*) was made. Sweet[12], without apparently more than Masson's figure before him, separated it under the generic name *Hoodia* (1830). Then due partly to an error in copying from the original painting, Don[13] in 1837 proposed to establish for *Stapelia Gordoni* the genus *Monothylaceum*, based on the "singular form of the corolla and the solitary follicles". Thiselton Dyer[14] was correct in supposing that the latter is not a real character, "as the follicules are probably frequently germinate". This is borne out by an examination of the Gordon original, where the follicules are shown mostly in pairs.

One other of Masson's published plates is matched exactly with a Gordon original. This is plate 13 of *Stapelia pulvinata*. In the Gordon collection there is a second painting, almost identical, which Gordon may have prepared or had prepared to give away.

GA = Masson Agl (plate) Stapelia gordoni

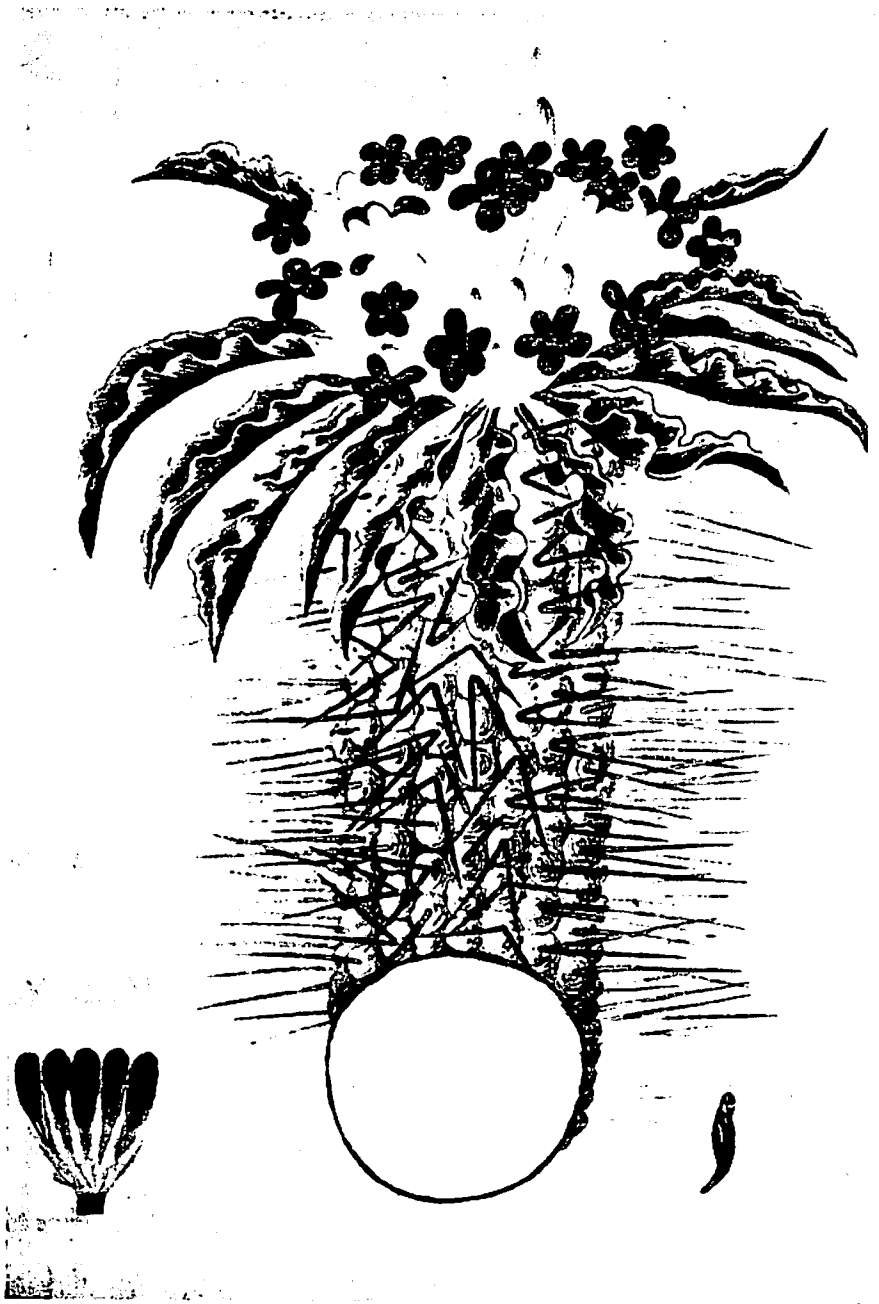

PLATE 1. — *Pachypodium namaquanum* Welw.

Gordon

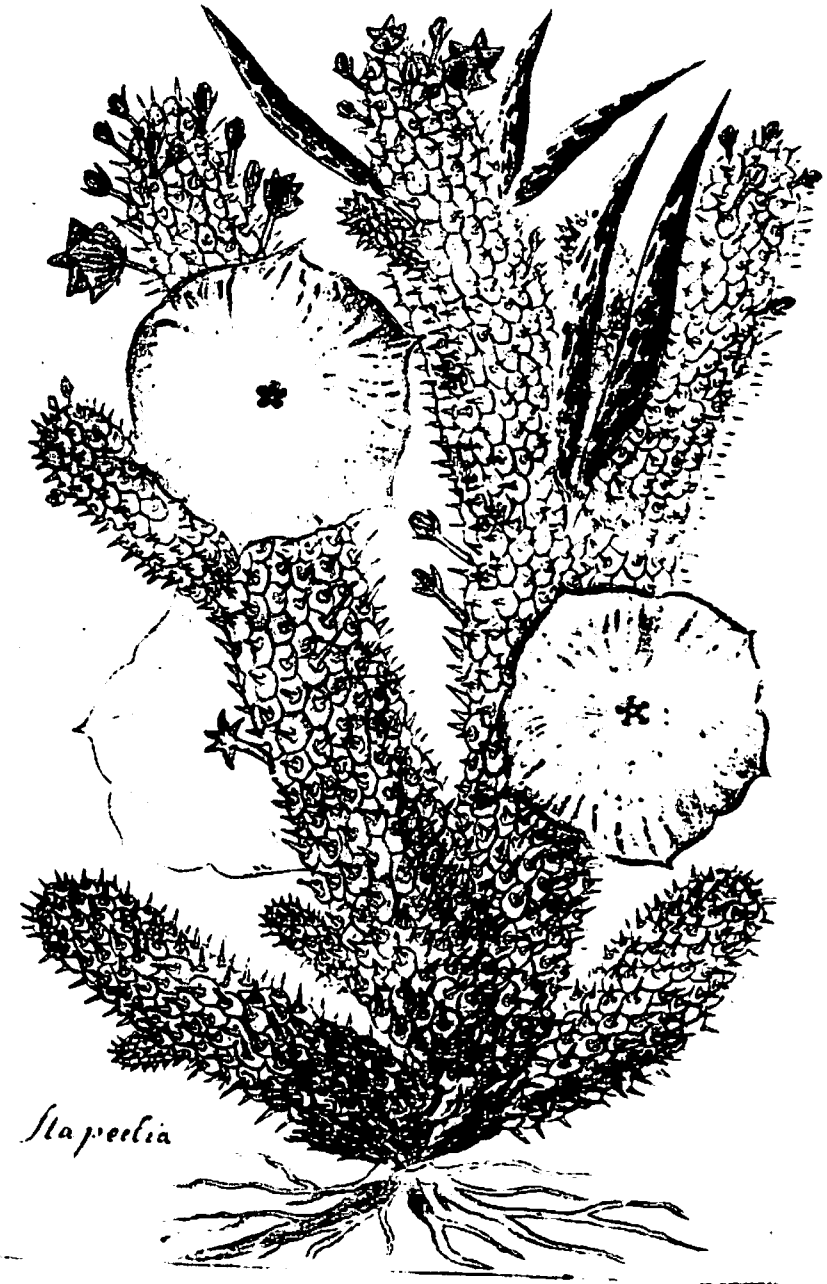

PLATE 2. — *Hoodia gordoni*. Sweet.

Masson acknowledges the work of Gordon (and Paterson) by saying that they discovered some very remarkable species. And in his letter to Thunberg, mentioned above, Masson says that Colonel Gordon often mentions him with respect and intends writing to him, but at present is much employed in political affairs.

PATERSON

Paterson entered on Gordon's horison in the period between Masson's two visits. These two men of military training had much in common, including their intense interest in botany. Paterson[15], who published an account of his Travels in Africa in 1789 - 90, makes no secret of his admiration for his companion and his narrative of their journeys together are always in the plural " we " after saying:

" It was a circumstance peculiarly favourable to my views, that previous to proceeding on my journey, I had the good fortune to meet with a most intelligent companion, Captain Gordon (now Colonel), who had travelled in this country some years before, about 1774, and was lately returned from Holland as second in command, and appointed to succeed Colonel Du Phren, who was then Commander in Chief. Colonel Gordon is a gentleman of extensive information in most branches of natural history ; and, I believe, is the only person who has any considerable knowledge of that country, being acquainted with the interior parts for near one thousand five hundred miles from the Cape. He had acquired the language of the Hottentots, which, together with his perfect acquaintance with the Dutch language, gave him an advantage over most other travellers."

A later remark of interest and importance by Paterson tells that " a draughtsman of Captain Gordon's, who was in the wagon, had his thigh much bruised ; but was not so much injured as might have been expected from such a fall." This gives point to the statement by Gordon's widow that her husband drew every outline and had them finished under his own eye.

Paterson, like Masson, also leaves the reader in doubt as to the artist, who executed the illustrations in his Travels. As no other name is mentioned, Paterson has usually been given the credit, but Britten[16] in 1920 ventured the statement that " It seems probable that Paterson was indebted to him (Gordon) for the plates of plants in his Narrative." I am in agreement with Britten in this, even to suggesting that all Paterson's plates were Gordon's work.

Consider firstly the *Pentandria Monogynia* (i.e. *Pachypodium namaquanum*), which Paterson located somewhere north of the site now known as Goodhouse, and which he thought the most

beautiful plant he had ever seen. He says of it. "It grows to six feet high, and is full of long spines from the ground to the tops, and forms a large crown of crisped leaves, and reddish 'tubelar' flowers, tinged with yellow and green." The original painting is in the Gordon collection and as previously mentioned a copy is in the Masson collection.

Paterson's illustration of the inflorescence of *Aloe dichotoma* is matched in the Gordon collection and it is obvious that the other illustrations of this species were by the same artist. In addition the plates of *Geranium* (opposite p. 113) and *G. spinosum* are also matched in the Gordon collection. Further evidence that Paterson was indebted to Gordon for illustrations has been traced comparatively recently by Miss Gunn.

Sir Ernest Oppenheimer's library in Johannesburg contains three handsome bound volumes of paintings collected by Paterson[17]. Several of the paintings have been found to match almost exactly Gordon's original works (Plate 3 and the reproduction on the cover). Among them also, but not in Gordon's collection, are three incomplete illustrations of *Euphorbia*, which will be referred to again later (Plate 4).

To return to Paterson's Narrative of his Travels, he gives an interesting account of *Toxicodendrum globosum* (*T. capense*), which is similar to notes by Gordon on his original painting of the plant. Paterson's record reads as follows: "The only poison really useful to the European inhabitants is a small shrubby plant producing a nut, called by the Dutch, Woolf Gift, or Wolf Poison, which they use for poisoning hyenas. The method of preparing this is by taking the nuts and roasting them as they do coffee, after which they pulverize them; they afterwards take some pieces of meat or a dead dog, which they stuff full of powder, and throw them into the fields. The voracious hyenas meeting with anything of this kind ,soon devour it, and in general are found dead the following day."

It was Paterson who had the pleasure of taking part in the ceremonial naming of the Orange River by Gordon. Owing to ill-health, Paterson was not with Gordon in 1777 when he first reached the great river, but these travellers joined forces again in a subsequent expedition which brought them to its banks in August, 1779, when: "In the evening we launched Colonel Gordon's boat, and hoisted the Dutch colours. Colonel Gordon proposed first to drink the State's health, and then that of the Prince of Orange and the Company; after which he gave the

PLATE 3.—
Right: Gordon's original painting of what he named *Albuca spiralis*.
Left: Copy in Paterson's collection.

Paterson

Levaillant

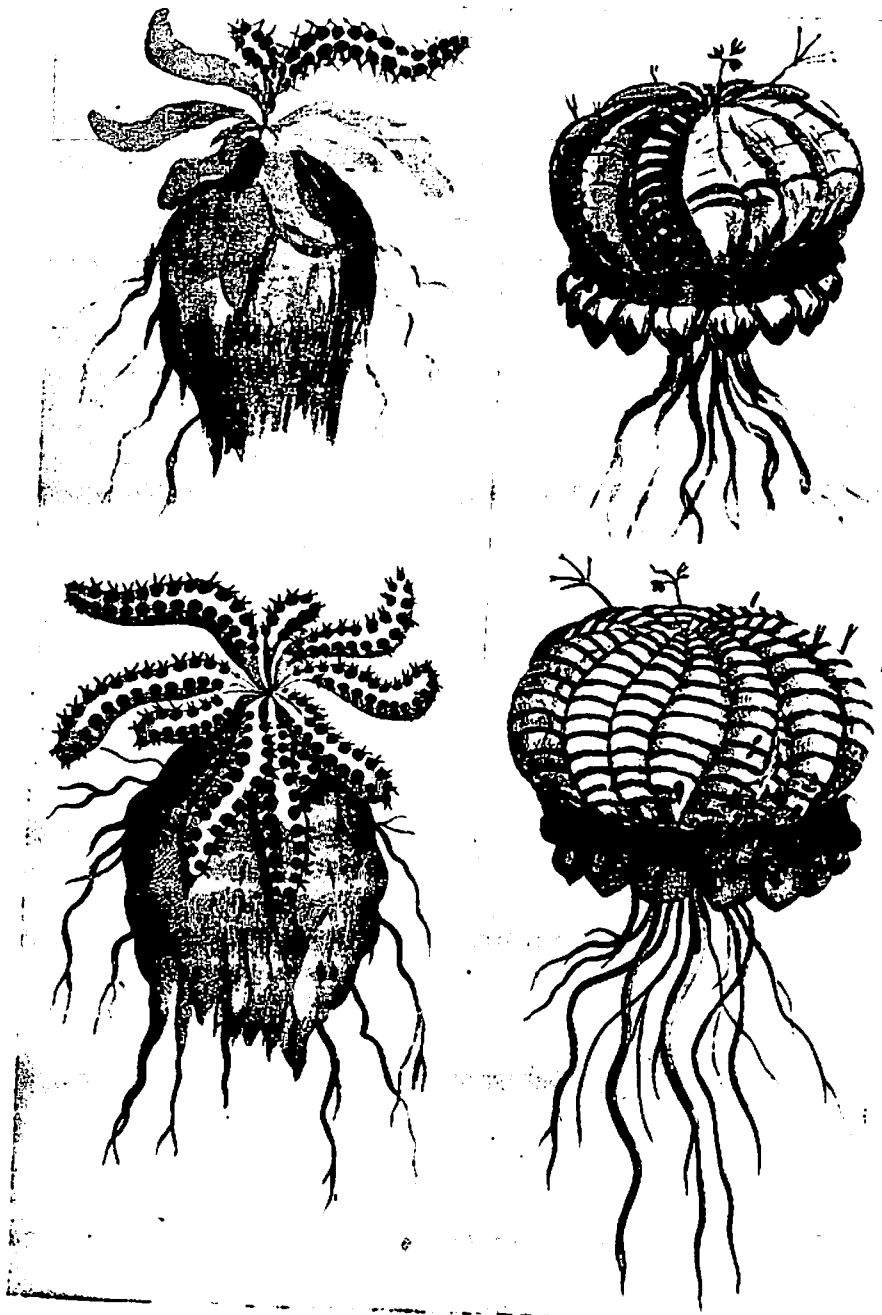

PLATE 4.—
Top: Incomplete paintings from Paterson's collection of drawings.
Bottom: Illustrations from Le Vaillant's work. Left: *Euphorbia stellata*. Right: *Euphorbia meloformis*.

river the name of the Orange River in honour of that Prince."

A sidelight on the destructive force of the river in those times is Paterson's remark that they had observed on the coast near the mouth many large Mimosa (Acacia) trees ,which had been thrown up by the ocean and indicated to them that they were not far distant from their objective.

Altogether Paterson's Travels rank highly in the annals of South African botany, some of the credit for which must be attributed to his intimate association with Gordon.

It has been generally accepted that the writings of Le Vaillant[18] are more picturesque than scientific and, while we bear this in mind, we cannot ignore altogether his references to Gordon, whom he held in high esteem. His account of his Travels into the Interior Parts of Africa from 1781 - 85, certainly give the impression that the esteem was mutual, as witness the following translation from the French original. "At length, after an absence of sixteen months spent in the deserts of Africa, I arrived at the Cape, where Gordon and his lady were eagerly expecting me. I was welcomed as a friend, a brother, a son, or whatever is most dear, and the kindness of these beneficent hosts never slackened for a moment. The memory of my gratitude will continue as long as my travels shall continue to be read." Le Vaillant hoped his own publication would induce Gordon to publish his discoveries, for, he said, "He owes to Europe an account of such complete researches and which relate to so interesting a part of Africa. They are the property of Science, which would then no longer remain buried in oblivion."

Le Vaillant's publications illustrate only three South African plants. This in itself is not very strange, but it is odd that all three belong to the genus *Euphorbia*, which is not notable for the beauty of its species. Two of the illustrations (Plate 4) are readily identified with *E. meloformis* Ait. and *E. stellata* Willd., both from the eastern Cape Province. The third, which he described under the name *Euphorbe concombre*, Latinised as *Euphorbia cucumerina* Willd., has always been a mystery. A translation of Le Vaillant's account of it reads as follows: "In returning to my camp (Little Namaqualand, between Groene River and Koperberg) I found a beautiful species of *Euphorbia*, which I thought new, and of which I made a drawing, that is copied in the annexed plate (Plate 7). This Euphorbium adheres to the earth no otherwise than by a few slender roots. It rises to the height of nine or ten inches only; and exactly resembles a cucumber, of which it has the bent shape. It contains abundance

of milky juice, which appeared to me as caustic as that of the great euphorbia. Its colour, which is a yellowish green, tinted with a beautiful shade of violet towards the root, gives it a very attractive appearance: but woe betide the man who should be tempted to eat of it, as I am told it is a virulent poison." He adds the common name "noordsche-kull," which is probably a corruption of "noord pool." The account does not ring true.

In the Paterson collection of paintings in the Oppenheimer Library there are incompleted paintings of the three figures (see two of these in Plate 4) of *Euphorbia*, completed ones of which were reproduced by Le Vaillant. Le Vaillant and Paterson did not meet as far as I can judge, and in view of the other facts recorded, my conclusion is that both Le Vaillant and Paterson were indebted to Gordon for all three of their illustrations. I would go further and say that Le Vaillant's account of *Euphorbe concombre* is mere fabrication or a confusion of facts; that the plant probably came from the eastern Cape, as in the case of the other two species, and that it represents a side growth of *E. polygona*, which is common in that area. In his revision of the genus *Euphorbia* for Flora Capensis, 1915, N. E. Brown[19] mentions an unpublished drawing of *Euphorbia meloformis* in the Masson collection, which it would be of interest to compare with Le Vaillant's plate, though had they been identical, Brown would surely have remarked on it.

In considering the association which existed between the Viennese collectors, Boos and Scholl, and Gordon, an enquirer is fortunate in having for reference a work published by S. Garside[20] in 1942 on Baron Jacquin and the Schoenbrunn Gardens. Boos and Scholl, it will be remembered, were commissioned specially to supply material for these gardens. It was on their collections that Jacquin[21] made his invaluable contributions to South African botany in his Plantarum Rariorum Horti Schoenbrunnensis.

Boos and Scholl travelled together in the interior of the Cape and later Scholl travelled in the company of Gordon and Masson. The living plants which Scholl collected were cultivated in Gordon's garden in Cape Town. Garside adds that Scholl no doubt obtained seeds from the garden to send to Vienna, and that it is extremely probable that some of the curious and possibly hybrid Stapelias raised in Vienna from South African seed sent by Scholl, may have had their origin there, where conditions for hybridisation must have been very favourable. This is a suggestion to be borne in mind regarding Masson's records as

well, and for that matter regarding any other of Gordon's associates. It may give point, too, to Sir Joseph Banks' instruction to Masson, which reads: "The plants you have sent home have succeeded so much better than any you sent when you were last at the Cape, that we have every reason to praise your industry, and to see the propriety of a search near the place of your residence, in preference to expensive journeys up the country, which seldom produce an adequate return in really ripe seeds."

Besides Gordon's indirect contribution to South African botany through the published works of Masson, Paterson and Jacquin, it must not be overlooked that he shares indirectly also in the credit for other botanical works of great importance prepared on the Continent and in England during the last quarter of the 19th century. There were, for example, La Marck's Encyclopedia and Aiton's Hortus Kewensis, both of which include many references to South African botany. At the same time Gordon maintained contact with the Royal House of Orange, to which he forwarded material and illustrations from his several expeditions.

Further proof that Gordon was a biologist of note is shown in many brief glimpses of him in the records of travellers who called at the Cape, either on their way round the world or to some specific destination to the East.

Sonnerat[22], naturalist to the King of France, passed through the Cape during 1781 - 82 and says in the record of his travels that it was regarded as an event of importance to meet Gordon, that he was a most interesting man to know, and that he was the only person to go to for information respecting the original inhabitants of the country and its fauna and flora.

In the introduction to his Account of the English Colony in New South Wales, Australia, published by Capt. Collins[23] in 1798, it is stated that "As it was earnestly wished to introduce the fruits of the Cape into the new settlement, Capt. Phillip was ably assisted in his endeavours to procure the rarest and the best of every species, both in plant and seed, by Mr. Masson, the King's botanist, whom we were so fortunate as to meet with there, as well as by Colonel Gordon, whose thirst for natural knowledge amply qualified him to be of service to us, not only in procuring a great variety of the best seeds and plants, but in pointing out the time of introducing them into the ground."

John White[24], Surgeon-general to the Settlement of New South Wales, who published an account of his voyage out in

October, 1787, was enthusiastic in his praise of Gordon, recognising his ingenuity as a gardener and his knowledge as a botanist.

Another reference, which has escaped most of those people interested in Gordon, is contained in the record of Lieut. William Bligh[25] of his memorable voyage and Mutiny of the Bounty, which anchored at the Cape in May, 1788. Here Bligh met Gordon and Masson, from whom he took care to procure seeds and plants that would be valuable at Otaheite. It is chronicled by Macquarie[26], Governor of New South Wales at the time, that Bligh, Gordon, Masson and others visited him on board on his way out in June, 1788. With the cinema film of the Mutiny of the Bounty in mind, it is not difficult to conjure up a picture when he adds that they had a " merry day of it ".

We have seen that Gordon's assistance, with illustrations at least, has not always been acknowledged in publications. Whether it was at his wish or not that his name was omitted is hard to say, but George Hamilton[27], who touched at the Cape on his voyage round the world in the Pandora in 1790 - 1792, expressed the view that historians and voyagers of that part of the globe had been purloining Gordon's work. Like others he hoped that at some future date the world would be favoured with the works unmutilated.

As I am speaking before the S.A. Biological Society, I may steer a point off the course set by the title of my address and mention that the vast wool industries of both South Africa and of Australia owe a great debt to Colonel Gordon. He had been instrumental in importing to the Cape animals from the celebrated Escurial flock owned by the King of Spain. After Gordon's death some of his stock was sold by his widow to the Commanders of the two sloops Supply and Reliance. These men had been commissioned to be on the look out for wool-bearing sheep by their friend, Capt. John Macarthur[28], who was at that time experimenting with wool production in New South Wales.

As late as 1942, Garside deplored the fact that the exact site of Gordon's garden in Cape Town was unknown. Captain John Parker's widow, recording the arrival of the Gorgon man-of-war at the Cape on 19th June, 1791, mentions that Gordon's villa was situated a few miles from town, on the summit of a hill commanding a most pleasant and extensive view by sea and land. Borchards, in an Autobiographical Memoir, referred to it as being below Table Mountain. But again due to the pertinacity of Miss

Gunn, this gap in our records has lately been filled after a personal search in Cape Town and subsequently verified by the Surveyor-General's Office. It is in the Gardens suburb facing on Prince Street.

It was there that he took his life on the morning of October 25th, 1795. When in this year Holland fell under the republican government of France, the Prince of Orange took refuge in England. When in the same year a British fleet arrived at the Cape to take charge and forestall the French, Gordon was in a dilemma, whether or not to resist. He disliked the French Republicans, who had banished the Prince of Orange, after whom (be it remembered) Gordon had named the Orange River, and in addition he had always been on very good terms with the British. He decided to make no show of arms. This action met with severe criticism from local reactionaries who regarded him as a traitor. This interpretation of his motives and consequent slur on his military honour drove Gordon, the soldier, to put a pistol to his head. It was early days for a man to die for the ideal of unity in South Africa. He was buried privately, but his funeral was attended by 40 British officers.

While I have concentrated mainly on the botanical aspects of Gordon's influence at the Cape, I must emphasise that his contributions to a knowledge of the animal kingdom were of the same high order. Thus before closing I wish to project on the screen a small selection of photographs of Gordon's biological illustrations and finally one of what remains of his so-called villa in the suburb of Cape Town now known as Gardens. I must again express by thanks to Miss Gunn for her invaluable assistance, and I am grateful to Mr. H. King, of the Division of Botany and Plant Pathology, for making copies of the photographs projected.

I am also grateful to Sir Ernest Oppenheimer for permission to consult his library and reproduce illustrations from Paterson's collection of drawings and to the Committee of the Rijks Museum, Amsterdam, for permission to reproduce the photographs of Gordon's original drawings.

Incomplete as my account has been I shall be satisfied if I have succeeded merely in indicating to you the extent of Gordon's share in the advance of biological science in Southern Africa.

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APPENDIX.

To give some idea of the botanical subjects painted by Gordon, a tentative list of identifications is appended of the uncoloured photographs received from the Rijks Museum. A study of the coloured originals would undoubtedly yield fuller and more reliable results.

The arrangement and numbering of the genera is according to Dalla Torre and Harms, Genera Siphonogamarum, 1900 - 7.

PINACEÆ.

38 Widdringtonia cupressoides Endl.

LILIACEÆ.

969 Androcymbium sp.
1101 Massonia sp.
1026 Aloe dichotoma L.f.
1079 Albuca sp.? aff. A. spiralis L.f.
1088 Eucomis punctata L'Herit.
1089 Ornithogalum conicum Jacq.
1098 Lachenalia unifolia Jacq.
L. sp. cf. L. tricolor Thunb. (five different forms).
L. spp. (four more distinct paintings).

AMARYLLIDACEÆ.

1166 Hessea spp. (2 paintings).
1167 Hæmanthus spp. (3 paintings).
1168 Boophone disticha Herb. (leaves and flower).
1175 Nerine sp.
1176 Amaryllis belladonna L.
1186 Gethyllis spp. (6 paintings).
1191 Cyrtanthus obliquus Ait.
C. carneus Lindl.
C. Guthrieæ L. Bolus?

TECOPHILAEACEÆ (according to Hutchinson).

1233 Cyanella sp.?

IRIDACEÆ.

1265 Moræa sp. cf. M. pavonia Ker. (2 paintings).
1302 Ixia paniculata Delaroche.
Ixia spp. (7 paintings).
1310 Babiana sp.
1311 Gladiolus blandus Ait.
Gladiolus spp. (3 paintings).
1314 Lapeyrousia fissifolia Ker.

ORCHIDACEÆ.

1434 Disa uniflora Berg.
D. porrecta Swartz.
1435 Herschelia sp. cf. H. purpurascens Kranze and H. colestis Lindl.
1440 Corycium sp. cf. C. orobanchoides Sw.

PROTEACEÆ.

2029 Paranomus sceptrum Salisb.

RAFFLESIACEÆ.

2180 Cytinus sanguineus Fourcade

HYDNORACEÆ.

2182 Hydnora africana Thunb. (3 paintings).

AIZOACEÆ.

2405c Lithops sp.
2405za. Carpobrotus sp. cf. C. edulis N.E.Br.

CRASSULACEÆ.

3164 Cotyledon cacalioides L.f.
3168 Crassula falcata Wendl.
C. pyramidalis Thunb.

LEGUMINOSÆ.

3446 Acacia karroo Hayne.

GERANIACEÆ.

3926 Sarcocaulon multifidum Kunth.
S. rigidum Schinz.
S. sp.
3928 Pelargonium echinatum Thunb.
P. pulchellum Curt.
P. sp. aff. P. carnosum Ait.
P. sp. cf. P. fulgidum Willd.

EUPHORBIACEÆ.

4336 Toxicodendrum globosum P. and H.
4498 Euphorbia bupleurifolia Jacq.

UMBELLIFERÆ.

5917 Hermas gigantea L.f.
6013 Pituranthos sp.?

APOCYNACEÆ.

6681 Pachypodium namaquanum Welw.

ASCLEPIADACEÆ.

6791 Asclepias fruticosa L.
A. rotundifolia Mill.
6878 Hoodia gordoni Sweet.
6881 Piaranthus sp.
6882 Huerniopsis sp.?
6883 Duvalia sp. aff. D. cæspitosa Haw.
6885 Stapelia irrorata Masson
S. gemmiflora Masson
S. pedunculata Masson
S. pulchella Masson
S. pulvinata Masson
S. variegata L.
S. sp. cf. S. glanduliflora Masson
6887 Huernia barbata Haw.
H. campanulata R.Br.
H. thureti Cels?
H.sp. aff. H. guttata R. Br.
6889 Pectinaria sp.
6924 Fockea sp.

SCROPHULARIACEÆ.

7476 Nemesia sp. aff. N. barbata Benth.

RUBIACEÆ.

8285 Gardenia capensis Druce

COMPOSITÆ.

9417 Euryops sp. cf. E. tysonii Phill.
9434 Gazania sp.
One illustration indeterminate.

ILLUSTRATIONS.

ON COVER: Hydnora africana, a plant parasite found on the roots of Acacia species (from Gordon's original, a copy of which is in Paterson's collection).

PLATE 1: *Pachypodium namaquanum* (from Gordon's original).

PLATE 2: *Hoodia gordoni* (from Gordon's original).

PLATE 3: (right) Gordon's original named *Albuca spiralis*; (left) copy of drawing in Paterson's collection.

PLATE 4: (top) incomplete paintings from Paterson's collection; (bottom) illustrations from Le Vaillant's work: left, *Euphorbia setllata*, right, *E. meloformis*.

SENIOR CAPTAIN SCOTT MEDAL

THIRTIETH AWARD: C. J. VAN DER HORST, 1947.

Cornelius J. van der Horst was born in Nieuwer-Amstel, Holland, in 1889 and educated in Amsterdam. In 1916 he obtained the D.Sc. degree at the University of Amsterdam, upon which he was appointed assistant in the laboratories under Hugo de Vries, Weber and Sluiter .

From 1923 to 1928 Dr. van der Horst was sub-director of the world-famous "Centraal Instituut voor Hersenonderzoek" in Amsterdam. From then onwards his interests turned to South Africa ,commencing with the appointment of Senior Lecturer in the Department of Zoology of the University of Witwatersrand, where he was promoted to the professorship in the same department in 1933, and this post he still holds.

Professor Van der Horst's research work has through the years been recorded in a large number of publications on corals, the structure and histology of the brain, the *Hemichordata*, and the embryology of mammals.

The studies on the embryology of the elephant shrews of South Africa are of extreme importance, and may be counted as one of the most important zoological discoveries made in South Africa in the last 40 years. He has shown that in many characteristics they foreshadow man and may have to be placed in the Primates.

The research work on the group of the *Enteropneusta* mainly applies to South African forms and Dr. van der Horst has made himself the world's chief authority on the group.

In 1946, he was elected President of Section D of the South African Association for the Advancement of Science and for many years he has been a keen supporter and President of the South African Aquarists Association. More recently his interest has also tended towards Palæontology and he has become deeply involved in this as chairman of the "Bernard Price Foundation for Palæontological Research."

SCIENTIFIC PAPERS OF PROF. C. J. VAN DER HORST.

1. The forebrain of the Synbranchidæ. *Proc. Kon. Akad. Wetenschappen, Amsterdam*, 1917.
2. Die motorischen Kerne und Bahnen in dem Gehirn der Fische, ihr taxonomischer Wert und Ihre neurobiotaktische Bedeutung. *Tijdschrift Ned. Dierk. Ver.* Deel 16, 1918.
3. A new species of Fungia. *Zool. Med. 's Rijks Mus. Nat. Hist., Leiden*, Deel 5, 1919.