

horizontal canal, were more powerfully stimulated than those of the other two, that the sound came directly from the left, and in like manner for the other two ampullæ, the superior and posterior, the sound must come from above or behind.

The specific energy of the ampullæ is a sense of space in connection with sound, and more precisely a sense of direction, the perception of a particular direction depending on the particular one or pair of canals which may be stimulated most powerfully as follows:

1. The horizontal canal is most powerfully stimulated by sound from a direction on the same side in the horizontal plane.
2. Superior vertical canal, which has a direction outwards and forwards, is most markedly stimulated by a sound from above, in front, and to the same side.
3. Posterior canal, which has a direction downwards, backwards and outwards, perceives most acutely sounds from below, behind and the same side.

If two sounds of different intensity come from opposite sides of the head, the sound is projected in the direction of that of the greatest intensity. If both sounds are of equal intensity and pitch, they are projected in the median plane. Preyer applies this theory to all the high vertebrata.

Preyer further says that in any case all three canals are stimulated, of course those of the side nearest the sound source more powerfully than those of the opposite side, and again of those canals of the more powerfully stimulated side, one or two more powerfully than the remaining, depending on the direction from which the sound came. This hypothesis being correct, then must all those sound directions be frequently confused with one another, in which a nearly equally strong stimulation of the different ampullæ occurs—*e.g.*,

Anterior—Ant.-sup.

Post.—Post.-inf.

Post.-inf.—Inf.

Ant.-sup. left—Sup. left.

Ant. left—Sup. left.

Ant. left—Ant.-sup. left.

Post. left—Post.-inf. left.

This Preyer found to be really the case.

The decisions were very uncertain and varying *in re* antero-