

THE
ZOOLOGICAL SOCIETY
OF LONDON

A SKETCH OF ITS
FOUNDATION AND DEVELOPMENT

AND THE STORY OF ITS
FARM, MUSEUM, GARDENS, MENAGERIE
AND LIBRARY

BY

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edited by Dr. P. L. Sclater, F.R.S., late Secretary of the Zoological Society,
"A Popular History of Animals," "Through a Pocket Lens," etc.*

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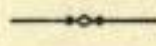


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island of Hawaii, is clearly doomed to extinction before many years are past."

One report respecting the Lake has been preserved, from which it appears that in October, 1832, there were on that water common and wild swans; Chinese, Canada, white-fronted, bean, barnacle, and Egyptian geese; Muscovy ducks and hybrids, shel-drakes, pintails, wigeon, gadwalls, teal, and wild duck. With the exception of the last-named species, only one or two pairs of each were kept. The season was bad; and at that time there were sixteen goslings and about forty wild ducklings, exclusive of those which had flown away, but would return in the winter.

The gallinaceous birds kept on the islands for breeding and crossing were duck-winged game, Indians, silkies, and bantams. More than a hundred chicks were hatched out, but the rats took heavy toll of them. Benjamin Misselbrook, who was afterwards head-keeper, and retired on a pension in 1889, had charge of the birds.

Mr. Bryan Hodgson, the British Resident in Nepal, made an extensive collection of the splendid and interesting pheasants of that country, as well as of other birds. Nearly a hundred were despatched from Katmandu; "many perished in the sultry plains of India, and nearly the whole of the remainder died in Calcutta." Of the few that were shipped to England not one survived the passage. Although greatly disappointed, Mr. Hodgson did not lose heart, and later attempts were more successful.

In 1834 an Indian rhinoceros was purchased for a thousand guineas. It was said to be about four years old; the length from the root of the tail to the tip of the snout, in a straight line, measured 10 ft. 6 in., and the height at the loins was 4 ft. 10½ in. The Council reported that it "was scarcely inferior in its dimensions to the largest specimen yet recorded as having existed in Europe."

Late in the autumn of 1835 a young chimpanzee was imported from the Gambia. No example of this anthropoid had as yet been exhibited by the Society. Having received information of the arrival of the animal at Bristol, the Council sent down one of the chief keepers to purchase it. In this he

do not enable them to control and overcome this pregnant, but happily remediable source of ill-health."

Ibrahim Pasha sent a magnificent donation in 1849, consisting of two giraffes, two dromedaries, two leucoryx and two addax antelopes, two ostriches and two gazelles, which were brought home by Henry Hunt, who went out to Cairo to take charge of them. The Pasha intended to send all the animals in pairs, but the bull giraffe unfortunately died. The Queen deposited a lioness, a leopard, a pair of ostriches, and a pair of gazelles. By the influence of the Hon. C. A. Murray, Consul-General at Cairo, Abbas Pasha obtained for acceptance by the Society a young hippopotamus from the White Nile. The animal was brought to Cairo in November and placed at the disposal of Mr. Murray, who described the valuable present:

The Hippopotamus is quite well, and the delight of everyone who sees him. He is as tame and playful as a Newfoundland puppy; knows his keepers, and follows them all over the courtyard; in short, if he continues gentle and intelligent as he promises to be, he will be the most attractive object ever seen in our Garden, and may be taught all the tricks usually performed by the elephant.

It was said that the feeding of the young hippopotamus caused a shortage of milk in the city. Mr. Murray thought a fresh importation of cows into Cairo would be necessary—"our little monster takes about thirty quarts of milk daily for his share already."

As a small return for this munificent gift the Council sent to His Highness a stud of greyhounds and deerhounds under the care of an experienced trainer. The animals were greatly admired by the Pasha, who expressed his satisfaction with the course adopted by the Council.

Losses were heavy this year. Three American bison and the female of the European species succumbed to pleuro-pneumonia. The death of the Indian rhinoceros is thus accounted for by Broderip* in describing another rhinoceros in the Gardens:

His predecessor, who departed this life full of years, was constantly forced upon his belly by a pugnacious elephant [Jack], who pressed his tusks upon the back of his neighbour when he came near the palings which separated their enclosures. This rough treatment appears to have led to

* *Quarterly Review*, March, 1856, p. 240.

his death, as Professor Owen found, on dissecting the massive brute, which weighed upwards of two tons, that the seventh rib had been fractured at the bend near the vertebral end, and had wounded the left lung.

Owen ascribed the broken rib to "some clumsy fall, or otherwise inexplicable process"; and the Council, in chronicling the death, say that as the animal had been upwards of fifteen years in the Menagerie its "longevity rather than its decease" was matter for remark.

The great event of 1850 was the arrival of the hippopotamus, the first living specimen seen in Europe "since these creatures were last exhibited by the third Gordian in the Amphitheatre of Imperial Rome." This young male was but a few days old when it was captured by a party of hunters sent out by the Viceroy. They met with it on the island of Obaysch, in the White Nile, and from that spot the animal was named. It was sent down to Cairo in a boat constructed for the purpose, and kept in that city through the winter, and was brought home in the spring on board the Peninsular and Oriental Company's steamer *Ripon*, where a bath was fitted up for it, and other arrangements made for its comfort, justifying Frank Buckland's remark that it travelled *en prince*. It was landed at Southampton on May 25, and brought by special train to London, "every station yielding up its wondering crowd to look upon the monster as he passed—fruitlessly, for they only saw the Arab keeper, who then attended him night and day, and who, for want of air, was constrained to put his head out through the roof." The same night it was safely housed in the Gardens.

Owen saw it on the following morning (Sunday), and recorded his impressions in the *Annals and Magazine of Natural History* (v. 2nd ser., pp. 515–18). He estimated the animal to be ten months old, and says that it was 7 ft. long and 6½ ft. in girth at the middle of the barrel-shaped trunk, which was supported, clear of the ground, on very short thick legs. In walking the head was depressed, and then the hippopotamus gave him the impression of a huge prize hog, while in the water it swam and plunged about "with a cetaceous or porpoise-like rolling from side to side, taking in mouthfuls of water, and spurting them out again, raising every now and then its huge grotesque head, and biting the woodwork at the margin of the bath." It

house was made, as were the wombats' pens, since cleared away to afford space for the kangaroo paddock.

The next year the deer sheds were finished, and the animals transferred thither from the wapiti house, which was then demolished to allow of the erection of the elephant house on the site. This structure was to have been ready for occupation in November, but the animals were not removed to the new quarters till late in the following summer. It contains eight roomy stalls, four opening into one paddock, and four into another, each having a large bathing pond. In the upper storey are four good rooms for keepers, and excellent forage lofts. The old house was then cleared away. The paddocks, the terrace walk in front of the house, and the eastern pond date from the following year; the western pond dates from the 'thirties, but was slightly altered in shape.

The stock consisted of two young African elephants (♂ ♀), two Indian elephants (♂ ♀), two Indian rhinoceroses (♂ ♀), an African rhinoceros (♂), and an American tapir (♂). This the Council believed to be "by far the finest and most nearly complete series of the larger living representatives of the Cuvierian order of pachyderms that had ever been brought together in Europe."

New dining-rooms, kitchens, and cellars were provided at the refreshment-rooms in the South Garden, for which the lessee agreed to pay an increased rent; and in the North Garden the gazelle sheds were put up.

Several applications had been made by the Council for an extension of the area devoted to the Gardens; but they could only obtain permission to re-enter on the strip north of the canal which had been surrendered to the Crown in 1841. This change, which took place in 1869, made the total area 30 ac. 2 r. 34 p., for which the yearly rent is £358 0s. 8d.

In 1861 two valuable collections of animals were received from Sir George Grey, Governor of Cape Colony. These were brought home by Mr. Benstead, a collector employed by the Society. One consignment arrived in May, and included the first koodoo and steinbok brought alive to Europe; the first grysbok and rehbok to come into the possession of the Society, and a zebra mare, entered as a Burchell. Attention was called to this animal, as being different from ordinary specimens "in having

ZOOLOGICAL SPECIMENS

FOR THE

ROYAL SOCIETY.*

MR. BENSTEAD having returned to the Colony as Agent to the ZOOLOGICAL SOCIETY OF LONDON, to collect living specimens for their Menagerie, hereby gives notice that he will pay handsome Premiums for all kinds of Animals and Birds. Thus, for a fine healthy pair (Male and Female) of Elephants he will give the sum of £180; the same sum for a similar pair of Rhinoceroses; for a Zebra, £20; for a Young Bull Eland, £15; and for other Animals equally liberal Sums, according to their value.

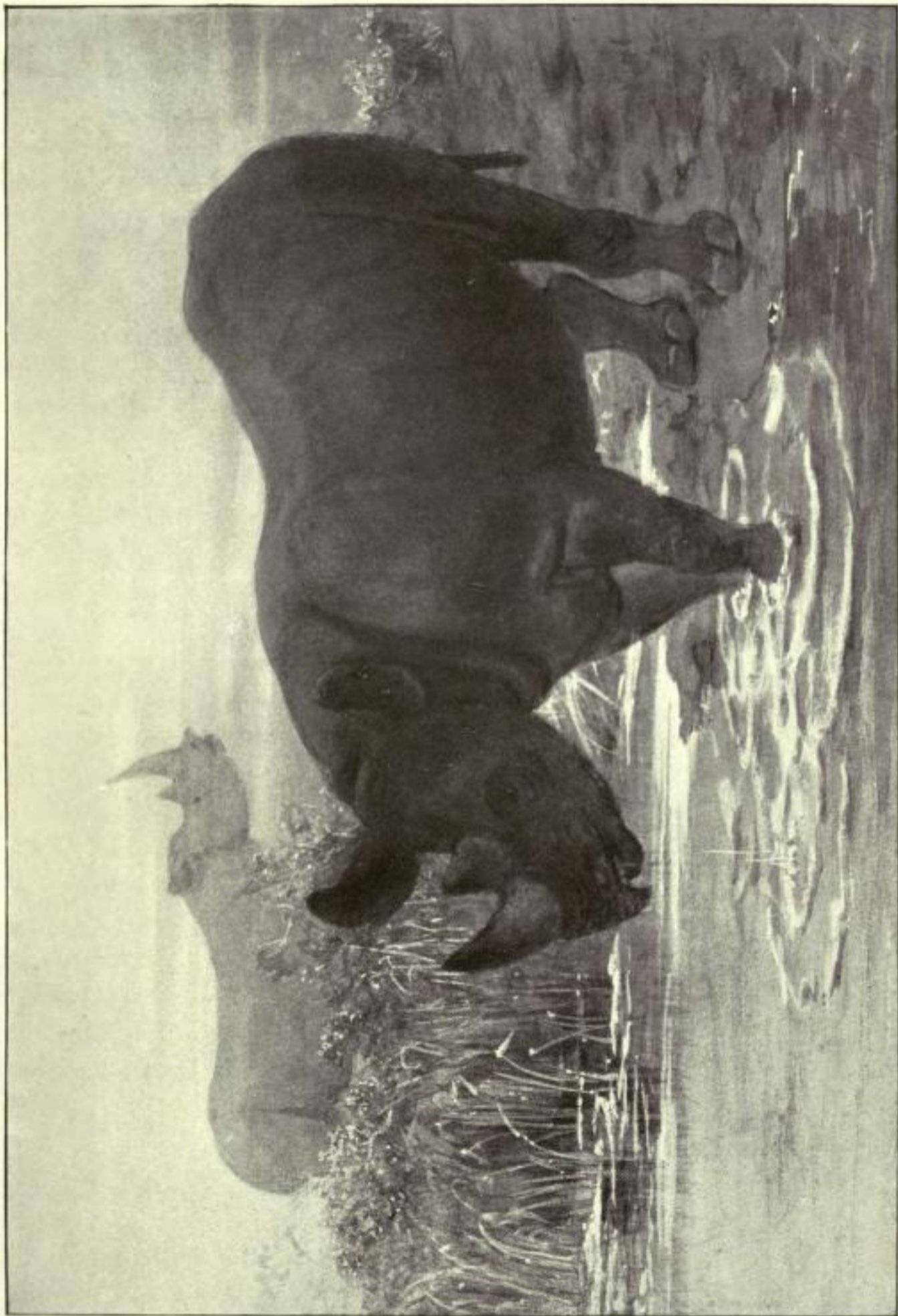
2 Elephants	...	...	...	...	each	£90	0	0
Rhinoceros	...	...	...	...	..	90	0	0
A Pair of Koodoo	...	...	...	...	...	31	10	0
„ Ant-Bears	...	...	...	...	...	15	0	0
(A Pair of Dead Specimens in Brine are required.)								
A Pair of Gemsboks	...	...	...	...	...	30	0	0
„ Hartebeestes	...	...	...	...	...	30	0	0
„ Rheboks	...	...	...	...	...	10	0	0
„ Zebras (not Quagga)	...	...	...	...	...	40	0	0
„ Rock Rabbits	...	...	...	...	...	—
„ Wattled Cranes	...	...	...	...	...	5	0	0
„ Crested Cranes	...	...	...	...	...	5	0	0
A Young Male Eland	...	...	...	...	...	20	0	0
A Pair of Springboks	...	...	...	...	...	5	0	0

Any Specimens of the Antelope Tribe will be paid handsomely for. Application to be made to Mr. Benstead, at Government House.

An official advertisement appeared in the *Field* in November, 1861, offering the following birds of the year, from which it will be seen that the season was a good one for the Himalayan pheasants:

Cheer, one male and two females	...	...	£7
Purple kalij, seven pairs	...	...	£12 a pair
Black-backed kalij, five pairs	...	...	£10 „
White-crested kalij, eight pairs	...	...	£10 „

* The epithet "Royal" is often wrongly prefixed to the title Zoological Society of London. This is sometimes done by Fellows, and in a recent "Life" Sir William Flower is described on the title page as Late President of the *Royal* Zoological Society. The Zoological Society of Ireland is entitled to the epithet. It is evident from the text that Mr. Benstead's "Royal Society" is really the "Zoological Society of London."



AFRICAN RHINOCEROS. (See p. 140.)

From a Drawing by Joseph Wolf.

refused to quit his deceased parent. This being noted, he was captured by a noose swung over his head and one fore limb, from the ship, and hauled on board. For some days the captive was kept tied to a ring-bolt on deck, and refused food altogether. Subsequently he was induced to swallow thin slips of boiled pork, and was thus fed until the vessel reached the Shetlands, when a supply of fresh mussels was provided for his use. A large box with openings at the sides, and the animal secured therein, was brought safely into Dundee. From that port to London the walrus was conveyed in the steamer *Anglia* under the care of the Society's Superintendent.

The animal had very short tusks, and Bartlett had the skull of an adult male, with tusks over a foot long, fastened to a tree. "I was much amused one day," he wrote, "by a decent-looking man, who appeared to be taking great interest in and studying the beast, asking me if he had shed that skull."*

One Press correspondent seems to have had a strange idea of a walrus, for he wrote: "At present he has no sign of the formidable 'horns' so familiar to Arctic navigators, and which give such a peculiar appearance to the sea-horse."

The first lyre-bird, a female, was acquired by purchase this year, and in 1868 a male was presented by the Hon. John Ellis.

A young male African rhinoceros, believed to be the first received alive in Europe since the days of the Romans, was purchased from Hagenbeck, who received it from Casanova. It was in excellent health and quite tame. Till the elephant house was finished, the animal was kept in the giraffe house. Its dimensions on arrival are given as about 6 ft. in length, and 3 ft. 6 in. high at the shoulder. In a wing of the same building a young male koodoo was housed; and as the horns were not developed, a skull with horns was put up in the stall. This method of exhibition has much to recommend it, but it is not easy to decide how far it should be carried.

In the autumn of this year Lecomte returned from his expedition, the object of which was to procure as complete a living collection as possible of the mammals and birds of the Falkland Islands. He arrived at Port Stanley on August 11, 1867, and received valuable assistance from Governor Robinson, who placed a small schooner at his disposal. By the end of the

* "Wild Animals in Captivity," p. 167.

abounds. Their death is frequently accelerated by the silliness which characterises most of their actions : observing men carry heavy burthens through the forest, they tear off the largest branches from the trees, and accumulating a weight (sometimes of elephants' teeth), disproportionate even to their superior strength, emulously hurry with it from one part of the woods to another, with little or no cessation, until the fatigue and the want of rest and nourishment exhausts them. Amongst other of their actions, reported without variation by the men, women, and children of Empoöngwa [Mpongwe] and Sheekan, is that of building a house in rude imitation of the natives, and sleeping outside or on the roof of it ; and also of carrying about their infant dead, closely pressed to them, until they drop away in putrefaction.*

Some of Mivart's best work is to be found in these volumes. About forty papers stand to the credit of Dr. Murie, the first Prosector ; some of these were of a pathological and others of a physiological character. Abstracts of Owen's memoirs, published in the *Transactions*, appeared here. Kitchen Parker was a contributor, and his account of the Sternal Apparatus of Birds and other Vertebrates † was afterwards expanded into a monograph on the Structure and Development of the Shoulder-Girdle.‡

Salvin alone, and in collaboration with the Secretary, did a good deal of work on South American birds. Two papers, compiled at the Gardens, and presented by Dr. Sclater, who added some notes, deserve mention—the first, in 1868, dealt with the breeding of mammals in the Gardens during the preceding twenty years ; the other, in the following year, with the breeding of birds for a similar period. Mr. Sharpe contributed fourteen papers, of which those on kingfishers and swallows were the drafts, so to speak, of monographs on the respective families. Swinhoe added considerably to our knowledge of the Chinese fauna, and there were a dozen papers from Wallace on the birds of the Malay Archipelago.

The fourth volume of *Transactions*, published in 1862, contained twenty-four papers, the most important being those of

* T. E. Bowdich : "Mission to Ashantee," pp. 440-441 (London, 1819).

† One of the chief results of this work was, by demonstrating the true homologies of the various bones of the shoulder-girdle in fishes, to overthrow, once for all, Owen's theory of the nature of limbs.—T. Jeffery Parker : William Kitchen Parker, p. 44.

‡ Ray Society, 1888.

Owen on *Dinornis*, the Anatomy of the Indian Rhinoceros, the Osteology of Chimpanzees and Orangs, and the Anatomy of the Great Ant-eater; Parker on the Anatomy of the Shoebill Stork, and the Secretary on the Struthious Birds in the Gardens. Eleven papers made up the fifth volume, issued in 1866. Flower described the Brain of the Javan Loris; Owen continued his memoirs on *Dinornis*, his other subjects being the Aye-Aye and the Anthropoid Apes; and Parker gave an account of the Osteology of the Gallinaceous Birds and Tinamous. In 1869 the sixth volume was published. Owen contributed a memoir on the Dodo, and two sections of his memoirs on *Dinornis*; other authors were Allman, Flower, Günther, Parker, Mivart, and Newton.

EXHIBITED FOR THE FIRST TIME. BREEDING SPECIES.

	Mammals.	Birds.	Reptiles.	Total.	Mammals.	Birds.	Reptiles.	Total.
1861	8	15	9	32	19	24	—	43
1862	14	16	6	36	26	29	1	56
1863	12	35	22	69	24	29	1	54
1864	8	23	2	33	22	20	1	43
1865	21	50	4	75	30	36	—	66
1866	15	45	5	65	21	23	—	44
1867	14	31	—	45	25	33	2	60
1868	}	No returns.			34	30	—	64
1869					29	28	—	57
1870					25	26	—	51

ANIMALS IN THE MENAGERIE.

	Mammals.	Birds.	Reptiles.	Total.
1861	450	843	121	1,414
1862	485	1,114	149	1,748
1863	567	1,063	100	1,730
1864	498	1,255	105	1,858
1865	490	1,365	101	1,956
1866	535	1,305	173	2,013
1867	531	1,320	159	2,010
1868	616	1,220	134	1,970
1869	598	1,245	170	2,013
1870	571	1,333	214	2,118

The bust, by E. Roscoe Mullins, is a copy of that by Chantrey, which is now in the possession of the donor's son, Canon Stamford Raffles Flint, of Nansawsan, Cornwall. An engraving of the original forms the frontispiece to Lady Raffles' "Memoir."

The covered bandstand, erected in 1880, was the gift of Mr. Charles Henry Gatty, F.Z.S., of Felbridge Park, East Grinstead. In the south-east corner, near the reservoir, ground was cleared for the new reptile house. The Council reported that plans were in preparation, adding that these would require careful study, as the subject was a difficult one, and the only building of the kind yet attempted was that in the Jardin des Plantes at Paris. Some small studies were erected at the back of the Prosector's office for the use of naturalists engaged in special investigations.

Numerous important additions were made to the Menagerie stock in the form of species exhibited for the first time. In 1871 the anoa, the dwarf buffalo of Célebes, was introduced, but this species has not thriven in England as it does on the Continent, where it breeds pretty freely. Baird's tapir and the Cape sea-lion were exhibited; the former was a young animal, of considerable interest in that it showed the longitudinal striping, which is lost in mature individuals.

A hippopotamus calf was born on February 21, 1871, but died from inanition two days later, the dam having shown no disposition to suckle it. The skin was mounted for the British Museum, the skeleton and viscera are preserved in the Museum of the Royal College of Surgeons, and a plaster cast of the cadaver, made and presented to the Society by Frank Buckland, is still to be seen in the giraffe house.

Two rhinoceroses were purchased in 1872, both at first believed to be of the Sumatran form. One, for which Jamrach was paid £1,250, was obtained in Chittagong in 1868. The story of her capture is thus told in Sterndale's "Mammals of India":

She had got into a quicksand, and had exhausted herself by floundering about. The natives contrived to attach two ropes to her, and, hauling her out, managed to make her fast to a tree. Next morning they found her so refreshed and vigorous that they were afraid to do anything more to her, and so sent messengers to the magistrate of Chittagong to report the

capture. The same evening Captain Hood and Mr. Wickes started with eight elephants to secure the prize, and after a march of sixteen hours to the south of Chittagong they came up to the animal. The elephants at first sight bolted, but were brought back by considerable exertion, and the rhinoceros was made fast to one by a rope. The poor creature roared with fright and a second stampede ensued, in which luckily the rope slipped off the leg of the rhinoceros, to which it was attached. Ultimately she was secured between two elephants and marched into Chittagong, where she soon got very tame. Eventually she was sent to England.

This animal was afterwards made the type of a distinct species,* and is entered under the name "hairy-eared rhinoceros" in the Vertebrate List of 1896 (the last published), but it is now regarded as only a well-marked variety of the Sumatran rhinoceros.

These important additions overshadowed the rest. The crested screamer must, however, be named, for this species bred in the Great Aviary in 1904, which, so far as can be ascertained, is the first record in captivity. The Beatrix antelope is also entered as an introduction; but the *a* in the Vertebrate List distinguishing this individual is a manifest error for *b*, since Gray's type was the animal presented by Captain Shepherd in 1856 (see p. 117).

Two hippopotamus calves were born. The first came into the world on January 6, and was at once removed from the mother, which was kept at a safe distance by a well-directed stream of water from a garden-engine. In this dangerous business Bartlett had the help of his son Clarence and the keepers Arthur Thomson (now the Assistant Superintendent) and Michael Prescott. "Placed in a warm room," said Bartlett in his notes, "on a soft bed of hay, and covered with a blanket, it seemed to revive. Two goats supplied it with plenty of warm milk, which it readily sucked from a large feeding bottle in sufficient quantity, which caused me to think that I should be able to save its life." His anticipations, however, were not realised; the calf died on January 10.

Soon after this alterations were made in the house, so as to afford ready access to the female in the case of a third calf

* *Proceedings*, 1872, pp. 185, 493, pl. xxiii. and p. 790; *Transactions*, ix. 652, pl. xcvi.

being born, in order that the young one might be taken away at once and brought up by hand. On November 5 the third birth occurred, but fortunately there was no necessity for the removal of the calf. The dam took to it at once; and, as Frank Buckland put it, the calf had more sense than its brother and sister, for it almost immediately discovered and made use of its mother's milk. At the monthly meeting on November 21 the Secretary announced that the calf was thriving and the dam was becoming less savage and excitable when approached, and that it was hoped to exhibit the little one to the Fellows and their friends on the following Sunday.

The king colobus, the white-thighed colobus, and the rock-hopper penguin were introduced in 1873, and in 1874 the Javan or Sondaic rhinoceros was exhibited for the first time. This small representative of the Indian rhinoceros was probably, at that time, the only individual of the species in Europe. An uncoloured plate, from a drawing of this animal by Wolf, was issued with the Council's Report.

In August, 1875, a half-grown female American manatee was purchased. This was the first living specimen exhibited in England; it was obtained on the coast of Demarara, and was three weeks on the passage to this country, during which time it was in a big swinging tank specially constructed for the purpose. On September 7 it died; but Garrod studied it closely, and described the curious action of the lip-pads, the structure of which had been investigated by his predecessor. The upper lip is cleft into two pads; these can be separated so as to leave a considerable gap, and then brought together to grasp food, which is introduced into the mouth by the backward motion of their margins.

Other important additions were a pair of giant tortoises, originally from Aldabra, which had long been kept in captivity in the Seychelles. The male was said to have lived there for upwards of seventy years. These reptiles appear to have been the largest imported up to that time; the length of the male was given at 4 ft. and the width at 3 ft.; the weight was estimated at 800 lb. The hamadryad, or king cobra, was introduced this year.

A strange accident, about which there is some mystery,

Among the contributions of general interest are those by Bartlett on the breeding of the hippopotamus in the Gardens and the birth of a Sumatran rhinoceros on board the s.s. *Orchis* in the Victoria Docks. The dam had been consigned to Mr. Rice, and the arrival of the calf was unexpected. The author compared it to a young ass, on account "of its long legs and general mode of moving its large, long head and meagre-looking body." By lifting, he estimated the weight at 50 lb.; the height is given as 2 ft. at the shoulder, and the total length at 3 ft. It was unfortunate that the calf lived but a few days, for thus a good opportunity of watching the growth, development of the teeth, and other interesting matters was lost. Another contribution of his described the moult in Humboldt's penguin; and in this paper occurs the oft-quoted description of the scaly wing-feathers flaking off like the skin of a serpent. Sir Victor Brooke's communications dealt with antelopes and deer; and those of D'Albertis described his travels in New Guinea and some of the results. Dobson's papers were chiefly on bats, those of Mr. H. E. Dresser on European birds, and of Flower on cetaceans. The projectorial memoirs of Forbes and Garrod were for the most part anatomical and systematic. Godman alone, and in conjunction with Osbert Salvin, contributed some important papers on the Butterflies of Central America. The latter collaborated with Dr. Sclater on the Birds of Central and South America.

About a dozen papers by Mr. W. H. Hudson treat of the smaller mammals and the birds of the Argentine Republic, and some of this material has since been made available for the general public in his charming books on La Plata and Patagonia. Huxley contributed six papers; that on the Classification and Distribution of the Crayfishes was expanded into the well-known text-book in the International Science Series. Lord Lilford did something to settle the question as to the position in which the flamingo sits on her eggs. Professor Newton's papers were principally ornithological; and those of Owen and Kitchen Parker abstracts of their memoirs in the *Transactions*. Mr. Howard Saunders was chiefly concerned with skuas, gulls, and terns; and an important statistical paper by Max Schmidt on the Duration of Life of the Animals

It was suggested that malformed horns due to injuries had led to the creation of species, afterwards found to be invalid.

Dr. Sclater also recorded the fact that in 1874 Jamrach imported a young rhinoceros from Calcutta, said to have been obtained in the Munipore district. It was offered to the Society, but after examining the animal, and being confirmed by the opinions of Bartlett and Garrod, he came to the conclusion that it was a young Sondaic rhinoceros. The animal was afterwards purchased for the Berlin Garden, and Dr. Peters carefully examined and quite agreed with the identification. The author added in a note: "This conclusion did not please Mr. Jamrach, who in October, 1874, printed an account of the supposed new species on a sheet of green paper, and proposed to call it *R. jamrachii*.*

The tenth volume, published in 1879, contained sixteen papers, among which was the last of Owen's series on *Dinornis*; Mivart dealt with the Axial Skeleton of Struthious Birds, and of the *Pelecanidæ*; Parker with the Skull of *Ægithognathous* Birds, and Ray Lankester with the Hearts of *Ceratodus*, *Protopterus*, and *Chimæra*; and Garrod described the Manatee.

EXHIBITED FOR THE FIRST TIME.

BREEDING SPECIES.

Year.	Mammals.	Birds.	Reptiles.	Total.	Mammals.	Birds.	Reptiles.	Total.
1871	6	9	6	21	32	21	1	54
1872	17	48	—	65	35	26	2	63
1873	17	54	14	85	20	22	2	44
1874	21	45	9	75	23	30	—	53
1875	17	39	5	61	26	20	1	47
1876	6	53	8	67	24	22	1	47
1877	20	32	5	57	22	17	2	41
1878	16	24	11	51	26	27	2	55
1879	12	26	10	48	23	18	3	44
1880	15	30	17	62	22	18	1	41

* This instance of a describer naming an animal after himself is not, as one would naturally imagine, unique, or, indeed, the first of its kind. Gordon Cumming described an East African form of the bushbuck, and with what the authors of the "Book of Antelopes" call "characteristic audacity," named it after himself. He shot a "princely old buck," and "christened him the '*Antelopus roualeyni*,' or 'Bushbuck of the Limpopo.'" Gordon Cumming's first name was Roualeyn.

hogs produced young in 1883, and each succeeding year till 1886.

A greater Vasa parrot died in 1884, apparently of old age; it had been fifty-four years in the Gardens. The next year the Society lost a Sumatran and a Javan rhinoceros. The noteworthy deaths in 1886 were a male hippopotamus, born in the Amsterdam Gardens in 1876, which had been in the Menagerie nearly nine years; a giraffe, purchased in 1874; and a West African python, that had been in the collection twenty-three years. In 1888 a Sumatran rhinoceros, one of a pair purchased in 1875, died; a condor, purchased in 1856, died in 1889; and the death in 1890 of a crane bred in the Gardens in 1863 is worth mention.

The event that attracted most attention from the general public during this decade was the sale of Jumbo, the great African elephant, to Barnum. The facts of the case were simple; yet the motives of the President, Council, and Secretary seem to have been misunderstood, and many of the articles on the subject did small credit to the wisdom of a section of the newspaper Press.

In 1881 Jumbo developed dangerous tendencies and did a great deal of damage to the house, rendering necessary the setting up of stout timber buttresses, more than once destroyed. Those last erected are still in position. There was, however, at times—worse than this—the disposition to attack persons. Bartlett's own words should carry conviction as to the danger of keeping the animal in the Gardens:

Finding that he, at the end of this period, was likely to do some fatal mischief, I made an application to the Council to be supplied with a sufficiently powerful rifle in the event of finding it necessary to kill him.*

It may be well to give the Superintendent's Report on the subject in full; for although it was published in the *Times* of March 9, 1882, it is not generally known:

I have for some time past felt very uncomfortable with reference to this fine animal, now quite, or nearly quite, adult, and my fear of him is also entertained by all the keepers except Matthew Scott, who is the only

* "Wild Animals in Captivity," p. 49.

regard to the diseases of monkeys living in this country. The general public hold the belief, endorsed by the medical profession, that nearly all the monkeys brought to England die from tuberculosis. After careful examination, I fail to find any reasonable excuse for so widely spread an error.

Mr. Blaauw described the development of the horns in the white-tailed gnu; these weapons, so strangely curved in the adult, are at first quite straight. The contributions of Mr. Jeffery Bell, Mr. Boulenger, Dr. Günther, Mr. Bowdler Sharpe, and Mr. Oldfield Thomas were chiefly systematic. Emin Pasha sent some interesting letters; one reports the occurrence of a striped hyena in East Africa, which has recently been confirmed by Herr Schillings. Flower's papers were concerned chiefly with cetaceans; and those of Howes were, of course, anatomical. Sir Harry Johnston treated of the fauna of Kilima-njaro, Professor E. Ray Lankester of the heart of the duck-billed platypus and spiny anteater, and here appeared Mivart's classification of the cat-like and bear-like carnivores. Dr. P. Chalmers Mitchell, the present Secretary, read his first paper—a description of an ingenious graphic formula to express geographical distribution—in 1890; Mr. R. I. Pocock, the Superintendent, preceded him by three years with a report on the Crustacea collected by the officers of H.M.S. *Flying-fish*. In 1887 Professor Poulton's great paper on the Protective Value of Colour and Markings in Insects appeared.

Two volumes of *Transactions* were published in the decade. The eleventh, which came out in 1885, contained nineteen memoirs. Among these were Flower's contribution on Two British Dolphins, Forbes's on the Sumatran Rhinoceros and on the Californian Sea-lion, and Garrod's on the Brain of the Hippopotamus; Professor E. Ray Lankester's memoir treated of the Muscles and Internal Skeleton of the King-crab and Scorpion; Owen's papers were on a large extinct Kangaroo, and *Dinornis*; and Kitchen Parker described the Construction of the Skull in the Chameleon and the Tailed Batrachians. The twelfth volume, with fifteen memoirs, was published in 1890. Perhaps the most important contribution was that of Mr. Beddard and Mr. (now Sir) Frederick Treves on the Anatomy of the Sondaic Rhinoceros.

burchelli). Probably the foal died soon after birth, for there does not appear to be any reference to it in the Society's literature. It is, however, worth recording, for the neglect to utilise the fine series of zebras and wild asses in this direction was about the end of the century frequently cited as a reproach.

Sally, the famous chimpanzee, died in 1891, also the African rhinoceros purchased in 1868. In the following year the male giraffe, purchased in 1879, was lost by death. As was shown in the table on p. 64, the last giraffe descended from the original herd was born March 17, 1867, and died on June 20, 1881. It is sometimes said that the original herd died out in 1892; but the animals enumerated below, as having lived in the Menagerie, had no strain of what may be called the Thibaut blood:

No.	Sex.	How Acquired.	Date of Death.	
1	♂	Purchased, July 23, 1861	Sept. 12, 1869	
2	♂	" Jan. 5, 1871	April 27, 1874	
3	♂	" Oct. 11, 1871	May 21, 1878	
4	♂	}	Jan. 8, 1879	
5	♂		" July 25, 1874	July 9, 1886
6	♂		" Jan. 27, 1879	Nov. 24, 1891
7	♂	" Jan. 27, 1879	March 22, 1892	

Thus, on the date last given, for the first time since the arrival of Thibaut's giraffes on May 25, 1836, the Society was without any representative of this remarkable mammal. The Soudan was closed by the Mahdists, and Dr. Sclater said at the Scientific Meeting of April 5, that so far as he could make out, "with the exception of a single old female, for which an exorbitant price was demanded, there were no living giraffes in the market."

A good deal of excitement was caused in October, 1894, by the fact that a boa swallowed its cage-mate, and the reptile was popularly known as the "cannibal boa." On the evening of October 5 the keeper (Tyrrell) put two pigeons into the den, and saw that the larger reptile seized one of the birds, after which he closed the house and left the Gardens. On the next morning he found that the smaller boa had disappeared, while the other was enormously increased in size;

it had no power to throw its body into curves, but lay at full length, with the skin so distended that the scales were separated. It seems a mistake to call the swallower a cannibal. The whole business was probably an accident. Having swallowed its own pigeon, there is little doubt that the larger boa struck at the bird still within the jaws of its companion, thus enveloping not only the pigeon, but the head of the other boa. Once its teeth were fixed, the process went on mechanically, and there could be no other result. Bartlett expected that the boa would be unable to digest its fellow, and would disgorge it. This was not the case. On November 2 the reptile had regained its normal proportions, and took another pigeon. "It will be seen by this," he said, in his report to the Scientific Meeting of November 20, "that a serpent of eleven feet in length can not only swallow and digest another serpent only about two feet shorter, but is ready to feed again twenty-eight days afterwards."

This case differs widely from that of the king cobra or lamadryad, which feeds almost entirely on other snakes. Many instances of such accidental swallowing are on record. One of the most curious is that related by Messrs. Mole and Urich of an innocuous snake, known in Trinidad as the "cribo."

A cribo once in our possession struck at a mouse and caught his own tail; this he diligently swallowed, until at least one-fourth of his entire length disappeared down his own throat. In this position he looked like the numeral eight (8). After some minutes' consideration he disgorged.*

The Queen's ostrich died in 1895, and the aye-aye in 1896, in which year Jung Pershad, the male Indian elephant deposited by the Prince of Wales (now King Edward VII.) on his return from India in 1876, fell dead in his stall. In 1897 the reticulated python, presented by Dr. Hampshire in 1876, was lost by death. For two years it had not taken food voluntarily, but had been crammed by the keepers. It was the largest specimen ever exhibited in the Gardens, and it is doubtful if a finer one has ever been seen in captivity. The stuffed skin is now in Mr. Rothschild's Museum at Tring.

Begum, the hairy-eared rhinoceros, acquired in 1872, died in the last year of the century; and a serious loss was that of

* *Proceedings*, 1894, p. 509.

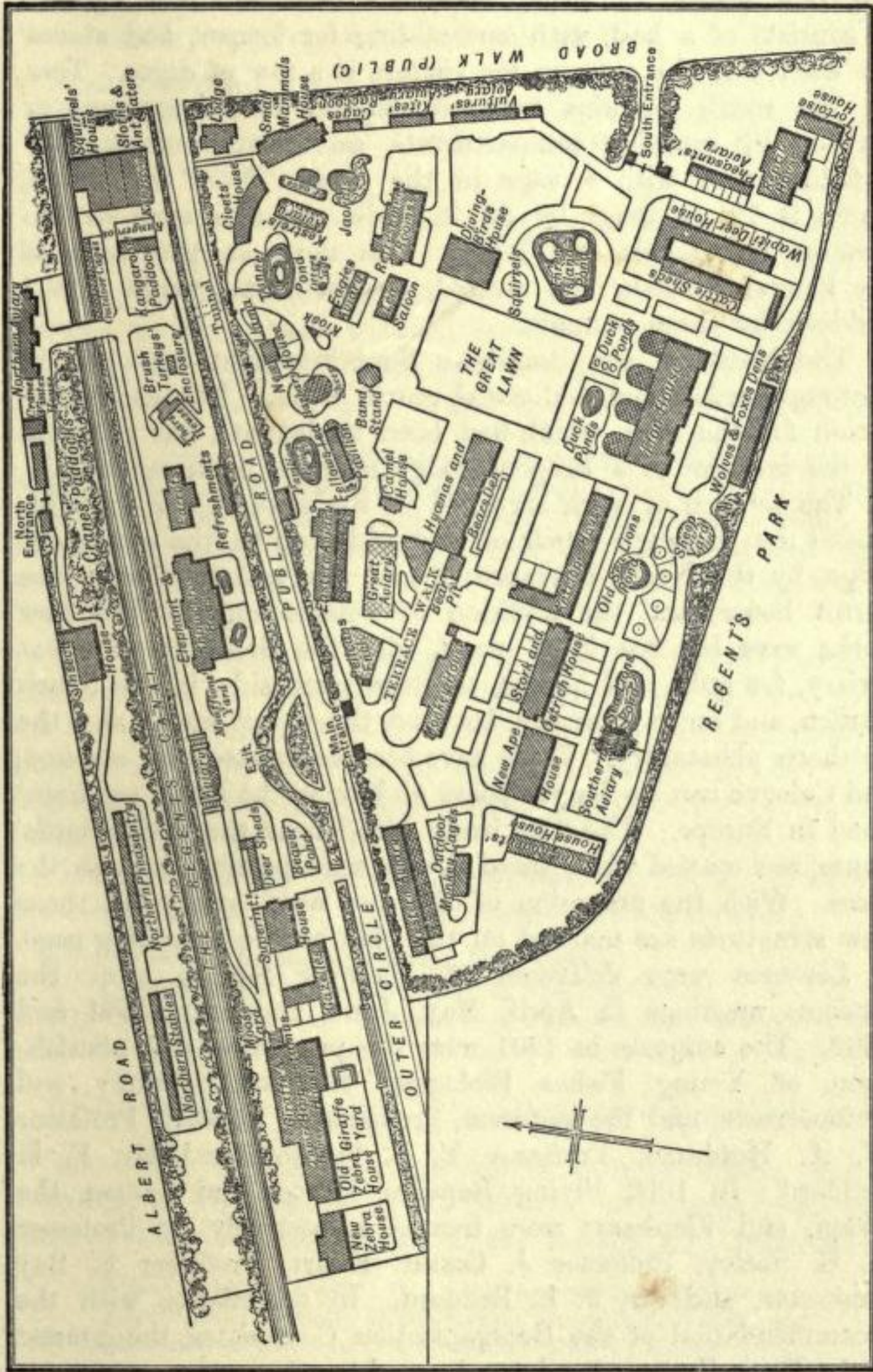
conjunction with Dr. Murie.* One of the most important pieces of work in this decade is that on the Classification of Birds by Dr. Gadow, which was published in the volume for 1892. This was merely a summary of the author's view, given the following year in full, with some slight modifications in Bronn's "Thier-Reich."† In 1893 the Secretary's revision of the monkeys of the genus *Cercopithecus* appeared. Next year Mr. Coryndon's account of his expedition to procure museum specimens of the white rhinoceros was published. Notes on the Nursing Habits of some South American Tree Frogs by Dr. Goeldi and Mr. Boulenger in the volume for 1895 are of interest. The deposition of eggs and the carriage of tadpoles on the back are probably to be explained in the same way as in the Surinam toad, to which reference has already been made (pp. 213, 214), with a citation from Bartlett's account in the volume for the year next following. In 1896 Mr. Bateson exhibited some pigeons showing webbing between the toes.

Mr. de Winton's paper on the Existing Forms of the Giraffe, in 1897, is noteworthy, as are later contributions of his on the Moulting of the King Penguin. In 1897 also appeared the first of Mr. Graham Kerr's contributions on *Lepidosiren*, and Mr. Moore's paper on the Zoological Results of the Tanganyika Expedition. Mr. Oldfield Thomas described, in 1898, a new subspecies of the giraffe, from West Africa.‡ The volume for 1899 contains an interesting note by the Secretary on two musk oxen at Woburn, probably the first to reach Europe alive; and Mr. E. N. Buxton's account of his visit to the forest of Bielovege, where the European bison are preserved by the Czar. The papers on the giant ground sloth of Patagonia, by Dr. Moreno

* Inasmuch as the subject—the African rhinoceros—died of cancer in the stomach, the space (a little over a page) devoted to the morbid anatomy cannot be considered excessive. There is no reference to the present whereabouts of the preparations.

† Whether the upshot of it all has been to establish a Natural Classification, one indicating the true descent, and the real affinities of the several groups known, time alone will show; but that this latest attempt has been made according to the best method few will doubt.—Newton: "Dictionary of Birds," Introduction, p. 103.

‡ A young female, purchased in April, 1905, may possibly belong to this race. *Proceedings*, 1905, ii. 57.



PLAN OF GARDENS, 1905.

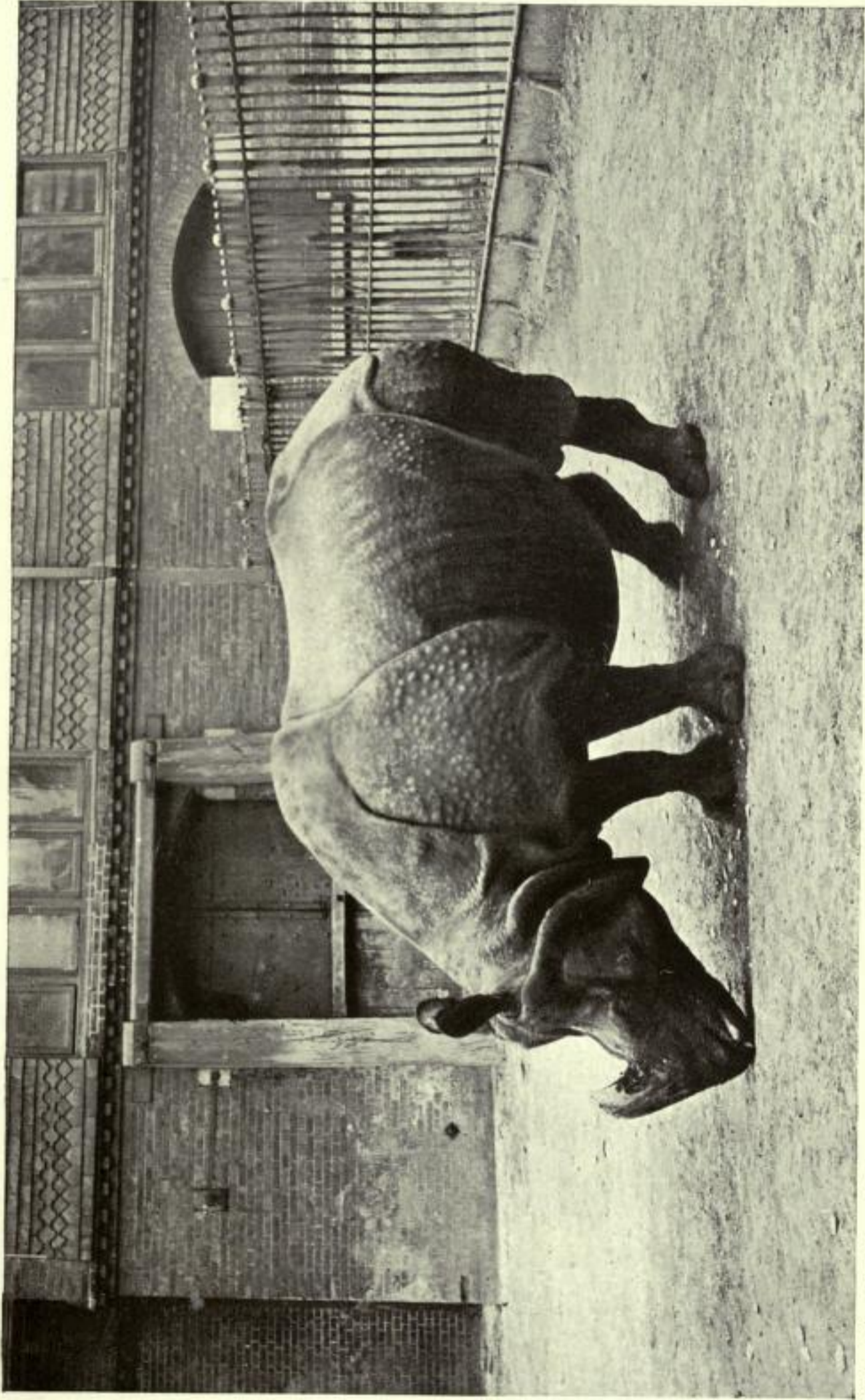


Photo: Cassell & Co., Ltd.

JIM. (*See p. 241.*)

and failed. After being handled by Captain Hayes on Thursday, March 17, the stallion trotted back from the paddock apparently as well as ever. On Sunday morning he did not get up, and died the same evening.

Mr. Salaman made the *post-mortem* on March 23; and found the immediate cause of death to be heart failure, which could not be explained. An official report said:

It is obviously impossible to be certain that the death was unconnected with the breaking in, but it is satisfactory to know that there was no sign of any injury to any of the internal organs, although the bones were unusually brittle, and the stallion was much older than had been supposed, or any indication that could in any way reflect on the judgment and skill of Captain Hayes.

Since then nothing has been done to utilise the zebra stock for draught, saddle, or parade. Strong opinions have been expressed as to the wisdom or unwisdom of attempting to train these animals for display purposes. It must be borne in mind that the Society had long been urged to "do something" with their fine equine stock. Anything was better than the old policy of "masterly inactivity"; and though everyone deplores the result, it should in fairness be remembered that the authorities had the sanction of Professor Cossar Ewart and Captain Hayes for their line of action.

That zebras can be broken to draught is well known. The Hon. Walter Rothschild's team is a case in point. A pair belonging to the Jardin d'Acclimatation are often driven through the streets of Paris. The late Mr. Cross, of Liverpool, used to drive a pair in 1886 from the Shipperies Exhibition down to his menagerie; and within the last six years Mr. W. Simpson Cross has had seven broken to harness so that they would go anywhere and everywhere amongst the Liverpool traffic. "In February, 1903," he writes, "they worked practically the whole day for one of our present Members of Parliament, taking voters to the poll just as horses might do."

Jim, the famous Indian rhinoceros, which had been presented in July, 1864, died in December, 1904, having been more than forty years in the Gardens, of which he was the oldest inhabitant. Guy Fawkes, the hippopotamus, born November 5, 1872, succeeded to that distinction; and Suffa Culli, the