

cated. It shows three folds, formed of thin bone covered by mucous membrane, and capable of considerable variation in size by the regulation of the amount of blood they contain. These are called the *turbinate bodies*. The *upper* one is high up, at the back part of the chamber, and comparatively small, the *middle* one is larger and occupies the centre of the wall, and the *lower* one extends nearly the whole length of the wall, and is near the floor.

The three spaces under these turbinate bodies are called the *upper*, *middle*, and *lower meatus* respectively.

The two upper turbinate bodies form part of a spongy bone called the *ethmoid bone*, which occupies the middle of the front part of the floor of the brain case. This bone is full of air cells, which are collected into two main groups, *anterior* and *posterior ethmoid cells*. The posterior cells open just under the upper turbinate body, the anterior ones open under the middle turbinate. At the same spot opens also a passage leading into a cavity in the frontal bone of the skull, called the *frontal sinus*. These cells and sinus may all become the seat of an abscess. Under the middle turbinate body there is also a hole leading into a large cavity, situated in the upper jaw bone, called the *maxillary sinus* or *antrum* of *Higmore*. Into this cavity the roots of the molar teeth may project, and it is not infrequently the seat of a large abscess.

We will now leave the nose for a short time and go to the large cavity which lies at the back of the mouth and nose, and which is called the *pharynx*. The lower part of this pharynx leads into the gullet, or *oesophagus*, and the *larynx*, the opening into which is protected by a leaf shaped fold of gristle, called the *epiglottis*. In front the pharynx has opening into it the back part of the mouth, the boundaries of this opening being formed by the root of the tongue, the soft palate, and the pillars of the fauces, with the tonsils between them. At the root of the tongue is another small tonsil called the *lingual tonsil*.

The upper part of the pharynx is very important to us as specialists. This part is called the *nasopharynx*, and into it the two *posterior nares* open from the nose in front. At the sides, about on a line with the lower turbinate bodies, open the *Eustachian tubes* from the ears, these openings being overhung by two thick prominences formed by the thick cartilage of the Eustachian tubes. In the roof of the naso pharynx is another collection of lymphatic tissue, called the *pharyngeal tonsil*, and it is the enlargement of this that is so well known under the name of *adenoids*.

The last thing I must ask you to remember is that the lining membrane of the nose and naso-pharynx is what is called *ciliated*, that is to say, it bears tiny hair-like processes which are only visible to the microscope, and are in constant motion.

We must now pass on to ascertain the meaning of this rather complicated nasal structure. As I said before, the nose has two functions: *Olfactory* and *Respiratory*. Just above the upper turbinate body is a tiny area of the mucous membrane which is yellowish in colour, and certainly not larger than a three-penny piece. This is the seat of our special sense of smell. Its remote position will explain to you why we have to sniff in order to properly appreciate an odour, and the fact that it is nearer the back of the nose than the front tells you why it is so much easier to *taste* a savour than to smell it.

It is the *Respiratory* function of the nose that is all important. If, for any reason, you have to sleep with an open mouth, you know how dry and uncomfortable your throat is in the morning. The air which is inspired has to be prepared before it comes in contact with the delicate lung tissue, and this the mouth cannot do, save in a very imperfect way. The air must be warmed, moistened, and, in some respects, bereft of foreign bodies.

The whole complicated structure of the nose is designed for this purpose. The air as it passes through is delayed by the tortuous passage. As it passes over the turbinates it is warmed by the blood in them, whilst the copious secretion which is poured out by the mucous membrane saturates it with moisture. The irregularities in the nose also catch and detain impurities, as witnesseth the state of one's handkerchief on a foggy day.

But this is not all. The mechanism of the perfect nose is such that the amount of blood in the turbinate bodies and the amount of fluid poured out by the mucous membrane is regulated according to the condition of the air received, be it hot or cold, dry or moist. It is this that enables man to breathe with equal comfort on "Greenland's icy mountains or India's coral strand."

The *cilia*, in their constant movement, act like policemen on the beat, they "move on" micro-organisms, and so prevent their getting sufficient hold to do any harm.

The importance of a properly working nose cannot be over-estimated, and, if anyone doubts this, he has only to observe and compare the possessor of such an organ, and one who is suffering from nasal obstruction.

[previous page](#)

[next page](#)