inflammation of the veins, and occur under other circumstances, and which are supposed to depend upon the admixture of purulent, or other morbid fluids, with the circulating blood. In some instances, as in that first related, the affection is attended with uneasiness, or pain, in the early stages. More commonly, it comes on insidiously and does not attract attention till the swelling of the limb is observed, when some tenderness in the course of the vein may generally be found. Not unfrequently, we are called upon to treat an œdematous state of one of the lower extremities, which commenced during an attack of fever, or some other illness, and which may be traced to an obstruction of the vein that had escaped notice. In several cases the first suspicion of any obstruction to the circulation has been excited by the observation, after death, that one of the limbs was swollen; this has led to an examination of the veins, and to the discovery in them of clots, which must have existed many days.

The circumstances under which the disease occurs, and the fact that it often affects several parts of the circulatory system at the same time, or consecutively, in the same person, are quite in accordance with the supposition that it depends, primarily, not upon a morbid condition of the vessels; but upon a preternatural tendency to coagulation in the fibrine; and this view derives confirmation from several of the following phenomena, which may be observed in the origin and progress of the malady.

Thus, the obstruction most frequently commences in the parts of the venous system which are most favourable to the coagulation of the blood; viz., in the great veins, particularly those of the lower extremities, where the current is more feeble than in other regions. The points of selection in the lower limbs are: first, at or near the junction of two large veins, as the external and internal iliacs, the superficial and deep femorals, the anterior and posterior tibials; the projecting angles between the confluent trunks, furnishing favourable spots for the settling of the blood: secondly, in the neighbourhood of the valves. These present loose, free edges, to which the fibrine may readily adhere; and they also have the effect of shutting off from the circulating current the small quantity of blood which lies above them, included in the retiring angle, between the upper surfaces of the valves and the adjacent wall of the vein. The blood so situated must be almost at rest when the circulation is feeble and the limbs are kept quiet, because the valves will be then only partially opened, and, being at rest, it has a favourable opportunity to coagulate and become the nucleus of a larger clot. That this is no imaginary cause is proved by a case in which I found small dry clots lying above—that is, under shelter of—the valves of the femoral vein; the remainder of the vein being free from clots, or nearly so. However, the veins just above the valves often present slight bulgings, or dilatations. Their walls are here a little thicker than at other parts, and they exhibit a faintly reticulated appearance upon the internal surface.*

It is to be remarked, that the valves are more numerous in the lower limbs than in the upper, and in the deep veins than in the superficial.† They are also often placed in the main veins near the points of junction of large branches; so that a number of causes combine to facilitate the coagulation of the blood in these situations.

Thirdly, the formation of the clot often begins in the popliteal vein. This has relation, not merely to the fact that the trunks of the anterior and posterior tibial veins, and the saphena minor are here united, but also to the fact that the internal surface of the popliteal vein is often remarkably uneven, presenting quite a reticulated appearance from the interlacement of opaque strengthening bands which form projections in the interior.

In the upper part of the body, the clots form most frequently at, or near, the junction of the jugular and subclavian veins, where there are always large valves, and in the cerebral sinuses.‡ In the latter the peculiar construction of their walls prevents much variation in their calibre (see my *Treatise on Human Skeleton*, p. 200), so that there must be considerable variations in the rate at which the blood traverses them; and

they present, at the points of junction of the branches, many and marked projecting angles favourable to the settling of the fibrine.

The clots form not unfrequently in the venous plexuses around the prostate,* and in the hæmorrhoidal veins.

It appears that, as a general rule, the formation of the clot commences on the outside, that is near to the coats of the vein, where the current must be somewhat slower than in the axis of the tube; and the first stage in the process is the settling of a patch or layer of fibrine upon the inner surface of the vein. This is increased by the addition of successive layers upon the interior, whereby the channel for the blood is diminished. Soon the tube is completely obstructed; this result being commonly accelerated, more or less, by the clotting of the blood, in addition to the settling of the fibrine. The two processes,—fibrinous deposit and blood-clotting,—which differ, probably, only in the circumstance that the greater rapidity of the latter causes the entanglement of the red globules with the fibrine, go on somewhat irregularly, whence the mottled appearance of the coagula; but, as a general rule, the clots are firmer and more fibrinous near the exterior, softer and darker in the middle. In a young woman, who died of fever, with peritonitis, excited by approaching perforation of the ilium, we were led to examine the veins by observing some œdema about the left ankle, and found the external and internal iliacs, at and near their junction, on both sides, occupied by coagula, which, on the left side, extended down below the popliteal vein, and, on the right, terminated in an ordinary clot at Poupert's ligaments. Sections of these clots showed them to consist of laminated fibrinous tubes, moderately firm, and enclosing central cylinders of dark soft blood. The thickness of the fibrinous tubes varied. In some places, more particularly near the junction of the iliacs, where we judged the affection had commenced, it was so great as to leave little space for the dark central portion of the clot. In other parts, the fibrinous layer was thin; and in one place it was separated from the internal surface of the vein by a layer of soft dark clotted blood, resembling an ordinary recently formed coagulum in consistence and appearance. This was probably formed from blood, which had insinuated itself between the clot and the vessel, and had coagulated shortly before, or possibly after, death. A transverse section of one of these clots showed very clearly the central dark soft coagulum surrounded by a circle, or tube, of laminated fibrine, which again was enclosed by a more recent dark external layer.

The exterior of the clot is usually smooth, sometimes having quite a polished appearance, except at the points where it has become adherent to the sides of the vein. These adhesions are not usually very extensive; they are most commonly found where the clot began to form, and vary in their firmness with the period of their duration. The smooth character of the external surface of the clot is important, inasmuch as it rather militates against the view so much advocated by Virchow and some other pathologists, that portions of the clot are very liable to be detached, and to be carried along in the blood-current, till they cause obstruction and give rise to secondary coagula in distant vessels.†

[To be continued.]

THE INHALATION OF CHLOROFORM IS ALWAYS ATTENDED WITH DANGER.

(ABSTRACT OF THESIS FOR AN ACT KEPT IN THE UNIVERSITY OF CAMBRIDGE FOR THE DEGREE OF M.D.,
JUNE 17TH, 1859.)

By R. MARTIN, M.L., Assistant-Physician to St. Bartholomew's Hospital, and Warden of the College.

The danger in the administration of chloroform arises, first, from the fact that it is impossible to produce its sufficient effect upon those parts of the nervous system which minister to sensation and volition, so as entirely to suspend their functions, without producing some effect upon the centres which minister to the organic functions; and there must always be a

* In a man, aged 76, who died of senile gangrene, I found a reddish brown clot, which was evidently of many days standing, closely adherent to the valves of the femoral vein, near the junction of the profunda. The rest of the veins, in both lower extremities, were healthy, and contained no peculiar clots.

† I have found the distances at which the valves are placed in the superficial veins of the lower limbs to be about equal to those at which they are placed in the deep veins of the upper limbs.

‡ They were found by Virchow, *Forster's Notizen*, xxxvii, 30, in the cerebral sinuses, in 6 cases out of 18.

* In a man, aged 67, who died with sloughing of the nates, after fracture of the thigh, I found several short thick firm clots, with stunted branches, in the veins near the prostate. They were smooth, quite unadherent, and tumbled out from the divided vessels. A section of each showed a central cavity containing red fluid, surrounded by a wall composed of tough, laminated, reddish or mottled fibrine. The fluid exhibited red corpuscles and a great number of pale nucleated cells.

† Mr. Hewett, *Medico-Chirurgical Transactions*, xxviii, 74, found the clot in one case "enveloped in a perfectly distinct, transparent, smooth, polished membrane, presenting the appearances of serous tissue, with arborescent vessels in its structure."

risk that the amount of that effect may be incompatible with life. That an influence is exerted upon the medulla oblongata, is proved by the paralysis of the muscles supplied by the facial nerve, and by the suspension of the functions of the glossopharyngeal and the motor part of the pneumogastric; and we cannot but suppose that the influence will sometimes reach the nerves connecting the same centre with the respiratory and circulatory organs. Analogy renders it probable that the sympathetic system is not exempt from the influence of the vapour; and the impaired action of the iris may be regarded as an evidence in favour of the supposition. *Secondly.* The danger arises from the idiosyncrasy of the patient rendering the organs of animal life, and the nervous centres which preside over them, peculiarly susceptible to the influence of the vapour. That such peculiar susceptibilities exist with regard to chloroform, is only reasonable to infer from our observation of the varying effects of other agencies upon different individuals; and, at present, we are unable to predicate with any certainty respecting them. *Thirdly.* Our knowledge of the subject of diffusion of gases does not enable us to regulate with precision the amount of chloroform inhaled.

Death may result from the immediate action of the blood, which is surcharged with the vapour, upon the muscular tissue or ganglia of the heart; this has been proved by experiments upon animals: secondly, from its effect upon the great nervous centres which minister to the organic functions: thirdly, from a cause not hitherto especially pointed out—viz., the impression made by the vapour upon the branches of the sympathetic and the vagus ramifying on the lining membrane of the air-passages, and communicated by them to the nerves of the heart; just as a blow upon the epigastrium, or severe shocks to the nervous centres, cause sudden cessation of the heart's action.

When death has occurred suddenly during the administration of chloroform, it has, in several instances, taken place just after a fresh supply of the fluid has been added to the inhaler or the cloth. This was noted in one of the most recent cases; and the patient had also just screamed. By the effort of screaming, the air and blood had been expressed from the cavity of the chest; and then, a fresh supply of chloroform being used, and a large quantity of vapour inhaled, the fatal result ensued. When death has occurred more slowly, or after a more or less protracted interval, there has been commonly some predisposing cause; the patient being greatly reduced by some previous disease, and the important organs being, consequently, unable to withstand the depressing influence of the chloroform; or there was an enfeebled or morbid condition of the respiratory or circulatory organs. Hemorrhage during the operation, by causing an accelerated absorption of chloroform, or by causing an absorption of extravascular fluids in the lungs and other parts which had become charged with chloroform, might increase the danger. Moreover, the "shock" of the operation must not be forgotten. Since the introduction of chloroform, we have heard little mention of this; but we must not suppose that it results entirely from pain, and that, when pain is prevented, "shock" is annulled. Doubtless, the division and damage of the tissues caused by an operation must still produce their effects upon the system; and that effect is more likely to be pernicious when the powers of the great organs are depressed by the influence of chloroform.

Having stated his conviction that a certain amount of danger does, and probably always will, attend upon the administration of chloroform, the author was anxious to guard against the supposition that he is averse to its use. When first introduced, it was advocated by many as being entirely devoid of danger; and much prejudice was excited against those who looked more doubtfully upon it. Experience soon proved that the complete assurance of its innocency was unfounded. From time to time fatal cases had been recorded; and the result had been a reactionary feeling in the mind of many persons, leading them to express the opinion that so dangerous an agent ought not to be employed. With that view he by no means agreed. He merely wished to express the reasons which induced him to think that, even in the most careful hands, it was attended with some danger; but he does not consider the danger sufficient to counterbalance the great benefits derived from it. Though no complete security could be found, the best guarantee of safety was to be obtained by such cautious administration of the chloroform as may prevent the air and the blood in the lungs from being surcharged with the vapour, and by a jealous watching of the patient while he is being subjected to its influence.

Transactions of Branches.

READING BRANCH.

PRESIDENT'S ADDRESS.

By JOHN MCINTYRE, M.D., Odiham.

[Delivered July 13th, 1859.]

GENTLEMEN,—I thank you very much for the honour you have done me in choosing me as your President for the coming year. To discharge the duties of the office may not be considered, under ordinary circumstances, a very arduous task; but to me they are beset with difficulties, that I am little likely satisfactorily to overcome. Had I been the immediate successor of less distinguished individuals than those who have preceded me in office, I might have had less hesitation in addressing you, and a less sense of the responsibility that, at your bidding, I have perhaps incautiously assumed. Not on my own account, however, has this been most warmly felt, but lest the honour of the office, and the good name of the Association, should in any way be tarnished through the feeble administration of your new President. To hand down to my successor the good name with which the Association has in this chair been introduced to me, is my high ambition; the difficulty of accomplishing it, my present burthen. Yet I lean to the hope that I need not be discouraged, knowing as I do, that I have to deal with a liberal and enlightened membership, whose hearts are in their right places, and who, however great they may be, will, I trust, wash away my many imperfections in the flood of their attachment to the general weal.

But with all this, Gentlemen, my course is not clear. The grave question presents itself, What am I to say?

A more gifted spirit might lead you to lands of enchantment, or withdraw the veil that now hides them from your view. Physis, seated on her throne, arrayed in her richest drapery, with satellites around, and a teeming population, brimful of gratitude, and rejoicing in the blessings she is ever and anon from the treasury of her abundance dispensing amongst them, might there be desecrated; an air of beauty, of contentment, and of peace, be discovered resting sweetly o'er the scene, whilst the clash of interests, and the strife of tongues to which in this little world we are so much accustomed, might there be unknown; but such scenes, Gentlemen, are far beyond the flight of my pinion, if there my fancy or my judgment led.

The tenor of my life has been to deal with facts, not fancies—to clip imagination's wings, and cherish stern realities; to view the world as it is, the men and women in it simply actors; to try to solve the problem, how they act their parts, singly, or in company. To-day, my part seems this, to ask how fares it with you all? and what the prospects of our company? A company? Yes, and noble too, and knit together for no selfish end—but that, indeed, on which Heaven's God may smile—the cultivation and advancement of science, and the fostering of those cherished virtues that elevate and adorn our race.

True it is, that in some communities where the spirit and enterprise of the profession had before established societies for like purposes, the influence of the Association will scarcely be perceived. Amongst ourselves even, with our venerated "Pathological," in which such objects are most happily accomplished, its need was undiscerned. But in other circles, it is far otherwise; where its Branch meetings have afforded the only opportunity of drawing together individuals earnest in the pursuit of science; and who, without them, would have ever been estranged. We may, therefore, justly view its establishment as a boon to the profession,—the more so, when we see in it an organisation pervading in increasing measure the length and breadth of our community, and capable of wielding such an influence as even a political administration could feel.

I need scarcely remind you that since our last meeting new laws have issued for our government,—by some thought good, by more indifferent, but all say, in the right direction. Bills in full of our demands we gladly always hail, but not forthcoming, we willingly accept a small instalment. With that we have obtained, our company had much and long to do. It laboured long indeed, and very hard. Its throes came fast and were severe; and oft the words pronounced from influential lips fell cheerfully and gladly on its ears, "We are sure it soon will pass." As oft occurs, however, at an early stage of all hard births, the demon of miscalculation entered. Minds, masculine indeed they were, and strongly centred on the progress of the case, desisted at length that something unforeseen