

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(507) Diabetes Mellitus.

LEYDEN (*Deut. medizin. Zeitung*, June 5th, 1893) discusses some points in relation to this disease. (1) Renal disease with diabetes. Frerichs found in 716 cases of diabetes 16 of albuminuria, or 5 per cent. In the late stages of diabetes albumen or peptone may appear in the urine, owing, perhaps, to the incomplete decomposition of albuminous matters. The occurrence of persistent albuminuria fairly early in the disease is not so very rare, and is mostly due to renal disease. The exact relation of renal disease to diabetes is not known. Perhaps the diseased kidneys facilitate the excretion of sugar, and thus a renal form of diabetes may exist like that produced by phloridzin, but this is uncertain. With the advance of the disease this facility may again disappear. As to the form of renal disease associated with diabetes there is no sufficient information. In 3 of the author's cases the arterio-sclerotic kidney was found after death. Diabetes with albuminuria, like arterio-sclerosis, occurs in advanced life. (2) Diseases of the nervous system in diabetes. Apart from the nervous lesions possibly causing diabetes, they may consist of painful paresthesia in the lower extremities due to peripheral neuritis. The author refers to a case of diabetes with renal disease in which not only lesions in the peripheral nerves, but also in the spinal cord were present. The disease in the cord was not limited to any system. It may belong to the group which have been described in connection with cachectic conditions such as pernicious anemia. (3) Therapeutic considerations: The author has found no good effect from the pil. myrtilli recently much extolled. Lævulose has been given to supply the place of ordinary sugar, which is excreted almost unused by the diabetic. A series of investigations are then recorded showing that a part of the lævulose is excreted as a dextro-rotatory fruit sugar, and a part is used up in the body. The latter becomes larger the longer the lævulose is employed, the reverse of what occurs with cane sugar. With a moderate quantity of lævulose (50 g.) a large amount is used up in the body. Something, however, must depend on the character of the individual case.

(508) Heart Failure from Chronic Alcoholism.

STELL (*reprint from Med. Chronicle*, April, 1893) fully discusses this question, and points out that these cases are often mistaken for Bright's disease. He finds that, as in heart failure in general, the three cardinal symptoms are:—(1) Dyspnoea: This is at first purely cardiac, but soon bronchial symptoms set in. It is, however, earlier

and more pronounced than the dyspnoea of chronic Bright's disease, which is usually due to secondary heart failure. (2) Dropsy: This is characterised by its wide distribution and caprice of localisation. Thus the upper extremities are often involved, the surface of the trunk almost invariably so, and the scrotum frequently. Steell recognises a peripheral, as well as a central, cause for the dropsy. (3) Enlargement of the liver: This is too often attributed to active rather than passive congestion. Cirrhosis results most commonly from spirit drinking, and heart failure from beer drinking. The enlarged tender liver of heart failure is a much more prominent feature than is generally supposed. As to treatment, the habit of alcoholism must be abandoned as soon as convalescence is established, but while the patient is dangerously ill Steell does not hesitate to order alcohol freely. While not denying the occasional efficacy of strophanthus, caffeine, and the like, Steell considers that there is but one remedy for alcoholic heart failure, and that is digitalis.

(509) Pressure by Veins on Arteries.

IN discussing a case of mitral obstruction and regurgitation with tricuspid insufficiency, Popoff (*Berl. klin. Woch.*, May 22nd, 1893) refers to the pressure of the over-distended right auricle and veins upon the aorta, and especially on that part of the aorta from which the innominate artery arises. Of the branches of the innominate the pressure by veins will be more marked on the subclavian than on the carotid artery, as the latter lies more internally. Thus, in tricuspid insufficiency the pressure of the distended and pulsating veins upon the under-filled arteries will exert this action particularly on the right subclavian artery, and so lead to a weakening of the right radial pulse. In the case alluded to there was no radial pulse on the right side. The author says that a diminished right radial pulse in such conditions is characteristic of tricuspid insufficiency, and it will be more marked the weaker the action of the left ventricle. The left radial pulse may also be diminished in a similar manner in mitral stenosis and incompetence in the absence of tricuspid insufficiency. Thus, in mitral obstruction the phenomenon of the pulsus differens may vary according to the degree of compensation.

(510) Obstetric Paralysis of the Shoulder and Arm.

C. F. CARTER (*Boston Med. and Surg. J.*, No. 18, 1893) states that he has met with 15 cases of obstetric paralysis of certain muscles of the shoulder and upper arm, in two years. The lesion is therefore not so uncommon as has been supposed. The affected arm is held by the side in a condition of internal rotation, the elbow pointing outward. The muscles affected are the deltoid, supra- and infraspinatus, teres minor, biceps, brachialis anticus, and supinators. The distribution of the paralysis points to a lesion of the first trunk of the brachial plexus

at some point between that at which the branch to the rhomboid is given off and that at which the suprascapular nerve leaves the trunk. The lesion of the upper trunk of the brachial plexus Carter believes to be brought about by traction on the head or pressure on the breech when the shoulder is retarded, or by traction on the shoulder when the head is retarded. He believes that in most if not all cases some anaesthesia may be discovered, though, owing to the youth of the patients, the search may be difficult. The prognosis is good, as the very great majority of cases get well, or practically well, sooner or later, in some cases in a few months. In only one recorded case has the condition persisted till adult life. Of 32 cases in which the facts as to the character of the labour were known, it appeared that forceps were used twenty times (in one to the after-coming head). In two cases the labour was very easy. In all or most of the other cases it was known that strong traction had been exerted on the head, or they were cases of footling or breech presentation or of version in which such traction was probable.

(511) Suppurative Meningitis.

KIRCHNER (*Berl. klin. Woch.*, June 5th, 1893) relates the following case: A man, aged 22, complained of pain and noises in the right ear, which had been present for two days. The drum membrane looked dull, and bulged over its posterior part. The affection, however, seemed to be slight, and the ear was syringed out. Later in the day the patient shivered and seemed ill. The evening temperature was 38.6° C. In the night he was groaning and getting out of bed. The following morning he became more or less unconscious, with restlessness, grinding of teeth, dilatation of the right pupil, and loss of the light reflex. The abdomen was indrawn, but there was no rigidity or tenderness of the neck muscles. Icebags were applied to the head, an incision made behind the ear, and calomel administered internally. In the afternoon the pulse was rapid, the breathing stertorous, and death occurred within thirty-two hours of the onset of the meningitis. At the necropsy there was a general suppurative meningitis, especially over the right temporal region. There was dulling and thickening of the dura mater over the temporal bone, but no thrombosis of sinuses. There was old pus, with cholesterol crystals in the middle ear and in the labyrinth. The mastoid cells were intact, and there was no disease in the roof of the tympanum. The meningitis was the result, not of recent, but of old, ear disease. There was no exit for the pus through the drum membrane. The infection had spread through the labyrinth and not through the tympanic roof or mastoid cells. This form of meningitis, due to the staphylococcus, as was proved in this case bacteriologically, is quite distinct from the cerebro-spinal meningitis brought about by the pneumococcus infection. Micro-organisms can gain access from the mouth to the ear

through the Eustachian tube, hence the importance of the cleansing of the mouth. The author naturally lays great stress upon prophylaxis in these cases. The importance of incising the drum membrane is obvious, although it may be doubted whether it would have been of service in this case at the time when the patient was seen. The author also refers to a recently recorded case where the infection travelled through a congenital defect in the roof of the tympanum.

SURGERY.

(512) Excision of an Hydatid Cyst of the Lung.

DELAGÉNIÈRE (*Sem. Méd.*, June 10th) reports the following case. A woman was seized with intense pain in the left side of the chest, soon followed by the appearance of an urticarial eruption. It was found that there was considerable effusion in the left pleura, and two successive punctures gave issue to a greenish liquid containing pus globules. An incision was made at the level of the left intercostal space. As the lung was adherent to the thoracic wall, Delagénière made an incision several centimetres in depth through lardaceous tissue bounding a cavity; this was freely opened and drained; on the following days fragments of hydatid cyst were discharged. A solution of sublimate was injected several times, but there being no improvement in the patient's condition, a large opening in the chest wall was made, 12 centimetres of the seventh and eighth ribs, and 10 centimetres of the sixth, being resected; the cyst, which formed a cavity of the size of a man's fist, was then easily stripped away. The result was a complete cure. Berger, in discussing the case, stated that in a case of hydatid cyst of the lung, in which he had made a large opening, washing out of the cavity was followed almost immediately by a violent suffocative paroxysm; this was accompanied by the expulsion through the mouth of liquid containing fragments of hydatid cyst, and was speedily followed by death.

(513) Recurrent Volvulus Treated Successfully by Secondary Operation.

FINNEY reports (*Johns Hopkins Hospital Bulletin*, March, 1893) a probably unique case of recurrent volvulus of the colon, in which a second operation was performed with success. The patient, a male, whose age is not given, was operated upon for the first time by Halstead in January, 1890. When the abdominal cavity had been opened by a median incision an enormously distended colon projected through the wound, which was found to have formed a complete volvulus, the constriction being at the sigmoid flexure and at the ileo-cæcal valve. The bowel was replaced in its natural position, and the patient afterwards made a good recovery. The second attack occurred in December last, nearly three years after the date of the first operation. After an abdominal

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incision, avoiding the course of the first cicatrix, had been made, a large mass of distended colon was again forced out through the wound. This, it is stated, described a complete turn, but there was also found a band of adhesion extending from the original scar to the upper portion of the sigmoid flexure. This band, which was almost as thick as the little finger, and about two inches and a half in length, was excised after the application of a ligature near each end. The severe and exhausting symptoms of obstruction were at once relieved and the patient remained quite well up to the time when the report was published. In alluding to the risk of a return of the volvulus the author states that at the time of the operation he considered the feasibility of doing something to prevent such an occurrence. The only plan that suggested itself was to shorten the mesocolon, as advocated by Senn. It was thought, however, that owing to the great length of the mesocolon such a procedure would increase rather than lessen the risks of a recurrence.

(514) Early Trephining in Head Injuries. LUCAS-CHAMPIONNIÈRE (*Gaz. d. Hôp.*, June 6th) recently showed at the Société de Chirurgie a man who had been trephined three weeks before, an opening 6 centimetres in size being made, owing to sharp pain all over the head and an insupportable feeling of giddiness. He fell from a height of about 23 feet, immediately lost consciousness, and did not recover it until nineteen days after, when he had forgotten all that had happened. No epileptic attacks, no paralysis. The dura mater was intact, but a grey tint of the meninges and some small white points left no doubt of the existence of commencing meningo-encephalitis. All symptoms disappeared after the trephining, as is often the case with such patients. The author lays great stress on the advantages of early interference in these cases.

(515) Empyema of the Antrum of Highmore.

CARTAZ (*Sem Méd.*, May 17th) says that until twenty years ago empyema of the antrum of Highmore was only diagnosed when the cheek became much swollen, together with signs of inflammation. The disease is now recognised by unilateral suppuration, the presence of pus around the opening of the antrum and over the posterior half of the middle turbinated bones, opacity of the sinus when tested for translucency, together with neuralgic pains, etc. Dental lesions are in the majority of cases the cause of the disease, but the affection may originate from diseased conditions of the nose. The method of treatment depends upon the etiology of the disease; when due to the presence of a carious tooth, this must be removed. If due to other causes, the cavity must be opened through the inferior nasal meatus. This second method should especially be adopted if the diagnosis is uncertain, and it is advisable to perform

an exploratory operation so as to confirm the diagnosis. Three methods of operation have been adopted. By Louondain's method the aperture of the antrum into the middle meatus is enlarged by passing a catheter. The patient, however, is unable to wash out the antrum himself, and, owing to the position of the opening, thorough evacuation of the purulent contents cannot be ensured. It is better to open the antrum through the inferior meatus by a drill or trocar. This method should only be used when there are no carious teeth. In Cooper's operation, the cavity is opened through the alveolus of the bad tooth; an instrument is first introduced through the roof of the alveolus, and then the aperture is increased in size by the American drill. Desault's operation consists in raising a flap of mucous membrane and periosteum from the bone in the region of the canine fossa, and then opening the cavity by paring the bone with a chisel. Cooper's operation is the best except when it is wished to curette the whole of the cavity; then Desault's method is advised. Louondain's method should only be used when the diagnosis is uncertain. After opening the cavity and evacuating the contents, irrigation with antiseptics, insufflation, or packing with tampons of gauze may be done. All these methods, according to the author, give good results. Cartaz has operated on 32 cases through the mouth, 3 through the canine fossa, and 29 through the alveoli.

MIDWIFERY AND DISEASES OF WOMEN.

(516) Rupture of Uterus in Version and by Forceps.

HERZFELD (*Centrabl. f. Gynäk.*, No. 17), in speaking at the Vienna Obstetrical Society in favour of treating rupture of the uterus by simply plugging the laceration with iodoform gauze, related two cases where the accident was attributed by him to malpraxis. The first patient, aged 32, had borne nine children; she was brought into hospital in a state of collapse; the right hand presented. The feet could be plainly felt under the parietes to the right. Decapitation was practised, then it was found that there was a laceration in the wall of the cervix to the right, opening into the peritoneal cavity. As in transverse presentations the rupture is generally through the point where the head presses, and as in this case it was situated on the side where the feet lay, Herzfeld attributed the accident to attempts at turning sometime before admission. But little hæmorrhage followed, and there was no evidence of sepsis. The uterine wound was plugged, and the patient made a good recovery. In the second case the patient was a primipara, aged 22; she was admitted one morning into hospital. At 7 on the previous evening the pains began, the membranes broke at 10, and a doctor was sent for at 12, as the labour made no progress. In the course of two hours he made three attempts to

apply the forceps, but could not bring down the head. At half past 2 she was admitted, bleeding freely. A tongue-shaped piece of bruised tissue, about 3 inches long, hung from the vulva, and was found to be attached to the cervix on the right side. Detection of the injury by palpation was puzzling; the head was in the brim, and a long rent was found, extending from the vestibule upwards and backwards into the recto-vaginal septum, which was dissected up, so that the hand could readily be passed between the vagina and the bowel. The rent ended above behind the foetal head, but communicated at its upper part with another rent running transversely, admitting the hand through the vagina into the peritoneal cavity. With a few pulls of the axis-traction forceps, a living child was delivered. The long and complicated laceration in the vagina was evidently caused by the unsuccessful attempts to introduce the forceps before admission. The wound was plugged with iodoform gauze, and healed well, though there was temporary rise of temperature. Herzfeld observes that plugging is always sufficient, unless there is so much hæmorrhage that pressure from below would be insufficient to check it. In such cases, especially if aseptic, the prognosis is favourable; if sepsis has set in, abdominal section is as unfavourable as plugging.

(517) **Simultaneous Primary Cancer of Uterus and Breast.**

MERCANTON *Rev Méd. de la Suisse Rom.*, April 20th, 1893), in the course of an important essay on multiple primary cancer, states that he has not been able to find one single trustworthy report of that phenomenon in the breast and uterus of a patient. He publishes three, all formerly under his own observation. The first patient was 51. In 1849, pain on defæcation set in; in the summer of 1890, she observed hardening in the left breast. In November of that year she was examined; there was distinct cancer of the breast, and cancer of the body of the uterus. Operation was out of the question. The second patient was 48. On April 12th, 1889, the right breast was removed for cancer, and the axilla cleared. On May 31st of that year, a cancer of the cervix was excised. On November 22nd, the breast cancer had returned, and the right axilla was again cleared of infiltrations. In May, 1890, there was fresh recurrence in the cicatrix of the right breast, and also a cancerous mass in the left, which was removed by operation. In June, 1890, the left axilla was cleared of metastatic deposits. Free serous discharge from the uterus set in. The uterus was found fixed; cancerous masses could be felt inside the cervix. There was recurrence by December, 1890, in both axillæ and in the cicatrices of the breasts. The third patient was 48. A tumour had existed in the left breast for two years; it now adhered to the skin and the axillary glands were involved. A great cancerous mass, bleeding freely, was felt in the upper part of the vagina. Mercanton observes

that the true simultaneity of the mammary and uterine disease was evident in these cases. There is no direct track for the transport of cancerous elements between the breasts and the uterus. In all three, the parts in question were all deeply involved before the disease extended to other structures.

(518) **Subserous Cystic Myoma.**

STEFFEK (*Centralbl. f. Gynäk.*, No. 14, 1893) exhibited, at a recent meeting of the Berlin Obstetrical Society, a large cystic fibroid, which resembled an ovarian cystoma. The outer wall was easily lacerable. The patient was 42, she had borne three children, the youngest eighteen years previously, and she had suffered badly from dysmenorrhœa for the last six years. She had been treated for two years locally with tampons and injections by a female doctor, who apparently overlooked the tumour altogether. For several months there was severe dyspnoea, and the tumour reached to the ribs; it was diagnosed as ovarian, but on account of its great size the diagnosis was very difficult. The tumour was adherent in many places to omentum and intestine. Over two litres of dirty coloured serum were emptied out of it, as well as an abundance of colloid material without clots. The tumour still looked much like an ovarian cyst, until it was drawn entirely out of the wound, when it was seen to grow from the fundus. The tubes sprang from below it. The fundus was amputated with the tumour, the surface of the stump sewn over, but fastened to the parietal peritoneum. The parietes were closed over the stump down to the lower angle of the wound, which was drained with iodoform gauze. On the morning of the third day signs of peritonitis set in, and the patient's condition was grave. Steffek opened up the lower angle of the wound and found much foetid secretion around the stump. Free disinfection was practised by daily change of dressings. The patient recovered, and Steffek observes that complete intraperitoneal treatment would have resulted in death.

THERAPEUTICS.

(519) **Chloralose.**

At a recent meeting of the Reale Accademia Medico-Chirurgica of Naples (*Gazz. d. Osp.*, June 1st) d'Amore reported the results of his clinical experience of chloralose in a number of different affections in which obstinate insomnia was a prominent symptom. In some of these other hypnotics, including chloral, had failed. Chloralose in every case induced prolonged and restful sleep, which was followed by no disagreeable after-effect on awaking. D'Amore sums up the effects of chloralose as follows: It has marked soporific properties; it has an excitant action on the spinal cord, but none on the heart or respiration; it causes no secondary effect whatever, a decided advantage as compared with other hypnotics, particularly chloral

hydrate. Chloralose induces sleep when given in doses varying from 30 centigrammes to 1 gramme, these doses being much smaller relatively to the body weight than those required to produce a hypnotic effect on animals.—At the Reale Accademia di Medicina of Turin Lombroso and Marro (*Gazz. d. Osp.*, June 10th) reported the results of fifteen observations on three lunatics to whom chloralose was given in doses varying from 25 to 50 centigrammes. Sleep was always induced at first by a dose of 25 centigrammes, but afterwards it was found necessary gradually to increase the dose in order to obtain the same effect. When the remedy was discontinued insomnia returned. The authors also studied the modifications in the temperature and in the urine which followed the use of the remedy. In one case a subfebrile temperature was recorded; in the others the temperature always fell from two to nine-tenths of a degree (Centigrade). As regards the urine, in one case there was diminution, absolute as well as relative, in the amount of urea; in the others it was increased. In all the chlorides were increased. The author affirms that chloralose is the least harmful of all the hypnotics in common use, and very seldom causes systemic disturbance of any consequence. In one case, which he watched with special attention, Lombroso observed tremor and loss of memory follow the administration of doses of 15 to 25 centigrammes.

(520) **Salophen.**

E. KOCH (*Deutsch. med. Woch.*, May 4th) calls attention to the advantages possessed by this new antirheumatic and antineuralgic, which is a combination of salicylic acid and acetylpara-amidophenol, in which phenol is so intimately combined that separation of it resulting in phenol poisoning, as is often seen with salol, is impossible. The drug consists of white crystals, insoluble in cold, more so in hot, water and in alcohol or ether. In the presence of an alkali it separates into its two components—salicylic acid and acetylpara-amidophenol—both of which can be detected in the urine. It is not dissolved in the stomach, but in the alkaline secretions in the small intestines. The pain, swelling, and pyrexia of acute rheumatism are promptly relieved by doses of 3 to 5 grammes, or at most 6 grammes a day. It is tasteless, and is attended with no unpleasant after-effects. The more recent the attack, the quicker and the more certain the action, but in chronic cases and in arthritis deformans it is useful to alternate it with other medicines. It is an antipyretic in doses of 1 to 4 grammes, according to the severity of the case. Its antiseptic action appears to be only trifling. The chief field for the drug is that of nervous affections of various kinds—neuralgia, sciatica, pleurodynia, neuritis, cephalgia, hemicrania, and other painful affections. In slight cases the dose is 0.75, in severe 3 to 4 grammes; it is best given in powder,

0.75 to 1 gramme as a single dose; but doses of 3 to 5 grammes have been unattended with any ill effects.

(521) **Intravenous Injections of Corrosive Sublimata.**

JEMMA (*Gazz. d. Osp.*, June 10th) having obtained excellent results from the intravenous injection of corrosive sublimate, as practised by Baccelli in some cases of cerebral syphilis, was encouraged to try the same method in some other infective diseases. Starting from the notion that to-day more importance is attached to the neutralisation of the poisonous products of microorganisms than to the latter themselves, it occurred to him that it might be possible to effect this by the introduction of corrosive sublimate directly into the blood stream. He accordingly injected that substance into the veins of six patients suffering from typhoid, one from rheumatic fever, one from erysipelas, and one from tuberculosis. While careful not to draw any positive conclusions from so small a number of cases, Jemma points out that at any rate in no single case were the injections (some 300 in all) followed by the slightest ill effect. In the typhoid cases they seemed to do good. He used for the purpose a Pravaz syringe. The water in which the sublimate was dissolved was always previously sterilised and filtered several times; the quantity of sublimate used for a first injection was always 1 milligramme; the highest dose given was 4 milligrammes. Jemma suggests that mercury may be advantageously administered in the way described when a rapid effect is desired. He thinks this mode of administration preferable to subcutaneous or intramuscular injection, both for its greater therapeutic effect and its painlessness.

(522) **Phosphorus in Tetany, Laryngismus, and Convulsions.**

KASSOWITZ, in a long essay (*Wien. med. Woch.*, Nos. 13 to 21, 1893), discusses the relation of laryngismus stridulus and tetany to each other and to rickets, and enumerates the various nervous manifestations which he considers ought to be attributed to the presence of rickets. He presents an analysis of the phenomena observed in 172 cases, and asserts that glottic spasm is observed almost exclusively in infants which present unmistakable signs of acute rickets. In a large proportion of such cases there is cranio-tabes, while the remainder almost all show some delay in the closure of the anterior fontanelle, or characteristic deformity of the skull. If observed in elder children it will be found that they present symptoms of active rickets. As a rule other signs of disturbance of the central nervous system may be discovered. The nervous phenomena due to rickets are as follows, arranged in order of frequency: (a) loss of sleep, head sweating; (b) facial irritability; (c) expiratory dyspnoea and glottic spasm; (d) general convulsions; (e) general sweating; (f) Trousseau's phenomenon; (g) spontaneous tetany; and (h) nystagmus and spasmus nutans.

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Any of these symptoms may occur alone or they may be combined in various ways. Laryngismus and expiratory dyspnoea are particularly apt to be associated with symptoms of tetany. All these nervous disorders are benefited by phosphorus in medicinal doses. The earliest effect of the treatment is to be seen in the relief of general convulsions, insomnia, respiratory spasm, and tetany; a little later sweating and spasmus nutans are relieved. Facial irritability may persist for a long time, but is undoubtedly benefited by the treatment.

PATHOLOGY.

(523) **Texas Fever.**

THE investigations of Theobald Smith into this subject (*Centralbl. f. Bakt.*, xiii Band, No. 16) lead him to reject the bacterium described by Billings (1888) as the cause of this disease; he has been unable to discover this organism in any case. He finds in the fresh blood of cattle affected by this disease (of which the chief symptom is severe anæmia, with or without hæmoglobinuria) pale, rounded, protoplasmic masses, sometimes showing amœboid movements, within the red corpuscles. They occurred in over 100 cases from 14 separate outbreaks, and the author regards them as parasites, the cause of the disease. Occasionally these bodies are spindle- or pear-shaped; in the latter case two, with their narrow ends opposed, are often present in one corpuscle. In the broader end a tiny dark object, rarely replaced by a vacuole-like structure, is to be seen in the fresh state. The length of the parasite is 2.5 to 4 μ , the breadth 1.5 to 2 μ . Cover-slip preparations, heated after Ehrlich's method, and stained with alk. methylene blue, show the organism well. Destruction of the red corpuscles is always associated with the presence of these parasites. The number of infected corpuscles is seldom higher than 1 to 2 per cent. in the circulating blood. In contradistinction, when the animal dies or is killed in the febrile stage, a very large number of blood corpuscles is found to be infected in the capillary tracts of the various tissues. Free parasites are to be met with in the later stages of the fever. When first observed the author regarded these organisms as protozoa; as to his present view no statement is made. Cattle inoculated with the blood of diseased animals acquire the disease, exhibiting the earliest symptoms in a few days. Other species of animals similarly treated remain quite healthy. Infection is conveyed through the agency of ticks, which are found in numbers upon the skin of these cattle, especially on the inner aspect of the thighs and about the udders. The female drops off when ready to lay her eggs, and the latter are deposited on the ground. The young crawl on to the cattle soon after their liberation, and they carry with them the infection. Meadows may be infected, in the absence of cattle, by strewing the grass with pregnant ticks. Moreover, the

disease may be experimentally transferred from animal to animal by means of the ticks. The latter cannot exist below a certain temperature; frost destroys the eggs. The prevalence of the disease in the southern States of America is thus explained; its spread is to be prevented by destruction of the ticks.

(524) **The Fungus of Favus.**

SARRAZES (*Annales de Derm. et de Syph.*, No. 4, April, 1893) cultivated the fungus of favus from seventeen cases, and found that in each case he was dealing with the same parasite—the achorion Schoenleinii. The parasite of the favus of the fowl (epidermophyton gallinæ, Megnin) differs essentially from the achorion Schoenleinii, both from the point of view of inoculations and cultures, and also botanically. This parasite produces large scaly erythematous patches on the human skin, but the author never saw it produce a true favus cup. The parasite of the favus of the dog produces in the mouse, like the achorion Schoenleinii, rapid destruction. When inoculated in the hen the result was negative. It was inoculated nine times on the human skin; eight times it only produced erythema, but in one cultivation, after being passed through the mouse, it produced typical favus cups. It is usually distinct from the achorion Schoenleinii. The three varieties can be inoculated successfully on the mouse.

(525) **Experimental Production of Acholia.**

DENYS AND STUBBE (*Centralbl. f. allgem. Path.*, Bd. iv, No. 3, 1893), after referring to the work already done in this direction, record their own results, obtained by a novel method of experimentation, which has the advantage of simplicity over other methods. In previous experiments the blood of the portal vein has been diverted from the liver, and made to flow directly into the inferior cava by establishing a communication between the trunks of these two vessels (Eck's operation). Under these conditions the animals have presented symptoms similar to those observed in acholia (cholæmia) in man. Precisely similar symptoms (for example, irritability, drowsiness, vomiting, weakness and ataxy of extremities, convulsive movements) are produced by the method of Denys and Stubbe, which consists in injecting into the liver through the bile duct a 2 to 3 per cent. aqueous solution of acetic acid, leaving undisturbed the portal circulation. By this procedure the functional activity of the liver cells is checked; they are in fact, destroyed, hence the symptoms. That these are not ascribable directly to the acetic acid the authors prove experimentally. Though formerly of opinion that the symptoms indicated by the term "acholia" were due to the circulation of a toxalbumin, Denys and Stubbe now admit that those observers are right who ascribe the disturbance to the accumulation of carbamic acid in the blood, a substance which, in the normal state of the liver, is converted into urea.