uterus and the rectum." Air is then gently to be thrown into it, and it was found to prove, in one case, very successful. It is certainly a useful suggestion, and one which it would be well to put in practice, before having recourse to harsher measures.

After the uterus had been replaced, there is generally a good deal of febrile irritability, with a tendency to inflammation in the vagina and neighbouring parts; in a general way little is necessary beyond the antiphlogistic regimen with an opiate and rest. The patient should be required to retain the recumbent posture exclusively for two or three weeks subsequently, and if any tendency exists to a repetition of the evil, Dr. Blundell's advice would be serviceable, viz., to cause the patient several times a-day to keep on her knees and elbows, and also not to allow a collection of urine to take place, but pass it as often as practicable. As soon as the womb (in the pregnant state) rises above the pubis all risk of a repetition is over, and caution as to posture will be unnecessary; but in the case of the unimpregnated condition it is different, more caution will be required, and she should maintain her couch much longer. In this latter case there is seldom any occasion for manual interference, and when required, the rectification is simple. Attention should here be directed to the peculiar condition of the uterus and the remedies suitable for its diseased condition immediately put in force, whether it be mere congestion, ulceration and hypertrophy, or tumours, &c. The above remarks have been made, presupposing the reposition to be possible, however much difficulty might have been experienced in its reduction; but cases are on record where this happy termination is seemingly not to be gained, without encountering difficulties of an alarming nature. The female is pregnant, three, or it may be four, months; the womb is retroverted, and the bladder full, containing perhaps many quarts of urine. An attempt is made to introduce the catheter, but our efforts are altogether unavailing. What then is to be done? An attempt should first be made to empty the rectum, then, by pressing back the uterus, to endeavour to pass the gum-elastic catheter. If this should not succeed, puncture of the bladder is our only resource, and has been adopted with success in the case of Cheston; for my own part I can scarcely think such a procedure is ever necessary. In the severest cases I have met with, (with the exception of Cheston's,) when the reposition was most difficult, an elastic catheter could be *insinuated* into the bladder. But, supposing the bladder to be emptied, we may be foiled in all our efforts to replace the retroversion, on account of the large size the womb has acquired, and the length of time the displacement has continued; two courses will then be left open to us, viz., the case can be left to nature, paying due attention to the bladder and rectum, and waiting until the womb has lost, by parturition, its contents. The objections to this plan appear to me to be so great, that I am surprised at its receiving the sanction of any name of the slightest weight, for it appears to be a breach of professional duty to allow almost certain death to stare our patient in the face, without an attempt being made to relieve her. Or, secondly, in the case of the pregnant womb, a bougie

may be introduced through the os uteri, if possible, in order to induce premature labour, and thus produce a diminution in the size of the womb; or, if this cannot be performed, Hunter recommended that the uterus should be tapped through the rectum or vagina. The latter would seem preferable. He did not live long enough to see his suggestion carried out, but it has since been put in practice, and with success. It has also been recommended by Capuron, Nanche, and Blundell. It is true that the operation necessarily supposes the destruction of the fœtus, but if the mischief be so imperative as to demand the operation of tapping the uterus, in all probability the death of the fœtus would have taken place prior to that time; independently of which, the axiom in British midwifery would hold good here, that the mother should not be sacrificed for the sake of the child. Finally, in these cases of such danger and difficulty, two other plans have been suggested, but so far as I am aware, *only* suggested, viz., (that by Callisen,) to open the abdomen, and immediately seize the uterus, and replace it; the other, to divide the symphysis pubis, with the intention of making more room for allowing of reposition of the womb. Both are frightful operations, the necessity of which I cannot conceive. They have been spoken of in commendatory terms by Callisen, Purcell, Gardien, and Cruikshank.

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ON THE STRUCTURE OF THE SYNOVIAL MEMBRANE COVERING THE SURFACE OF ARTICULAR CARTILAGES.

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Since the time of Hunter and Bichat it has been the generally-received opinion, that synovial, like serous membranes, form shut sacs, and that they are directly reflected from the ligaments over the articular surfaces of the bones which enter into the composition of a joint. This anatomical fact has not been doubted until lately, when Velpeau and some other French authors, in consequence of the difficulty of demonstrating the synovial membrane upon the surfaces of the articular cartilages, have come to the conclusion that it does not exist in those situations. Blandin has even asserted that the synovial membrane passes between the bones and their articular cartilages; whilst Blainville holds a kind of mixed opinion, and believes that when the synovial membrane arrives at the border of the cartilage it splits into two laminæ, one of which is continued over its superficial, and the other over its deep surface. Lastly, M. Bichat, who has written a clever thesis on white swellings and diseases of joints, asserts that the synovial membrane advances for a very short distance, perhaps a quarter or one-eighth of an inch upon the surface of the articular cartilage, and then ceases; and he is of opinion that the epithelial layer which Henlé has described as covering the cartilage, is nothing more than an appearance which the superficial cells of the

cartilage assume, in consequence of their being flattened by the pressure upon the articular surfaces. Still more recently, Dr. Joseph Leidy has published in the *American Journal of the Medical Sciences*, for April, 1849, some researches into the structure of articular cartilage, of which a digest is given in the *London Journal of Medicine*, for June, 1849. With respect to the synovial membrane, "Dr. Leidy has always failed to detect this in the adult, on the free surface of the cartilage, or even the appearance of a basement membrane. It appears to terminate at the circumference of the articular cartilage, very little beyond the vascular circle."—*London Journal of Medicine*, VI. Page 562.

I shall endeavour in this paper, to show that the opinion which is held by English anatomists as well as by most foreign ones, including Valentin and Henlé is correct, and that the synovial membrane can be traced as a continuous layer over the entire surface of the articular cartilage. The French theory seems to have arisen from the difficulty and almost impossibility which there is in isolating the synovial membrane, so as to show it as a distinct structure. This difficulty is alluded to in the following short description of this membrane by Todd and Bowman:—"A pavement of nucleated epithelial particles has been described by Henlé to exist on the free surface of articular cartilage. In the fœtus this may be readily seen; but in the adult we have often failed to detect it, even in perfectly fresh specimens and notwithstanding great care. An irregularity of surface often exists and seems to shew that this covering ceases, when the part becomes subject to friction and pressure. Cells, too, are often seen close to this surface, and even partly projecting from it—appearances indicative of attrition."

I had myself been unable, after several trials, to dissect off the synovial membrane from the articular cartilage as far as its centre, until a short time since, when I was fortunate enough to meet with a subject in whom the membrane was remarkably thick and distinct. The subject was a lad, aged 17, who was dissected at the medical school, and although the joints were not diseased, yet the synovial membrane appeared remarkably soft and thick, and of a rosy colour. It was not difficult, by beginning at the circumference of the head of the femur, to detach a thin strip of synovial membrane even as far as its centre.

Such a strip when examined under the microscope, exhibits but little evidence of structure, its surface is covered here and there with faint lines and creasings, which in some places exhibit a slight appearance of pavement epithelium, but this is by no means distinct. The membrane is so thin and adheres so closely to the surface of the cartilage, that it is very difficult to detach it without either tearing it, or bringing away a number of adherent cartilage cells. However, in many places it will be found to be quite free from these. On making a vertical section of the articular cartilage from the head of the femur in the same subject, the synovial membrane appeared under the microscope as a thin but distinct layer, presenting very evident characters of structure. It can then be seen to be distinctly made up of flattened cells, imbricated one upon the other, their free edges pointing obliquely

upwards; some of these, apparently in consequence of friction are partially or almost entirely detached. In an oblique section of the same cartilage these appearances are not seen so clearly, but a distinct line of demarcation can be observed between the synovial membrane and the cartilage it rests upon. In the specimens which I have from the fœtus and the infant at birth, the synovial membranes can be shown, but not so distinctly as in former sections; the membrane here appears much smoother on its free surface, and the cells seem to be placed much more flatly upon the cartilage. It is rare also to meet with detached cells. This evidently results from the little amount of friction which the membrane has undergone. Under all circumstances, however, the synovial membrane, when it covers articular cartilage is an exceedingly thin and compact layer, adhering very firmly to the subjacent cartilage, and in most cases it is impossible to detach it as a distinct membrane for more than a quarter or half an inch, at farthest, beyond the edge of the cartilage, and it is chiefly from this circumstance, that the French anatomists above mentioned, believe that a breach in its continuity here takes place; a view, however, which is not sanctioned by what we know of the pathology of joints in general.

CASE OF INFANTILE DIABETES.

By JOSHUA PARSONS, Esq., M.R.C.S., Beckington, Somersetshire.

On the 23rd of February, 1848, I was requested to see J. P., aged eleven months, the child of respectable parents, who was represented to me to be near death from decline. On examination I found him in the following condition:—The skin dry, shrivelled, and of uniform purplish hue, below the natural temperature, the extremities especially being very cold; the emaciation was extreme in the trunk and extremities, but the face was puffed, and, especially around the eyes, œdematous; the debility seemed great, and every movement communicated to the infant by the nurse appeared to give great uneasiness, which was expressed by a low whining cry, at all other times the child lay either in a semi-comatose state, or was continually moaning; the pulse was 96, extremely feeble and thready; the tongue bore an exact resemblance to the surface of raw beef, being dark, red, and glossy, and so chopped as to mark it out into numerous little square compartments. The similar appearance of this tongue to that of a patient at that time under my care with ordinary diabetes, immediately led me to inquire into the state of the urinary function. I could gain no accurate information respecting the quantity of urine, but the attendants supposed, from the number of napkins required, that it must be greater than usual, and they spontaneously remarked that it had a very strange smell, which was compared by one to mead, and by another to spoiled honey. I procured about an ounce for examination, and found it to possess the following properties:—The colour nearly as dark as ordinary brandy; smell sickly and sweet; consistence