illustrations show the microscopic appearance of this arrangement in the roots of the sensory hairs of the guinea-pig, the circumvallate papillae of the tongue of the guinea-pig, and the olfactory zone of the rabbit. The writer points out that this special vascular supply is in excess of the nutritive requirements of the tissues, and that it is confined to such sense organs as are exposed to the cooling action of currents of air. The view is expressed that the functional significance of this special vascular mechanism is to maintain the sense elements and the nerves supplying them at a constant temperature. She summarises the arguments in favour of this view as follows:—

1. They exist only in certain specialised organs, and in those in which they are absent, the fineness of perception of the organ is affected by variations in temperature.

2. When similar arrangements are found in other non-sensory regions (as the inferior turbinal) their heating function is accepted without question.

3. Granted that the arrangement is confined to the more specialised sense organs, we find it lacking in those organs which are protected from temperature variations by being deeply placed, as in the internal ear. G. WILKINSON.

LETTER TO THE EDITOR

NOSE-BREATHING IN THE NEW-BORN CHILD

TO THE EDITOR,
The Journal of Laryngology.

DEAR SIR,—The interesting remarks by W. Warwick James and Somerville Hastings on the above subject in the September issue of this *Journal* remind me of some observations I made many years ago, when I was in general practice and had more frequent opportunities of examining new-born infants than I can boast of nowadays.

What I am about to say is taken from an old case-book, as far back as 1894.

Normal respiration in infants is conducted solely through the nasal passages, probably because of suckling. So much so that when the nose is obstructed there may be as great a recession of the incisura, the intercostal spaces, and the lower ribs as in grave obstruction of the trachea. Only when the child cries is there respiration through the mouth.

These words were suggested by the following cases. The first I quote from memory; the second from my case-book.

(1) A badly nourished infant, a few days old, developed what appeared to be a cold in the head. As a result, the nose became

blocked, and then the child began to cry, but with every expiration, as new-born babies do at birth. It occurred to me that perhaps we had here to do with a reflex, and that the cry followed the oral inspiration automatically. Efforts to clear the nose were therefore made, but everything failed; the child continued crying for three days, and died of exhaustion.

(2) A baby two months old was suffering from nasal obstruction, apparently due to catarrh. In examining the child I got the mother to prop it up on her knee in a sitting position while I listened to the bases of the lungs. To my surprise I was unable to hear any breath-sounds at all. After a few seconds I had a look at the child, only to find that, owing to its feebleness, the head had fallen forward so that the chin was resting on the sternum and thus the mouth was kept closed. By this time the child was cyanotic, but quickly recovered after it had been placed on its back and was able to open its mouth and cry. A drop or two of glycerine inserted into the nose seemed to lead to a clearance of the passages, so that nasal respiration was re-established by the following day. But twenty-four hours later respiration with apnœic periods, like Cheyne-Stokes breathing, appeared, and this child also died. I supposed death in this case to be due to pulmonary collapse in an asthenic infant.

It would seem therefore that mouth-breathing in the new-born is part of a crying reflex, and I often observed in those days how regularly this was exemplified in the post-natal crying that accompanies the commencement of breathing. At this juncture crying undoubtedly induces or helps to induce dilatation of the lung alveoli by raising intratracheal pressure through the approximation of the vocal cords and the forced muscular expiratory action resulting from the effort to force the air through the partially closed glottis.

After a few minutes, however, the crying ceases and nasal respiration is begun and maintained.

Thus, as the cases I have mentioned show, nasal catarrh in an infant may be a dangerous disease. In a number of cases, I may say, the instilling of a drop of glycerine into the nose seemed to lead to a restoration of patency. Nowadays, I would prefer some weak adrenalin solution.

Like the authors of the article referred to, I too have watched what happens when the nostrils of a new-born infant are held together with finger and thumb, and I can support their finding that the child struggles uneasily and then, after an oral inspiration, begins to cry.

Thus it would appear that at the beginning of extra-uterine life, an oral inspiration is always followed by an approximation of the vocal cords and an expiratory cry. Is this a newly described reflex?—

Yours truly,

DAN MCKENZIE.