

layer, which, exhausted with the effort, underwent a species of chromatolysis, leaving the clamant calls of the now uncontrolled sex instincts of his infragranular layer to work their way into Reading gaol. Students of literature will be enabled to recall many other cases of sex immorality in literary men of genius.

In the many cases of cerebrally under-developed children whom I have seen during the last few years there are few indeed where the examination did not give some indication of the state of development of the cortical layers of the brain, and there were practically none—of the bad cases at least—where the animal instincts of an uncontrolled infragranular layer did not manifest themselves in either the form of uncontrolled sexual activities or some form of theft. Both these are purely animal instincts. If cerebrally under-developed human individuals, through no fault of their own, are to continue to be allowed to exercise their animal instincts at the expense of society, it is time to abandon efforts at social reconstruction. Society demands, and is entitled, to protect itself against the ravages of the cerebrally under-developed, who should be the object of institutional treatment. If that were begun with the children of to-day, of whom there should be a complete national mental and physical record, the next generation would be freed from the incubus of much of the present-day maintenance of the criminal, the prostitute, and the social derelict, because it is now possible, during childhood, to diagnose many of the physical factors which, *given the environment*, make, from the child of to-day, the criminal of to-morrow. The really ironical part of society's indifference to a scientific problem, which it understands only dimly or not at all, is that such individuals, under proper control and guidance, can be made to be self-supporting.

"It is a curious fact," says Groszmann, "that the American nation is spending only 600 million dollars annually for schools, churches, and other constructive agencies; in other words 500 million dollars *less* is spent to develop human assets than is spent to keep up the human failures. It would seem reasonable to expect the American people to apply their recognized business perspicuity to invert these figures, investing more for *constructive conversion and conservation*. Such investment in proper methods of conversion of waste would reduce the encrusted refuse-heap now accumulating in the form of human derelicts, causing it automatically to shrink to reasonable bounds. All the failures in the business of life, among them the 500,000 or so of criminals 'doing time' in the prisons of this land, were once pupils in our schools, or playfellows in our city streets, in the villages, and the rural districts."

In view of these facts I must take the strongest exception to the concluding remark of an anonymous writer in a medical journal, when he says, "conduct, the person's reaction to the circumstances of real life, must be the deciding factor in the diagnosis of mental abnormality." This is a pernicious doctrine which ignores alike the gravity of the social menace and the findings of neurology. It is a mere locking of the stable door after the stealing of the steed. With a properly established child study clinic, and the taking of a physical and mental census of the school population of to-day, the next generation would be rid of many of its derelicts and criminals, and the business of life placed on the basis of efficiency. "The saving is not merely one of money, but, what is vastly more important, human souls."

#### REFERENCE.

<sup>1</sup>Publications of the Training School at Vineland, New Jersey, No. 20, May, 1920.

## A PLEA FOR MORE FREQUENT USE OF CAESAREAN SECTION.

WITH A DESCRIPTION OF A NEW OPERATION.

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CAESAREAN SECTION is an operation which is having an ever-widening application in the complications of pregnancy and should, and undoubtedly will before long, replace many of the complicated and risky manipulations at present practised.

Craniotomy, a relic of a barbaric past, is after all not so far removed in its sacrificial brutality from a so-called difficult forceps case where there is great risk to mother and child. The ordinary treatment of placenta prævia,

entailing as it does risks from sepsis to the mother and grave risks to the child owing to difficulty with the after-coming head, and the frequently difficult and dangerous manipulation necessary to bring down the arms, and cross birth, with its intrauterine manipulations, present examples of conditions in which Caesarean section may well merit the careful consideration of the surgeon.

Eclampsia is rightly regarded as one of the most dangerous complications of pregnancy, and too often in private practice the first one hears of the case is when the patient is in convulsions. Frequently, no doubt, prompt treatment on medical lines leads to a cure, but there is no certainty about the issue and accouchement forcé has rightly been abandoned.

In my experience the best results are got by the early performance of Caesarean section. I have no hesitation in recommending this when convulsions are present, and I am not at all sure that it is not the best practice in a case of increasing albuminuria which resists treatment and before convulsions supervene.

There is no question about the simplicity and safeness of Caesarean section as an operation. One enters and leaves the uterus by an aseptic route, and has the added advantage of inspecting the whole interior so that no placenta or membrane is retained. Under the best conditions the vagina is not an aseptic route, and if the child is delivered after intrauterine manipulation the bruising and abrading of the tracts considerably lower resistance to infection.

The drawback to Caesarean section is the unreliability of the scar for future pregnancy, and unless the patient is sterilized the risk is a real one.

I have devised the following operation with a view to leaving a scar which, I believe, will stand the strain of future pregnancy. It is based on the fact that there are three layers of uterine muscle; the *outer layer* with its muscle fibres running transversely, the *middle*, which contains the vessels, with its fibres running longitudinally, transversely, and obliquely, with no regular arrangement, and the *inner*, arranged as two hollow cones with their bases joining at the middle of the body of the uterus, and their apices surrounding the orifices of the Fallopian tubes. In the non-pregnant uterus these layers are difficult to differentiate surgically. In the pregnant uterus, on the other hand, the outer and middle layers are easily differentiated.

I have taken advantage of this to perform what might be described as a form of gridiron incision. The abdomen is opened in the middle line, and a large strip of gauze wrung out of warm saline is packed between the uterus and the anterior abdominal wall in order to form a dam completely round the incision. The external layer of uterine muscle is now incised transversely, the incision being just below the centre of the body in front and two inches above Bandl's ring. To start the incision I make a small V exactly in the middle line and about one-eighth of an inch into the muscle. This V facilitates accurate apposition in stitching later. A pair of straight, blunt-pointed scissors are inserted into this and passed transversely under the superficial layer of muscle, first to one side and then to the other. The scissors pass easily, and leave a tract between the two layers. The superficial layer is then incised along this tract. It is necessary to carry this incision the full distance across the front of the uterus. The superficial layer is then peeled from the middle layer upwards towards the fundus. This is easily and quickly done with gauze, and the effect is not unlike peeling an orange. The middle layer is now exposed, and the large tortuous vessels it contains are plainly seen. Any bleeding points on this layer should be seized and ligatured, although this is rarely necessary. The middle and inner layers are now incised longitudinally, and the line of incision selected which seems most clear of blood vessels. This is usually, but not always, the middle line. The child and placenta are now delivered, the assistant grasping the uterus firmly to control haemorrhage. The uterus is turned inside out and its interior inspected. The longitudinal incision is now closed by a continuous No. 4 catgut suture, and the transverse incision in the same manner. The uterus is covered with large gauze squares wrung out of normal saline at a temperature of 120°, and kneaded until it contracts. The abdominal wound is closed in the ordinary way.

My experience with this operation is that the bleeding

is distinctly less than with the ordinary incision. The stripping of the outer layer is almost bloodless. I attribute the diminished bleeding to the fact that one is able to select a line of incision most free of vessels, and it may be that the stripping of the outer layer permits of greater retraction of cut vessels. The scar resulting from the operation is an inverted T; the principal scar through the middle and inner layers being covered by a flap of the external layer, the scar of which is the cross member of the T. The two scars not only run at right angles but are not opposite one another.

I have performed this operation successfully on eight occasions; four were cases of eclampsia, two of placenta praevia, and two of contracted pelvis; unfortunately I have not yet had an opportunity of seeing any case in a subsequent pregnancy. I am of opinion, however, that the resulting scar should greatly diminish the risk of rupture.

## Memoranda:

### MEDICAL, SURGICAL, OBSTETRICAL.

#### ACUTE DILATATION OF THE STOMACH.

AN example of the above condition occurred recently at the General Hospital, Birmingham. The patient was an obese man of 46; he was over 13 stone in weight, and of the hypochondriac type. He was admitted on May 1st, 1921, with severe upper abdominal pain and vomiting; the diagnosis of gall-stone colic was made. After three days the symptoms subsided, but another attack occurred on June 11th. It was decided that operation was necessary, and this was performed on June 20th. A small umbilical hernia was dealt with, and the abdomen opened. The appendix and gall bladder were removed, the latter containing ten rather large gall stones.

Vomiting occurred an hour after operation, and continued at intervals of an hour or so throughout the two days following, but on the third day much more serious and projectile vomiting ensued. By the fifth day vomiting was less frequent but sometimes more copious. Thus 30 to 35 oz. of yellow fluid neutral to litmus were brought up at one bout. During the fifth to eighth days following operation over 100 oz. of vomited fluid was measured daily. A remittent temperature of 99° to 101° F. persisted, with a pulse rate of 110 to 140, throughout this period of eight days. The patient became progressively weaker, and died on the eighth day. Lavage of the stomach and rectal feeding were tried without success. A striking fact towards the end was that the patient vomited twice to three times the total amount of fluids given daily.

At the *post-mortem* examination the operation area appeared to be sound, there being no peritonitis. The stomach was found to be enormously dilated. Over 71 oz. of yellow fluid was present within it. The pylorus was not obstructed, but the duodenum and upper two-thirds of the small intestine were extremely dilated. The coils of small intestine were lightly matted together by a delicate fibrinous reticulum of exudate. The liver was normal apart from some fatty infiltration. The heart showed marked fatty degeneration. The other organs presented no important abnormality, but early bronchopneumonia was evident on examination of the lungs.

The patient was admitted under the care of Mr. Seymour Barling, F.R.C.S., to whom I am indebted for permission to report the case.

Birmingham.

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#### RAT-BITE FEVER.

DR. BURTON-FANNING'S interesting paper upon five cases of rat-bite fever (June 18th, p. 886) induces me to record briefly a case that occurred in my own practice eighteen months ago. Towards the end of November, 1919, a woman, aged 32, was bitten by a rat on one finger; when she came to me, three days afterwards, she had a very septic finger, inflammation over the back of the hand and red streaks up her arm. Three weeks afterwards she had her first attack of shivering and sweating, and pain in the back and legs, with some difficulty of moving her legs and standing; this seizure, which was the longest she had, lasted for five days; after an interval of three or four

days she had another attack of shivering and sweating. On nearly every occasion these symptoms were accompanied by erythematous blotches which might appear on any part of the body and disappeared with the fever. The attacks lessened in severity and the interval became longer; it is estimated that she had at least twenty attacks. I frequently saw her at the height of the fever, when her temperature would be 103° or 104° F. The patient lived far in the country and no nurse was available, so that a temperature chart was an impossibility. Quinine and salicylates appeared to have no effect on the symptoms; tabloids of iron and arsenic were commenced rather late and were given freely; they certainly had a good effect, and I think shortened her illness. Her convalescence was rather protracted; it was not until the summer that she fully recovered her usual health.

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CHARLES RANDOLPH.

## Reports of Societies.

### PHYSICAL EDUCATION IN AMERICAN UNIVERSITIES.

A MEETING of the Medico-Chirurgical Society of Edinburgh was held on July 6th, Emeritus Professor F. M. CAIRD presiding. Dr. R. TAIT MCKENZIE, Professor of Physical Education in the University of Pennsylvania, described the system of physical training carried out there and in many other American colleges and universities. His own chair was founded in 1904, and some form of physical culture now formed a regular part of the curriculum in Pennsylvania University, a certain proficiency being required of every student in qualifying for his degree. This university had about 11,000 students, and the freshmen, about 4,000 each year, underwent a complete physical examination on entrance: in the first place defects in posture were dealt with by specially prescribed exercises, while more serious defects in the heart and lungs were met by suitable exercises or appropriate treatment. The details of this physical analysis, with other items, were entered upon a card for each student. A few lectures on physical fitness, diet, hygiene, and venereal disease were then given. Broadly, three forms of physical culture were provided for the young students: a variety of outdoor sports and games, about twenty in all; a course of gymnasium exercises; and specially prescribed exercises. But all were supervised, attendance was recorded, and a certain grade of proficiency required. About one-half of the new students took the gymnasium course; one-third engaged in outdoor sports; while the remainder, including the more enthusiastic students, carried out the specially prescribed exercises. He did not encourage the gymnasium course for more than a year, or at most two years; and, indeed, after one year many of the men discovered an aptitude for some athletic game and took that up, some of their finest athletes being discovered in this way in the gymnasium. They realized that the majority of men could not be made into great athletes, but their experience taught them that nearly all young men could be educated in one or other game, and also in alertness, versatility, and physical intelligence. The gymnasium training included instruction in the movements that were the basis of such sports as boxing, wrestling, and fencing. In the United States great public interest was taken in their athletic competitions, especially in football and baseball, which were witnessed by enormous crowds. A large revenue came in from these matches, but this all went into the common exchequer; in fact, football really paid the way of the gymnasium, rowing, and other unremunerative sports. In this way money abuses were guarded against; and care was also taken to repress professionalism by demanding even from their best athletes a certain grade in college proficiency, and also a residence rule of one year.

Sir LESLIE MACKENZIE said that a right policy of physical education was very wide, and meant intelligent superintendence of the individual almost from conception to the end of adolescence. The Royal Commission in 1903 had supplied ominous facts as to the poor physique of our people, and the institution of medical inspection in schools