

other function of the brain; and that these phenomena are explicable only on the hypothesis that impressions made on a certain set of nerves, which he terms *excito-motory*, are conveyed to a particular portion of the spinal marrow belonging to that system, and are thence reflected, by means of certain motor nerves, upon certain sets of muscles, inducing certain actions. The same actions may also be the result of impressions made directly either on the spinal marrow or on the motor nerves. He accordingly considers that the whole nervous system may be divided into,—1st, the *cerebral*, or the sentient and voluntary; 2ndly, the *true spinal*, or the excitor and motor; and, 3dly, the *ganglionic*, or the nutrient, the secretory, &c. The excito-motory system presides over ingestion and exclusion, retention and egestion, and over the orifices and sphincters of the animal frame: it is therefore the nervous system of respiration, deglutition, &c., and the source of tone in the whole muscular system. The true spinal system is the seat or nervous agent of the appetites and passions, but is also susceptible of modification by volition. This theory he proceeds to apply to the explanation of several phenomena relating to the motions of the eye-lids, pharynx, cardia, larynx, muscles of inspiration, sphincter ani, expulsors of the feces and semen, to the tone of the muscular system generally, and to actions resulting from the passions. Lastly, he considers its application to various diseased states of the same functions, as manifested in cynic spasm, vomiting, asthma, tenesmus, strangury, crowing inspiration, convulsions, epilepsy, tetanus, hydrophobia, and paralysis.—*Proceedings of the Royal Society*, for 1836.

11. *On the Safety-valve of the right Ventricle of the Heart*.—THOMAS BELL, Esq. in a memoir some time since presented to the Royal Society, endeavours to demonstrate that the tricuspid valve in man occasionally serves the purpose of a safety-valve, being constructed so as to allow of the reflux of the blood from the ventricle into the auricle, during the varying states of distension to which the right cavities of the heart are at times subjected; that a similar function is maintained in the greater number of animals possessing a double circulation, and also that in the different orders of these animals the structure of this valve is expressly adapted to the production of an effect of this kind, in various degrees, corresponding with the respective characters and habits of each tribe.

The force with which the circulating blood is impelled by the general venous trunks into the heart, and which is dependent on the action of the arterial system, the degree of compression arising from muscular action, combined with the resistance of the valves of the veins, and is also influenced by occasional accumulations of blood from rapid absorption, from impeded respiration, and from cold applied to the surface of the body, is shown to be subject to great and sudden variations. Any increase taking place in this force tends to produce distension of the right ventricle of the heart, followed by disturbance in the valvular action of the tricuspid membrane, owing to the displacement of its parts, which thus allows of a considerable reflux of blood into the auricle.—*Ibid*.

12. *On the Brain of the Negro, compared with that of the European and the Orang-Outang*.—It has long been the prevailing opinion among naturalists that the Negro race is inferior, both in organization and in intellectual powers, to the European; and that, in all the points of difference, it exhibits an approach to the monkey tribes. The object of the present paper is to institute a rigid inquiry into the validity of this opinion. The author has, for this purpose, examined an immense number of brains of persons of different sexes, of various ages, and belonging to different varieties of the human race, both by ascertaining their exact weight, and also by accurate measurement of the capacity of the cavity of the cranium; and has arrived at the following conclusions. The weight of the brain of an adult male European varies from 3lbs. 3oz. to 4lbs. 11oz. troy weight: that of the female weighs, on an average, from 4 to 8oz. less than that of the male. The brain usually attains its full dimensions at the age of seven or eight; and decreases in size in old age. At the time of birth, the brain bears a larger proportion to the size of the body than at any subsequent period of life, being then as one sixth of the total weight; at two years of age it is one fourteenth; at three, one eighteenth; at fifteen, one twenty-fourth; and in the adult period, that is, from the age of twenty to that of seventy, it is generally within the limits of one

thirty-fifth and one forty-fifth. In the case of adults, however, this proportion is much regulated by the condition of the body as to corpulence; being in thin persons from one twenty-second to one twenty-seventh, and in fat persons often only one fiftieth, or even one hundredth of the total weight of the body. The brain has been found to be particularly large in some individuals possessed of extraordinary mental capacity. No perceptible difference exists either in the average weight or the average size of the brain of the Negro and of the European: and the nerves are not larger, relatively to the size of the brain, in the former than in the latter. In the external form of the brain of the Negro a very slight difference only can be traced from that of the European; but there is absolutely no difference whatsoever in its internal structure, nor does the Negro brain exhibit any greater resemblance to that of the orang-outang than the brain of the European, excepting, perhaps, in the more symmetrical disposition of its convolutions.

Many of the results which the author has thus deduced from his researches are at variance with the received opinions relative to the presumed inferiority of the Negro structure, both in the conformation and relative dimensions of the brain; and he ascribes the erroneous notions which have been hitherto entertained on these subjects chiefly to prejudice created by the circumstance that the facial angle in the Negro is smaller than in the European, and consequently makes, in this respect, an approach to that of the ape, in which it is still farther diminished. The author denies that there is any innate difference in the intellectual faculties of these two varieties of the human race; and maintains that the apparent inferiority of the Negro is altogether the result of the demoralizing influence of slavery, and of the long-continued oppression and cruelty which have been exercised towards this unhappy portion of mankind by their more early civilized, and consequently more successful competitors for the dominion of the world.—*Ibid.*

## PATHOLOGICAL ANATOMY AND GENERAL PATHOLOGY.

13. *Cancer and Perforation of the Stomach, with rupture of an abscess in the left hypochondrium.*—This case, which we believe to be unique, is recorded by Dr. H. C. LOMBARD of Geneva, in the *Gazette Médicale de Paris* of the 10th December last. The subject of it was a labourer, 44 years of age, of robust constitution, and remarkably muscular, who had been repeatedly admitted into the hospital, sometimes for cramps of the stomach, which occurred very frequently, and were often exceedingly violent; at others, for varicose ulcers of both legs; and what was remarkable, the cramps reappeared as soon as the ulcers commenced to heal, so that he was more than once compelled by the violence of the cramps to renew the ulcers in the legs by walking, a means which always succeeded.

On the 12th of February, eight days after the patient had left the hospital with his varicose ulcers healed, he was seized with violent pain in his abdomen. On his admission that evening into the hospital, he had a natural stool, and urinated abundantly. An hour afterwards Dr. L. found him in the following state:—face pale and contracted; tongue white; no nausea or vomiting; skin cold; extremities cold; abdomen excessively painful on pressure upon the umbilical region; muscles tense, especially in the hypogastric region, which is swollen as if the bladder was much distended; the intellect was unaffected. Bleeding from the arm and fomentations to the abdomen were prescribed.

The next day the patient was worse; there was a very fatiguing hiccup; the pulse was gone; the beating of the heart feeble, tumultuous, not to be counted; the umbilical pain continued; the hypogastric region more prominent and with fluctuation; no stool or evacuation of urine since yesterday. The symptoms increased in intensity and the patient died twenty-two hours after his attack.

*Post-mortem. Exterior.*—Muscles voluminous and covered a thick layer of fat; in short, the patient had the appearance of having died in the best health.

*Thorax.*—Lungs, healthy. Heart, large, healthy. Pneumogastric nerves, normal.

*Abdomen.*—On opening the peritonæum a yellow sero-albuminous fluid, containing albuminous and purulent flocculi, flowed out. The large and small in-