cases the large horse-shoe flap is so made as to include a part of the bony wall of the skull. The flap of bone is shaped by wire saws and then forcibly broken out by elevators.

The general result of operations for the removal of tumours of the brain is far from being satisfactory. But it must be remem­bered that without operation the outlook is without hope. In­asmuch as many of the tumours are destitute of a limiting wall, a considerable mass of brain-tissue has to be traversed in order to remove the growth, and the ultimate result, so far as the impairment of functions is concerned, is a serious disappoint­ment. If, however, the tumour is found to be encapsuled, its removal is sometimes quite easily effected, and perfect recovery is then likely to be the result. (E. O.\*)

**SKUNK** (probably derived from “ Seecawk,” the Cree name for the skunk; another form given is "seganku ”), an evil­smelling North American carnivorous mammal. Its existence was first notified to European naturalists in 1636, in Gabriel Sagard-Theodat’s *History of Canada,* where, in commencing his account, he describes it as “ enfans du diable, que les Hurons appelle Scangaresse, . . . une beste fort puante,” &c. This shows in what reputation the skunk was then held, a reputation which has become so notorious that the mere name of skunk is one of opprobrium. The skunks, of whom there are several species, arranged in three genera, are members of the family *Mustelidae* (see Carnivora). The common skunk (*Mephitis mephitica)* is a native of North America, extending from Hudson Bay to the middle United States. It is a beautiful animal, about the size of a cat, though of a stouter and heavier build, with rich lustrous black fur, varied on the back by a patch or streak of white. The muzzle is long and pointed, the eyes are sharp and bead-like, and the grey or white tail is long and unusually bushy. The premolars number 3/3.

The following account of the skunk is extracted from Dr C. H. Merriam’s *Mammals of the Adirondack Region,* New York, 1884:

"The skunk preys upon mice, salamanders, frogs and the eggs of birds that nest on or within reach from the ground. At times he eats carrion, and if he chances to stumble upon a hen’s nest the eggs are liable to suffer; and once in a while he acquires the evil habit of robbing the hen-roost, but as a rule skunks are not addicted to this vice. Of all our native mammals perhaps no one is so uni­versally abused and has so many unpleasant things said about it as the innocent subject of the present biography; and yet no other species is half so valuable to the farmer. Pre-eminently an insect- eater, he destroys more beetles, grasshoppers and the like than all our other mammals together, and in addition to these he devours vast numbers of mice.

“ He does not evince that dread of man that is so manifest in the vast majority of our mammals, and when met during any of his circumambulations rarely thinks of running away. He is slow in movement and deliberate in action and does not often hurry him­self in whatever he does. His ordinary gait is a measured walk, but when pressed for time he breaks into a low shuffling gallop. It is hard to intimidate a skunk, but when once really frightened he manages to get over the ground at a very fair pace. Skunks remain active throughout the greater part of the year in this region, and hibernate only during the severest portion of the winter. They differ from most of our hibernating mammals in that the inactive period is apparently dependent solely on the temperature, while the mere amount of snow has no influence whatever upon their move­ments.

" Skunks have large families, from six to ten young being com­monly raised each season; and as a rule they all live in the same hole until the following spring.”

The overpowering odour which has brought the skunk into such notoriety arises from the secretion of the anal glands. These glands, although present in all *Mustelidae,* are especially developed in skunks, but are so entirely under control that at ordinary times these animals are cleanly and free from smell. Similar glands are possessed by nearly all Carnivora, but in the skunks are enormously enlarged, and provided with thick muscular coats. The secretion—often propelled by the muscles surrounding to a distance of from 8 to 12 ft.—is a clear yellowish liquid, with a marvellously penetrating ammoniacal and nauseous smell. Dr Merriam writes, “ I have known the scent to become strikingly apparent in every part of a well-closed house, in winter, within five minutes after a skunk had been killed at a distance of more than a hundred yards,” and under favourable conditions it may be perceived at a distance of more than a mile. Instances are also on record of persons having become unconscious after inhaling the smell.

The long-tailed skunk (*M. macrura),* a native of central and southern Mexico, differs from the typical species by having two white stripes along its sides, and by its longer and bushier tail. The little striped skunk (*Spilogale putorius),* found in the southern United States, and ranging southwards to Yucatan and Guate­mala, is smaller than *Μ. mephitica,* and marked with four inter­rupted longitudinal white stripes on a black ground. There are likewise differences in the skull; and this species is also distin­guished from other skunks by its arboreal habits.

The conepatl *{Conepatus mapurito)* represents a third genus, with several species, confined to tropical and South America. In this group there is one pair less of premolars (p. ⅔) ; the build is heavier than in *Mephitis',* the snout and head are more pig­like, and the nostrils open downwards and forwards instead of laterally on the sides of the muzzle. (O. T.; R. L.\*)

**SKY** (Μ. Eng. *skie,* cloud; O. Eng. *skua,* shade; connected with an Indo-European root *sku,* cover, whence “ scum,” Lat. *obscurus,* dark, &c.), the apparent covering of the atmosphere, the overarching heaven.

*The Colour of the Sky.—*It is a matter of common observation that the blue of the sky is highly variable, even on days that are free from clouds. The colour usually deepens toward the zenith and also with the elevation of the observer. It is evident that the normal blue is more or less diluted with extraneous white light, having its origin in reflections from the grosser particles of foreign matter with which the air is usually charged. Closely associated with the colour is the *polarization* of the light from the sky. This takes place in a plane passing through the sun, and attains a maximum about 90° therefrom. Under favourable conditions more than half the light is polarized.

As to the origin of the normal blue, very discrepant views have been held. Some writers, even of good reputation, have held that the blue is the true body colour of the air, or of some in­gredient in it such as ozone. It is a sufficient answer to remark that on this theory the blue would reach its maximum develop­ment in the colour of the setting sun. It should be evident that what we have first to explain is the fact that we receive any light from the sky at all. Were the atmosphere non-existent or absolutely transparent, the sky would necessarily be black. There must be something capable of *reflecting* light in the wider sense of that term.

A theory that has received much support in the past attributes the reflections to thin bubbles of water, similar to soap-bubbles, in which form vapour was supposed to condense. According to it, sky blue would be the blue of the first order in Newton’s scale. The theory was developed by R. Clausius *{Pogg. Ann.* vols. 72, 76, 88), who regarded it as meeting the requirements of the case. It must be noticed, however, that the angle of maxi­mum polarization would be about 76° instead of 90°.

Apart from the difficulty of seeing how the bubbles could arise, there is a formidable objection, mentioned by E. W. Brücke *{Pogg. Ann.* 88, 363), that the blue of the sky is a much richer colour than the blue of the first order. Brücke also brought forward an experiment of great importance, in which he showed that gum mastic, precipitated from an alcoholic solution poured into a large quantity of water, scatters light of a blue tint. He remarks that it is impossible to suppose that the particles of mastic are in the form of bubbles. Another point of great importance is well brought out in the experiments of John Tyndall (*Phil. Mag.* (4), 137, 388) upon clouds precipitated by the chemical action of light. Whenever the particles are sufficiently fine, the light emitted laterally is blue in colour and, in a direction perpendicular to the incident beam, is *completely polarized.*

About the colour there can be no prima facie difficulty; for, as soon as the question is raised, it is seen that the standard of linear dimension, with reference to which the particles are called small, is the wave-length of light, and that a given set of particles would (on any conceivable view as to their mode of action)