

were situated in the fossæ under the alæ of the nose, at the angles of the mouth, and upon the forehead.

On the mucous surface of the commissures of the mouth, and on the internal surface of the lips, were several of those superficial ulcerations which result from aphthæ. The fauces were congested and of a darkish-red hue, and the tonsils were inflamed, and very irregular in shape, from the destruction of surface caused by previously existing ulceration. Her voice was hoarse and guttural.

She informed me, also, that she suffered from soreness of the vulva, with vaginal discharge; and from the account she gave, I concluded that she had had a crop of aphthæ in that region, as well as in the mouth.

The history which this young lady gave of herself was, that twelve months previously to her present illness, she had been greatly reduced by a fever, and had been sent to the seaside to recover her health. In the summer following her return she was one of a country party, and in the frolics of their day's gaiety she had sat for some time on the grass, and found on her way home that she was suffering from the effects of a chill. A few days after this adventure she was attacked with sore throat, which was so severe as to oblige her to keep her bed; and a month later the eruption first broke out. These, in artistic phrase, are broad outlines, which leave much to be filled in by the imagination, and the medical imagination will not fail to do justice to the picture.

My treatment of this case consisted simply in the exhibition of a compound rhubarb pill, every night, at bedtime; and five grains of the iodide of potassium, in two ounces of the compound decoction of sarsaparilla, three times a day. Her health, which had suffered much from the treatment which she had undergone previously to seeing me, soon improved under this plan. Her spirits rose, her skin resumed its natural appearance of health, her eye brightened, and on her second visit, ten days after commencing the use of the medicine, I scarcely recognised her as the same person. She has since had several slight attacks of sore throat, at distant intervals, but no return of the cutaneous eruption; and for the last two years has been perfectly well.

A CURIOUS CASE OF HÆMORRHAGE FROM THE URETHRA.

By W. HARGREAVES MANIFOLD, Esq.

ABOUT six weeks since, Mr. D—, aged fifty-six, applied to me under the following circumstances. Eighteen months previously, he had retention of urine, for which a practitioner in this town passed a catheter; the introduction caused him great tearing pain, and a considerable quantity of blood passed through the instrument; his urine passed an hour later. Since this period, he has, at intervals of five or six days, passed from three ounces to a pint of pure blood. He went to Wales, and was under treatment there for some time, but without any good effect. When he applied to me, he was perfectly blanched from loss of blood, his stomach rejecting food, and his urine highly albuminous, and strongly alkaline. In spite of all treatment, he quickly declined, and died a few days ago, but had only passed blood once since I first treated him.

The blood was passed perfectly independent of his urine, sometimes before and sometimes after. I suspected some lesion, from the catheterization, about the neck of the bladder, but I could not obtain a post-mortem examination to satisfy myself on the subject.

Liverpool, March 23, 1850.

ON THE STRUCTURE AND FUNCTIONS OF THE LUNGS.

By THOS. WILLIAMS, M.D. Lond., Swansea.

LICENTIATE OF THE ROYAL COLLEGE OF PHYSICIANS, AND FORMERLY DEMONSTRATOR OF STRUCTURAL ANATOMY AT GUY'S HOSPITAL.

(Continued from p. 442.)

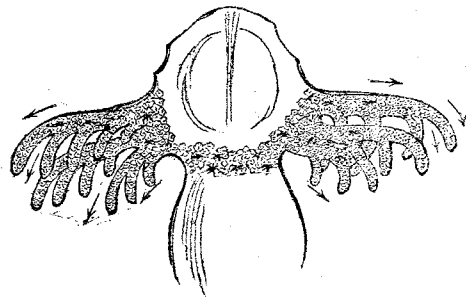
No. V.

In the life of nearly all batrachian reptiles, the period which immediately succeeds the emergence of the young from the ovum is remarkable for the existence of organs capacitating the animal to live in water. In different genera, this period varies in duration. The larvæ of the frog (*Rana temporaria*) retain the external branchiæ only for a few days, after which these organs become internal. In the details of

their anatomical structure, the external branchiæ of caducibranchiata amphibia present no analogy to those of fishes. The larvæ of the toad (*Bufo vulgaris*) remain in the egg state for a longer, and in that of the fish condition for a shorter, time, than those of the frog. The tadpoles of the terrestrial salamanders of this country retain the external gills only for a brief interval, early assuming an exclusively atmospheric life. Those of the aquatic species, exemplified in the familiar tritons of our pools, carry the external branchiæ for a much longer period, affording, thus, an opportunity for the deliberate study of the structure and functions of these appendages. The genera, *Syren*, *Proteus*, and *Menobranchius*, are those only in which the external gills are persistent throughout the whole term of adult life. Whether temporary, as in the caducibranchiata, or persistent, as in the perennibranchiata genera, the branchial organs of amphibia are supported by no skeletal framework analogous to that which sustains the soft parts of the breathing apparatus of fishes. They are essentially only productions, under a definite form of the cutaneous structures. Contemplated, however, as a mechanism, whether provisional or permanent, upon which devolves the most important function in the animal economy, it demands a more minute investigation of its anatomical characters, which may indeed conduct to the evolution of a great physiological law.

The cartilaginous arches erected on the hyoid bone disappear synchronously with the decidual gills. The circulating system of amphibian larvæ, during the pisciform phase of their metamorphoses, is constructed in exact conformity with that of the true fish. The cardiac centres are composed only of a right auricle and one undivided ventricle; the left or pulmonary ventricle remains unevolved until the organic mutations attendant on growth create a necessity in the system for the exercise of the pulmonary functions. The left auricle is then superadded, and the chamber of the ventricle is partially divided by a median partition, and the embryonic organism reaches the maximum limit of development. The pulseless dorsal artery, the resultant of the united afferent vessels of the branchiæ, undergoes obliteration from disuse. These general observations form no irrelevant introduction to a more special examination of the branchial organs.

FIG. 1.



THE HEAD AND APPENDED BRANCHIA OF A TADPOLE, IN THE PISCIFORM PHASE OF ITS METAMORPHOSIS.

The gills are enveloped in a cul-de-sac production of the cuticle, which, however, on the branchiæ, assumes anatomical characters of tessellated mucous membrane, the cells of the epithelium, in their flattened, polygonal outline, conforming to those of the general cuticle of the body. For some days before the caducation of the branchiæ the phenomenon of ciliary motion is no longer detectible. The cilia are borne by the cells of the true cuticular epithelium. The current determined by the action of the cilia is centrifugal in direction on every side of the branchial diverticula. There is no return, therefore, of the effete current over any part of the breathing surface.

The provisional gills of the batrachians, although blood-red in colour, are invested by a prolongation of the true epidermis, the cells of which, in these situations, for some time are fitted by slight structural modifications to bear vibratile cilia. The branchial organs of fishes are clothed with true mucous membrane, derived from the lining of the pharyngeal cavity, the epithelial cells of which, however, being at no time, in any species, armed with ciliary appendages. These two anatomical characters are consequently differential between the organs of aquatic respiration in batrachia and fishes. The gills in the tadpole of the frog (fig. 1) are less elaborately subdivided than