dated lungs, forming a good medium for sound transmission. The fluid pressing upon the lung-tissue is like the stethoscope pressing upon the chest-wall. The bronchial sounds go through it in the same way. Vocal resonance is carried in a similar manner, but vocal fremitus with its larger waves is checked by the fluid (probably because of the inertia of the latter).

The vesicular murmur, or normal pulmonary respiration, has been the subject of much dispute. As this paper is already too long, I shall only speak of a few points in regard to it. First, unlike bronchial breathing, its expiratory sound is lower pitched than the inspiratory, and there is scarcely any pause between the two. Second, both in pitch and quantity, both sounds differ from the bronchial type. Third, it is absent when from any reason air does not move in the vesicles, and the latter, therefore, do not dilate or contract. Finally, the murmur is no more distinct in places where there is most movement of the pulmonary over the costal pleura (*i. e.*, over the anterior lower parts of the chest). The sound can, therefore, not be due to pleural movements.

Now, this murmur might conceivably be the bronchial note modified in its transmission through the lung tissue; but if so, the modification is certainly peculiar, since it fills in the pause between two sounds, lowers the pitch of one relatively to the other, alters the absolute pitch of both, and utterly changes the quality of both. Moreover, if the sound be simply transmitted and altered, the plugging of a bronchus or other obstruction to vesicular movement should not abolish it. Recent experiments (which are rather crude), made upon lungs removed from the body, show that this murmur may be heard when all bronchial sounds are annulled, by introducing a loose cotton plug into the trachea.

The vesicular murmur must be produced in the lobules of the lung. The air-currents and the elastic tissue of the lung, or both, may cause it. That much motion of the air in the lobules, and therefore of the walls of the vesicles, occurs, cannot be doubted, if one considers the relative bulk of the vesicles to the bronchi, the position and direction of the latter, and the thoracic movements. The air rushes through narrow tubes into and from much larger passages. In so doing one would expect it to cause a sound. The expanding and contracting vesicular walls also, like any elastic substance alternately made more or less tense, must do the same. One or both of these must be the cause.—*Med. Rec.*

IT has been shown by Bastian that complete transverse section of the spinal cord abolishes the reflexes of the lumbar enlargement of the cord, instead of increasing them.

PHSIOLOGICAL ACTION OF CHLOROFORM.

Professor H. C. Wood, conjointly with Dr. Hare, has communicated a paper upon Phsiological Action of Chloroform to the American *Medical News* of Feb. 22nd. The authors criticise the work of the Hyderabad Commission, and are led to adopt very different views concerning the action exerted by chloroform upon the heart. Moreover, they take exception to an observation made by us in the *Lancet* of Jan. 18th, p. 139. We said in speaking of the Hyderbad Commission: "The practical outcome of the research would appear to be that deaths are not inevitable. They are therefore preventable, and by due care in its administration they may be certainly avoided." Professor Wood and his collaborator do not appear to recognize that in using the above words we were expressing the conclusions of the Commission rather than our own. We were careful to add: "The conclusions of the Commission are sweeping, and without abundant evidence cannot be accepted." We have spoken with no uncertain sound from time to time concerning the dangers attending the use of chloroform, dangers which unquestionably in temperate climes manifest themselves through the heart. A careful perusal of the report of the Commission will, we think, amply justify us when we assert the outcome of its teaching is that heart failure does not occur, and deaths are, if ordinary precautions are adopted, quite preventable. We may, however, quote the final word of the Commission in confirmation of this. It says (the *Lancet*, Jan. 18th, p. 159): "The Commission has no doubt whatever that if the above rules be followed, chloroform may be given in any case requiring an operation with perfect ease and absolute safety, so as to do good without the risk of evil." The rules, we may remark, are simply those which every competent chloroformist has, since the days of the English Chloroform Committee, known and practised. But the really important part of Professor Wood's paper is that in which he narrates his own experiments. The work of Professor Wood, as that of a tried and skilled experimenter, and one who has investigated the action of chloroform upon the heart more than once, must command the utmost attention. In reviewing modern physiological research on this subject, he justly says it is unanimous in averring that chloroform given diluted to the lower animals kills *qua* the respiration—i. e., as Snow has well explained, by cumulation; given in concentrated vapour, it kills by provoking paralytic arrest of the heart. This result also obtains when chloroform is injected. The heart, further after this arrest, is found relaxed and incapable of responding to stimulation. Professor Wood states