



THE ORGANS OF THE SENSES.

The organ of the sense of sight,
The little tender eye,
Is suited well to bear the light
That streams along the sky.

The organ, curiously design'd,
By which it is we hear,
Which catches modulated wind,
Is simply call'd the ear.

The organ of the sense of smell
Resides within the nose;
To which, unfelt, invisible,
The spreading odour flows.

The organs of the sense of taste,
Which relishes excite,
Are in the tongue and palate placed,
To judge if food is right.

The organs of the sense of touch,
The fingers chiefly are;
But every where the nerves are such,
We feel the slightest scar.

SENSATION.

HEARING.

The undulations of the atmosphere, excited by the vibrations of sonorous bodies, are collected in the external ear and auditory passage, as in a hearing trumpet, and are conveyed to the membrana tympani, which they cause to vibrate. The effect is transmitted through the small bones to the watery fluid that fills the internal ear, in which the delicate filaments of the auditory nerves float; and by this nerve the sensation is conveyed to the brain. Muscles attached to the small bones of the tympanum have the power of stretching or relaxing the membrane; and probably thereby adapt the organ to various quantities of sound, by diminishing acute, and augmenting the force of grave sounds, as the changes in the pupil of the eye accommodate that organ to a greater or less number of rays, according to the effect they produce.

An entire state of the membrana tympani is not essential to hearing; for the sense remains, where an opening has taken place in that part; yet it is necessary that the tympanum should communicate with the fauces, for an obstruction of the eustachian tube causes deafness.

Vibrations may be transmitted to the auditory nerves through the bones of the head; thus a watch placed between the teeth is heard very distinctly, although the ears are stopped, &c.

TOUCHING.

This has been with some propriety denominated the elementary sense, and all others considered as merely modifications, accommodated to certain properties of bodies. 'Every thing that is not light, sound, odour, or savour, is appreciated by the touch.' This sense resides throughout the whole extent of the nervous system; the peculiar organ, however, of touch, or that by which we come to a knowledge of the qualities of objects, is the cutis, spread over the external surface of the body. In some parts this sense is peculiarly modified; in the skin, for example, covering the apices of the fingers; and in such parts we meet with something resembling the papillæ on the tongue, but, perhaps, not exactly similar, as they are rather constituted of nervous projections, than of glandular cryptæ; they are surrounded by an extremely fine vascular membrane. When the sense of feeling is exercised, these papillæ are supposed to swell and elevate the epidermis, which in itself is totally insensible to all such stimuli as act exclusively on living fibre. The epidermis, like the nails and hair, which last proceed from it, is a mere defence of the body, unorganized, and consequently destitute of excitability.

SMELLING.

The cavity of the nose is divided into two parts, called the nostrils, by a partition, of which the upper part is bony, and the lower cartilaginous. The upper part of the cavity is covered with a thick glandulous membrane, above which the olfactory nerve is finely branched out and spread over the membrane of the spongy bones of the nose, and other sinuous cavities of the nostrils.

The odorous estuvia of bodies are disseminated in the atmosphere. The latter fluid passes through the nose in respiration and thereby brings the odorous particles into contact with the olfactory nerves, which convey the impressions of odours to the brain. It is in the first pair of nerves only that the sense of smelling is supposed to reside while the numerous twigs of the fifth pair that are distributed in the nose are merely for the purpose of general sensibility. Hence we see two very distinct modes of sensibility in this part, one of which may be entirely obliterated, while the other is augmented; in violent coryza the ordinary feeling is very acute, for the pituitary membrane is painful; but the person at the same time is not conscious of the strongest odours.

As air is the vehicle of odours, its passage through the nose, in ordinary respiration, is sufficient for the purpose of smelling: but when any odour is particularly agreeable, we make short and repeated inspirations, and at the same time shut the mouth, that the air which enters the lungs may pass entirely through the nose. On the contrary, we breathe by the mouth, or entirely suppress respiration, when odours are disagreeable to us.

TASTE.

Every sense has been said to be strictly a modification of feeling; that of taste, however, approaches nearer than any one of the senses, even in its organization, to that of simple or proper feeling; the surface of the tongue, which is the principal residence of this perceptibility, only varying from the common integuments in being thinner, more vascular, and having cryptæ, or follicles, which secrete the mucus of the tongue.—These are situated in greatest numbers near its tip, and are erected when we masticate high-flavoured food, or have a strong desire for any savoury dish. It is observed that the sense of taste in different animals is more perfect in proportion as the nerves of the tongue are larger, the skin finer and more moist, its texture flexible, surface extensive, motions more easy and varied.—The sense of taste in man would, perhaps, be more delicate than that of any other animal, if he were not to blunt its sensibility early in life by strong drinks, spicy ragouts, and all the refinements of luxury that are daily invented.

The lingual branch of the fifth pair is considered as the true gustatory nerve, while those sent to the tongue by the eighth and ninth are regarded as merely nerves of motion. Although the tongue appears to be a single organ, it consists of two symmetrical halves: and should be considered as a distinct right and left organ closely applied to each other. This is shown in hemiplegia, where one-half only is paralysed.—First Lines of Science.

SEEING.

The organ of sight is the eye; its construction is so beautiful, and its mechanism so admirably adapted to the office it has to perform, that it is of itself sufficient to indicate the hand of an all powerful and all wise being. The general form of the eye is nearly globular, it consists chiefly of three coats, and three humours. Of the coats the first or outer is called sclerotic; it is every where white and opaque, and is joined to another, which, from its great transparency, is called the cornea. The next coat within this is that called the choroides, from its being furnished with numerous vessels. It serves as a sort of lining to the others, and is joined with that part of the eye called the iris. The iris is an opaque membrane, like the choroides; but in different eyes it is of different colours. It consists of two sets of muscular fibres, the one of a circular form, which contracts the opening in the middle, called the pupil, when the light happens to be too strong for the eye; the other serves to dilate it when the light is too weak, and thus to admit it in greater quantity. The third coat is called the retina, and is nothing more than an optic nerve finely expanded. On this the images of objects are painted, and by this the impressions which they make are conveyed to the brain.