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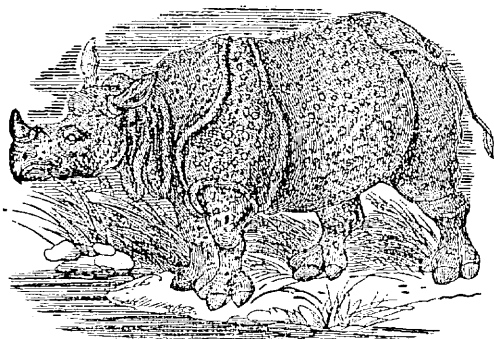
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RHINOCEROS—RHINOPLASTIC OPERATION.

is the most celebrated, are not nearly so much prized as the white; neither have they the strength or bouquet of the latter. The wines of the Lower Rhine, from Düsseldorf downwards, are generally of inferior quality.

The term Rhine-wine, in its general signification, includes the Pfalz and Moselle wines. It is now generally held in Germany that Rhine-wines that have been properly kept for three or four years are in the most wholesome condition for use; the very old stocks no longer find a ready market except in Russia and England.

RHINO'CEROS (Gr. nose-horned), a genus of *Ungulata Perissodactyla*, containing the largest and most powerful of terrestrial mammalia, except the elephants. There are at least seven or eight existing species, all natives of the warm parts of Asia, the Indian Archipelago, and Africa; and numerous fossil species have been discovered in the newest geological deposits. The form of the R. is clumsy and uncouth; its aspect dull and heavy. The limbs are thick and strong; each foot is terminated by three toes, which are covered with broad hoof-like nails. The tail is small, and terminated by a small tuft. The ears are moderately large; the eyes very small. The head is large, the muzzle prolonged, and the nasal bones combined into an arch for the



Rhinoceros (*R. Indicus*).

support of a horn, which, however, does not spring from them, but merely from the skin; a second horn, in some of the species, growing above it, in like manner springing from the skin, and resting for support on the bone of the forehead. The upper lip is more or less prolonged and prehensile, in some of the species so much so that it is capable of being used to pick up very small objects. The whole body, head, and limbs are covered with an extremely thick and hard skin, which in none of the existing species exhibits more than mere traces of hair, although there is evidence that some of the extinct ones were covered with fur; and the hardness of the skin being such that in some of the species it has not pliancy enough to permit the movements of the animal, it is in a manner jointed by means of folds on the neck, behind the shoulders, in front of the thighs, and on the limbs.

The horn of the R. is a very remarkable organ, and a powerful weapon of offence and defence. With it also the animal can root up bushes or small trees, the foliage or fruit of which it desires to eat. It is of a perfectly homogeneous structure (see HORNS), and solid.

The different species of R. display some differences of dentition. None of the species of R. displays a high degree of intelligence. Although usually harmless, they are easily provoked, and shew much capriciousness of temper. When irritated, they become very dangerous; and although usually slow

in their movements, they can, upon occasion, run rapidly. Their great weight and strength enable them to force their way through jungles, breaking down the smaller trees before them. The hide is proof against the claws of the lion or tiger, and is not to be penetrated by a leaden bullet, except at a very short distance, or in some of the thinner parts about the neck and chest. Bullets of iron or tin are used for shooting them.

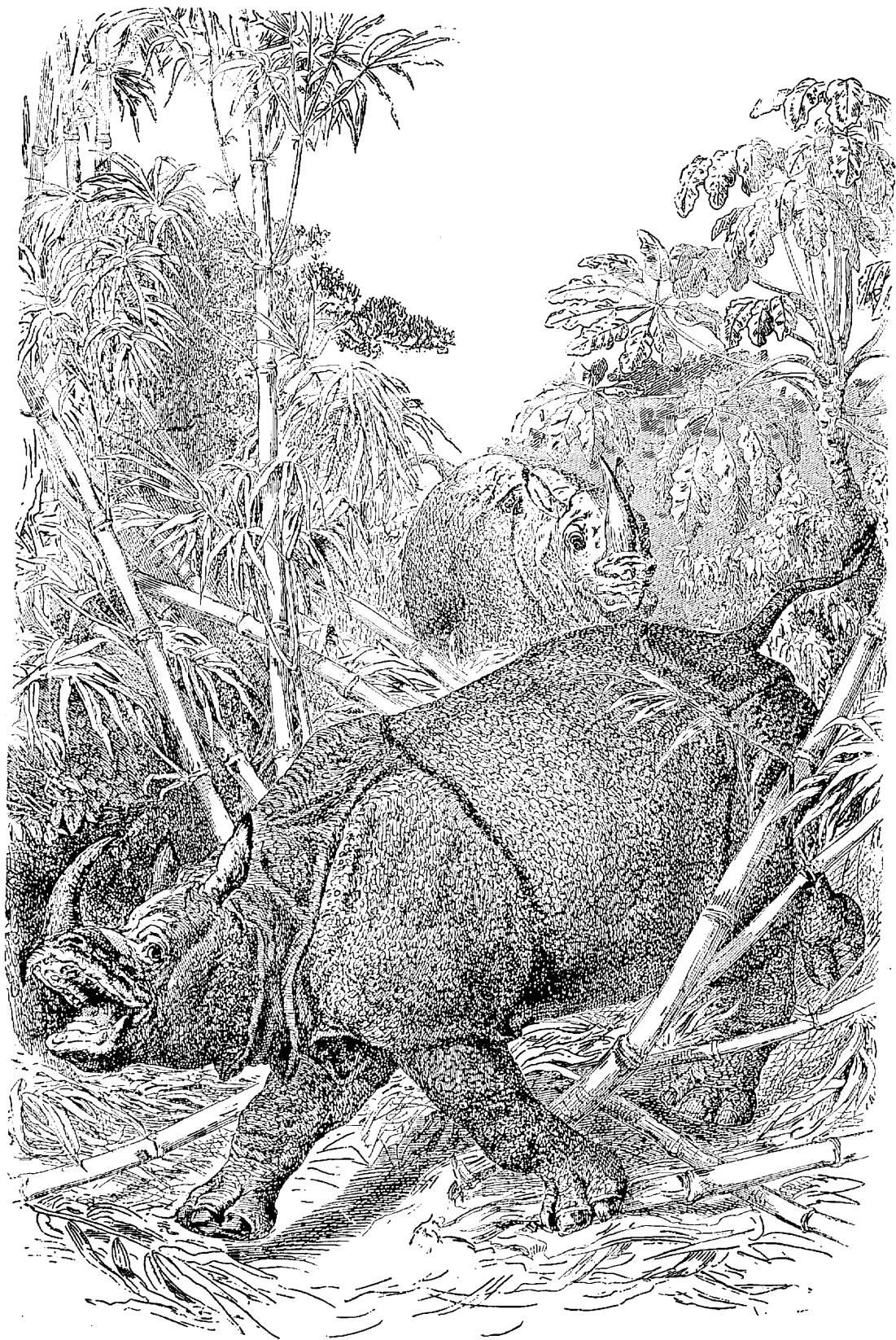
The species of R. agree in being found sometimes solitary or in pairs, sometimes in little companies, never in large herds.

The **INDIAN R.** (*R. Indicus*) is a native of the continental parts of the East Indies, and lives chiefly in marshy jungles on the banks of lakes and rivers, often wallowing in the mud, with which it encases itself, apparently as a protection against insects, which annoy it notwithstanding the thickness of its hide. It is the largest known species of R., a large specimen being rather more than five feet in height. The horn is sometimes 3 feet in length, and 18 inches in circumference at the base. The Indian R. was known by very imperfect description to the ancient Greeks, receiving the very inappropriate name of *Indian Ass*. Individuals have from time to time been brought alive to Europe, and have proved tolerably quiet and tractable, feeding with apparent satisfaction on moistened hay, vegetables, pulse, grain, &c.—The **JAVANESE R.** (*R. Javanicus*, or *R. Sondaicus*) is a somewhat smaller species, also one-horned. Sumatra has a two-horned species (*R. Sumatrensis*).—Different species of R., all two-horned, are found in almost all parts of Africa, and one or more of them were known to the ancient Romans.—The **BOVELE**, or **BLACK R.** (*R. bicornis*, or *R. Africanus*), of South Africa, is the smallest of all the known species. It is of a black colour, and its first horn is rather thick than long, its second short and conical. It is a fierce and dangerous animal, capable of great activity, and more dreaded by the South African hunter than the lion itself.—The **KEITLOA** (*R. Keitloa*) is larger, and has the two horns nearly equal in length, the foremost horn curved backwards, the other curved forwards. It is also a native of South Africa, and much dreaded both on account of its strength and its ferocity.—The **WHITE R.** (*R. Simus*), or **MUGHUCO**, or **MONOCHO**, is the largest of the well-ascertained African species.

No species of R. is prolific. One young one only is produced at a birth, and the intervals are long. The flesh of the R. is used for food. That of the different species is somewhat variously esteemed. The skin is used in the East Indies for shields; in South Africa, it is sliced up into thongs.

The earliest remains of the R. are found in Miocene strata, and in the subsequent Tertiary deposits they frequently occur. Twelve species have been described,—four of them from the Miocene and Pliocene beds of the United States. A two-horned species was found by Pallas in the frozen gravel of Siberia, along with the mammoth, still covered with a shaggy coat of long wool, and having its flesh preserved.

RHINOPLASTIC OPERATION. When a portion or the whole of the nose has been destroyed by accident or disease, the deficiency may be restored by a transplantation of skin from an adjoining healthy part. When the whole nose has to be replaced, the following course is usually adopted: A triangular piece of leather is cut into the shape of the nose, and is extended on the forehead with its base uppermost; its boundaries, when thus flattened, are marked out on the skin with ink. Any remains of the old nose are then pared away, and a deep groove is cut round the



margins of the nasal apertures. When the bleeding from these incisions has stopped, the marked portion of the skin of the forehead must be carefully dissected away, till it hangs by a narrow strip between the eyebrows. When the bleeding from the forehead ceases, the flap must be twisted on itself, so that the surface which was originally external may remain external in the new position, and its edges must be fastened with stitches into the grooves prepared for their reception. The nose thus made, is to be supported with oiled lint, and well wrapped in flannel, to keep up the temperature. When complete adhesion has taken place, the twisted strip of skin may be cut through, or a little slip may be cut out of it, so that the surface may be uniformly smooth. When only a part of the nose, as one side only, or the septum, requires to be restored, modifications of the above operation are required, and the skin, instead of being taken from the forehead, is taken from the cheek or the upper lip. For further details regarding this important operation, the reader is referred to Fergusson's *Practical Surgery*.

This operation is popularly known as the *Taliacotian Operation*, from its having been first performed by Taliacotius, who was professor of anatomy and surgery at Bologna, where he died in 1553. The work in which the operation is described was not published for more than forty years after his death. It appeared in 1597, under the title *De Curationum Chirurgia per Insectionem libri duo*. Instead of taking the skin for the new nose from the forehead, he took it from the arm of his patient, and there is no reason why the operation which he describes, although inferior in many respects to that at present adopted, should not be successful. The difficulty of keeping the arm sufficiently long in apposition with the face (a period of about twenty days), was doubtless one of the reasons for selecting the forehead in preference as the part from which to take the skin. The name of Taliacotius has been mainly popularised in this country by a well-known coarse joke in Butler's *Hudibras*. There is, however, little foundation for the view which Butler takes of the operation. Taliacotius discusses the advantages and disadvantages of taking the skin from the *arm* (he does not suggest any other part of the body) of another person, but he comes to the conclusion, that it would be impossible to keep two persons so fastened together for the necessary time, that no motion of the parts in apposition should occur, and he adds, that he never heard of the plan being attempted. It is almost unnecessary to add, that even if a nose were manufactured from the skin of a second person, there is not the slightest reason for apprehending that it would suddenly die and drop off on the death of the original proprietor of the skin, notwithstanding the cases to the contrary recorded, as illustrative of the power of sympathy, by Van Helmont, Campanella, Sir Kenelm Digby, and others. This astounding notion was resuscitated two or three years ago by M. Edmund About in a popular novel, entitled *Le Nez d'un Notaire*.

RHIPIPTERA. See STREPSIPTERA.

RHIZANTHÆ (RHIZOGENS of Lindley) are a very remarkable natural order of plants. They are parasitical plants, brown, yellow, or purple, never of a green colour, destitute of true leaves, and having cellular scales instead. The stem is amorphous and fungus-like; sometimes, as in *Rafflesia* (q. v.), there is no stem; but the flowers arise immediately from the surface of the branch or stem to which the plant is parasitically attached. Spiral vessels are either few or wanting, and the substance is chiefly

cellular tissue. Whilst their general structure thus associates them with fungi, which they resemble also in their mode of decay, they have the flowers and sexual organs of phanerogamous plants. The flowers are monœcious, diœcious, or hermaphrodite. Lindley regards these plants as forming a class distinct from the other Phanerogamous plants (*Exogens* and *Endogens*), and as one of the connecting links between them and the Cryptogamous plants (*Thallogens* and *Acrogens*). There are not many more than 50 known species in all, of which one or two are found in the south of Europe, the others in Africa and the warmer parts of Asia and America. *Cynomorium coccineum* (*Balanophoraceæ*) is found in Malta, and is the *Fungus Melitensis* of apothecaries, long celebrated for arresting hæmorrhages. Others are likewise used as styptics. *Cytinus hypocistis* (*Cytinaceæ*) grows on the roots of species of *Cistus* in the south of Europe. Its extract (*Succus hypocistidis*) is used as an astringent in hæmorrhages and dysentery. A species of *Ombrophytum* (*Balanophoraceæ*) springs up suddenly after rain in Peru, like a fungus, is insipid, and is cooked and eaten under the name of *Mays del Monte*. Different species of *Balanophora* are very abundant in Northern India. They are found in the Himalaya at an elevation of 10,000 feet, producing great knots on the roots of maple trees, oaks, &c., which are sought after by the Tibetans, and carried into Tibet, where they are made into very beautiful cups.

RHIZOPODA (Gr. *rhizon*, a root, and *pada*, feet), an important class of the lowest of the animal subkingdoms, the Protozoa. In all the organisms of this class, the body is composed of a simple gelatinous substance, to which the term 'sarcode' is applied; and in all, locomotion is performed by the protrusion of processes which, from their function, are termed 'pseudopodia,' or false feet. As in the case of all the Protozoa, except the Infusoria, there is no mouth or intestinal tube.

As a typical form of rhizopod, the *Amœba* (fig. 1) a minute animal readily obtained in this country

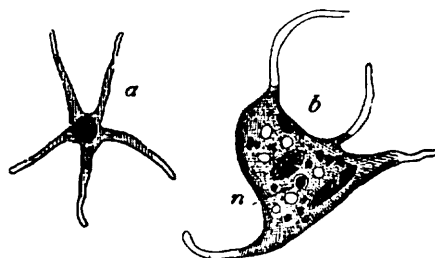


Fig. 1.—*Amœba Radiosa*.

a, young *Amœba*, with five pseudopodia protruded; b, another specimen.

may be taken. On placing one of these organisms (obtained from a pond, or from a bottle containing some vegetable infusion) under the microscope, it is seen to resemble a roundish mass of semi-transparent jelly, altogether devoid of life. Soon, however, the animal begins to push out in various directions portions of the gelatinous mass of which it consists, and by the alternate expansion and retraction of these prolongations, it effects a slow and somewhat irregular locomotion. Should these processes come in contact with anything fit for food, they grasp it and coalesce around it, and the morsel soon becomes enclosed in the interior of the body, much as (to use an illustration employed by Professor Greene in his *Manual of the Protozoa*) a stone may be forced into the interior of a lump of clay, or similar plastic material. When all that is nourishing is absorbed,