

INDEX OF SURGICAL PROGRESS.

HEAD AND NECK.

I. Suppurative Periostitis of the Walls of the Orbit Consecutive to Suppuration in the Frontal Sinuses. By M. PANAS. (Paris). The author discusses a case of this description which had recently come under his notice. A man, age not given, was admitted with suppurative periostitis of the walls of the orbit; the abscess had pointed at the upper part, and had been previously opened, giving exit to pus, which had left a fistulous track. The history was negative in regard to syphilis and tuberculosis, but two facts were plainly elucidated upon further examination. First there was extreme fœtor coming from the nasal passages; secondly the nasal mucous membrane was swelled and ulcerated. In addition to which there was considerable tumefaction of the tissue above and below the eyebrow, in the situation of the frontal sinuses. [No note as to which side]. The patient had suffered from chronic coryza with ulceration of the nasal membrane presumably for some time, but no note is given of its duration—following suppuration in the frontal sinus and periostitis of the orbit. Chloroform having been administered, a director was passed along the fistulous track, upwards and inwards, and reached bare bone which was soft and carious. A little pressure upon the instrument forced it into the cavity of the frontal sinus. An incision was then made along the director, and pus in abundance at once began to escape from the sinus. The opening in the bone was enlarged, and a drainage tube inserted. Antiseptic dressings were applied, and for the next few days the sinus was washed out with boric lotion, and the nares similarly treated with hot water. The fœtor from the nose was kept in check with iodoform. In seven days since the orbital swelling had almost entirely disappeared. The author refers to the fact

that although in the generality of the cases suppurative periostitis of the orbit does not present diagnostic difficulties, this is not always the case. In a patient of Velpeau's, a child, who had received a kick from a horse over the orbit, the opinion was formed that the swelling which subsequently developed was due to a sarcomous growth. Again, General Radetsky suffered for some time from a similar swelling, which in all respects, according to distinguished surgeons, both in Vienna and Milan, resembled a new formation of a malignant nature, upon this belief the general was advised to submit to enucleation of the eye. But he refused, and the swelling, in his case, as in the one above mentioned, proved inflammatory.—*Le Progres Medical*. Dec. 1887.

H. PERCY DUNN., (London).

II. The Correction of Nasal Deformity by Means of Plastic Operation. By PROF. DR. OBLINSKI. (Krakau). This paper refers more particularly to deformities resulting from loss of the cartilaginous framework of the nose. Dieffenbach treats this class of patients superficially, recommending the division of the cicatrices, which deviated the point of the nose, by means of a tenotome, and the filling of the nares with lint. This method gives only temporary relief.

In a girl, æt. 16, Prof. Oblinski found the following deformity: The tip of the nose, as a result of the destruction of the cartilaginous septum, was sunken in: on each ala nasi there was a deep longitudinal groove, formed by cicatricial tissue, dividing the lower half of the nose into three spheroidal growths, which eventually would completely obstruct the nares. At the upper end of the right sulcus there was seen an opening through which the air entered into the nostril. The author after completely cutting out the right groove with its cicatricial tissue, and also incising the opening in its upper extremity, replaced the gap, thus left by an oblong flap from the cheek, cut from the upper end of the right sulcus. The flap was 2 cm. long and 1 cm. broad and easily filled the gap. Primary union occurred. The left sulcus was also excised in the same manner, and replaced by the oblong cheek flap. The cosmetic result was satisfactory. The tip of the nose was well raised. The author recommends, however, a larger flap in the fu-

ture, thus allowing for subsequent contraction.—*Deutsch Zeitschr. f. Chir.* band 24, heft 1-2.

III. Tuberculosis of the Mouth. By P. SCHLIFEROWITSCH (Heidelberg). The author has collected all the cases in literature where the diagnosis of tuberculous disease of the buccal cavity could be fixed with some certainty. They number 88, and include those of primary and secondary tuberculosis. The most constant symptom in these cases is salivation. Males are most frequently the subjects of this disease. It is exceptional in the very young, and is most commonly found between the ages of 40 and 50 years. The appearance of the tuberculous ulcer is characteristic. If on the tongue, it is found on the borders, (left side mostly), near the tip of the organ. It is an oblong ulcer, raised, ragged borders of hard consistence, showing the color of fresh granulation. The floor appears as if covered by a pseudo-membrane, if this covering be removed the surface left easily bleeds. The floor of the ulcer is uneven, as if covered with papillæ. There is no great discharge of pus from such ulcers, and in many cases miliary abscesses may be found around the ulcer. Pain is never so prominent as in carcinoma. The neighboring lymph glands are rarely swollen. In the primary form of the disease the presence of tubercle bacilli are, the surest criterion in fixing the diagnosis.

After eliminating syphilis by specific treatment, the diagnosis remains between tuberculosis and carcinoma. As to duration, time of development and age, there seem to be few reliable data for diagnostic purposes.

A microscopic examination of a piece of the growth will be necessary in some cases. The prognosis is better in the primary purely local form of the disease than in the secondary variety. In the former, an early extirpation by surgical means is most desirable. The therapy consists in the application of medicinal agents and the knife. Iodine chromic acid, iodoform alone, or combined with tincture rhatany are mentioned. Then, again the cautery, scissors and knife are discussed. In cases where these means are inapplicable the curette followed by cautery is found useful.—*Zeitschr. f. Chir.* bd. xxvi heft. 5-6.

HENRY KOPLIK, (New York).

CHEST AND ABDOMEN.

I. An Analysis of 207 Cases of Mammary Carcinoma. By S. W. GROSS, M. D. (Philadelphia).—The author has seen 251 neoplasms of the breast, of which 82.47 % were carcinomatous, about the usual proportion. With regard to the period of development,

6 first appeared between 20 and 29 years of age.

39	"	"	"	30	"	39	"	"
78	"	"	"	40	"	49	"	"
62	"	"	"	50	"	59	"	"
21	"	"	"	60	"	69	"	"
1	"	"	"	70	"	79	"	"

Of 154 of the cases, 86.36 % had borne children, and rather more than 90 % of these had nursed their children. The patient's general health was excellent in 69.56 %, indifferent in 17.39 %, and bad in only 13.04 %.

The disease was ascribable to traumatism in 9.66 %, but the tumor developed within six months in less than half of these. Of the 133 parous women, 11 had suffered from puerperal mastitis, but only in 2 was it clear that the tumor started from the induration left by the inflammation. In 2.41 % there was antecedent non-puerperal mastitis, and in four-fifths of these the disease developed at the site of inflammation. In 2.41 % the nipples had been the seat of crusts and scabs for several years before the appearance of the tumor. In 2.9 % it began as Paget's disease of the nipples, or as malignant papillary dermatitis. In 4.83 % it was inherited in direct line of descent. But little light is thus thrown upon the origin of the disease.

The seat of election was the upper and outer portions of the gland and the immediate vicinity of the areola and nipple. In 80 % of the cases pain of a sharp intermittent character was experienced; in about 15 % there was merely a sense of discomfort, while in about 5 % there was no suffering whatever. The skin was involved in 74.87 %, being met as early as two weeks and as late as 29 months, averaging 12.6 months. The opposite breast was infected in 3.86 %, appearing on the average at 21.5 months. Infection of the axillary lymphatic glands was detected in 65.70 %: the supraclavicular in 7.20 %, the

subclavicular in 1.40 %, and the cervical 1 %. This percentage is susceptible of increase, however, since in latter operations, where the axilla has been invariably cleaned out, these glands were affected in 95.35 %.

Of the first 100 cases, 91.75 were marked by local reproduction and he was unable to find a single recovery; in these cases there was no thought of clearing out the new growing glands. In the second series, 107 cases, he speaks with certainty of 53 cases, of which 10 died without operation. Local reproduction occurred in 52.77 % of the operations on the average in 7 months. The average life of the thirteen who died with recurrence was 25 months, varying from two to sixty months. The average life of the five who perished from other affections without recurrence was 32 months, varying from two to ninety-four months. The average period since the operation upon those who still survived without recurrence was three years and three months, varying from eight years and three months to six months.—*Med. News*, Nov. 26, 1887.

JAMES E. PILCHER (U. S. Army).

II. Excision of a Large Part of the Sternum for Retro-sternal Abscess. By Dr. O. A. RUSTIZKY (Kieff, Russia).—J. J., æt. 23, house painter, entered the city hospital Dec. 23, 1886. He said that a fortnight ago his left lower molar tooth began to ache, causing a swelling in the lower jaw, which has rapidly spread down to the sternum. On the neck, on the upper edge of the thyroid cartilage, there were three openings, emitting ichorous fluid. On introducing his finger into one of the openings the doctor could feel the denuded lower jaw, and also the throbbing vessels. By percussion and shaking the retro-sternal abscess was diagnosed. On Dec. 24. an incision, two inches long, was made above the sternum, from which (the patient being placed head down) a large amount of fetid ichorous fluid flowed out. Elastic catheter being introduced into the opening passed down four and one-half inches. The cavity was daily washed out with solution of salicylic acid. In the middle of January, 1887, the patient began to complain of severe pain behind the sternum, and he suffered from chills and fever. The sternal ends of the clavicle and the second

and the third ribs were swollen, and the skin covering those parts was inflamed. Dr. R. found it necessary to excise the sternum. The operation was made on Feb. 3, 1887. Having made an incision down to the fifth rib, Dr. R. separated the periosteum. The bone was found saturated with pus, and an opening was made into the thoracic cavity without any efforts. The manubrium was excised, leaving its periosteum in front and behind, and the same was done with the upper half of the gladiolus. During this operation there was no occasion to ligate any vessel. The cavity on being thoroughly washed with a solution of salicylic acid, was dressed in a usual manner. Wine, iron and nourishing food were prescribed. The wound speedily was covered with healthy granulations, and a hard cicatrix was formed. The clavicles and the ribs of both sides nearly touched each other. The patient gained in flesh, and had no palpitation and no dyspnœa. Besides this principal operation, a part of lower jaw was excised. The patient is now doing very well.—*Chirurgichesky Vestnik*, St. Petersburg, July and August, 1887.

P. J. POPOFF (Brooklyn).

III. On the Surgical Treatment of Pulmonary Cavities.

By R. J. GODLEE, F.R.C.S. (London).—Pulmonary cavities may be classified thus: (1) Tubercular, (2) due to gangrene, (3) due to bursting of abscess into the lung, (4) bronchiectases. Pliny records a case where a soldier was cured by the opening of his empyema by a spear wound received in battle. Dr. Shingleton Smith has treated pulmonary cavities by the injection of iodoform dissolved in ether; the remedy fails because it is too strictly local in its action. Dr. K. Cérenville, of Lausanne, has resected portions of the second and third ribs, but with doubtful benefit. When a cavity in the lung itself has to be opened it is very important to ascertain the presence of sufficiently firm pleural adhesions at the site of operation. If absent these may be artificially established by passing silk threads through the pleura into the lung. To attempt to stitch the lung to the chest wall is difficult and hazardous. Most cases of gangrenous abscesses in which surgical interference may be useful are the result of acute pneumonia, and are situated near the base of the lung. The exploring trocar

should be used before the knife, and perforation of bronchi must be avoided so far as is possible on account of the consequent hæmoptysis. Several punctures may be necessary before the abscess is struck. The amount of the expectoration is no guide to the size of the cavity. A cavity holding an ounce may give rise to a pint of expectoration in the 24 hours, owing to the irritation caused by the discharge as it travels along the tubes towards the trachea. The opening of a bronchus as opposed to a cavity in the lung tissue or in empyema may be known by the peculiar whiffing noise to which respiration gives rise in the former case. There need be no hesitation in operating in the front of the chest if the cavity to be opened appears to be there. The cavity should be explored by the finger, and the drainage tube must be a long one. The downward slope of the main branches of the right upper lobe may account for its immunity from gangrene by preventing the accumulation of septic matters in it. The middle lobe of the right lung is homologous with the upper lobe of the left, the branches of the upper lobe being eparterial, *i. e.*, above the pulmonary artery. The arteries lie behind, the veins in front of the bronchi. Operation for bronchiectasis is not hopeful when the condition is due to a foreign body. Pulmonary abscess is especially liable to be followed by cerebral abscess. Where there is good reason to suspect the presence of a foreign body, inversion should be thoroughly tried, and that failing, tracheotomy and searching the tubes with curved wire or fine forceps. A case is cited showing that much bronchiectasis may exist in a lung with but little physical sign. If an anæsthetic must be used, chloroform is safer than ether, but both are specially dangerous, and should not be given so deeply as to prevent coughing in case the operation causes hæmorrhage into a bronchus.

Summary: (1) Gangrenous cavities should always be sought, and if possible opened. (2) So should abscesses due to pus from other parts bursting into the lung. (3) Abscesses due to foreign bodies must be opened, and if large, these bodies will probably lie near the middle line. Early tracheotomy and incision is best for foreign bodies. (4) Bronchiectases when single will be cured by operation, but when multiple, surgery can do little for them though the main one may be

opened if the pleura is adherent. (5) Tubercular cavities should be opened only when the cough is harassing and the cavity single.

Injectons may relieve symptoms but cannot cure.—*Lancet*, March and April, 1887.

A. F. STREET (Westgate.)

IV. Four Cases of Estlander's Operation or Thoracoplasty.—By A. PEARCE GOULD, F.R.C.S. (London).—Narrates four cases in which this operation was performed. He insists that the operation should only be undertaken when ordinary treatment has failed, viz., carefully devised drainage, and the patient in danger of dying of lardaceous disease, tuberculosis, abscess of brain, etc. Further, that the operation must be carefully planned in each case by thoroughly investigating the position and character of the cavity it is intended to close. He prefers a single vertical incision to that of raising a flap as recommended by Mr. Godlee. He insists "upon the necessity of carefully removing *all* the bone in the outer wall of the empyemic cavity, so that only a soft and easily collapsing wall of soft tissue is left." The dense tissue left should be carefully dealt with, as any vessels cut in it may bleed freely and are often difficult to seize. He adds that as cases of empyemata are more early recognized and efficiently treated, cases requiring Estländer will decrease. And in this we agree with him. The records at Brompton show a good many cases of old empyemata not diagnosed or improperly treated.—*Lancet*, Feb. 11, 1888.

H. H. TAYLOR (London).

V. Inguinal Colotomy. By H. W. ALLINGHAM, Junr. F.R.C.S. (London). The author feels more and more confident that in the majority of cases it is a better operation than lumbar colotomy. He discusses inguinal colotomy as performed by Luke, Reeves, Studsgard, Madelung and Verneuil. His own incision is two inches in length, about one inch inside the anterior superior spine of the ilium and parallel with Poupart's ligament. The abdominal muscles are divided and bleeding stopped. A small incision is then made into the peritoneum, the edges being held up by an assistant. Scissors are

used to cut through the peritoneum to the size of the wound. A flat sponge is introduced to keep the intestines out of the way and to catch any blood. The parietal peritoneum is carefully sewed with interrupted fine carbolized silk to the skin all round. The sponge is removed and, should the large intestine not bulge into the wound, search is made for it towards the sacrum feeling for the rectum which is traced upwards or, this failing, the search is continued towards the kidney, and the descending colon felt for and traced downwards. The author at this point differentiates the large from the small intestine according to the sense of touch. The gut being found, that portion with the largest amount of mesentery is selected—generally that which is first pulled up, and is pulled out of the wound. A carbolized silk ligature is then passed through the abdominal wall at the lower part of the wound, then through the parietal peritoneum, then through the mesentery close to the intestine and is returned through the mesentery, parietal peritoneum and abdominal wall on the same side. Another ligature is used in the same manner on the opposite side. Each ligature is then drawn tight and tied separately on its own side. Should the meso-colon be short, the needle is passed through the muscular and serous coats of the gut at its posterior part. The loose piece of the intestine is then stitched all round the edge of the skin, the needle being passed only through the muscular and serous coats. Antiseptic dressings are applied, and pads are placed over the wound to prevent the gut breaking away. In two or three days the gut is opened, with scissors, from above downwards and the edges trimmed to the original incision. Should bad symptoms supervene—such as vomiting, great distention or colic the intestine would be opened within twelve hours. The two orifices that are found on opening the intestine, viz., an upper or larger, and a smaller or lower are accounted for both in size and position by the fact that the sutures which were passed through the mesentery transfixed the skin at the lower part of the wound. The division between the two openings is the so-called “spur.” It is accentuated by fastening the gut well outside the wound. The points claimed by the author in the operation are: (1). The position of the primary incision. (2). The formation of a good spur, failing which

he considers the operation is practically a failure. Cases are then quoted, showing the perfecting of the formation of a "spur." The author then gives his reasons why he thinks inguinal colotomy is preferable to lumbar colotomy. (1). The position of the patient at the time of the operation is better for the patient, the operator and the anæsthetist. (2). There is not so much tendency for the gut to fall away from the wound, neither at the time nor after the operation. (3). The intestine is easier to find, especially so on account of the incision being much higher than usual. The result of five hundred post-mortem examinations is quoted to verify this statement. The anatomical land-marks that can be felt through the incision are: upwards, the last two ribs, the crest of the ilium, the lower part of the kidney. Downwards towards the true pelvis: the first part of the rectum. Towards the middle line: the last three lumbar vertebræ and the aorta. (4). The fæces do not pass below the artificial opening if a good spur be made. In answer to a general statement that the opening in the gut is not high enough from the disease, the author has made the following experiment over and over again on the subject: inguinal colotomy has been performed, the gut being opened at the highest possible point before being stitched to the opening. Left lumbar colotomy has then been performed and the gut fixed to the loin. When the abdomen was opened he found in the majority of cases that there were only four inches of intestine between the two points. According to the post-mortem records of St. George's Hospital between 1848 and 1887 the rectum was the part attacked with malignant disease and not the sigmoid flexure. (5). There is less constitutional disturbance. (6). There is little or no suppuration. (7). The tendency for the opening to contract is not greater. The author thinks that statistics of this operation may be much improved if all the details are carefully attended to and opines that other parts of the intestinal tract will be less frequently opened by mistake. Inguinal colotomy, however, he believes, will not entirely supersede lumbar colotomy, especially in cases where operative proceedings have been delayed too long and the abdomen tremendously distended.

Finally, he has come to these conclusions after having made many

experiments and after having given the subject most careful study and thought.

W. T. WHITMORE (London).

VI. Subperitoneal Pelvic Abscesses and Laparotomy.
By M. TERRILLON (Paris). Abscesses of the pelvis having their origin in the genital organs of the female form two groups, from the point of view of surgical interference. In the one are ranged those which, arising in the neighborhood of the uterus, spread under the peritoneum, raising it up and reaching beneath the abdominal wall, generally above the pubes and at the side of the iliac fossa. These abscesses can then be opened without danger and without touching the peritoneum. Sometimes, even when they do not come in contact with the wall of the abdomen, one can, as Hegar has shown, detach the peritoneum by a surgical operation, and attack them without opening that membrane. A few point at the side of the vagina and can be opened at that spot. In the other variety—more rare and more serious—the abscess is developed at the side of the uterus, and projects into the cavity of the pelvis. It is partly free in this cavity, like an ovarian tumor, but joined by one side to the posterior aspect of the broad ligament and to the border of the uterus. It ordinarily opens in the rectum or sometimes in the bladder. It empties itself badly and becomes chronic and fistulous. Sometimes it ruptures into the peritoneum. In these cases we can reach the abscess, neither by the vagina—for that is dangerous—nor by the rectum—for fear of provoking serious troubles. Lawson Tait has proposed to operate upon them by laparotomy. After opening the peritoneum the purulent sac is united to the abdominal wall, opened and cleaned out. It is then freely drained, washed out every day and is cured in a few weeks. M. Terrillon has recently performed the operation in three cases, two of them with success, and the third would have been certainly successful, if he had been able to interfere before rupture of the abscess had taken place into the peritoneal cavity.—*Bull. Mid.*, June 5, 1887.

P. S. ABRAHAM (London).

VII. Salpingitis and Laparotomy. By M. CORNIL (Paris).

The author had operated upon four cases. The symptoms he found were those which used to be ascribed to peri-uterine hæmatocele. There were severe pains in the lower abdomen, most intense where the ovaries are situated, always worse during any movement, when pressed upon or at the menstrual period. There was profuse menorrhagia which no means seemed able to arrest. The patients also suffered constantly from nausea and constipation. All these symptoms extended over several months—even years, causing life to be a misery. The physical signs were very clear and showed a lesion of the uterine appendages. Per vaginam: a hard, painful swelling was found about the head of one of the lateral cul-de-sacs, leaving the vaginal walls free and movable. Bimanually, the tumor could be very clearly made out, especially when chloroform was administered. It could be felt to be inside the uterine appendages, either on a level with Douglas's pouch, or higher up, behind the pubic arch or by the obturator foramen. The uterus is hardly ever found in its proper place and is constantly enlarged, sensitive and slightly fixed. A rectal examination only confirms these signs. In all four cases the operation was a difficult and a delicate one. The peritoneum was opened in the middle line sufficiently to admit at least 3 fingers. The intestines were kept out of the way by pressure with a sponge. The thumb and the two first fingers were introduced into the pelvic cavity first on one side of the uterus and then on the other. A tumor was thus easily made out and it was found to be irregular in shape, fluctuating or hard, and placed in a variable position by the uterus. The fingers could also detect if it had any adhesions to the intestines. These were generally very slight, but the base of the tumor was always found fixed to the bottom of the pelvis, on the posterior surface of the broad ligament. With a little gentle pressure the fingers can easily separate the tumor all round from the pelvic walls and the intestines, and when thus isolated, the pedicle can be made out which fixes it to the uterus. This pedicle is nothing more nor less than the origin of the Fallopian tube and the ligament of the ovary. The tumor is easily removed from the abdomen and two ligatures suffice for the pedicle.

During this part of the operation the tube sometimes bursts and

allows the escape of the blood or pus it contains. It cannot then be removed en masse, but every particle must be carefully detached and the cavity of the pelvis must be thoroughly cleansed. A good sponging may be sufficient, but it is better to pour into the cavity a stream of tepid water which has been filtered and boiled. This separates all the clots and washes them out of all the corners.

The wound is sutured as for an ordinary laparotomy, and the operation is over. The tube which has been removed is found to be hypertrophied, twisted, and closed at its further end. Generally, the fimbriæ have disappeared and are replaced by a cicatrix. The tube is generally dilated to the size of the thumb, but may attain that of a hen's egg. It is filled with serous fluid, blood, or pus. The lower part of the tube is always closely adherent to the ovary and partly surrounds it. There are generally some bands of fibres uniting it to the other organs as well. The ovary becomes covered with false membranes of variable thickness. Its tissue may be atrophied, normal or even hypertrophied. Sometimes it has been found to contain an abscess or a pouch full of blood.—*Lc Bull. Med.*, July 27, 1887.

LEONARD MARK (London).

BONES, JOINTS, ORTHOPÆDIC.

I. On Extensive Resection of the Cranial Bones and their Capacity for Regeneration. By Dr. W. GOEZ (Tuebingen). The author records a case of extensive resection of the cranial bones in a patient, a girl, æt. 17 years, of weakly build. The indication was perforating syphilitic necrosis of three years' duration. The defect caused by the operation of resection involved both parietal bones and both temporal bones. The right parietal and half of the right temporal bone were completely removed. The defect extended beyond the mid line of the vertex to the extent of 2.5 cm. and involved also 4 cm. of the left temporal region beyond the median line of the vertex. The whole defect measured 17 cm. in a sagittal and 14 cm. in a frontal direction. Fistulæ were present in the vertex and temporal regions. There was a very profuse and offensive purulent discharge and constitutional symptoms. There were perforating ulcer of the cornea of the

right eye preceded by iritis, hypopyon, etc. The above symptoms indicated resection, though no separation of sequestra was present. In the cranial bones the separation of sequestra extends over a longer period of time than in other parts of the body. (Küsters case, syphilis, female, æt. 41, separation of sequestrum of temporal bone, three years; Bottini-temporal bone, five years). The causes of this delayed separation of sequestra may be an extension of the disease or the reactive inflammation on the part of the healthy bone may not be very marked. A delay in operative interference may compromise the cranial contents. Suppuration of the meninges or compression, or septicæmia from retention, may result. This resection was performed with saw and chisel in the usual manner. The bony parts removed showed the effects of gummosis periostitis and osteomyelitic processes. The extent of the resection of necrotic bones is not an element of danger. The dura in such cases is generally well protected by the surrounding granulations. Regeneration of defects in cranial bones varies as to whether the defect has been of traumatic or pathological origin. In the former case, as in trephining, the bony tissue is but imperfectly replaced, whereas in necrotic processes the regeneration, as in von Brun's case, may be complete. The reason may exist in certain anatomical facts. Regeneration of the cranial bones takes place from the pericranium and dura mater both not abundantly supplied with blood-vessels. The tissue of the diploe also aids in the formation of callus, and some authors (Kosmowski) would make it the only source of regeneration. Hyperostoses and osteophytes would argue the capability on side of the pericranium and dura to produce bone. As to regeneration of bony defects from syphilitic necrosis or tubercular processes Küster records a case of complete regeneration of a defect 8x10 cm. In the author's case of v. Brun's the large space left by operation was replaced five-sixths of its extent by bone three years after resection. The above proves that regeneration in the cranial bone is by no means as imperfect as is the generally accepted fact. In pathological processes this capacity for regeneration is not by any means second to that seen in traumatic lesions.—*Beitrage zur klin. Chir. von Dr. Paul Bruns, Tübingen, 1887.*

HENRY KOPLIK (New York).

II. Case of Reproduction of a Portion of the Cranium without the Co-operation of the Pericranium. By JAMES STRATTON CARPENTER, M.D. (Pottsville, Pa.): This case is submitted in corroboration of the views of Macewen announced in the ANNALS OF SURGERY, vol. vi, pp. 289 and 389. A boy, æt. 11, suffered a compound, comminuted depressed fracture of the cranium at the right parietal eminence. After removing the fragments, it was found that quite an extensive laceration of the pericranium had occurred, leaving a gap of about a square inch; the entire thickness of the bone, including the diploe, had been removed at the point of fracture and necrosis was expected from this severing of the blood supply. However, the lost substance was entirely reproduced and a complete cure resulted. —*Med. News*, Dec. 17, 1887.

JAMES E. PILCHER (U. S. Army).

III. Experimental Studies on the Origin of Tubercular Areas in Bones. By Dr. W. MILLER (Göttingen). That tuberculous emboli are the starting points for tuberculous areas in bones has not yet been demonstrated. It is difficult to trace the origin of certain cheesy or granulation areas in bones, but these latter are most commonly met with and frequently affect the articular extremities in a symmetrical manner, suggesting the division of an embolus at the dividing point of an artery. Those areas in bones which have the shape more or less of an infarction deserve especial attention. König first raised the question as to their origin. He traces a probable connection between them and emboli of tubercular nature.

These infarction forms are mentioned by v. Volkmann. The hemorrhagic infarction, however, is of doubtful existence in the bones. Among two hundred museum bone preparations in Goettingen, one-fifth showed these wedge-shaped (infarction shaped) areas. With the exception of the cranial bones and bones of the face and ribs, these peculiar tuberculous areas are met in all the bones of the skeleton. The base of the wedge is directed toward the joint. It is typically illustrated in the vertebræ and bones of the tarsus. The fact that the bloodvessels in such infarction form areas of tubercular nature are generally obliterated by tuberculous processes makes a direct examina-

tion of these foci of but little value. Twenty areas were examined by the author with negative results. These investigations are only rendered more difficult by the fact that in bones the anatomical history of the nutrient vessels is still incomplete. In the above paper, the author gives details of experiments on rabbits, dogs, sheep and goats undertaken with the object of obtaining some light on the mode of origin of these wedge-shaped tubercular areas in bones. He used with the usual precautions diluted tuberculous pus or sputum. The animal most convenient was found to be the young goat. The injections of tubercular matter were made into the nutrient artery of the bones. As a result, the author found that it is possible to cause by experimentation the same forms of tuberculosis in bones of animals as are clinically observed by the surgeon. The forms of experimental tuberculosis observed were circumscribed areas, diffuse tuberculous osteitis and miliary tuberculosis of the bones. In many cases the local phenomena (bones) were absent and general symptoms predominated. The local symptoms were developed in a subacute or chronic manner. In most cases the bone affection lasted over six weeks and the animals were in good condition when killed.

The disease produced was a local tuberculosis. The circumscribed forms of the disease occurred mostly in the heads of the bones. The diffuse forms affected the medulla and the cortex of the shaft. Perforation of the tuberculous areas into the joint was observed three times. Of especial interest were cases where loose sequestra projected into the affected joint. Also those cases of wedge-shaped (infarction) areas. The microscope confirmed the gross appearances. Granulation tissue with typical tubercle in old areas and tubercle bacilli were less abundant than in recent areas of infection. The small areas of disease as also the larger ones in the medulla were separated from the healthy tissue by a zone of demarcation composed of young or fibrilla connective tissue.

By killing the animals at an early period the development of areas of tubercle could be studied. These areas directly follow in time the injection of the infectious material, and are caused by the retention of tuberculous particles in the circulatory structure of the bone. The

disease always (with two exceptions) appeared in the bone injected. Tubercles in the lung and other organs were a part of the phenomena observed. The lymph glands also of the popliteal space were found to be infected. Though in most of the cases the injected poison reached the general circulation, it was distinctly found that the injected matter formed emboli in the arteria nutritia or its branches. Intravascular changes then began to appear, a diffuse tubercular endarteritis for the most part necrosis of the wall of the artery and infection of the neighboring tissue. As to the diffuse forms of ostitis and osteomyelitis they also result from an embolism of the nutrient artery or its branches with the eruption of numerous small and large areas of tubercular foci; the confluence of these in the cortex of the shaft and medullary zone gives the above clinical and pathological changes.—*Deutsch. Zeitsch. f. Chir.*, bd. 25, hft. 1 and 2.

HENRY KOPLIK (New York).

IV. Fracture of the Spine. By HERBERT L. BURRELL, M.D. (Boston) and ISAAC W. CHISHOLM, M.D. (New Concord, O.). In the light shed by five cases occurring at the Boston City Hospital, Dr. Burrell concludes: (1). That in the *immediate* correction of the deformity and fixation with plaster-of-Paris jacket or other means we have a rational method of treating a large number of cases of fracture of the spine. (2). That, considering the hopelessness of results in fracture of the spine when treated expectantly, almost any risk is justifiable. (3). That the immediate correction of the deformity is imperative, *if* softening of the cord can and does occur from pressure at the end of forty-eight hours. (4). That the suspension of the patient is only a means of rectifying the deformity, and that certain fractures can be simply pressed into position while the patient lies prone or supine.

In this connection may be considered Chisholm's case of a boy, æt. 10, who suffered a dislocation of the third lumbar vertebra, probably accompanied with fracture. Under the expectant local treatment and general tonic treatment he has improved, and, nine years later, is able to act as clerk in a store.—*Boston Med. and Surg. Jour.*, Aug. 25, 1887, and *N. Y. Med. Rec.*, Dec. 24, 1887.

JAMES E. PILCHER (U.S. Army).

V. Bony Ankylosis of the Temporo-Maxillary Joint and its Treatment. By G. ZIPFEL (Paris). The treatment of ankylosis of the lower jaw by the production of a false joint at the level of the temporo-maxillary articulation no longer deserves to be called, as it was by Sarrazin, a piece of rashness only to be undertaken by great surgeons. The subject has not received much notice in France, and it is to English, German and Italian authors that M. Zipfel has had to resort for some of the best information he expounds in his thesis. There are many causes for ankylosis of the jaw: Arthritis with a traumatic, rheumatic, tuberculous origin, otitis media, infectious diseases, osteo-myelitis, and lastly, irreducible dislocations. The prognosis is serious on account of the disturbance caused to nutrition, the production of sound, and respiration; then there is one formidable complication, vomiting, which, from the mouth being shut, may bring about immediate asphyxia.

There are two methods of operating: Osteotomy and resection. Osteotomy can be done in four different ways: (1). It may be linear, through the neck of the condyle. (2). Cuneiform, involving the neck of the condyle. (3). Linear, through the coronoid process. (4). Linear, through the neck of the condyle and the coronoid process together. The careful study of five cases of osteotomy and 21 cases of resection, which are given at length in the work, show that resection is the only operation which gives satisfactory and permanent results. Its performance is, however, difficult and the following is the plan proposed by the author:

1. An incision to be made four centimetres long, starting from the supra-glenoid root of the zygomatic arch, running downwards and slightly forwards and not extending deeper than the subcutaneous cellular tissue for fear of wounding the temporo-facial nerve, which the author finds, crosses over just an inch below the arch; if the coronoid process has to be dealt with an extra incision of 3 centimetres has to be made running in the direction of the zygoma and therefore harmless.

2. Recognize and push aside the lobules of the parotid gland, keep the nerve trunk out of the way by means of a blunt hook; the condyle and its neck can then be easily got at.

3. The periosteum has to be scraped off the bone, care being taken not to wound the maxillary artery.

4. A curved sound with a groove is passed in, and along it is slid a chain saw. In operating, the buccal cavity does not communicate with the external wound, the consequence is the treatment can be an antiseptic one.

In those cases to which this operation does not seem suitable, an attempt might be made to force open the mouth by rupturing the bone in the neighborhood of the ankylosis. The author describes an osteoclast which has been made for this operation.—*Gazette Médicale de Paris*, July 2, 1887.

LEONARD MARK (London.)

GYNÆCOLOGICAL.

I. Laparo-Elytrotomy. By W. DUNCAN McKIM, M.D. (New York). The author considers that where the obstruction to delivery lies below the cervix uteri, laparo-elytrotomy should be preferred to Cæsarean section, for it is simpler, requiring usually less time and skill for its performance; it can be done with less hope of success in a later stage of exhaustion; it would seem on *a priori* grounds less dangerous for mother and child, and, when the statistics are fairly weighed, it has as small if not a smaller mortality. He reports a new case, the fourteenth, in which a dead eight-pound foetus was removed from a girl, æt. 16, who had been in labor for twenty-nine hours. The dystocia was due to the smallness of the pelvis, the conjugate diameter being but three inches. The patient made a recovery delayed by her generally feeble condition.—*N. Y. Med. Jour.*, Dec. 10, 1887.

JAMES E. PILCHER (U. S. Army).

II. Painful Cystitis in the Female. By M. TERRILLON (Paris). A tall, strong country woman became affected with cystitis some months after her marriage, and when this had lasted a year she was treated, but without relief, by injections of nitrate of silver, by forcible dilatation of the neck of the bladder and by injections of a strong solution of cocaine.

An artificial vesico-vaginal fistula was then made with the object of giving the bladder rest by preventing any accumulation of urine in it, and immediate relief was the result. M. Terrillon insists that if intravesical injections be used in these cases they must be small in bulk or they will aggravate the evil by exciting contractions. Injections of opium, henbane or belladonna fail because of the insignificant absorptive power of the mucous membrane of the bladder. M. Guyon has shown that every case of vesical irritation not due either to stone or tumor is relieved by nitrate of silver injected by means of a syringe and a hollow sound, and in strength varying from 1 in 100 to 1 in 50. Some surgeons advise that where recourse is had to vaginal cystotomy an elliptical piece of the septum should be excised or the mucous membrane of the bladder stitched to that of the vagina. The opening once made must be maintained or the operation will fail for the same reason as forcible dilatation of the neck of the bladder fails, namely, because it does not keep the bladder at rest for a sufficiently long period. Hence, a drainage must be retained in the opening which may be made by means of the knife or the thermo-cautery. The former is apt to cause primary and the latter secondary hemorrhage. Sometimes the drainage tube is ill tolerated. The opening must be kept patent for some months, a portable urinal must be worn and the vagina must be kept free from incrustations of the salts of the urine. Sometimes the fistula heals itself, sometimes it has to be closed by the ordinary operation. The bladder will then often be found small owing to contraction, and the resulting tenesmus may require treatment by nitrate of silver. The operation fails of complete success where the cystitis is due to tubercle, but by relieving pain it renders life supportable. In the male the treatment is by perineal cystotomy. —*Le Bulletin Médical*, July 13.

A. F. STREET (Westgate).

III. Vesical Calculus in Woman. M. Pozzi (Paris). A report was read to the Société de Chirurgie of a case of vesical calculus in the female, which was extracted after dilatation of the urethra. The patient being under chloroform, M. Pozzi dilated the urethra by means of six hard gum clastic bougies. This took about ten minutes

and allowed a calculus to be extracted which was 38mm. in diameter ($1\frac{1}{2}$ inch). Having ascertained with his finger that no other calculus was present and that the walls of the bladder were healthy, the operation was terminated with an antiseptic douche.

The calculus here exceeded the limits of 3 centimetres ($1\frac{1}{16}$ inch) which until now have been allowed for extraction in this manner. Although the operation is a rapid one and only lasts about 10 or 15 minutes, chloroform is absolutely necessary as besides doing away with the pain it paralyzes all the muscular fibres about the part, and allows them to regain activity afterwards.

The exploration afterward with the finger brings to light any calculus which the sound has not detected. This dilatation might therefore be used for diagnostic purpose, whenever there is any doubt about the number, shape, nature and situation of the calculi. The only precautions necessary are the antiseptic douching afterward and the retention of two tubes in the urethra for a few days to facilitate the irrigation.—*Le Bulletin Medical*, July 31, 1887,

LEONARD MARK (London).

IV. On Peri-Uterine Inflammation with Deposit of Doubtful Nature Whether Purulent, Serous or Hæmorrhagic. By DR. EDM. BLANC (Lyon). The author recommends for all deposits accompanied with inflammation around the uterus the use of the aspirating trocar. He advises that it should be employed per vaginam. If liquid exudes, a knife is introduced through the cannula, and a sufficient opening made to assure a free exit of the liquid. An iodoform sponge is introduced. Afterward antiseptic syringing daily. It is indispensable for cure to prevent too rapid closing of the wound. Recovery usually occurs in 3 or 4 weeks. These swellings seldom fluctuate, but on the contrary present great hardness "like wood or fibro-cartilage." A favorable sign is tenderness on pressure. Dr. Blanc insists on the natural incurability of the masses, and on the danger of their opening into the peritoneum or neighboring organs.—*Thèse de Lyon*, 1887.

H. DES VOEUX (LONDON).