traded by different metals with different degrees of force ; those which attract it with the least force are the more per­fect metals, such as platina, gold, and silver, which cannot be converted into oxides, except at very high temperatures ; whereas arsenic, and many other substances, attract it strong­ly, and are usually found in combination with it even in the bowels of the earth. If, therefore, the mortal effects which arise from the bite of a serpent result, as stated by Mr Boag, from the subtraction of oxygen from the blood, it is natu­ral to suppose that the most efficient cure must consist in the renewal of that vital ingredient; and the most obvious and easy mode of accomplishing this will be, to employ such substances as are known to contain oxygen in the greatest abundance, and to give it up with the greatest facility. This is precisely the character of lunar caustic, which is made by dissolving silver in nitric acid, and afterwards evaporat­ing and crystallizing the solution.@@1

In further illustration of this singular subject, we may here give a brief account of the effect produced by the bite of some remarkable salt-water snakes, belonging to the genus *Hydrus (Hydrophis* of our present treatise). Soon after the opening of the bar in the month of October 1815, reports prevailed at Madras that a great shoal of sea-snakes had entered the river, and that many natives while crossing had been bitten, and had died in consequence. A reward was ottered for each of these creatures captured and car­ried to the superintendent of police. Pandauls were erect­ed opposite to the two principal fords, and skilful natives, under the direction of Dr M'Kenzie (to whom we are in­debted for the information), were provided with eau-de-luce and other remedies, and ordered to afford immediate aid to those who might be bitten. Many were bitten according­ly (the snakes seeming in no way loathe to expedite the result), and all exhibited the symptoms usually consequent upon the action of a powerful animal poison ; but none died. We shall state a couple of cases, with the mode of treat­ment. A native woman, while crossing near the custom­house, was seen, on emerging from the water, to shake off something from her foot. This to several spectators ap­peared to be a water-snake. The woman, after advancing a few paces from the river, fell down, and was immediately carried insensible to the pandaul. On examining her feet, two small but distinct wounds were perceived on the ankle of the right leg; her skin was cold, her face livid, her breath­ing laborious, her pulse scarcely perceptible. A ligature was immediately placed above the wound, which had been previously enlarged with a lancet, and a piece of the carnate of ammonia well moistened with pure nitric acid applied, while thirty drops of the eau-de-luce were adminis­tered nearly at the same time in a glass of water. In five minutes more a similar dose was poured down the throat, which seemed rather to increase the spasmodic affection of the chest ; but the pulse at the wrist became distinct, though feeble. A third dose was repeated in three minutes more, on which she uttered a scream, and began to breathe more freely. Ten minutes had now elapsed since she had been carried to the pandaul, and in about three minutes more a tea-spoonful of the eau-de-luce was given, which almost immediately produced violent nausea, and a profuse perspi­ration. When a little salt was put into her mouth, she de­clared it was not salt, but sugar ; and this the natives deemed an infallible sign of still-continued danger. She soon, how­ever, entirely recovered, and merely complained for three or four days of a numbness in the limb above the wound. Another case was that of a Lascar, who was bitten by a snake while in the middle of the river. He advanced a few paces after quitting the bank, and then fell down in violent

convulsions. When brought in, his breathing was laborious, his skin cold and clammy, his countenance livid, and his pulse feeble at the wrist, but distinct at the temples. A quantity of froth and foam was ejected from between his closed teeth. He too recovered, after a similar mode of treatment ; but he complained for many days *that he had no left leg.* On another occasion a large healthy chicken was exposed to the bite of a *Hydrus major,* four feet long. It was bit in the foot, and in about ten minutes began to droop, and to show a slight convulsive flutter of both w ings. In three minutes more it became convulsed, and at the end of seventeen minutes from the infliction of the wound it suddenly dropped down dead.@@2

Dr Russel has figured and described forty-three of the most common serpents of Hindustan, and of these he found only seven that were provided with poison-fangs. He in­forms us, that a quantity of warm Madeira taken internally, with an outward application of eau-de-luce on the punctures, was generally successful in curing the bite of even the most venomous species. He also states that the medicine called the Tanjore pill was equally efficacious. On comparing the effects of the poison of five of the oriental species on brute animals, with those resulting from the rattle-snake and Eu­ropean viper, Dr Russel remarked, that they all produced morbid symptoms nearly the same, although they might differ in the degree of their deleterious power, and the ra­pidity of its operation.

The tongue of serpents is remarkable for its great ex­tensibility. It is protected by a rather firm skin, becomes very slim towards the anterior extremity, where it divides into two slender filaments, and is capable of being with­drawn into a kind of sheath, which opens in front of the glottis. The position of these parts varies in the different species, being placed, for example, very near the muzzle in the genus *Hydrophis,* but much further backwards among both the terrestrial and the tree serpents. The tongue of the Ophidians in general, though extremely similar to that of certain Saurians, such as *Monitor, Tejus,* and other ge­nera, yet differs in the far greater simplicity of the harder parts by which it is supported ; for we find, in place of a hyoid bone, composed of several pieces, merely a simple cartilaginous thread attached to the internal face of the general integument of the gular region, with its two extre­mities prolonged greatly backwards. This cartilage is some­times, as in *Boa,* intimately united to the muscles of the throat, of which it intersects the fibres, its posterior extre­mity being then attached to the skin on the sides of the neck ; but in the majority of cases, the horns of the hyoid are free, closely approached, and prolonged into the ca­vity of the chest, even as far as the heart. The tongue of these reptiles seems in truth, by its construction, to be a genuine organ of touch, and serving neither for taste nor deglutition, being during the latter act enclosed within its sheath. A little notch-like aperture at the end of the muzzle, which exists in most serpents, except the aquatic kinds, admits the protrusion of the tongue without the ne­cessity of opening the mouth. This movement is usually made very leisurely, although with extreme rapidity when the individual is excited either by fear or passion.@@3

The use of the tongue in serpents is not exactly known. Its narrow and cylindrical form would render it unapt to aid the process of mastication, even were the teeth of a na­ture to perform that process. They are continually lancing it into the air, and may possibly in this way also gather moisture from grass or other herbage. It is, however, be­lieved that they never drink. “ On ignore,” says M. Schle­gel, “ si les serpens boivent, et s’il est juste d’opiner pour la

@@@, See a paper ***On the Poison of Serpents,*** by W. Boag Esq., ***Asiatic Researches,*** vol. vi. p. 103; and ***Edinburgh Cabinet Library*** (Zoology of India), vol. viii. p. 117.

*@@@’ Asiatic Researches,* vol. xiii. p 326.

@@@, See Helmann, *Uber den Tastsinn der Schlangen.*