

siderable changes, chiefly just above the longitudinal furrow of the calamus scriptorius.

Among the various theories which have been advanced to account for the symptom, the best, though at the same time the most complicated, is Bramwell's. He, following the teaching of M. Foster and others, supposes, that the inspiratory centre consists of two portions, one accelerating and one inhibitory. He further believes that these two portions are acted upon in opposite directions by the blood, whether arterial or venous. Thus while venous blood stimulates the discharging cells of the centre, and depresses the inhibitory portion, arterial blood acts in exactly the opposite direction. He also supposes the accelerating or discharging portion to be in a state of "irritable weakness." Now, at the close of a period of apnœa, the discharging portion is stimulated by the supply of venous blood and at the same time the inhibitory portion is depressed thereby. Hence though the respiratory apparatus has been on what may be called the "dead centre," respiration commences, and increases in force until the blood is fully oxygenized. Now, however, the inhibitory portion is stimulated and gradually overpowers the discharging portion, it being in a state of "irritable weakness," and soon worn out. The respirations grow weaker and weaker until at last the inhibitory portion gains complete mastery, and apnœa results.

This theory does not satisfactorily account for the weak shallow respirations at the commencement of the cycle. Would it not be more probable, that, with the blood loaded with carbonic acid, and the inhibitory portion therefore greatly depressed, the discharging portion, stimulated by the impure blood, would cause explosive breathing, lasting with decreasing strength until the blood was fully oxygenized?

Dr. Sansom believes there is a condition of partial paralysis of the respiratory centre, which thus requires a large amount of carbonic acid to stimulate it to action. This is furnished by the period of apnœa; respiration then commences and increases until the blood becomes fairly purified, when owing to the less amount of stimulation the respiratory centre gradually ceases to act and the breathing comes to a standstill. The theory advanced by Filehne, that a deficient supply of oxygenized blood produces a contraction of the arterioles

of the body—and of course of the medulla—through the action of venous blood on the vasomotor centre would account for the phenomena observed; but what is the primary condition of the centre which renders it abnormally weak? Why does it not perform its function? Why is there a period of apnœa by which the blood becomes loaded with impurities with which to stir up the sluggish centre? Here Bramwell's supposed "irritable weakness" comes in, but after all the point to be decided is, what is the pathological condition of the respiratory centre, or of the vagi which lies behind the first development of this symptom? Until that has been more clearly made out no amount of theorizing will, it seems, be able to make plain the cause of this peculiar form of respiration.

PASTEUR FORESTALLED.—"While exploring the Kalahari," said Mr. Farini (From the *Pall Mall Gazette*,) "where extremely poisonous snakes abound, several cases of the nude natives being bitten by them came under my notice, and, strange to say, the untutored savage, although not knowing anything about *similia similibus curantur*, cure themselves by inoculating with other virus. There is not a native nor a hunter that does not carry either the dried body of a deadly poisonous reptile called the N'anboo, the poison sacs of the puff adder, yellow cobra, or capella. Their *modus operandi* is this:—As soon as possible after being bitten they make slight incisions close to where the poison fangs entered, into which they sprinkle some of the dried and powdered virus. The first effect is to induce sleepiness, the swelling soon goes down, and in a day or two they are as well as ever. Three of my oxen were bitten, and cured by inoculation. One case of the bushman who had cured the oxen I must specially mention. He boasted of not being afraid of being bitten. One day while walking ahead of the waggons I discovered a full-grown capella lying under a bush. I called the bushman and asked him to catch it if he was not afraid of being bitten. He replied he would if I would give him a roll of tobacco. I refused not wishing to be accessory to his death. While I was waiting for the driver's whip to dispatch the snake, the bushman gave the reptile a kick with his bare foot, and the horrible thing bit him. But the bushman coolly took from a little skin