those of the mammalia, although they do not, as in the latter class, open into the respiratory organs, is shown by the curious transformation of the one into the other during the development of the tadpole, both of the frog and of the salamander. We have already seen that during the first periods of their existence, these animals are perfectly aquatic, breathing water by means of gills, and having all their organs formed on the model of the fish. Their nasal cavities are not employed for respiration at this early period, nor even for some time after they have begun to take in air, which they do by the mouth, swallowing it in small portions at a time, and afterwards throwing it out in bubbles by the same orifice. But when they quit the water, and become land animals with pulmonary respiration, the nostrils are the channels through which the air is received and expelled; and it is here also that the sense of smell continues to be exercised.

We know very little respecting the seat of the sense of smell in any of the invertebrated animals, though it is very evident that insects, in particular, enjoy this faculty in a very high degree. Analogy would suggest the spiracles as the most probable seat of this sense, being the entrances to the respiratory passages. This office has, however, been assigned by many to the antennæ; while other entomologists have supposed that the palpi are the real organs of smell.* Experiments on this subject are attended with great difficulty, and their results must generally be vague and inconclusive. Those which Mr. P. Huber made on bees, seem, however, to establish, with tolerable certainty, that the spiracles are insensible to strong odours, such as that of oil of turpentine, which is exceedingly offensive to all insects. It was only when a fine camel-hair pencil containing this pungent fluid was presented near the cavity of the mouth, above the insection of the proboscis, that any visible effect was produced upon the insect, which then gave decisive indications

* On the subject of this sense in insects, see Kirby and Spence's Introduction to Entomology, vol. iv. p. 249.