larger of these is the gigantic Indian Rhinoceros (*R. unicornis*), many specimens of which have been brought to this country, and a very fine male example of which is living in the Regent's Park Gardens. In it the skin, which is immensely thick, is thrown into massive folds or shields, making the animal appear as if clad in armour-plating. Each shield is thickly studded with nearly circular slightly-raised tubercles, which look very much like the heads of innumerable bolts intended to strengthen and retain the shield in position. The folds that surround the neck, where it joins the head, are very ample, producing the appearance of the now so fashionable ruff, somewhat modified. According to the observations of the late Mr. Edward Blyth, the Indian Rhinoceros is found only at the foot of the Himalayan hills, and in the province of Assam, along the valley of the Brahmapootra.

The second species of one-horned Rhinoceros is generally called the Javan Rhinoceros (*R. sondaicus*). It is found in Java, and in the country stretching from Malacca up through Burmah to Assam. It is considerably smaller than the Indian species; the shields are not so strongly marked, and are not arranged in an exactly similar manner, the gluteal shield not being completely divided into two by a transverse fold situated half-way down it; and the middle neck fold, instead of running backwards on each side before it reaches the spine, crosses the middle line, and so divides off a saddle-shaped shield, which is median, and as deep from before backwards as from side to side. The fold which surrounds the neck is also much less significant, and the head is narrower and less formidable in aspect. The tuberculation of the shields is more slightly marked, and each tubercle is proportionately smaller in diameter.

It is a specimen of this Javan Rhinoceros (*R. sondaicus*), a nearly full-grown male from Java itself, which the Zoological Society has succeeded in purchasing, and which is now exhibited in the same house as the Indian species, so that every opportunity is at last afforded for a more minute study of the differences which will most probably be found to distinguish the two species.

The other species of Asiatic Rhinoceroses, namely, the Sumatran Rhinoceros (*R. sumatranus*), and the Hairy-eared Rhinoceros (*R. lasiotis*), are both two-horned, and have been divided off as a separate genus, that of *Ceratorhinus*, by Dr. J. E. Gray. The skin is not divided into shields, and is thinner than in the one-horned species. The type specimen of the Hairy-eared Rhinoceros, the only example known, is now living in the Zoological Gardens. About a year ago the Sumatran animal was also represented, and rumour says that the gap caused by its loss will not be long unfilled.

NEIL ARNOTT, M.D., F.R.S.

WE have this week to record the death of this well-known man of science, which took place at his residence in Cumberland Terrace, Regent's Park, on the 2nd inst. He was born at Arbroath in May 1788, and had consequently reached his eighty-sixth year.

While Neil was yet young his father died, and the family removed to Aberdeen. Neil went to the Aberdeen Grammar School, being there with Lord Byron, and succeeded so well in the one thing then taught, Latin, that he gained a bursary by a competition in Marischal College, which he entered in 1801. In his third year he came under Patrick Copeland, Professor of Natural Philosophy, renowned for his admirable course of lectures, and especially for his power of experimental illustration. Arnott was one of Copeland's best pupils, and afterwards turned to full account the careful notes that he had made of the lectures.

He began the study of medicine in Aberdeen, and in 1806 he went to London to prosecute the study. Young Arnott, while his medical education was still incomplete, went aboard an Indiaman, as assistant-surgeon, making the usual voyage of a trading East Indiaman in those days. He was the intellect and soul of the ship, associating with everyone that could learn or teach anything; he was the resource in all serious emergencies, of whatever kind.

On his return to England, in 1811, he settled as a medical practitioner in London. He was the chief medical adviser to a colony of French refugees who settled in Camden Town, and also became physician to the French and Spanish Embassies, his fluency in languages serving him in good stead. It was about 1823 that he first turned to account his studies in natural philosophy, by giving in his own house a course of lectures both on the general subject and on its applications to medicine. These lectures formed the basis of the "Physics," the first volume of which appeared in 1827, and gained for the author an instantaneous and wide-spread reputation. The first edition was sold in a week after being reviewed by the *Times*. In a few years five editions were exhausted, and the work was translated into all the languages of Europe. The freshness and popular character of his style recommended the book to the general public, and did not prevent its favourable reception by the highest scientific authorities; Herschel and Whewell both gave emphatic testimonies to its accuracy and originality. The author was thenceforth recognised as a man of science and an inventor of no mean order. His practice as a physician was extended, and he became a Fellow of the Royal Society. On the foundation of the University of London in 1836 he was nominated a member of the Senate, and in 1837 he was named Physician Extraordinary to the Queen.

In 1838 he published a treatise on warming and ventilating, and in this he described the stove since called by his name. He introduced the water-beds, and made many other useful applications of physics to medical and surgical practice. For many years he had withdrawn from medical practice. He had a large circle of friends in and out of the profession. His conversational powers, his large range of scientific knowledge, and his geniality of manner, will be long remembered by those who now regret his loss.

*OZONE**

II.

SOME of the properties of ozone have already been referred to. At the common temperature of the atmosphere, it may be preserved, if dry, for a very long time in sealed tubes, but by slow degrees it becomes changed again into ordinary oxygen. This conversion goes on more rapidly as the temperature is raised, and at 237° C. it is almost instantaneous ("Phil. Trans." for 1856, p. 12). The alteration of volume which occurs at the same time has been already sufficiently described. A similar effect to that of heat is produced by several oxides, such as the oxide of silver or the peroxide of manganese, which by contact, or, as it is termed, catalytically, instantly change ozone into ordinary oxygen. Ozone is also destroyed by agitation with water, provided the ozone is in a highly diluted state. But the most interesting fact of this kind is one which I have recently observed, and which I hope to be able to exhibit to the Society. Dry ozone, even if present in such quantities as freely to redden iodide of potassium paper, is readily destroyed by agitating it strongly with glass in fine fragments, although, as we have seen, it may be preserved for an almost indefinite period in sealed glass tubes. This experiment, as it appears to me, forms a new and closer link than any hitherto observed between a purely mechanical action and a chemical change.

Ozone is a powerful oxidising agent. It attacks metallic mercury and silver with great energy, and converts them into oxides. The experiment with mercury is very striking, and is a delicate test for ozone, either in the dry or moist state. A few bubbles

* An Address delivered before the Royal Society of Edinburgh on December 22, 1873, by Dr. Andrews, LL.D., F.R.S., Honorary Fellow of the Royal Society of Edinburgh. (Continued from p. 349.)

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