Langdon Down's. Consanguineous marriages were not apparently much less prolific than others. The comparison, however, was not quite sound, for Dr. Shuttleworth's statistics did not include epileptic children, whereas the lecturer's did. Recent examination of the notes of 400 fresh cases showed 26 were children of consanguineous unions, or 6½ per cent. Nineteen of these were the children of first cousins, or 4.75 per cent.; 6 were children of second cousins, and 1 of third. On further analysis I was struck, said the lecturer, with the obvious causes of their feeble-mindedness, other than the marriage of near kin, which the notes of my cases brought to light. I took out of my portfolio twenty unselected cases, and, on examining the life-history of their progenitors, I found that in one only was the consanguinity of the parents the only discoverable factor. I am convinced that frequently the absence of investigation into the other possible factors has led to such contradictory opinions on this subject. My views are quite in harmony with those of Dr. Charles Withington, who regards morbid inheritance rather than specific degenerative tendencies as accounting for all infirmities met with in the offspring of cousins. Dr. Kerlin, of Pennsylvania, a remarkably accurate observer, arrives at precisely the same conclusion as I have, that 7 per cent. of feeble-minded people are the children of consanguineous marriages. Dr. Voisin made a careful examination of 1,077 of his patients at Bicêtre and Salpêtrière, and in no instance could healthy consanguinity be regarded as the cause of idiocy, epilepsy, or insanity. I have thus endeavoured to show that while the marriage of cousins insures a degenerate offspring where there is something morbid in the family history—where phthisis, scrofula, and especially the neuroses exist, I am by no means sure that by a judicious selection of cousins the race might not be improved.

The Influence of Illegitimacy.—Dr. Arthur Mitchell, from statistics taken in Scotland, came to the conclusion that illegitimacy was a very common cause of idiocy; and it was reasonable to expect that the mental agony endured by the mother should arrest the development of the embryo, and give rise either to congenital or developmental idiocy. Attempts to produce abortion might also have a similar effect.

Idiocy from Deprivation of Senses.—Idiocy was occasionally induced by deprivation of the senses. The case of Laura Bridgman was known wherever the English language was spoken, as a triumph of the perseverance of the late Dr. Howe over difficulties which seemed insurmountable. The lecturer mentioned the case of a boy, under his care, who could neither see, hear, nor speak; this deprivation was from birth. He had a very acute sense of touch, and that of smell was equally good. He knew by their odour all those who were brought into daily relation with him, and caressed lovingly those who ministered to his wants in the way of food and warmth. Attempts were made to teach him to associate actions with things, but failed, owing to a damaged cerebrum, and he became epileptic.

Cretinism.—A very important class of cases, owing its origin to malaria or other endemic causes, was cretinism. It was not unknown in England, and had been found in Derbyshire, in some parts of Yorkshire, and in part of Somersetshire. Cretinism was also met with in England sporadically. Mr. T. B. Curling was the first to call the attention of the profession to these cases in 1850, and Dr. Down brought a case before the Pathological Society in 1869. Altogether, he had had twelve sporadic cretins under his care; and, in the majority, there was reason to believe that they were procreated during the intemperance of the father; some of the later ones could not have been procreated under any other condition. Three of the cases were males, nine females. In three only was there much intellectual response to teaching. The relationship between goitre and cretinism was discussed, and the lecturer observed that it was very noticeable that many of the physical, as well as the mental and moral, characteristics of myxoedema resembled those of sporadic cretinism, and, like it, occurred mostly in women. The only exception he had seen was a cab-driver, brought by Dr. Fenn, of Richmond, before a meeting of the Thames Valley Branch of the British Medical Association.

Influence of the "Over-Education" of Women.—Referring to the doctrine that the higher culture of the faculties of women makes them less capable of becoming "mothers of men," the lecturer said: If there is one thing more certain than another about the production of idiocy, it is the danger which arises from the culture of only one side of woman's nature; so long as only the emotional side of their nature is cultivated, and they are responsive to the least unexpected sound, unreasoning as to the world of nature about them, and thrown into emotional paroxysms by the sights and trials which will be sure to cross their path, they will, from my point of view, be liable to become the mothers of idiots. Without advocating over-pressure, which is as bad for the neurotic boy as for the neurotic girl, and which is to be avoided during the developmental life of the one as well as during

the developmental life of the other, there can be no reason why the faculties which they possess should not be cultivated, so as to make them, not only fit to be "mothers of men," but also companions and helpers of men. At all events, let the trial be made without prejudice; and let us welcome the advent of a time when women shall not be the mere frivolous toys of the hour, but have and enjoy the privileges and rights of which it is absurd to deprive them. My statistics show that we must look mainly to the health and mental life of the parents. They point to the importance of training our sons to be temperate, and our daughters to be self-possessed. They indicate that we should seek alliances for our daughters with men from a healthy stock, that our sons should avoid women whose emotions are developed at the sacrifice of their judgment and self-control. They show that idiocy is often the natural outcome of a gradual process, in which the strain becomes more and more degenerate, requiring only an insignificant factor to produce the direst results.

NOTE ON TINCTURE OF STROPHANTHUS.

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SINCE my communication, at the Cardiff meeting of the British Medical Association, on the Therapeutic Uses of Strophanthus (BRITISH MEDICAL JOURNAL, November 14th, 1885), I have been favoured with many letters from medical practitioners describing their experience of its effects. The general character of this experience has been confirmatory of the statements I had made. The therapeutic employment of strophanthus seems to be extending even more rapidly than was anticipated. Until now, this extension has been impeded by the difficulty in procuring the substance, but large supplies have recently been imported into the country by several drug merchants, and especially by two gentlemen associated with East Africa in their commercial pursuits—Mr. Buchanan, of Blantyre, and Mr. John W. Moir, of the African Lakes Company. The ample supply of strophanthus now available will no doubt lead to a further extension of its therapeutic employment in this country, and probably also in America and in the continental countries of Europe, where hitherto it has been tested to a very limited extent by a few physicians.

It has, therefore, become of importance to consider the pharmaceutical form of preparation that should be adopted, so as if possible to obtain a preparation of uniform strength and convenient dose. Were these conditions to be obtained, the preparation would generally be adopted for therapeutic purposes, and errors and risks from variations in strength and dosage would be avoided.

In the communication referred to, I described several cases of cardiac disease treated with strophanthus in the form of tincture, in which, however, several tinctures varying in strength and in other characters had been administered. These variations were to some extent due to the circumstance that, in the absence of knowledge regarding the therapeutic effects of strophanthus, trials of a tentative description were required with preparations of different strengths before one could be selected whose dose is a convenient one. More recently, I have nearly always employed a tincture corresponding to the official tincture of digitalis (1 in 8), as it was more easy with it to institute a comparison between strophanthus and digitalis. The dose of this tincture was ascertained to be from two to four minims, two minims being, in a large proportion of cases, a sufficient quantity. The preparation has in my hands proved altogether satisfactory, but no doubt for general use its dose may be an inconveniently small one.

Judging from expressions of opinion in various quarters, the requirements of general practice would in all probability be satisfactorily met by a tincture whose doses range from five to ten minims. These doses would be obtained by a tincture of 1 in 20, prepared by the following process; and I would accordingly propose the adoption of this tincture in the future applications of strophanthus in the treatment of disease.

Strophanthus seeds, deprived of their comose appendices, reduced to powder, and dried, 1 ounce or 1 part. Ether, freed from spirit, and from water, 10 fluid ounces, or 10 fluid parts. Rectified spirit, a sufficiency to obtain 1 pint, or 20 fluid parts.

Remove entirely the stalks and comose appendices from the seeds, reduce the seeds to a moderately fine powder, dry the powder by exposing for twelve hours to a temperature of 100° or 120° Fahr., and

weigh. Pack in a percolator (the percolator being furnished with air valves, or being otherwise so constructed that the percolation may be arrested when desired), add ether until the whole of the powder is saturated, and a small quantity of the ether has dropped into the percolator; arrest the percolation for twenty-four hours, and then continue percolating slowly until the whole of the ether has been used. If the last ether percolate should not be almost colourless, use more ether.

Remove the powder from the percolator; expose to the air, and break up any lumps after the ether has sufficiently evaporated; and continue the exposure, heating the powder, if necessary, to 100° or 120° Fahr., until all the ether has evaporated, when a uniform, nearly white, dry powder may easily be obtained.

Repack the powder in the percolator, add enough of rectified spirit to moisten it thoroughly; arrest the further flow of the spirit, and macerate for forty-eight hours; and pass rectified spirit slowly through until twenty fluid parts of tincture have been obtained.

In this process, the preliminary extraction with ether is for the purpose of removing the large quantity of inert oil contained in the seeds, which, if present in the tincture, would cause it to become opalescent on the addition of water.

The dose of this tincture is from five to ten minims. It may also be used in doses of half a minim to two minims, frequently repeated. It is nearly colourless, having a very pale yellow tinge; neutral in reaction, and intensely and rather persistently bitter in taste. It mixes unchanged with water, is not precipitated by solution of tannin, but becomes markedly opalescent when ether is added to it. Solution of perchloride of iron intensifies its yellow colour, and, at the same time, produces a slight haziness in the solution; and, after some hours, the slightly opalescent fluid acquires a greenish yellow colour.

The chemical and pharmacological experiments which I have made show that the seeds contain a much larger quantity of active principle than any other part of the plant. The pericarp of the follicles, and the comose appendices of the seeds, contain a relatively small quantity, and the quantity is not the same in each part of the pericarp. Details of observations on these points, as well as on the histology, chemistry, pharmacology and therapeutics of *strophanthus* are now nearly ready for publication; but, in the meantime, I must express the opinion that the seeds furnish the most convenient and trustworthy preparations for therapeutic administration, and that they alone should be used for preparing the tincture.

ON FRACTURE OF THE TUBERCLE OF THE TIBIA.

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FRACTURE of the tubercle of the tibia is an extremely rare injury, and the case now to be recorded is interesting on that account, and also because it presents, in addition, features of unusual interest in connection with its diagnosis, treatment, and result.

G. W., aged 17, a fairly muscular lad, a stone-cutter, was admitted to the Aberdeen Royal Infirmary on the afternoon of Friday, August 28th, 1885, suffering from the effects of an accident which he had sustained a short time previously. He stated that, when jumping with a pole, he felt something give way in the region of the knee-joint, when he had risen about two feet from the ground. He was examined by the house-surgeon, who diagnosed the case as fracture of the patella, and applied a posterior splint, with elevation of the limb. When I visited the patient next day, the joint was enormously swollen, and extremely painful to touch, and there were two small, movable, bony swellings, one at the upper, and the other—the smaller one—at the lower aspect of the articulation. The patient had been unable to extend his limb, and the slightest movement occasioned great pain. Believing that I had a case of fractured patella to deal with, and holding, as I do, the belief that wiring the broken ends is, if properly carried out, a safe and the only thoroughly reliable mode of obtaining bony union, I arranged to carry the procedure into effect on August 31st. The patella was exposed in the usual way by a vertical incision, when I found that it was intact, but that there was a fracture of the tubercle of the tibia; the ligamentum patellæ, instead of having given way itself, as it is known to do not infrequently, having been torn away with the bony prominence into which it was inserted. The portion of bone was about the size and shape of a small oyster-shell, and on the incision being extended downwards so as to expose it more thoroughly, its fractured surface was turned upwards from muscular contraction. It could, however, be readily replaced, closing with a snap not unlike that of a Cavendish whist-

marker. The joint was full of blood. I attempted to fix the broken bone in position with ivory pegs, but finding that they would not answer, I fastened the detached tubercle to its shaft by means of an Archimedean drill, and having detached the handle, I left the metal point in position, its proximal extremity projecting considerably, to allow of its subsequent removal. The joint was then thoroughly cleared of clots. The soft parts were accurately adjusted, and an antiseptic dressing and a splint applied. The operation was carried out under spray, and I had the advantage of my colleague, Professor

Ogston's, kind assistance. The dressings were removed on the following day, when there was some bloody discharge on the protective and on the piece of gauze overlying it, but it was so slight in amount that the same external dressing was again employed. The patient had had a fairly good night; with the exception of some twinges of pain, he stated that he had suffered nothing. The temperature, on the night of operation, was 99.8° F., and on the following morning, 100.2° F. The wound was not dressed again until September 5th, when it looked well, and was free from all signs of inflammation. It was next dressed on September 11th, when the sutures were removed, healing, except in the neighbourhood of the pin, being complete. The pin was found to be quite loose on September 17th, and it was therefore taken away. There was slight superficial necrosis of a small portion of skin, but this soon healed under a carbolic oil and boric lint dressing, which was now substituted for gauze, and the limb was put up in a gum and chalk bandage.

The stiff bandage was removed on November 2nd, when union was found to be quite firm, but the knee-joint was, of course, extremely stiff. Massage was then employed, and the power of flexion and extension was gradually regained, so that, on November 9th, he could flex his leg to an angle of 120°.

On November 12th, he was allowed up for the first time on crutches; a week afterwards he could walk unaided, but he felt the joint weak, and, on November 24th, he left the hospital. He returned on December 4th for the purpose of showing himself, and then I had the satisfaction of finding that the functions of the limb were restored, for he walked rapidly and easily without the slightest perceptible limp, and he could execute all the ordinary movements of the joint as readily and completely with the injured as with the uninjured limb.

The symptoms presented by this case were extremely misleading, for fracture of the patella was exactly simulated, nearly all the signs of that injury presenting themselves, for the joint was largely distended with blood, there were two bony tumours whose outlines could only be indistinctly made out, on account of the swollen and exceedingly painful condition of the articulation, with a considerable interval between them, and the power of extension was entirely lost. The mode of occurrence of the injury likewise suggested fracture of the patella. The treatment adopted, although founded on a mistaken diagnosis, proved eminently satisfactory, and I believe that by no other means could so successful a result have been obtained. The injury itself seems to be a very rare one, for, so far as I have been able to ascertain, all English authors—with the exception of Treves, who quotes a case from a French writer—and all American writers, are silent on the subject. König notices fracture of the tubercle in the following sentence: "It is unusual that the ligamentum patellæ tears partly through at its insertion into the patella, still rarer that this occurs at its tibial insertion, and, rarest of all, that it is torn across. As in all similar ruptures at points of insertion, larger or smaller portions of the bone are sometimes torn away." While Pitha says: "The ligamentum patellæ is so strong that an extraordinary force is required to tear it, and the direct traction of the muscles tears the patella itself asunder much oftener than its ligament. Exceptionally only, and most likely when the substance of the patella is thick and firm, does rupture of the ligament occur under these circumstances, and usually it is at its insertion, or even in its insertion, so that a portion of the spine of the tibia remains hanging to the ligament itself. In this case the subsequent growth of osteophyte indicates the point when the bone has been torn out."

He quotes two cases of his own; one caused in a railway-guard by a violent effort to save himself from falling in jumping over a pool,