

Lannelongue's operation for microcephalus and idiocy has not answered the expectations formed of it; death has often been the result. The improvement that has followed the procedure is slight, and is not attributable to the operation. On the contrary, instead of an expansion there is a diminution of the cranial cavity. This fact was demonstrated on a skull which had been operated upon.

AN ADDRESS ON THE GROUND-SUBSTANCE OF PROTOPLASM AND ITS MODIFICATIONS BY LIFE.

*Delivered before a General Meeting of the XIth International
Medical Congress, held in Rome, 1894.*

By Dr. DANILEWSKI,
St. Petersburg.

[ABSTRACT.]

THE material basis of all vital phenomena, without exception, is the protoplasmic substance. This is the invisible source of the feeling of health. If its plastic action is manifest in the development of the embryo, on the other hand this shows itself only indirectly in the phenomena of life. Its principal active principle is protoplasm, that molecular-chemical complex which shows in its physico-chemical properties the features proper to the chemical complex in general. The protoplasmic complex is a whole, and not a simple mixture of its constituent parts. If the protoplasm is living, it acts on an entity which does not allow its individual parts to be seen in the working of its vital activity.

Albumin being the principal constituent of the protoplasmic complex, and in view of the differences in albuminous substances in different parts and of the forms of protoplasm, it can be understood that the quality of the albumin determines the kind and character of the vital activity, and that the phenomena of life depend, on the one hand, on the fundamental properties and the nature of the functions of the protoplasm, and, on the other, on the chemical constitution of the albumin.

The albuminous molecule is itself a chemical complex consisting of atomic groups which form *series* constructed uniformly but yet distinct one from the other. Certain albuminoid substances are particularly rich in a certain kind of series; others contain none of certain series. The richer the albuminous molecule is in atomic groups of various kinds, the wider and freer is the share it takes in the vital phenomena of the protoplasm; the more uniform the quality of the groups in the albuminous molecule, the narrower and more restricted is the biological rôle of the latter. The incomplete albuminous molecules in superior organisms are derived from complete molecules. In the lower organisms there are no complete molecules analogous to the albuminous molecules of the superior protoplasm.

A comparative study of the albumin of superior and lower organisms leads to the conclusion that in Nature the albuminous substances are not formed all at once, and that the complete albuminous molecule of the superior protoplasm is the result of a philogenetic development parallel to the perfecting of organic forms on earth. In this development the albuminous molecule displays the faculty of accommodation. The external causes which bring about its complexity do not act directly on the albuminous molecule but on the protoplasmic complex, the latter being the defender of the albuminous molecule, and at the same time the transmitter of external influences. The new atomic groups which finally have entered into the constitution of the albumin must at the commencement of development have been constituent parts of the protoplasmic complex, but their existence not being of a lasting character these new groups acquire permanent and biotic character in becoming a constituent part of the albuminous molecule.

Protoplasm may differentiate itself into two distinct forms—namely, hyaline and "stromic." The former first receives the shock of external actions, and in like manner its complex is first reconstituted under their influence, and its

albumin is first invaded by the new atomic groups, whilst the stromic protoplasm follows the hyaline step by step in its development. The hyaline protoplasm keeps more feebly that which it acquires, whilst stromic protoplasm assimilates less readily but keeps more persistently what it has acquired. The phenomena of heredity are explained by close connections gradually formed between these two forms of protoplasm and the external world.

Civilised man uses alcohol so extensively, and has done so for so long, that one may with certainty affirm the existence of an alcoholised protoplasm in drunkards just as one finds morphinised protoplasm in cases of chronic intoxication with morphine. The existence of arsenic in the protoplasmic complex of arsenic eaters, consequent on the fact that they are incapable of subsisting normally without that element, can no longer be questioned. In these three facts we have the proof that man by introducing into his body stimulant, narcotic, and alterative substances even to excess becomes accustomed thereto to such a degree that without them his organism is not at peace. Hence it follows that the complex of protoplasm and albumin is adaptable, that it is not incapable of being disturbed in its fundamental constitution and in its properties, and that it is reconstructed with difficulty. This, however, is not to be taken as meaning that such a thing never happens, and it does so with greater readiness in a regressive than in a progressive direction.

PROCEEDINGS OF SECTIONS.

[Specially Reported for the BRITISH MEDICAL JOURNAL.]

SECTION OF DERMATOLOGY AND SYPHILIGRAPHY.

Tuesday and Wednesday, April 3rd and 4th.

Presidents, Drs. v. PETERSEN, NEISSER, SCHWIMMER, and WAHRSCHESKI.

IDIOPATHIC SARCOMA OF THE SKIN.

A DISCUSSION on multiple idiopathic primary sarcoma of the skin and its nomenclature was introduced by Professor KAPOSI (Vienna), and gave rise to an extended debate. Professor Kaposi exhibited a number of drawings of his typical cases of idiopathic sarcomata. Among other points upon which he insisted was the fact that the pigmentation was due to hæmorrhages into the adjoining tissues, and not to pigmented cells as in ordinary melanotic sarcomata.

SYPHILIS.

A discussion on the nature of the simple contagious ulcer was introduced by Drs. KREFTUNG and DUCREY, and one on the treatment of syphilis by Dr. JULLIEN.

In the discussion on the treatment of syphilis, the majority of the speakers, who included Drs. SCHIFF, TOUTON, GRÜN-FELD, BRADA, RAVOGLI, and SCHWIMMER, insisted on the importance of continuing mercurial treatment for a lengthened period of time, even for two to four years, to ensure a cure.

Dr. JULLIEN recommended calomel as having less deleterious effects; he always gave it with the syringe.

Dr. SCHIFF advised excision of the primary sore, preferably, of course, before induration appeared; most of the other speakers did not agree that the excision was prophylactic.

Dr. TOUTON considered that inunction was by far the best method of administering mercury.

COLD AS AN ETIOLOGICAL FACTOR IN DISEASES OF THE SKIN.

The only paper read in English was a communication by Dr. CORBETT (Cleveland, Ohio), who called attention to a disease of the skin etiologically allied to the prurigo hiemalis of Duhring, yet presenting the clinical features described by Hutchinson under the title, "Some Peculiar Eruptions allied to Chilblains." Fourteen cases were reported, and the following conclusions were drawn: That three conditions are necessary for its production—namely, a low temperature, air in motion and humidity. Again, there is noted a preponderance of the male sex, who are more exposed to inclement weather. No trade or social condition had any no-

ticeable influence. Neither were chilblains or lupus erythematosus met with in the cases reported. Prominent among the morbid changes in the skin was the dusky, almost cyanotic, appearance of the lesions, which changed in tint according as the position of the hand was raised or dependent. They were also influenced by the temperature of the room. In one case there was a marked disturbance of the peripheral circulation, as pointed out by Mr. Hutchinson; but except in this case, no such disturbance was apparent. In the treatment of the disease, local measures afforded the greatest relief. These included emollients, soothing applications and astringents, as were indicated in its different stages. Protecting the surface, although not always effectual, is to be recommended. Failing in these, we still possess one panacea—a change of climate. In conclusion, the cases reported presented a well-defined type, of which there seemed to be two varieties, possessing the following distinctive features: 1. Sudden appearance at the approach of cold weather. 2. Spontaneous cure in the spring. 3. Liability to return in successive years, occupying the sites previously involved. 4. Its characteristic position is the dorsal surface of the hands, next in frequency the corresponding positions on the feet. 5. The disease shows little or no tendency to spread to other parts of the body, nor, after the lesions are fully developed, to extend at the periphery. 6. The eruption is characterised by variously-sized, round, or, as involution proceeds, horseshoe-shaped patches, which are slightly, sometimes markedly, thickened, having an abrupt, well-defined margin, and of a dusky red or slightly erythematous colour. At first vesicles are present which easily rupture, leaving denuded, weeping, irregular, pin-head to lentil-sized surfaces, whose colour is perceptibly stronger than the surrounding patch, and may be likened to a raw ham tint. The disease at this time often presents a striking resemblance to herpes. Later the patch takes on a faded-rose-coloured hue, and becomes covered with a thin layer of adherent scales, when it might readily be mistaken for lupus erythematosus. This may mark the subsidence of an annual attack, or after many years the eruption may assume this form. 7. Itching may or may not be present when present it is paroxysmal. 8. Finally, as observed by the writer, the eruption is not associated with any other disease, nor has it been ascribed to any special bodily condition. With these distinctive characters, it seemed to the author that we are justified in looking upon the affection as a disease *sui generis*, for which he suggested the name of dermatitis hiemalis. Coloured photographs and drawings were shown in illustration.

SECTION OF PATHOLOGY.

Wednesday, April 4th.

TYPES OF MALARIAL FEVER SEEN IN BALTIMORE.

A PAPER on this subject was read by Dr. JOHN HEWETSON, Assistant in the Medical Clinic at the Johns Hopkins Hospital. The communication consisted of a brief report on 531 cases of malarial fever observed in Professor Osler's clinic during the past four years, and analysed by Dr. W. S. Thayer and the writer. Laveran's organism was invariably found before a diagnosis was made, and the three types described by the Italian observers confirmed. Of the 458 cases in which the nature of the infection could be definitely made out, 113 were found to be due to a single tertian, 158 to a double tertian, and 175 to an æstivo-autumnal infection. There were in addition 2 cases of quartan infection, and 10 cases in which the tertian and the æstivo-autumnal organisms were combined. In the spring and early summer the infection was almost invariably due to the tertian type of organism, while in the latter part of the summer and in the fall both tertian and æstivo-autumnal types were found. Thus, during the first half-years there were 64 cases of a single or a double tertian infection, and only 4 in which the æstivo-autumnal organism occurred. In each of these latter there was serious doubt as to whether the initial infection had really occurred in the spring. A combined infection was found in 3 instances. During the second half-year there were 271 cases of single or double tertian infection, 175 cases of æstivo-autumnal, 2 of quartan, and 7 in which there was a combined infection. The frequency of the occurrence of the

æstivo-autumnal organism in the fall was more strikingly shown in the fact that, while between January 1st and September 1st there were 136 cases of single or double tertian infection, and only 27 of æstivo autumnal, with 4 combined, there occurred between September 1st and January 1st only 135 cases of single or double tertian infection, and 148 in which it was due to the æstivo-autumnal organism. There were in addition 2 cases of quartan and 6 of a combined infection. The organism found associated with the tertian infection was in every way similar to that described by the Italian observers, and this was also true of the quartan organism, although it was very rarely met with. The entire cycle of the development of the æstivo-autumnal organism was not observed, as blood from the spleen was seldom aspirated, and the segmenting form was never seen in the peripheral circulation. The various other stages were, however, entirely in accord with what has been described in Italy and elsewhere. No definite decision was reached regarding the rôle played by the crescentic form of the organism. Flagellating forms were seen associated with both this and the tertian type of organism, invariably arising from the crescent or ovoid form in the former. They were, however, never seen in either case until after the blood had been upon the slide for some few minutes, and were regarded as degenerative forms. The types of fever were found to vary much with the organism causing the infection, being much more constant when associated with the tertian than with the æstivo-autumnal. In the two cases of infection with the quartan organism regular chills occurred every fourth day, the temperature being normal or subnormal during the interval. The chief differences existing between paroxysms associated with tertian and æstivo-autumnal organisms were as follows. In the first type the paroxysm comes on more abruptly, reaches its climax sooner, and the fever falls to normal in a much shorter time than in a paroxysm of the æstivo-autumnal type. While the average duration of a tertian paroxysm was between eleven and twelve hours, the length of the æstivo-autumnal was more nearly twenty-four. Perhaps the most striking difference, however, was the tendency on the part of the fever to become remittent when due to an æstivo-autumnal infection. The authors believe, then, that in malarial fever in Baltimore three distinct types of organism can be distinguished; the organism of tertian fever, the organism of quartan fever, and that associated with the irregular æstivo-autumnal fevers; the cycle of development of the tertian organism occupying about forty-eight hours, that of the quartan seventy-two hours, and that of the æstivo-autumnal usually twenty-four hours, although there is reason to believe the cycle of the latter may vary much. In other words, the malarial fevers observed in Baltimore correspond closely to those occurring in Europe and elsewhere, the same observations having been made by them as by the Italian writers, the sole difference being, perhaps, the relative infrequency of the quartan fever.

DEGENERATIONS FOLLOWING LESIONS OF THE CEREBELLUM.

Dr. ALDREN TURNER gave a lantern demonstration of the degeneration following lesions of the cerebellum and its peduncles in monkeys, of which the following is an abstract: The degenerations following removal of the lateral lobe of the cerebellum, or section of the superior peduncle, showed that this structure contains an efferent tract to the opposite red nucleus and optic thalamus, and an afferent tract, which appears to be the cerebellar termination of the antero-lateral ascending tract of Gowers. Lateral lobe extirpation, or section of the middle peduncle, was followed by diminution of the transverse fibres of the pons Varolii on the side of the lesion, and atrophy of the cells of the nucleus pontis on the opposite side. Lateral lobe extirpation, or section of the inferior peduncle demonstrated the existence of an efferent tract to the opposite inferior olivary body, and of an afferent tract to the cortex, chiefly of the lateral lobe. Extirpation of the middle lobe occasioned no degeneration in the superior, middle, or inferior cerebellar peduncles, but was followed by degeneration and sclerosis of the tract which passes from the vermiform process to Deiters's nucleus—the "direct sensory cerebellar tract" of Edinger. No confirmation of Marchi's statements was obtained as to the existence of a direct efferent cerebellar tract in the spinal cord, or of degeneration

in the anterior nerve roots, mesial fillet, or posterior longitudinal bundles, after cerebellar extirpation. In two cases of lateral lobe extirpation, however, degeneration in the anterior and lateral columns of the spinal cord respectively, in the position indicated by Marchi, was observed. In the case, however, in which there was marginal degeneration in the anterior column, the nucleus of Deiters, on the same side, was implicated; while, in that in which degeneration in the lateral column was present, there was a lesion of the tegment of the pons, involving the nucleus of the lateral fillet. The same degeneration was induced by lesions specially made in the lateral fillet. Destruction of the clavate and cuneate nuclei was followed by degeneration, on the one hand, through the restiform body into the cerebellum; and, on the other hand, through the internal and middle arcuate fibres to the opposite interolivary layer and mesial fillet. This latter structure was traced to the anterior quadrigeminal bodies and optic thalamus. Owing to lesion in some of the experiments of the roots of the fifth cranial nerve, special investigations on its central connections were made. Degeneration and sclerosis of the so-called "ascending root" was traced as far as the second cervical nerve, after section of the sensory division; and atrophy of the so-called "descending root" was observed after section of the motor division.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

THE President of this Section was Professor PASQUALI (Rome), and the Honorary Presidents were Sir Spencer Wells, Dr. Robert Barnes, Dr. Granville Bantock, Professors Simpson, Martin, Gusserow, Winkel, Pawlik, Péan, Pinard, Charpentier, Edebohls, Dimitri, and Ott.

SYMPHYSIOTOMY.

A discussion on symphysiotomy was opened by Professor Morisani (Naples) and Dr. Leopold (Dresden).

Professor MORISANI considered that the operation was justifiable when it afforded good hopes of the birth of a living child. It was applicable when the true conjugate diameter was between 6.8 and 8.6 centimetres ($2\frac{2}{3}$ to $3\frac{1}{3}$ ins.). The proper moment to perform it was when, in a pregnancy at term, labour was well advanced and the dilatation of the os almost complete. The combination of premature delivery with symphysiotomy he did not think justifiable in the present state of experience, since it greatly increased the risk to the child. In operating, he had found no difficulty in dividing the symphysis with the same bistoury as the soft parts, but if the symphysis was ossified, he would not hesitate to employ a chain saw. Whether the symphysis was divided from above or below was not a matter of consequence, but it was important to divide the subpubic ligament, since the object of the operation was to ensure separation of the bones. Strict antiseptic precautions should be observed; he had never found any difficulty in arresting hæmorrhage with a pad of gauze, and thought there ought to be no danger of rupturing the bladder or vagina. After division of the symphysis delivery was generally completed spontaneously, but if not the forceps should be applied. In the after-treatment he did not consider that either bone suture or a plaster apparatus was necessary. It was enough to apply a supporting bandage, and to keep the thighs tied together. In his opinion symphysiotomy ought certainly to be preferred to embryotomy when the child was living, and would probably replace Cæsarean section in the majority of cases in which that was now the operation of election. The question as to the class of cases which were most suitable for premature delivery, and which for symphysiotomy remained to be settled, but his statistics of the latter operation were favourable. The number of women operated on had been 241, and the death-rate 11.6 per cent.; of these deaths, 6 were due to intercurrent diseases; 48 children were lost. The sources of death were the application of the operation to unsuitable cases (as where the contraction was very great or the patient was in a very unfavourable general condition), faults in operating, or a failure to select the opportune moment as mentioned above. Among the causes of the infant mortality were delay, and difficulty in extraction after the operation.

Dr. LEOPOLD (Dresden) thought that while the operation might be considered to be firmly established as a justifiable

procedure, when all the assistance and appliances found in hospitals were at hand, it would yet never replace version and embryotomy in general practice, owing to the risk of hæmorrhage, the danger of wounding the vagina, and the difficulties in delivery which might be met with after operation. He thought the operation might be resorted to with a conjugate diameter of 6.5 centimetres ($2\frac{1}{2}$ ins.), and even with 6 centimetres, though he considered embryotomy preferable in such a case. If the pregnancy had not reached full term, and if the conjugate was under 7.0 centimetres ($2\frac{1}{4}$ ins.), it was desirable to induce premature labour; if full term had been reached, he recommended waiting until dilatation was complete, then attempting extraction after turning, and, if this failed, resorting to symphysiotomy.

Dr. ZWEIFEL (Leipzig) did not accept the view that symphysiotomy was an operation which could not be undertaken in general practice. He believed that it was destined to replace embryotomy. He accepted the limit of $2\frac{1}{2}$ ins. for the conjugate diameter as the smallest which rendered the operation justifiable. He preferred to make the incision through the soft parts transverse, and to divide the symphysis with a blunt-pointed bistoury. Care should be taken not to separate the patient's thighs, and an Esmarch's bandage should be applied after the operation. He had performed symphysiotomy 23 times without a maternal death, and had lost only 2 infants.

M. VARNIER (Paris) also dissented from Professor Leopold's opinion as to the value of symphysiotomy in general practice. The operation had already been performed in private practice with encouraging success. Premature delivery gave a mortality of 30 per cent., symphysiotomy only about 9 per cent., so that, in fact, it ought to be preferred to turning.

Professor SÄNGER (Leipzig) did not believe that symphysiotomy would ever replace Cæsarean section. He had performed the latter operation 12 times without a death. He agreed with Professor Morisani that symphysiotomy was indicated with a diameter between 6 and 7 centimetres, but he thought it would be well if more Cæsarean sections and fewer symphysiotomies were performed. The former operation was more quickly performed, and the after-treatment was almost *nil*, whereas with the latter it was necessary to catch the opportune moment, and the after-treatment was tedious.

Drs. PINARD (Paris), CARUSO (Naples), and PLANELLAS (Barcelona) also took part in the discussion.

TREATMENT OF THE PEDICLE IN MYOMECTOMY.

A discussion on this subject was introduced by Professors Mangiagalli (Milan) and Martin (Berlin).

Professor MANGIAGALLI gave a summary of the history of the operation of hysterectomy, and sketched the various methods of operating employed. He then proceeded to criticise the statistics of the operation, concluding that a reliable opinion could only be drawn from a study of the results of individual operators, who published every case upon which they operated. Even here it was difficult to form an opinion as to the relative severity of the various cases, though it was clear that the rate of mortality decreased year by year whatever method of operation was followed. The importance of the method of treating the pedicle had been exaggerated. It was not the only, nor perhaps the chief, source of danger. For instance, the prognosis was *ceteris paribus* very much worse in intraligamentous growths. The mortality for subserous, submucous, or interstitial tumours, was on the average 5 per cent., whether the pedicle was treated by the intra-abdominal or the extra-abdominal method. In his opinion the intra-abdominal method was to be preferred except in a few rare cases. He considered Zweifel's method, which was simple and rapid, the best as a rule, but the permanent elastic ligature presented certain advantages if care was taken to cover it with peritoneum. With regard to intraligamentous fibromata, which yielded so high a mortality, it was as yet difficult to say what was the best method of operating, further than that extirpation should only be attempted after laparotomy. Vaginal hysterectomy was a valuable operation when confined to the class of cases for which it was suitable. It might often with advantage replace castration in many cases in which that operation was now performed. Vaginal

hysterectomy, however, did not give good results if the volume of the fibromatous uterus exceeded that of the pregnant uterus at the fourth month. The statistics of vaginal hysterectomy could not, for this reason, be compared with those of the abdominal operation, which was applicable to the largest tumours.

Professor MARTIN acknowledged the indebtedness of German surgery in this matter to Professor Péan, of Paris. Hegar, who was the first to perform the operation in Germany (at Freiburg) had employed the extraperitoneal treatment of the pedicle; but that method had now been abandoned, castration being less dangerous, and giving as good results. Schröder had introduced the intraperitoneal method of dealing with the stump, and numerous plans had been devised, each of which had yielded good results, though none were altogether satisfactory. The risks of hæmorrhage from the stump and infection from the cervical canal were very real, and in any case the presence of the stump retarded recovery. These reasons had led him in 1888 to replace supravaginal amputation by total extirpation. The method of operating he now employed was as follows: (1) The cavity of the uterus was curetted, and, together with the vagina, rendered antiseptic; (2) cœliotomy; (3) removal of the tumour, with the uterus and appendages; (4) ligature, and division of the broad and round ligaments; (5) opening of the posterior *cul de sac*; (6) suture of the vagino-peritoneal edges; (7) excision of the cervix and completion of the suturing; (8) the suture ends brought down into the vagina, and the peritoneum closed. The bladder was not distended before operation. In his earlier cases he had employed abdominal drainage, but had abandoned it subsequently. His results had been as follows: In the first series, with drainage, 43 operations, with 30 recoveries, a mortality of 30.23 per cent.; in the second series of 54 cases he had had 49 recoveries, a mortality of 9.25 per cent.; in the third series, in which the operation had been performed in the manner above described, he had 26 cases with 25 recoveries, a mortality of 3.84 per cent.

Professor LANDAU (Berlin) said that his results with the intraperitoneal method had been so good (30 cases with 1 death) that he was unwilling to change; at the same time, he recognised that the stump was an element of danger, and therefore gave the preference to Péan's method or Martin's modification. His general rule was, if called upon to treat a tumour which did not rise above the umbilicus, to perform vaginal hysterectomy by *morcellement*, but if the tumour were larger he enucleated through the abdomen, performed hysterectomy, and removed the stump by the vagina. He considered it important not to close the peritoneal cavity completely.

Dr. GRANVILLE BANTOCK described the operation which he now performed. The several steps were as follows: To secure the broad ligaments, and, if possible, the uterine arteries, by ligature; to apply a temporary elastic ligature around the base of the tumour; to divide the peritoneal envelope of the uterus all round, about two to three inches in advance of the temporary ligature; to isolate the uterine body down to the level of the internal os, and there apply a *serre-nœud*, or permanent elastic ligature; to arrest any bleeding that may occur on removing the temporary elastic ligature; and finally to secure the uterine envelope to the parietes by double sutures, and then remove any redundancy of tissue and pack the cavity with iodoform and absorbent gauze after the closure of the parietal wound. The ovaries may be removed at any convenient stage of the operation. The redundant portions of the uterine envelope are best removed by means of Paquelin's cautery. The mortality with this operation, although reserved for the most difficult cases, had been 1 death in 23 operations; the patient in this fatal case was suffering from albuminuria, and death, which ensued seventeen days after operation, was mainly due to this complication. His general result in 166 cases treated by the extraperitoneal method was a mortality of about 15 per cent. (18 per cent. in the first half of the cases, 12 per cent. in the second half, and only 6 per cent. in the last quarter of the series). As he only operated in cases in which life was imperilled by hæmorrhage or degeneration of the tumour, he thought that these statistics would be considered good.

Professor CABLE (Turin) considered that uterine fibromyomata should only be treated surgically when pain, loss of

blood, or derangement of the functions of the bladder or rectum rendered interference imperative. He now operated by a method which differed from that described by Professor Martin, in that he performed first subperitoneal enucleation of the uterus; secondly, ligature of the uterine arteries; thirdly, he dissected up the cervix to its vaginal insertion, clamped below the cervix, and cut through the vaginal walls. The vagina was closed by sutures, thus avoiding the risk of septic infection from it. He had performed this operation twenty times without a death. His early results were: 11 laparomyomectomies with extraperitoneal treatment of the stump, 10 recoveries; 9 cases in which the treatment of the stump was intraperitoneal, with 8 recoveries; 52 cases in which the pedicle was treated by the intraperitoneal method, with 47 recoveries; 11 vaginal hysterectomies, all successful; 11 cases of enucleation and *morcellement*, all successful.

Dr. JACOBS (Brussels) insisted on the advantages to be gained by operating rapidly and preventing loss of blood, and to this end used special pressure forceps to prevent bleeding. He operated as follows: (1) The vaginal *culs de sac* were opened and the uterine arteries clamped by pressure forceps. (2) Cœliotomy; the tumour was brought out, and pressure forceps applied to the broad ligaments; the tumour was removed whole, the wound closed, and the vagina dressed.

Professor CALDERINI (Parma) had performed hysterectomy with extraperitoneal treatment of the pedicle in 18 cases, with 9 recoveries.

Dr. DOYEN (Reims) spoke in favour of vaginal hysterectomy; and Professor CHIARLEONI defended complete vagino-abdominal extirpation. After Professor MANGIAGALLI had replied briefly on the discussion,

Dr. PÉAN (Paris) read a paper on the extirpation of large uterine fibromyomata of the body of the uterus. The principles which guided him in resorting to operation were (a) that submucous and interstitial tumours of the body ought to be removed early; (b) that preference should be given to a method of operating which preserved the uterus while permitting extirpation of the tumour; (c) that, other things being equal, large tumours should be removed through the abdomen, small or moderate-sized tumours through the vagina; (d) that if the tumour could not be removed without serious mutilation of the uterus, it was better to remove the uterus and appendages; (e) that tumours originating in the posterior uterine wall, and growing down in the recto-vaginal septum, were best approached through a perineal incision. In performing this operation he employed two long-bladed toothed clamps, one blade being passed into the vagina, the other into the rectum. Hæmorrhage was thus prevented, and when the perineum was divided in the median line the tumour came into view, lying between the mucous membranes of the vagina and of the rectum. The tumour was then seized with toothed forceps and removed in fragments. Hæmorrhage was controlled by pressure forceps, left in place, if necessary, for some hours. Into the large cavity left by the removal of the tumour a large fenestrated elastic drainage tube was introduced, and packed with sponges treated with iodoform or salol, and provided with threads. The rectal and vaginal mucous membranes and the intermediate tissues were united by sutures. The sponges were withdrawn on the second or third day, but the drainage tube was retained for some time longer to permit antiseptic irrigation of the cavity.

SECTION OF SURGERY AND ORTHOPÆDICS.

CEREBRO-SPINAL SURGERY.

THE first subject discussed by this Section was that of the surgery of the cerebro-spinal system. Dr. LUCAS-CHAMPIONNIÈRE read a paper on the operation of trephining founded on 64 cases on which he had operated. In 54 cases the operation was done for diseases or old-standing injury, in 10 for recent injury. In performing the operation the bone was laid bare by reflecting a flap; the trephine, which might be of any desired size, was then used, and the opening enlarged if necessary with curetting forceps. Over-refinement in localisation before operation was not to be commended, as it was in every respect better to make a large aperture in the skull. The 10 operations for recent injury had given on the

whole satisfactory results; three patients whose condition was desperate succumbed, but others who appeared to be in a state not less desperate had recovered; one patient had already survived for nineteen years. The 54 cases done for old standing mischief afforded still more striking proof of the harmlessness of the operation; only 7 deaths had occurred, and in all a fatal termination seemed almost certain before the operation was undertaken. In 2 cases life was probably shortened by the operation. There were examples of widespread diffuse lesion, and in such cases the amount of shock was considerable. In conclusion, he said that the field of intracranial surgery was not limited by limitations of the power of precise localisation. In certain conditions producing general symptoms, such as compression, the opening of the dura mater might produce very striking results. True epilepsy and periencephalitis also might be benefited, especially if the operation was undertaken early enough. The operation itself was not dangerous; he had never encountered suppuration.

Professor MACEWEN (Glasgow) discussed the causation of intracranial abscess, and demonstrated by means of drawings and specimens the mode of operating which he followed. He said (1) that all abscesses of the brain are formed subsequently to a primary focus of infective diseases situated elsewhere; (2) that the chief infective foci are formed in connection with middle-ear disease; (3) that abscesses of the brain originating in middle-ear disease are generally in direct contact with the primary source of infection; (4) that such abscesses are generally best reached in the first place through the mastoid antrum; (5) that the mastoid antrum is most easily opened through the supramental triangle, from which the whole tegmen antri and tegmen tympani may be exposed; (6) it is necessary to remove the whole infective tract; and (7) after this has been done, the skull is trephined over the temporo-sphenoidal lobe of the brain.

Dr. E. MASSE (Bordeaux) said that he had made use of a special method of "autogravure" applied to the head of the cadaver to trace the lines corresponding to the Rolandic and Sylvian fissures. He had then determined the relation of these lines to two main guide lines—the one medio-cranial, the other horizontal—to which he proposed to apply the term cranial equator. These two main lines gave the latitude and longitude, so to speak, of the cranium, and the position of the Rolandic and Sylvian lines in relation to them could be determined with almost mathematical accuracy; he had, in fact, calculated the fractional numbers which expressed the relation which existed constantly between these lines and the segments of the circle which cut them. He had tested his calculations on many heads, the measurements being made with a metal tape, and the results had always been concordant.

Dr. ARGENTO also described a method which he had devised for determining the position of the fissure of Rolando.

Professor LAVISTA (Mexico) said that his experience was that, while the removal of intracranial cysts was followed by recovery unless secondary affections coexisted or complications occurred, the extirpation of tumours was not successful. At the same time, the operation of trephining did not render the condition of patients suffering from cerebral tumours less favourable, but rather the contrary, some amelioration occurring in most cases, especially in those in which the growth was superficial. In more deeply-seated tumours the operation involved so much disorganisation of the substance of the brain that recovery was impossible. The general rule should be to operate early, and not to delay until secondary complications arose. In doubtful cases he considered an exploratory operation justifiable.

Dr. D'ANTONA communicated the results of observations and experiments on division of the fifth cranial nerve at its point of emergence. The tissues which were deprived of their innervation by the operation underwent atrophy owing to a diminution of their vitality, and for the same reason became very vulnerable, so that the epithelium of the cornea easily degenerated and desquamated, with as a result ulceration and deep suppuration.

Dr. POSTEMPSKI related the results of twenty cases in which he had performed craniectomy. Precise localisation was unnecessary, but it was important to make a large enough aperture. On the whole, the results had been disappointing, and

the operation appeared to be of as little benefit in microcephalous and hydrocephalous patients as in those suffering from grave epilepsy.

Professor SACCHI showed two specimens illustrating plastic operations on the skull, completed by the introduction of osteo-cartilaginous discs taken from the dog.

Professor ZUCCARO advocated resort to trephining as a temporary or exploratory operation, and showed a trephine which he had designed for this purpose.

The diagnosis and treatment of traumatic hæmorrhage from the middle meningeal artery was discussed by Dr. MUGNAI; and Professor GRANDE related a remarkable case of gunshot wound of the frontal region, with complete recovery on the twenty-seventh day.

Professor BRUNO (Valencia) read a paper on homonymous hemianopsia after lesion of the cerebellum. The portions of the fields affected were the right upper quadrant. The lesion in the case in which the observation was made was a localised abscess in the left hemisphere of the cerebellum. The hemianopsia developed some six months after the first symptoms, staggering gait, were noticed. In discussing the case, Professor Bruno expressed the opinion that pressure effects would not account for the definite distribution of the hemianopsia; he thought there were some physiological grounds for supposing the existence of conducting paths between the cerebellum and the retina.

Dr. CASELLI made a communication advocating temporary laminectomy in lesions of the spinal cord and its membranes. The operation would, he contended, afford much information if regarded as an exploratory operation alone, and might result in cure. His experiments proved that the bony structure would reunite without deformity or any bad after-effects. He related a case in which he had operated for slowly-developing symptoms of compression of the cord. Resection at the level of the third, fourth, and fifth dorsal vertebrae revealed an exostosis and pachymeningitis. Removal of the exostosis was followed by complete recovery, though the paraplegia had been complete.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

THE RADICAL CURE OF HERNIA BY KOCHER'S METHOD.

As this operation is of comparatively recent origin, and as no case has to my knowledge yet been published in this country, it may be of interest to record its performance.

C. T., a healthy boy of 16, consulted me during January, 1894, about a scrotal hernia which he had had since he was 6 months old. At first it was easily reducible, and for many years was kept back with more or less success by various trusses; latterly, however, it had increased rapidly in size, and, for the last year also, had been partially irreducible. As the boy was strong and of athletic habit, being very fond of gymnastics and football, it had been a source of great discomfort and even danger to him, and he had often had to eschew all exercise for some days at a time.

In the right side of the scrotum was a tumour which measured $3 \times 1\frac{1}{2}$ inch. It could be returned within the abdomen with the exception of a small piece. The external ring admitted the forefinger easily. I advised an operation, and, accordingly, on January 27th, with the help of my friend, Dr. Dean, I proceeded to operate.

An incision was made in the direction of the inguinal canal, over its whole length, extending from a point over the internal ring to half an inch below the external ring. The hernia was found to be congenital. The sac was opened and a piece of adherent omentum the size of a small hen's egg was ligatured and removed. The sac was then divided transversely and the lower part stitched up to form a tunica vaginalis; the upper part was then drawn down and split up longitudinally so far as the internal ring, to release the spermatic cord. A small opening was then made through the tendon of the external oblique and that part of the internal oblique lying over the internal ring, a pair of fine forceps passed through this and down the canal, and the free end of the sac seized. The forceps were then withdrawn and the sac pulled through this opening. It was next twisted firmly and laid over the inguinal canal, though, of course, outside the external oblique tendon. It was then firmly fixed there by deep stitches, the last two including the pillars of the ring as well as the end of the sac. The superficial part of the wound was then brought together, no drainage being employed.

The progress of the case was uneventful. When dressed on the eighth day the wound was found to be soundly healed. On February 5th the patient was allowed to be on a couch, and on February 10th to walk about his room. On February 14th he went out. When last seen, on March 8th, there was no impulse, and the boy said he felt quite strong.