patient was not cured. Like some other patients I have seen this year, he not unnaturally despaired of my ever finding the head. It appeared to him absurd that I should obtain better results than others; and the more so, since I proposed to employ the same drug that others had used. However, an admirable preparation of the extract, prepared by Corbyn and Co., had the desired effect. Recommending my patient to observe certain preliminary rules, I succeeded with much smaller doses of the drug than he had been accustomed to take. To be brief, the head of the worm was at once obtained; and thus, host and guest, after sixteen years of intimacy, were for ever separated, to the astonishment of the former and to the final discomfort of the latter. During the residence of this truly obstinate parasite, I reckon that my patient must have been the means of distributing something like five hundred millions of tapeworm germs; and yet, possibly, scarce a score of these germs have since arrived at sexual maturity. Be that as it may, I judge that in the course of a few more years the parasite itself would have died a natural death. It was an ill-nourished specimen, and evidently feeble. How long a tapeworm, if left to itself, may be capable of living I do not know; but I lately saw a patient who assured me that he had played the part of tapeworm-bearer for a period of no less than twenty years.

ON THE TREATMENT OF *POST PARTUM* HÆMORRHAGE.

By T. SNOW BECK, M.D.Lond., F.R.S.

I HAVE no doubt Dr. Robert Barnes exercises a wise discretion "not to enter upon any discussion which might bear the semblance of controversy," knowing, as he must, that his clinical experience, when he ventures upon the record of cases, has ill borne the test of practical examination. In the course of last year, when going over the subject of retro-uterine hæmatocele, I had occasion to examine twenty-seven cases, published by Dr. Barnes, where "effusion of blood into the peritoneum" was said to have occurred through the Fallopian tubes during menstruation; yet in not one of these twenty-seven cases was there sufficient evidence to show that any effusion of blood had ever taken place. (*Obstet. Trans.*, vol. xiv, p. 260.) And, unless I am much mistaken, his clinical experience on the subject of the injection of the perchloride of iron to arrest *post partum* hæmorrhage will prove as little to be relied upon. During the recent discussion upon the subject at the Obstetrical Society, I adduced evidence to show that the employment of this substance was fraught with the greatest danger—that fatal results had followed the employment of it in several cases—that the deaths had been caused by the transmission of the perchloride through the pervious canals of the uterine veins into the general system, producing blood-poisoning. And I would not have now returned to the subject had not Dr. Barnes, in some recent remarks, referred pointedly to this discussion "to point my (Dr. Barnes) assertion that the 'evidence adduced' cannot be trusted."

If I rightly apprehend the subject under discussion, it is not whether *post partum* hæmorrhage has been successfully arrested by the injection of a solution of perchloride of iron into the cavity of the uterus, or whether fatal cases have occurred after this substance had been so injected, for there cannot be a doubt that both these results have followed this plan of treatment. But the moot point appears to be, whether the injection of strong styptics into the uterus directly after parturition is, or is not, the correct principle of treatment. For it must be remembered that styptic injections have been used, not only to arrest *post partum* hæmorrhage, but also to anticipate the occurrence of it when no hæmorrhage was present. To advocate this "new plan of treatment," Dr. Barnes asserts that the "old way" of arresting hæmorrhage by procuring contraction of the gravid uterus is not to be trusted; that the means we have been accustomed to depend upon are insufficient, and frequently useless; and that it becomes necessary to adopt "a new principle," a "new power," to chemically seal up the mouths of the vessels and corrugate the inner surface of the uterus, by the direct application of styptics to the bleeding surface. I, on the contrary, venture to maintain that the whole of these assertions made by Dr. Barnes are erroneous; that the only principle by which we can arrest *post partum* hæmorrhage is by procuring the contraction of the uterus; that the "good old ways" are sufficient for this purpose, when properly and efficiently applied; that the injection of styptics into the gravid uterus neither seals up the mouths of the blood-vessels, nor corrugates the inner surface of the uterus; and that this practice involves the serious risk of causing the inevitable death of the individual upon whom it is employed.

It is evident that these questions involve the consideration of the whole subject of the treatment of *post partum* hæmorrhage, which would be much too lengthy for the pages of this JOURNAL; but it may not be improper to advert to one or two points which appear to be causing considerable interest. Everyone will admit the remark of Dr. Barnes, that these practical questions cannot be determined by "the subtle argumentations of Zoilistic critics"—though many may doubt the good taste of anyone who thus compares himself with the immortal Homer—and that these questions "must eventually be settled by the results of clinical experience." But the value attached to clinical experience presupposes accurate observation at the bedside, and correct deductions drawn from the cases observed; whilst imperfect observation and unfounded assertions cannot be accepted in the place of the former. For it is equally true in medicine as in other things, that "there is no untruth so misleading and so mischievous as a half-truth."

Referring to Dr. Boyd Mushet's remarks, which Dr. Barnes considers "to express some current errors as to fact and theory," I may say that I entirely endorse them. Dr. Mushet may commit a slight mistake in supposing that others have not used the injection of cold water; but he is not alone in attributing much value to the injection of cold water freely into the uterus, and in having no compunction as to any ill-effects which may follow the use of it. When conversing with some of the most successful practitioners in midwifery, I have been surprised how many had been led to adopt a similar plan in their own practice—to administer one or two doses of ergot of rye when the head was low down in the pelvis, and no obstacle hindered its exit; and to douché the cavity of the uterus with cold water thrown up by a long elastic tube attached to an India-rubber bottle, capable of holding about one pint. Dr. Sells of New York lately informed us it was the practice in the Vienna Hospital that, provided ergot and the injection of cold water did not arrest any bleeding, a weak solution of the sesquichloride of iron was gently injected, and repeated until the hæmorrhage ceased. And, in a communication which I have received from Dr. Hermann Biegel, within the last few days, he confirms this account, adding, "This solution of the sesquichloride is too weak to have any effect; it is the cold water which acts."

But Dr. Barnes has undertaken to correct the errors in "fact and theory" into which we have fallen, for I endorse Dr. Mushet's remarks. He terms the local application of cold water and ice to the interior of the uterus, by which it was "struck with a sudden chill," as "a graphic clinical description of reflex action." Reflex action, when the uterus itself was struck with a sudden chill by the local application of ice. In the desire to correct the errors of others, Dr. Barnes appears to forget there is such a thing as local impression produced by the direct application of cold. Reflex action, he elsewhere informs us, may be excited by "flapping the abdomen with the corner of a wet towel," which "is the most certain to evoke contraction," and which, I would add, would be equally effective if another and more posterior part of the body were subjected to a similar treatment. But, in this "graphic clinical description" of reflex action, he appears to have forgotten that "enormous supply of nerve-force," which he informs us, in his Lumen lectures, is necessary to complete the work of parturition, and which is of such essential importance as to require the pregnant female to become afflicted with "physiological hypertrophy of the spinal cord" during each pregnancy; and, as this "physiological hypertrophy" is said to be "analogous to that which takes place in the heart," it necessarily follows that a woman who has been six or eight times pregnant, must have "physiological hypertrophy of the spinal cord" six or eight times increased. It does seem "the unkindest cut of all" that Dr. Barnes should forget this idol of his own creation, and be led away by "a graphic clinical description" to attribute the local effects of ice applied to the interior of the gravid uterus—to reflex action.

It is a curious fact which has been brought out by these discussions, that there is only one cause of *post partum* hæmorrhage—the want of contraction, or relaxation, of the uterus; and one means by which this hæmorrhage can be arrested—by procuring the contraction of the organ by which the arteries are compressed, and the flow of blood prevented. This want of contraction usually arises in two ways—either the contents of the uterus are removed in the absence of contraction, or relaxation occurs after the completion of the labour, the hæmorrhage coming on fifteen or twenty minutes afterwards. I am not unmindful that so able and practical a physician as Dr. R. Gooch has described "a peculiar form of hæmorrhage" which he believed to take place when the uterus was contracted, and to be caused by the violent action of the heart and arteries. But a reference to the cases published by Dr. Gooch shows that, in each case, he passed the hand into the uterus, which he could not have done unless the organ had become relaxed after the completion of the labour. The examination of the uterus in cases which have proved fatal, after the injection of the perchloride of iron, has also established

that the hæmorrhage is not, as has been generally supposed, "a venous hæmorrhage by retrogression," but that the blood escapes from the open extremities of the torn utero-placental arteries; and, as every practical accoucheur knows, the blood which pours away is of a bright red arterial character. In every case, then, of *post partum* hæmorrhage, these conditions are present—a relaxed state of the contractile tissue of the uterus; an open condition of the utero-placental arteries, through which the blood is propelled by the action of the heart; an open state of the uterine veins or sinuses, which admits of any fluid matters being taken up from the inner surface, conveyed into the general system, and producing pyæmia, septicæmia, or any other condition of blood-poisoning. And the problem which has to be solved is, what are the best means by which efficient contraction can be induced and maintained, by which not only the arteries may be compressed, so as to prevent the further escape of blood from them, but that the veins or sinuses may also be closed, and all absorption of noxious fluids obstructed? For experience has sufficiently shown that it requires a smaller amount of contraction to close the long, slender, tortuous utero-placental arteries, and prevent the escape of blood, than that which is requisite to obliterate the venous canals, and prevent those puerperal complications known as septicæmia, pyæmia, puerperal fever, etc. As I have already stated, I maintain that the means in ordinary use, when efficiently and properly employed, are sufficient for this purpose. Dr. Barnes contends that is necessary to have recourse to "a new plan of treatment, by means of styptics applied directly to the bleeding surface, which act chemically, and seal up the mouths of the blood-vessels, and corrugate the inner surface of the uterus".

The means in ordinary use are well known, and undoubtedly the most efficient of them are those which act directly upon the uterus itself as local stimulants to contraction. For example: the ergot of rye to maintain the contraction, as well as to excite it; the local stimulus of the hand introduced into the uterus; compression of the organ by well-directed pressure from the abdomen, through the aid of an assistant at the opposite side of the bed, the hand of the accoucheur placed on the abdomen, and directing the pressure in the proper direction and on to the part where the pressure ought to be applied; compression of the walls of the uterus between the two hands, one being introduced into the cavity and the other applied to the outside of the abdomen, aided by the force of an assistant; the local application of cold, either as cold water injected into the cavity of the uterus, after the manner adopted in the hospitals at Vienna, or by the introduction of pieces of ice, and renewed as often as those previously passed dissolve away; and some have added the use of galvanism. And lately, an additional means of applying local stimulation to the uterus has been introduced, and in many cases attended with success; the injection of styptics into the uterine cavity, whether by the solution of the perchloride of iron, or by other stimulating astringents. For I feel assured that the anecdote related by the late Dr. Rigby, and again mentioned by Dr. Wynn Williams, will prove to be the correct explanation of the action of these styptic injections. Dr. Wynn Williams informs us that Dr. Rigby related, in his lectures, how a certain accoucheur, on an emergency, when in charge of a patient, seized a lemon off the table, passed it through the hand already in the uterus, and squeezed out the contents, and by this means saved the life of the patient. Here we have "a graphic clinical description" of the effect of the additional local stimulus of the lemon-juice, when aided by the presence of the hand, before the theory was thought of by styptic injections. This action of the perchloride of iron is abundantly proved by the record of those cases wherein it has been employed and the women have recovered. It is also distinctly stated, in the pages of this JOURNAL in 1869, by Dr. Hugh Norris, who was the first in this country who clearly described the action of it. He states:—"The contractile effect on the uterus was such as to fill me with surprise; the injection was followed by instant and permanent contraction, cessation of flow, and recovery; the manner in which the remedy *instantaneously contracts, and holds permanently contracted*, the previously flaccid uterus is sometimes little short of marvellous." And similar contractile effects were also observed on the muscles of the vagina from the injection flowing over this canal (vol. i, 1869, pp. 327 and 504).

It apparently matters little by what means contraction is obtained—whether by the "good old ways," or by the "new plan of treatment"—so long as complete contraction is induced and maintained, the woman is safe, and will make a good recovery. But, suppose that only that amount of contraction is attained which, while it closes the arteries and arrests the flow of blood, still leaves the venous canals patent and pervious to the transmission of any fluid substances, what then follows? The absorption of any substance which may be found at the inner surface of the uterus; and, when this substance is the perchloride of iron which thus gains entrance into the general system, the almost

inevitable result appears to be the death of the individual. For, so far as we at present know, there are no means by which the deadly effects of this substance can be counteracted, when once it is introduced into the general system. And, so far as the present discussion has enlightened us, it is this absorption of any styptic thrown into the uterus after parturition which is to be so much dreaded. Hence arises the question, Are we justified in the employment of these substances, which may prove so fatal, when other means may be safely employed for attaining the same end—complete and permanent contraction of the uterus after parturition?

I am aware that Dr. Barnes will not agree with this explanation, and will probably reply, as on a former occasion, "The simple answer was, that it did both, and did it effectually—act chemically, seal up the mouths of the vessels, and corrugate the inner surface of the uterus. He had often had his hand in the flaccid bleeding uterus to clear out the placenta and clots, and felt the inner surface of the uterus contracting, corrugating, crinkling under the contract of the iron as it flowed, stopping the bleeding, and expelling the hand." How much more probable does the account given by Dr. Hugh Norris appear: "The injection was followed by instant and permanent contraction, cessation of flow, and recovery." But we may fairly ask, What are the grounds upon which Dr. Barnes makes these statements? The only reason I can find for stating that the mouths of the vessels are sealed up is: "I affirm this because I have observed that the hæmorrhage has stopped, although the uterus remained large and uncontracted." But this same fact is now and then observed where no injection of any kind has been employed; and surely this cannot be accepted as sufficient grounds for affirming that the styptic acted chemically and sealed up the mouths of the vessels. No effect has ever been shown, by *post mortem* examination or otherwise, to have been produced; and, in the examinations I have had the opportunity of making where death has followed the injection of styptics, the orifices and canals of the vessels have been open, and did not present any appearance of any local action either upon the tissues of the vessels or upon the blood they might have contained. Nor has Dr. Barnes ever shown, so far as I know, any facts in support of the assertion that the inner surface of the uterus becomes corrugated and crinkled, which, to say the least, appears highly improbable. The tissue at the inner surface is non-contractile, and cannot contract under the influence of any injection; and the solution of perchloride of iron employed is not of that strength, even supposing it was applied of the same strength as injected, to corrugate or crinkle the tissue. I have at different times placed a thin section of the uterus in a similar solution of the perchloride of iron; and, although it becomes firmer and harder from prolonged immersion, yet no corrugation or crinkling has taken place. And what does not take place out of the body from prolonged immersion, can scarcely be considered probable to take place in the body when a solution of the same strength is applied to the inner surface of the uterus. Moreover, the strength of the solution will probably be reduced by contact with the blood in the uterine cavity before it reaches the inner surface; and, if I may be permitted to again refer to my own observations, the inner surface of the uterus has not in any case presented any appearance of corrugation or crinkling, nor of any chemical action beyond the staining of some of the tissues of an ink-black colour.

The question whether the action of the styptics produces contraction of the contractile tissue, or whether it acts chemically upon the tissues at the inner surface, is one of much importance in the employment of those substances in the treatment of *post partum* hæmorrhage. And I feel we have a right to require of Dr. Barnes some further proof than the mere assertion of what is *primâ facie* so highly improbable. Yet there can be little doubt that Dr. Barnes has felt something; and what was this something? I can only conclude that he felt the constringing effect of the styptic on his own hand when in the uterine cavity, as the fluid flowed back after injection; and that he mistook the chemical effect produced upon the cuticle of his own hand for a chemical action on the tissue at the inner surface of the uterus. This may appear a severe criticism; yet it is quite in accordance with the "clinical experience" of any one who observes through any preconceived notions, rather than notes the effects which actually take place.

Dr. Barnes further remarks: "Great questions in practice must eventually be settled by clinical results;" and "earnestly appeals to every man who has had a fatal case to publish as full an account of it as possible." In the spirit of this appeal, I will relate a fatal case which occurred in Dr. Barnes's own practice, but which, by some singular process of oblivion, he has omitted to notice. The case was referred to by Dr. G. Granville Bantock during the late discussion at the Obstetrical Society.

The wife of a naval surgeon, of strong wiry constitution, who had

passed through several pregnancies without accident, when within a fortnight of the natural term, was seized with severe accidental hæmorrhage whilst going upstairs, and without any previous pain. Examining her immediately on my arrival, and within a quarter of an hour after the commencement of the hæmorrhage, I found the orifice of the uterus as large as a half-crown piece, and as yet too rigid for interference with a view to the delivery of the child. Very slight hæmorrhage was going on, and she was in no pain. No trace of the placenta could be felt within the circle of the orifice as far as the finger could reach. I at once passed an elastic bag, and distended it with air so as to completely fill the vagina. The face at this time was pale, the pulse of fair strength, the voice good, and there were no indications of collapse. After about three hours, during which there was no bleeding, I again examined the patient, and found the orifice slightly larger. Her husband being at this time accidentally absent, I sent for Dr. Barnes, who arrived in due time, and, after a short delay, applied the forceps and delivered her of a dead child. There was no pain either before or directly after the delivery. Dr. Barnes at once introduced the hand into the uterus in the absence of pain, and immediately extracted the placenta with a considerable amount of coagulum. The uterus contracted firmly. No pain was induced by the extraction of the placenta, nor was there any hæmorrhage; but, taking into account the exhausted state of the patient and the probability that a further small amount of hæmorrhage might prove fatal, it was decided that the uterine cavity should be injected with a solution of the perchloride of iron. Some solid perchloride was mixed with water; and no sooner was the iron injected than the patient began to complain of severe pain in the hypogastrium. It was agreed to administer opium as required. This was done in three doses of nupenthes of twenty minims each, or one fluid-drachm in all, but without in the slightest degree alleviating the pain; in fact, it rather increased in severity, and she died exhausted in about seven hours. I saw her about ten minutes before her death, when the pulse was very weak; but the patient was quite conscious, and able to speak about her husband and other matters. No *post mortem* examination was made.

I know not what feelings this case may produce with practical accoucheurs generally, but with me it causes a feeling of painful astonishment. To introduce the forceps in a case of accidental hæmorrhage, where the bleeding had ceased and no pain was present to indicate any tendency to contraction, and to extract the child, appears unaccountable. To immediately introduce the hand in the absence of pain, and remove the placenta, without taking any previous means to ensure contraction, is only marvellous it was not followed by serious hæmorrhage. And, if this be the practice which Dr. Barnes generally adopts, it is no longer to be wondered that, according to his own statement, he "had seen many women bleed to death". The uterus is said to have firmly contracted; but it must have again relaxed to admit the hand being afterwards passed into the uterine cavity. And again to introduce the hand, in the absence of any hæmorrhage, and in the absence of any pain, and to throw into the uterine cavity a solution of perchloride of iron, probably of considerable strength, was so extraordinary a proceeding, that I hesitate to characterise it by any words. Suffice it to say, that no sooner was the solution of iron injected than the patient began to complain of severe pain at the hypogastrium; that this pain continued, rather increased in severity; and the patient died exhausted in about seven hours afterwards. No more blood was lost after the first quarter of an hour. What, then, produced this deadly effect?

In commenting upon this case at the Obstetrical Society, Dr. Barnes remarked: "Certainly the pain must be attributed to the injection; but it did not follow it was the cause of death. The prostration was already extreme, and the fatal termination was, as had been pointed out by a previous speaker, probably due to 'shock.' In extreme exhaustion from bleeding, a very slight cause was often enough to extinguish the patient's life" (*Obstetrical Journal*, April, p. 48.)

The statement "the prostration was already extreme," does not accord with the condition described, "the face was pale, the pulse of good strength, the voice good, and no indication of collapse." But inaccuracies of this kind are of too frequent occurrence to need more than a passing notice. And I fear it will require the "subtle argumentations of Zoilistic critics" to convince any practical medical man that a lady of strong wiry constitution, who had been in severe pain for about seven hours, who never lost her consciousness, who ten minutes before her death was sufficiently collected and aware of her approaching end as to speak about her husband and other matters—had died from "shock." I am well aware that every possible excuse is resorted to to palliate these fatal cases. Now it is "shock"; at another time "puerperal fever." Now it is "septicæmia"; then again "puerperal peritonitis, and other puerperal complications." Now "pyæmia"; and then any other excuse the case may admit. But these excuses do

not justify the injection of the perchloride of iron, nor prevent the lives of other women being lost when a similar treatment is employed. What, then, caused the death? In the absence of a *post mortem* examination, the cause can only be one of conjecture; yet, judging by what has been known to take place in other cases, the conjecture assumes the position of strong probability. Severe pain at the hypogastrium has been observed in other cases, and in them it arose from a strong solution being employed, and this running down upon the sensitive structures of the vagina. Women have writhed in bed for hours from a similar cause, yet it has passed away without further ill effects than the suffering inflicted. If I am correct in the belief that the danger in the use of these styptic injections arises from the substances injected being taken up by the pervious veins, in the absence of complete contraction, and being conveyed into the general system, this case will admit of easy explanation. Throughout the whole case, nothing was more apparent than the absence of any pain indicating any tendency to contraction. And in an organ thus relaxed, when no hæmorrhage was going on and no urgent symptoms present, and without any other means being adopted to induce contraction of the walls—a strong solution of perchloride of iron was injected, and followed by the death of the woman in about seven hours afterwards. What is more probable than that the perchloride was directly taken up by the open veins or sinuses, carried into the general circulation, and produced the deadly effects, only more quickly, which have been known to follow in other cases? Hence, again, arises this question: Is any one justified in having recourse to means which may have such serious results, when other remedies, which have never been noticed to be followed by such consequences, may be employed to induce what was required—contraction of the gravid uterus?

It may be some excuse for the treatment adopted, to remember that Dr. Barnes entertains the notion that these styptics chemically seal up the mouths of the vessels, and corrugate the inner surface of the uterus; and that, entertaining this notion, he may have supposed there was little or no danger incurred by injecting the cavity of the uterus with a strong solution of the perchloride. But, if anything will tend to disabuse the mind of any one from this patent fallacy, it would be, I should imagine, the experience of such sad cases as these. And, again, the question will force itself upon the mind—Why does Dr. Barnes never allude, until he is forced, to these fatal cases which have occurred in his own practice? Dr. Routh mentioned another fatal case to which Dr. Barnes had been called in consultation: why is this also forgotten in the general oblivion of the grave? Would it not be better for our self-indicated medical Homer rather to sing of these disastrous occurrences, which might serve as a beacon to prevent others from falling into similar mistakes, than to indulge in "long-tailed similes" of unalloyed successes, or in the various flights of fancy we have been obliged to touch upon?

CURRENT VIEWS ON TREATING STRICTURE.

By BERKELEY HILL, M.B., F.R.C.S.,
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IN the BRITISH MEDICAL JOURNAL for December 20th, 1873, views are held up to obloquy by Mr. Savory which he terms "current," but which I venture, nevertheless, to believe to be "old-fashioned," if not obsolete. Mr. Savory attacks the employment of instruments for treating urethral obstructions of all kinds, which he alleges to be still customary.

Mr. Savory's conduct calls to mind that of Don Quixote when charging the sacks of flour in the mill, with this difference—the gallant knight-errant found his imaginary foes already erect before him, while Mr. Savory has had to raise up from the dead the objects of his wrath. For it is to be hoped that the treatment of all urethral obstructions, spasmodic, congestive, and organic alike, by instruments as routine practice has been discarded by properly trained surgeons. To impress his readers with the terrible evil of bougie treatment, Mr. Savory informs us that a distinguished surgeon once said, "Had bougies never been invented, it would, on the whole, have been a great gain to humanity." Why not go further, and quote the anecdote of the two eminent physicians, both now dead, who were crossing the canal-bridge at Camden Town, on their way to a consultation at Hampstead, when one asked the other whether it would not be, on the whole, a benefit to humanity if all doctors were then and there thrown into the canal? His companion was, indeed, for the moment, of opinion that the sacrifice of the Faculty by drowning would really be advantageous to mankind. But arguments valid against an abuse of a remedy lose much of