

the most scrupulous asepsis; (2) that such grafts may persist or be absorbed, leaving, however, in their place a tract of fibrous tissue whose solidity can be counted upon; (3) that autoplasmic grafts do not present a greater chance of persisting than heteroplasmic. Lane (*Clin. Journ.*, April 20, 1898) also relates a successful case of bone-grafting in a child whose ulna was developed in two portions, an upper and a lower, the ends of which overlapped and were not in contact; in consequence, the forearm and hand were becoming greatly deformed. He cut down, freed the ends, brought them into line, and spliced them together by means of a rabbit's femur split in two and laced to the fragments by silver wire. The effect of this operation on the appearance and utility of the arm was most marked.

III.—SURGERY OF THE HEAD.

Craniectomy.—The practice of turning down large portions of the skull, together with the scalp tissues, as recommended by Wagner, has led to the suggestion of many mechanical devices with the object of accomplishing this without undue loss of time or blood and without injuring the brain. Various electrical engines have been recommended, but the simplest of all the devices seems to be that of Gigli, a Florentine surgeon (*Centr. f. Chir.*, Aug. 14, 1897, and April 23, 1898). In the same journal Obalinski (No. 32, 1897) and Baratz (No. 3, 1898) have spoken favourably of this proceeding. Keen (*Phil. Med. Journ.*, Jan. 1, 1898) also describes the method, and relates his experiences, which were most favourable. The plan consists in the division of the skull by means of a saw, which consists of a piece of roughened steel wire about 35 cm. long and about 0.5 mm. or more in diameter, with a loop at each end, to which a handle can be attached (Fig. 6). Two or more trephine openings are made, marking out the limits of the flap; through this the dura mater is separated along the lines of incision and the saw introduced. The handles are then attached, and by moving the saw to and fro the skull is cut through. Keen points out that by this means the sections through the bone can be bevelled in such a way that, when replaced, the osseous flap does not tend to sink into the cranial cavity, but retains its normal level; in fact, it is only necessary, and often only possible, to effect this bevelling in the centre of the cut, but this will suffice for the purpose. It is also possible by this means cleanly to divide the inner table along the base of the flap and thus avoid the ragged rough edges which are usually left if the base is merely broken through. A number of the Gigli saws have to be kept, since after being once used they curl up, lose their rough margins, and cannot be employed again.

Codivilla (*Centr. f. Chir.*, No. 16, 1898) recommends a somewhat complicated craniotome for a similar purpose. It consists of a strong screw-like centre-piece, which is firmly driven into the skull, and upon which works a movable metal arm capable of carrying a knife for the section of the skin, or an osteotome for division of the bone. The flaps made in the bone must thus be arcs of a circle, and to perform a large craniectomy the centre-piece is fixed in three spots one after the other; by this means a trefoil-shaped flap, including almost the whole side of the head, can be removed without much difficulty. He has used it on three occasions on the living subject, and is fully satisfied with the results given. The operation was quickly over, the loss of blood was slight, and no injury accrued to the dura or middle meningeal artery. In all of these cases the application of an Esmarch bandage round the skull minimises bleeding and renders the proceeding much more rapid.

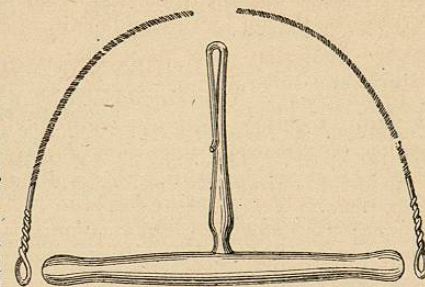


Fig. 6.—Gigli saw.

Doyen, of Rheims, related the results of his *hemi-craniectomy* cases at the German Surgical Congress (*Centr. f. Chir.*, App. to No. 26, p. 66, 1898). He has performed it on a number of cases of idiocy and microcephaly, and states that marked improvement has been noted. In his first, an idiot with Graves's disease, the child was unable to speak or even to recognise his relatives. Both sides of the skull were operated on, and in four days the goitre and exophthalmos had disappeared, whilst at the time of the report the child was able to speak and to count. Two cases of epilepsy have been free from attacks for five and six months respectively after operation. He has had one good result for Jacksonian epilepsy, the epileptogenous centre being found by electrical stimulation of the cortex and excised. Several cases of deeply situated abscesses have been dealt with, as also one case of cyst in the cortex, and one subcortical tubercular focus.

Joseph Griffith (*Royal Med.-Chi. Soc.*, London, March 8, 1898) read a paper dealing with linear craniectomy in the treatment of *microcephaly*, and although on the whole he admitted the truth of the conclusions which are generally drawn, and which were noted in the "Year-Book" for 1896, pp. 197, 258, yet he

thought that in a few cases operation might be undertaken, viz. when evidences of cortical irritation existed in the form of localised epilepsy or paralysis. In the discussion which followed, Cotterell mentioned one case which was a brilliant success, and several others in which marked improvement had occurred.

Treatment of Hydrocephalus.—Sutherland and Cheyne (*Brit. Med. Journ.*, Oct. 15, 1898) read a paper at the British Medical Association indicating a new method of intracranial drainage which they had utilised in the treatment of this affection. But little is known as to its pathology, except that there is some obstruction to the exit of fluid from the lateral ventricles. This new method is based on the observation of Leonard Hill that fluid flows directly into the veins from the subdural and subarachnoid space at any tension above the venous pressure, and hence all that should be theoretically necessary is to establish a communication between the ventricle and the subdural space. This Cheyne did in two cases by trephining in the neighbourhood of the pterion, and passing a strand of catgut through the cerebral cortex, expecting it to act as a lamp-wick and siphon the fluid off. The patients were children three and six months old respectively, and the amount of distension was great. The result in both cases was very striking. From the time of the operation all tension in the cranium ceased, the head steadily diminished in size, the interval between the bones gradually disappeared, until they actually began to overlap; after a time, however, this process came to an end. These changes were accomplished without constitutional phenomena other than a slight rise of temperature for about a week. The cerebral functions were scarcely likely to be restored completely in cases as aggravated as those operated on, but the results may be looked on as most satisfactory. One child died at the end of six months of basal meningitis, but the other at the time of report was progressing favourably. It is suggested that a catgut drain should only be used when the cerebral cortex was thinned out considerably; if the condition was less severe, and the cortex thick, some other device would have to be employed. This was evidenced in a third case of Cheyne's, where the child died a few weeks later of measles, and the opening in the cortex was found occluded by an adhesion of the dura and pia mater at the spot. Stiles, at the same meeting, mentioned three cases in which he had performed a similar operation without the slightest benefit.

Another case is reported of an attempt to cure a case of so-called acquired *acute hydrocephalus by drainage*. Bruce and Harold Stiles (*Lancet*, Jan. 29, 1898) had charge of the case, a child of

thirteen, suffering from what was evidently a basal meningitis; she was the subject of inherited syphilis, and also had renal complications. The pulse ranged from 102 to 120, and the temperature ran up to 103°; there was headache, retraction of the head and neck, severe emaciation in spite of a ravenous appetite, and various ocular phenomena. The limbs were almost completely paralysed, as also the bladder. A central trephine opening three-quarters of an inch in diameter was made over the middle line of the occipital bone; the meninges were opened, and the cerebellar lobes separated, so as to relieve pressure on the base of the brain. A large amount of fluid came away at once, amounting in all to 10 ounces. Great quantities of fluid continued to be discharged, but in spite of an early improvement the patient died, probably as much from the renal complications as from the syphilitic basal meningitis, which was demonstrated *post mortem*.

Surgical treatment of epilepsy.—A good deal of activity is being shown in attempts to relieve this terrible affection by surgical procedures. Operations upon the brain and skull have been of frequent occurrence during the past twenty years, and their value has been pretty accurately gauged. When there is any localising lesion, or if the attack commences in any particular manner, it is quite justifiable to open the skull over the spot indicated and see whether or not there is any removable abnormality, such as a piece of detached bone, or an osseous outgrowth, or dural adhesions. The fact that such conditions are often found emphasizes more than ever the importance of operating on all cases of depressed fracture, since it is extremely unlikely that when once epilepsy has been induced, operation will prove curative. Superficial tumours and cysts, whether or not of traumatic origin, may be operated on, when localising phenomena are present, but they are likely to be followed by the formation of a cicatrix in the cortex or by dense adhesions, so that although the attacks may disappear for a time, there is always a tendency for them to return. Meyer (*Annals of Surgery*, June, 1898, p. 770) reports such a case in which a hæmorrhagic cyst was opened over the arm centre, and 40 cc. of turbid fluid were evacuated. He had turned down a bone flap, and it was subsequently found that the bone had to be shelled out and removed, owing to the protrusion of the brain. The patient, however, did well. When the epilepsy is due to the irritation of a cicatrix in the cortex adherent to the dura, it is a question of considerable importance whether or not operation is justifiable. The wound caused by the excision of the cicatrix has in turn to cicatrise, and the condition for which operation was undertaken is thus restored, and the epilepsy is likely after a while

to return. To prevent this attempts are being made to prevent the adhesion of the cortex and superficial structures (dura, bone, or scalp) by the interposition of some non-irritating substance, such as gold-foil, vulcanite plates, india-rubber, etc. Some of the results have been satisfactory, but not all. Thus, McCosh (*Annals of Surgery*, May, 1898, p. 670) reports a case of recurrent epilepsy where some years previously Abbe had introduced a plate of rubber between the brain, from which he had excised a cicatrix and the superficial scalp tissues. McCosh found under the surface a dense mass of cicatricial tissue in which the remains of the rubber were to be seen; the whole mass formed a lump as large as a cherry. In this particular case there had been some suppuration at the earlier operation. On the other hand, Curtis (*Med. News*, July 18, 1898) relates a case in which he excised the arm and leg centres on each side of the fissure of Rolando, after tying the supplying vessels. The patient had suffered from epilepsy for some years, following an injury to one of the extremities, and always commencing in the left leg. Eighteen months after the operation the patient's general condition was good, and she had entirely recovered the use of the hand and leg. "She no longer had fits, and was in the best of health, her former cheerfulness and mental activity having been restored." In another case, Curtis opened a subcortical cyst, the result of a cerebral hæmorrhage; the cavity was stitched up, the fibrous condition of the cortex allowing this to be undertaken; twice the cavity needed to be re-aspirated owing to the appearance of serious epileptiform seizures, but finally freedom from convulsions was established, although bromides had to be employed.

Another type of treatment undertaken for epilepsy is that of *ablation of the cervical sympathetic chain*. Jonnesco, of Bucharest (*Médecine Moderne*, Oct. 29, 1898), reported to the Association Française de Chirurgie that he had operated on forty-five epileptics by removing the sympathetic chain on both sides *in toto*. Six died more or less in consequence of the operation, and of the thirty-nine remaining some were too recent to be considered, and others had been lost sight of. Eighteen remained for statistical purposes, and of these ten were quite cured, six were improved, and only two failures were noted. Of the cases cured, five had been free from attacks for two years, one for a year and seven months, three for fifteen to eighteen months, and one for six months. These results are very satisfactory, and Jonnesco seeks to explain them by a modification in the cerebral circulation.

Traumatic insanity and its surgical treatment formed the subject of an interesting paper by Damer Harrisson (*Liverpool Med.*

Chirurg. Journ., July, 1898, p. 243). He emphasizes the point that it is not altogether uncommon to see cases of true insanity following head injuries, and gives statistics to show that in over 62 per cent. of such cases a depressed fracture was noted at the time of the accident, and in only one-seventh of them had operation been undertaken. Only a limited number of the cases are open to operative treatment, which is indicated when there is any distinct or definite focus of depression or injury. He reports in the paper three cases which he had dealt with comparatively recently. In the first the bone was nearly an inch thick, and there was a considerable collection of serum, both beneath the dura and in a subcortical cyst. The patient recovered perfectly, and there has been no return of the insanity for a period of over nine years. In the second there was merely a considerable development of adhesions between the dura and the cortex, and the separation of these sufficed to clear up the case, although convalescence was a little delayed by a collection of serum beneath the dura, which was left to be absorbed by natural processes. In a third case all that was done was to remove a portion of bone from the region where the patient had been severely injured a few months before. Although before the operation he had had several attacks of violent suicidal mania, his mental equilibrium was restored entirely and immediately.

IV.—SURGERY OF THE BREAST AND THYROID BODY.

Tubercular disease of the mamma.—An editorial appears in the *Journal of the American Medical Association* (July 23, 1898), dealing with this subject relative to four cases which have been recently reported. It appears that only about eighty cases of tubercular affections of the breast have been recorded in all, and of these bacteriological evidence was absent in twenty-three. The disease commences during the period of functional activity, usually not later than the age of thirty-five, and not infrequently has supervened during lactation. Infection is derived either from the nipple through the milk ducts, or through an open wound, or else the disease is secondary to tubercular foci in the neighbourhood. Pain is early and severe, and the patients have several times applied for treatment not so much on account of discharging sinuses or the presence of a swelling, as for the relief of pain. Scattered nodules develop throughout the organ, usually several in number, and these sooner or later break down and lead to open sores, the breast, perhaps, becoming riddled with sinuses. The diagnosis is likely to be uncertain, apart from bacteriological examination of the pus

or granulation tissue, or from the association of other evidently tubercular lesions. As to treatment, it is important to note that curettage of abscesses or sinuses is not considered satisfactory, and the total removal of the infected area, breast, axillary contents and glands, is recommended, although at the same time climatic and constitutional treatment must not be forgotten.

Mastopexy.—An interesting article appears in the *Médecine Moderne* (Sept. 28, 1898), dealing with a proceeding which apparently has not hitherto attracted much attention. A young actress applied to Verchère, of Paris, owing to the fact that her breasts were undergoing hypertrophy to a certain, not exaggerated, extent, and in consequence were dragged downwards by their weight to such a degree that she was unable to support them satisfactorily by any corset that she had tried; moreover, their weight caused a considerable amount of dragging pain. The only plans hitherto suggested for this trouble are amputation and the fixation of the organs by a transverse incision along their upper border, in such a way that when cicatrization has taken place they are slung, as it were, from this transverse cicatrix, a plan recommended and practised with success by Pousson, of Bordeaux. Naturally, neither of these suggestions was agreeable to the patient, who had to appear in public considerably *decolletée*. Verchère, therefore, devised a proceeding whereby the breasts could be fixed upwards, but without showing any cicatrix. The patient was laid on the back with the arm extended outwards. An incision was then made, reaching from the apex of the axilla nearly horizontally forwards to the outer margin of the pectoral muscle; a second incision was carried downwards, almost vertically from the anterior extremity of the former to the lower border of the breast; and then a third incision was made across the axilla, connecting the two ends of the former and thus marking out a triangular flap of skin which was totally removed, together with all the cellular tissue down to the thoracic wall. This left a gap nearly as large as the palm of one's hand, and by a little undercutting the margins of this wound were brought together so as to leave a Y-shaped cicatrix. The effect of this proceeding was to lift up the breast and displace it externally to a slight degree, the nipples necessarily looking somewhat outwards instead of forwards; the organs were practically fixed to the summits of the axillæ by strong cicatricial bands. The outcome of this operation was most satisfactory.

Dermatitis maligna of the nipple (Paget's disease).—M. Sheild (*Clin. Journ.*, Sept 28, 1898) showed a case of this nature to the Dermatological Society of London, in a woman aged thirty-six; the disease had lasted eighteen months, and the area involved was

not greater in size than a shilling. At the same time it was very typical; a red, raw, weeping surface existing, whilst the parts were thickened on being felt between the finger and thumb. All the members of the society agreed that the whole breast should be excised, and this fortunately the patient agreed to. It was found that there was marked proliferation of the deeper layers of the skin, and also that the lining cells of the ducts had commenced to undergo a similar change, although there was no cancer actually present. This is a very important case as illustrating what the correct treatment of this affection should be, and also because it indicates that even in a very early stage changes in the breast itself are likely to occur; in fact, if it can thus be dealt with early, one is operating on a pre-cancerous condition. The thickening of the affected tissues when felt between the finger and thumb is a most important diagnostic sign.

As to the *treatment of cancer of the breast*, no very great advance has been made. We are getting to the end of our tether as regards modifications of operative treatment, and it seems likely that our results are as good as they are ever likely to be, until the day arrives when diagnosis can be established at an earlier date, and patients are willing to submit themselves to examination and operation without waiting for months in suspense and hesitation as to the nature of a lump in the breast. A few points may, however, be noted here. One very distinct improvement in the operative technique has been suggested during the year by Cotterell (*Brit. Med. Journ.*, Feb. 12, 1898), viz., that the after-treatment should be conducted with the arm at right angles to the side, and not tightly bound down to it, as has been almost invariably the custom; and to this end he devised a splint, whereby the arm can be kept in the fully abducted position without discomfort. It is wonderful how free are the movements of the arm after such treatment. I have now utilised this plan many times with the greatest advantage, although I have never seen the necessity of the splint; all that is required is to lay the arm in the fully abducted position on a pillow, to which it is fixed by a towel passing over it. Of course, now and then cases occur in which such treatment is at first impracticable, owing to the amount of tissue which has been removed, but even then it is usually possible to get the arm into this position before many days have elapsed. Another advantage derived from this plan is that the dressings and bandages can be much more firmly applied, and that thus drainage is not so urgently required as was often the case under the old *régime*.

Oöphorectomy for inoperable cancer.—Cheyne (*Brit. Med. Journ.*, May 7, 1898) reports two cases in which he had tried this plan of treatment. In the first, there was distinct retrogression of the tumour for a time, but about seven months after the operation growth commenced again, and the disease then ran its usual painful and rapid course. In the second case there was not the slightest effect produced by removing the ovaries. Both patients were young women with their ovaries in full functional activity. Cheyne admits that there must be some connection between the ovaries and the mammary epithelium, even when the latter has taken on cancerous activity, and suggests that possibly the question of the amount of tissue left to be absorbed may have some influence in the case, and therefore it would be well to remove as much of the cancerous material as possible.

Amputation of the arm for recurrence of cancer in the axilla.—J. B. Roberts (*Annals of Surgery*, Jan., 1898, p. 111) comments on the fact that the present extensive operation leads to recurrence rather at the apex of the axilla than in the neighbourhood of the wound. The recurrent growths therefore are almost always in close proximity to the axillary vessels, and it is no unusual thing to have to ligature the axillary vein, either completely or in part; even then the artery and nerves may be implicated, and there is no certainty that the cancerous material has been completely extirpated, whilst the supervention of chronic lymphatic œdema is not an uncommon sequela. Simultaneous ligature or excision of both artery and vein would in his opinion be almost equivalent to an amputation, and therefore he puts forward a plea that disarticulation at the shoulder-joint should be promptly performed in malignant disease of the apex of the axilla occurring after the usual thorough extirpation of mammary carcinoma. He instanced a case of this nature in which he had contented himself with dissecting away the tissues around the vessels; amputation would at the time have been practicable and easy, and the chances of a cure would have been considerable; the disease has again recurred, and in such a situation that amputation is out of the question. Roberts's idea did not meet with a very great amount of approval at the hands of the members of the Philadelphia Academy of Surgery, before whom it was promulgated. That there is a place for amputation of the arm in the treatment of cancer of the breast cannot be denied; when the arm has become infiltrated and swollen as the result of lymphatic œdema, and the patient can do nothing with this log-like appendage, there can be no question as to the propriety of removing it, if only to allow the patient to get about and to free her for a time of part of her

pain, even though there may seem but little chance of curing her. C. T. Dent (*Trans. Royal Med.-Chi. Soc.*, London, 1898, p. 221) relates a case where he went even further, and removed not only the arm, but also the scapula and outer half of the clavicle according to Berger's method for a recurrent duct cancer, which had encircled the main axillary vessels and nerves, and had invaded the coracoid process. The patient did very well, and left the hospital much relieved.

It is impossible to summarise a tithe of the material which has appeared during the year concerning the ordinary operative treatment of scirrhus mammæ. There is not the slightest doubt that the results now being obtained are much superior to those seen formerly, and that in the hands of skilful operators 40 or 50 per cent. of real cures should be obtained. At the same time, it is abundantly obvious that the more complete local extirpation of the growth is leading to a smaller percentage of local recurrences, and that glandular and internal complications are those which appear most frequently, and are responsible for the majority of the fatal results. One of the most sensible communications of the year is from the pen of Matas of New Orleans (*Phil. Med. Journ.*, Sept. 17, 1898), who emphasizes in particular the impossibility of determining the direction in which lymphatic infection is occurring, whether by the usual axillary route, or by way of the mediastinal or supraclavicular glands to which some of the lymphatics of the breast run directly. For this reason he objects, and rightly so, to the use of the terms "complete" or "radical" as applied to the operations for the removal of scirrhus. At the same time he admits the value of the extensive proceedings now practised by Haltsted and others, quoting the statistics of the former, that in only 22 per cent. of his cases did local or regional recurrence occur. He considers, however, that in advanced cases such an operation offers no more prospect of cure or chance of escape of internal metastases and secondary recurrences in the neck than the older and less mutilating proceedings. In this connection the *discussion at the Medico-Chi. Soc.*, London, of Sheild's paper on Immunity and Latency after operations for cancer of the breast (*Trans. and Proc. Med.-Chi. Soc.*, Jan. 25, 1898) was instructive. The author had collected a number of cases in which permanent cure had followed from an admittedly incomplete operation, and a number more were mentioned during the discussion. Of course, this merely proves that out of the enormous number of patients operated on by the eminent surgeons who took part in the discussion, fortune had favoured a certain small number. Many most unscientific opinions were educed

from men who ought to have known better, and the ultimate outcome was to suggest that Volkmann's three years' limit could not be absolutely taken as a test of a "cure," and that the more thorough the operation the better the results were likely to be. In his recent work on *Diseases of the Breast* (Macmillan and Co., 1898, p. 406), M. Sheild lays down the following rules for guidance, founded upon a careful consideration of London practice by the more junior surgeons at the present day, and to them one is fully inclined to accede:—1. On no account are operations of a partial or incomplete character to be undertaken, unless in some exceptional cases of cancer in an accessory mamma quite free of the breast. 2. The axilla is to be opened in every case, and the pectoral fascia and all obtainable glands are to be removed. 3. The removal of a large area of skin with both the pectorals is reserved for advanced cases; the operation is yet on its trial, and the majority of operators do not adopt it in ordinary cases, where no axillary infection can be detected. Sheild himself is inclined to remove both pectorals in all cases where the axillary glands are notably involved.

The surgical treatment of goitre.—Reverdin (*Gaz. des Hôpitaux*, Sept. 24, 1898) has an interesting paper dealing fully with this subject, excluding, however, the malignant variety and Graves's disease. He classes the indications for operation under three headings, viz. those done for urgency, necessity, and *de complaisance*. *Urgency* can be claimed for only two conditions, viz. menacing dyspnoea or septic complications; the former is usually due to pressure on the trachea or the laryngeal nerves, or to the presence of retro-sternal prolongations of the growth. Under such circumstances a tracheotomy is essential, but it is not always an easy matter. The writer has had a case where he was called on to operate suddenly for such a complication; a median lobe growing from the isthmus was readily enucleated, but its removal apparently allowed the two halves of the enlarged thyroid to fall together and complete the occlusion of the flattened and displaced trachea to such an extent that even when that tube was found and opened, a tracheotomy tube was only inserted after so much difficulty and delay that the patient was dead ere it was accomplished. Operation may be looked upon as an act of *necessity* for many reasons:—(a) For functional troubles more or less grave which do not yield to medical treatment; (b) for dyspnoea, more or less persistent; (c) for dysphagia; (d) for circulatory troubles, whether cardiac in origin or due to compression of the main vessels in the neck; and (e) for toxic disturbance probably due to absorption of excessive or vitiated

thyroid extract. Another cause of necessary operation is the rapid and continuous growth of the mass in spite of treatment. Finally an operation *de complaisance* is perfectly justifiable when undertaken for cosmetic effect.

As to the exact method to be adopted in operating, there has been some little discussion. An article dealing with the point is contributed by Wormser (*Rev. de Chirurg.*, No. 4, p. 308, 1898) claiming, and rightly so, that Kocher's plan of thyroidectomy is to be preferred to that of intraglandular enucleation, except in a few cases. It may be as well to add here the conclusions drawn up by Kocher as to the choice of operation. Thyroidectomy is indicated:—1. For malignant tumours of the gland. 2. For acute and chronic inflammation. 3. For diffuse parenchymatous hypertrophy. 4. For polycystic goitres. 5. For goitres with multiple adenomatous nodules. Intraglandular enucleation (sometimes known as Socin's operation) is indicated:—1. For unilocular cysto-adenoma. 2. For isolated nodules of adenomatous material, embedded in the normal tissue, if they can be got at easily and without much bleeding; otherwise thyroidectomy should be undertaken. 3. For large nodules scattered through immobile goitres.

Reinbach (notice in *Centr. f. Chir.*, No. 41, 1898) relates the experiences obtained in Mikulicz's clinique with the use of thymus extract in the treatment of ordinary goitres. Fifteen cases were treated in this way, eight with thyroid extract and two with thyroiodine. It was demonstrated that thymus extract had a distinct influence in diminishing the size of the goitres in some cases, though nearly a half were unaffected. Adenomata and cysts were uninfluenced, as they are by thyroid extract. None of the cases were cured, and most of them required subsequent operation, but the remedy did no harm and gave rise to no unpleasant results. This contrasts favourably with the thyroid treatment, since it is found that heart failure is not uncommon after its exhibition. On the whole the effect of thymus treatment was thought to be greater than when thyroid extract was employed.

Thyroidectomy in Graves's disease.—Paul, of Liverpool (*Brit. Med. Journ.*, Jan. 1, 1898) narrates two cases in which he operated recently; in one a fatal result ensued from the acute train of symptoms which is considered to be due to acute thyroid toxæmia, and which usually destroys life within forty-eight hours of the operation, and in the other the patient recovered after a severe attack which for some time looked like being fatal. In the former case it was found *post mortem* that there was a want

of healing action in the wound, and the fluid contained in it was of a very watery character; there was no suspicion of septic changes. The divided section of the isthmus appeared quite fresh, as though repair had not yet commenced. The other organs were comparatively healthy except the liver. In the second case, which occurred a fortnight after the former, the patient passed into a very serious condition within twenty-four hours of the operation. The temperature ran up to 101° , and subsequently reached 104° ; the pulse was 128, and she became very restless. The dressings were early removed, and the wound was seen to be discharging freely a thin watery fluid; on cutting the stitches more of this fluid escaped. The cavity was left open and packed with dry salicylic wool. For twenty-four hours her condition seemed precarious, and during this time the packing of the wound was changed as often as it became wet. By this means distinct improvement came about, and convalescence was gradually established. In considering these cases, Paul noted that in his earlier operations nothing of the kind had been seen, and concurrently with this remembered that he had formerly been very careful not to squeeze or handle the gland until he had secured the main vessels, whilst latterly he had been in the habit of controlling hæmorrhage, which is often very considerable, by grasping the organ. "I take it that squeezing the gland may help to liberate secretion contained in the follicles, and that the same may escape into the wound from the lymphatics in the divided capsule round the severed isthmus, the lymphatics being the normal channel for absorption of the secretion." He advises that in operating for Graves's disease, the isthmus should first be freed, ligatured and divided, and until this has been done the greatest gentleness should be exercised in handling the gland. The lobe to be removed should then be separated from within outwards, with only the slightest possible degree of handling. On the first onset of symptoms, the wound should be freely opened up, and packed with dry wool or gauze, so as to prevent absorption of the secretion from the raw surfaces. Booth, of New York (*Med. Record*, Aug. 13, 1898), reports eight cases dealt with by thyroidectomy, of whom one died, five were cured, and another was improved, but had been operated on too recently to have reached the point of maximum benefit, which is always somewhat delayed. The order of improvement noted by Booth corresponds with that observed by others, viz. first the goitre diminishes, next the nervous symptoms disappear, then the pulse-rate and vasomotor phenomena improve, and the exophthalmos last of all.

No further records of importance have been forthcoming in

the treatment of Graves's disease by total excision of the cervical sympathetics. Old statistics have been dished up by Jaboulay and Jonnesco, but nothing new has been added.

V.—SURGERY OF THE VASCULAR SYSTEM.

The treatment of aneurysm by extirpation forms the subject of a valuable lecture by Pearce Gould (*Clin. Journ.*, July 20, 1898), in which he contrasts it with that of proximal or Hunterian ligature, under four headings:—1. The operation itself is more difficult, and sometimes impracticable; the rapidity of the Hunterian method may be a matter of importance in weakly subjects. 2. As to the mode of cure, it must be remembered that the "irreducible minimum" required is the total occlusion of the vessel at the site of dilatation. This is brought about in the Hunterian proceeding by indirectly influencing the circulation, but in extirpation it is the direct result of the operation. This point may be illustrated by a case reported in the *Brit. Med. Journ.* (Dec. 25, 1897), by W. M. Willis, in which a popliteal aneurysm was apparently cured by ligature of the femoral at the apex of Scarpa's triangle, and yet five years later the sac refilled, forming a tumour which simulated, and was supposed to be, a sarcoma, requiring extirpation for its cure. 3. The interference with the circulation in the limb varies considerably in the two operations, and the variation is not in favour of the Hunterian method. When an aneurysm is extirpated, the circulation is interfered with at one spot alone, viz. where the sac has been removed, and the very removal of the sac may assist in establishing the collateral circulation by removing a cause of pressure upon the collateral trunks. In the Hunterian proceeding the blood stream is cut off at two different levels, viz. at the site of ligature, and again in the aneurysm, whilst the presence of the consolidated sac may interfere with anastomotic branches. This is especially the case in the popliteal trunk, where the articular branches are important anastomotic connections, and hence gangrene is more frequently noted after ligature of the main trunk than after extirpation. 4. As to the range of applicability, the advantage is still on the side of extirpation, since it may be utilised in cases where ligature is attended with great difficulty or danger, as also for leaking or ruptured aneurysms when the Hunterian proceeding is inapplicable.

In confirmation of the views expressed in this lecture, two cases of importance may be referred to, in which extirpation has been employed for aneurysms of the external iliac and subclavian arteries respectively. Dollinger (*Pest. med.-chi. Presse*,