through the different stages and metamorphoses, from exclusion to maturity, not to say old age—as there is no knowing at present at what age they may arrive; the growth of the lobster, for instance, must be very slow, seeing that one of two years was of very moderate size, and some fishes are well nigh as slow of growth.

Mr. Newman, in the 'Zoologist' for February (S. S. 3878), expresses regret at having missed seeing the porpoise in the Brighton Aquarium: having been more fortunate, and watched its movements for a considerable time, I am of opinion that it is chiefly propelled by an alternate lateral motion of the posterior parts, though the transverse tail-fin may, and doubtless does, assist the porpoise in the undulations of its course; but the rapidity with which it swims, even in confinement, is confusing to the sight.

HENRY HADFIELD.

Rhinoceros Sondaicus at the Zoological Gardens.

By EDWARD NEWMAN.

EDWARD BLYTH, whose knowledge of Indian Mammalia was unrivalled, and whose death we are still lamenting, published, at page 8506 of the 'Zoologist' for 1863, the most exhaustive "Memoir on the living Asiatic Species of Rhinoceros" that has ever appeared. He collected every previously printed allusion to these huge beasts, and systematized the whole into one masterly essay. One of the most remarkable inferences from this paper is that the adult male rhinoceros which lived so many years at the Zoo, and for which the Society paid £1000, was Rhinoceros sondaicus, the species now exhibiting in the Elephant House. It seems singular that any doubt should exist on such a point, and forcibly illustrates the necessity of having drawings made of every animal added to that grand collection, excepting when an undoubted individual of a species previously figured; such a collection of drawings would not only prove a source of educational and instructive interest, but form an invaluable historical record of that admirable institution.

The two species of Asiatic one-horned rhinoceros may be supposed included by Linnæus under the name of Rhinoceros unicornis, while his Rhinoceros bicornis may be supposed to include the genus as represented by the African species. This division is, however, by no means exact, since the one-horned Asiatic rhinoceros unquestionably includes two species, which have

been respectively named R. indicus and R. sondaicus, and it is now supposed that Asia or its islands possess in addition two two-horned species, which have been called R. malayanus and R. lasiotis; the latter is comparatively new, and was exhibited for the first time in the Gardens last year. These two, concerning which much has been written, agree in possessing two horns and a skin without conspicuous flaps or folds; both species have been exhibited in the Regent's Park, and one, Lasiotis, is still living in apparent health.

The two one-horned species are now called R. unicornis and R. sondaicus; the former, according to Mr. Blyth, is confined to the tarai region at the foot of the Himalayas and the valley of the Brahmaputra or province of Assam; while R. sondaicus is the more common and ordinary species of the Malayan peninsula. The distinctions between these one-horned species are, in the first place, that Unicornis is much the larger, and secondly, that they inhabit different regions. Mr. Blyth was, beyond question, of all naturalists living at the time he wrote to me,* the best qualified to pronounce an authoritative opinion on the diagnostics of the two.

I am always reluctant to repeat a passage in the 'Zoologist,' even though, as in this instance, twelve years have intervened, yet as the subject is one of such great interest, and as the opportunity for comparison of the living animal has never before existed, I think I need not hesitate. Mr. Blyth, after quoting various authors and opinions, proceeds thus:—

"I must frankly confess that I have only quite recently discriminated the two one-horned species, fancying, as a matter of course, that the numerous skulls of single-horned rhinoceroses in the Society's Museum, from the Bengal Sundarbáns, &c., especially the broad-faced type, were necessarily of the hitherto-reputed sole Indian species. F. Cuvier's figure of R. sondaicus is that of a very young animal, and, with those of Horsfield and S. Müller, conveys the appearance of a more evenly tessellated hide than I remember to have seen in any living continental example. I have, however, been comparing our stuffed Sundarbán example (less than half-grown) with the figure of the adult R. indicus in the 'Menagerie du Museum d'Histoire Naturelle,' and with the figures of R. sondaicus by S. Müller and others, and perceive that it must be referred to the latter and not to the former. The tubercles of the hide are much smaller than in R. indicus, and a marked difference between the two species, as

* His letter is dated Calcutta, March 1, 1862.

represented, consists in the great skinfold *at the setting on of the head* of R. indicus, which is at most but indicated in R. sondaicus. In skulls of adults, however those of both species may vary in width and especially in breadth anteriorly, the following distinctions are trenchant. Length of skull, from middle of occiput to tip of united nasals, in R. indicus 2 feet (half an inch more or less); in R. sondaicus $1\frac{3}{4}$ foot at most. Height of condyle of lower jaw in R. indicus 1 foot or even a trifle more: in R. sondaicus 9 inches. Breadth of bony interspace between the tusks of the lower jaw in R. indicus $1\frac{1}{2}$ inch to $1\frac{3}{4}$ inch; in R. sondaicus $\frac{3}{4}$ inch to 1 inch. These measurements are taken from exceedingly fine examples of both species."

Turning again to the 'Zoologist,' it is recorded by Mr. Arthur Adams, at p. 7328 of the volume for 1861, that at Mew Bay, in Java, near the Straits of Sunda, "the ground is literally ploughed up by the tracks of these unwieldy brutes." The brutes in question being beyond doubt this species, Rhinoceros sondaicus, no other species inhabiting that island.

I hope, if my life be spared a little longer, to revert to the specific distinctions of rhinoceroses again and again; for much remains to be investigated and satisfactorily explained; it is sufficient to hint a belief, prevalent in all countries where two-horned species occur, that they occasionally have three horns. I need scarcely say that I know of no preserved specimen having this peculiarity.

The specimen now in the Gardens is from Java, and I am told it has been purchased for the Society, at eight hundred pounds; it is deposited for the present in the first compartment of the elephant-house as you enter from the tunnel. I visited this animal on the 21st March, fourteen days after his arrival, and was particularly struck with the comparatively slender character of the head, which is much longer in proportion to its bulk than that of Unicornis. The skinfolds are of a less massive character and differ very considerably in outline and situation: there is particularly a saddle-shaped shield on the neck of Sondaicus of which I see no homologue in Unicornis; the back is thickly covered with brown bristle-like hairs; a fringe of similar hairs is also observable on the margin of the ear. The horn is little more than an apology, short and amorphous, as though the poor beast had been long in durance vile, and had worn away this instrument in its efforts to escape. The flattened tubercles, which in the hide of Unicornis have been compared to bolt-heads, are less, and less prominent on

the body, than in that species, but on the legs they are very distinct and strongly pronounced, although small; the tip of the upper lip is pointed and finger-like.

EDWARD NEWMAN.

Death of the Chimpanzee in the Zoological Gardens.—The chimpanzee, which during the last two and three-quarter years has been an endless source of instruction and amusement to visitors at the Zoological Gardens, after an illness of two months' duration, died on Friday, 6th March. The post-mortem examination showed that the cause of death was acute tuberculosis of the peritoneum, almost exclusively confined to the serous membrane covering the liver and spleen, the omentum and small intestine being slightly affected. A large bronchial gland was on the verge of suppuration, but the lungs were healthy. There were no symptoms of hectic during life, and much subcutaneous and omental fat were found after death.—'*Nature*,' *March* 12.

[Whether depressed by the loss of his friend, or affected by a like malady, the keeper, whose familiarity with the deceased must be fresh in the memories of my readers, has been ailing ever since.—*E. N.*]

Large Otter in the Isle of Wight.—A remarkably fine male otter was, I am informed by Mr. Smith, the Newport taxidermist, shot on the 7th of October last by Mr. John Mathews, of Alverston, in the Yar, near Brading; it measured fifty inches in length, and weighed thirty-four pounds. What the ordinary weight of the otter may be I have not been able to ascertain; but Macgillivray says that the length of the male from nose to point of the tail is from thirty-two to thirty-eight inches, and some individuals measure nearly four feet. It would therefore appear that this otter is of unusual size. According to Pennant, the general length of the otter is thirty-nine inches. In the 'Dictionnaire Classique d'Histoire Naturelle' the otter is said to be "deux pieds de long" (twenty-six inches, according to our measure)—a strange and unaccountable blunder. Though Buffon devotes no less than five pages to the history of the European otter, not a word is there said as to its size or weight, but he remarks, "elle ne va point à la mer:" a mistake, of course.—*Henry Hadfield; Ventnor, Isle of Wight, March* 10, 1874.

Golden Eagle at Powerscourt.—A golden eagle was shot at Powerscourt Waterfall about the beginning of February. It was a male, and had been observed about there for two or three years. Anton, the keeper, who shot the bird, says it was six feet ten inches from tip to tip of wings.—*R. M. Barrington; Fassaroe, Bray, Wicklow, March* 20, 1874.