the archaeology of our medicinal "simples," upon the histories and lore, upon the forms, virtues, and renown of many old-time medicinal plants, upon plants called simples because each of them has been held to enshrine its particular curative virtue, and so to furnish a simple remedy for some symptom of disease, or for some individual morbid manifestation. Perhaps we have loved to walk, as Evelyn did, "into a large garden, esteemed for its furniture one of the fairest, especially for simples"; or perhaps we have followed our own Garth, "when simpling on the flowery hills he strayed."

Dr. Bernstein has adduced a body of valuable evidence, at once striking and suggestive, upon the remedial uses of various preparations of the bilberry shrub, in the alleviation and cure of several morbid intestinal conditions, which conditions include some of the pathological manifestations of enteric fever, of dysentery, and of some other maladies in which the intestines are affected either primarily or incidentally. It will surely become us to investigate his conclusions in our practices. It seems likely we may find in the therapeutic uses of the bilberry perhaps even a simple remedy of almost specific efficacy, or, at the least, a useful succedaneum to more established remedies in the treatment of many conditions of disorder or disease affecting the intestinal membranes, coats, contents, or functions.

Meanwhile, until our experience shall ripen upon the subject, I venture to draw the attention of my brethren to some references to the virtues of the bilberry, which are close to my hand in the books I know by my own reading. Nicholas Culpeper, writing in 1653, recommends blue bilberries to stay "vomiting and loathings," and he says they "do somewhat bind the belly." Anne Pratt quotes an old herbalist who praised bilberries as a remedy for many maladies, and wrote: "It is a pity they are not more generally used."² The *Rural Cyclopaedia* points out that the leaves of the myrtle bilberry contain a considerable quantity of tannin, and have been used as an astringent medicine in the same way as those of *uva ursi*.³ The *Medical Lexicon* of the New Sydenham Society gives the *vaccinium myrtillus* as antiscorbutic and astringent. Another old herbal refers to an ancient use of bilberry juice as an astringent and antipyretic, recording that "a syrup made out of the juice of bilberries, when not over-ripe, is cooling and binding; it is a pleasant and gentle medicine where an astringent is required."⁴ Dr. Fernie has recently reported that this myrtle bilberry has some remedial use in the treatment of chronic diarrhoea, and even in the cure of severe dysentery. He writes: "The bilberry (*vaccinium myrtillus*) is an admirable astringent..... If some good brandy be poured over two handfuls of the fruit in a bottle, this will make an extract which continually improves by being kept. Obstinate diarrhoea may be cured by giving doses of a tablespoonful of this extract taken with a wineglassful of warm water, and repeated at intervals of two hours whilst needed, even for the more severe cases of dysenteric diarrhoea. The berries contain chemically much tannin."⁵

True is it to-day as when Sir Thomas Watson so declared a third of a century ago that "the greatest gap in the science of medicine is to be found in its final and supreme stage—the stage of therapeutics."⁶ Therapeutics advances by our increasing knowledge of the nature of morbid processes and of the physiological effects of remedies, and also by studying again many a good old drug by the light of later scientific methods, and also by judicious selection from the traditions of popular medicine. Such selection gave us digitalis.

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CASE OF RUPTURED URINARY BLADDER : OPERATION AND RECOVERY.

By HUGH LAWRIE, M.B., C.M.,
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The following case is of interest and some rarity :

History.—B. C., aged 29, a cotton factory operative, and unmarried, came under my care on March 30th, 1902, suffering from what appeared to be rupture of the urinary bladder. She had been out late on the previous night with some friends, and to reach her home had to proceed along a narrow, badly-lighted road for about half a mile alone. About halfway in this walk she was attacked by two men and knocked down. Her cries for help speedily brought several persons to the rescue, who found her in a dishevelled condition and covered with mud, supporting herself against the wall on one side of the road. She was alone, and two of these persons

assisted her to walk home. She complained of pain in the lower part of the abdomen; and did not get any sleep that night. Sitting in a chair was the most comfortable position, any attempt to lie down being accompanied by increase of pain.

State on Examination.—When I was called to see her I found her sitting up in a chair. She complained of pain in the abdomen and inability to micturate. She had not passed water since the assault, although she wanted to do badly before it. There was a bruise on the left side of the face, the skin over it being rubbed off by some rough surface, probably the ground. She refused to be examined further, declaring that she had not been outraged—which was quite true—and I left her, contenting myself with advising sitz baths to promote urination. Later in the day I drew off from the bladder with a gum elastic catheter 8 oz. of bloodstained urine. There were no marks whatever of external violence on her body except the mark on the face and a very small bruise on the left knee. In the evening I passed the catheter again, and withdrew about 2 oz. or 3 oz. of urine. This urine was clear, but under the microscope it was seen to contain red blood corpuscles. Her temperature and pulse were normal. Percussion over the abdomen showed an ill-defined area of relative dullness immediately above the pubes. Palpation was painful.

Progress.—On the morning of March 31st her condition was about the same. I had to attend the police-court on this day, and did not see her again until the evening, when the pulse had risen to 100. On April 1st her temperature had slightly risen and the pulse was 120.

First Operation.—She was conveyed to the Aitken Memorial and Jubilee Cottage Hospital, Ramsbottom, and at 4 p.m. (on April 1st), after her depositions had been taken before a magistrate, I made an incision in the middle line above the pubes about 3 in. in length. The deeper tissues of the abdominal wall were infiltrated with urine, and when the transversalis fascia was reached it was seen to be dark-grey in colour. This was easily torn, and then there welled out of the wound two to three pints, roughly speaking, of dark-coloured fluid smelling of urine. With the left index finger I explored the wound and found behind the pubes on the right anterior surface of the bladder a hole which would admit three fingers. This rent was extraperitoneal, and no further injury to the bladder could be detected. Considerable separation of the transversalis fascia from the outer peritoneal layer had taken place as a result of the escape of urine from the bladder, between these membranes extending on either side almost as far as the superior anterior spines of the ilia and upwards towards the umbilicus. The whole region was irrigated with gallons of warm boric acid lotion, and it was agreed by all present that to further prolong anaesthesia would be decidedly dangerous. The pulse before the operation was 150, and it was now almost imperceptible, so drainage tubes were hurriedly inserted, one passing from the abdominal wound right through the bladder and out at the meatus. Two deep stitches were inserted in the upper part of the abdominal wound and iodoform gauze was packed into the lower part over which were placed thick pads of cotton wool. A woollen body bandage with elastic fastenings secured the lot. She was given hypodermically $\frac{1}{2}$ gr. of morphine sulphate and $\frac{1}{2}$ gr. of strychnine nitrate and put to bed with hot bottles placed round her in convenient positions. At 10 p.m. she was sleeping quietly; temperature 100°, pulse 140.

After-progress.—April 2nd. She had a fairly good night's sleep, temperature 100°, pulse 144. Wound irrigated with boric lotion. At 4 p.m. the bowels moved naturally. During the first week, despite the frequent irrigations (three times a day) with boric lotion and mercury perchloride solution in 5,000, the wound became very septic, and large sloughs of transversalis fascia, dark in colour and very fetid, came away with considerable quantities of pus. A counter-opening was made near the left superior anterior spine of the ilium, and drainage through this opening was promoted through a drainage tube by tilting the patient towards that side. About the end of the second week the condition of things was much improved, healthy granulations were appearing in all directions, so it was decided to suture the bladder.

Second Operation.—On the afternoon of April 16th she was anaesthetised with chloroform, the condition being continued with ether, and I made a transverse incision on the right side, beginning in the abdominal wound an inch above the pubes, and carrying it outwards to Poupart's ligament through the right rectus and abdominal muscles. This enabled us to pull a triangular flap downwards, and thus expose the rupture in the bladder. It was found to be larger than at first anticipated, extending from the middle line close to the peritoneal reflexion downwards, and slightly to the right behind the pubic bones for a distance of about 2 in. Five strong silk sutures were inserted in the more accessible region, including muscular and submucous coats only. Traction was exerted upon these, and with the greatest difficulty two more were inserted at the lower part of the rent, taking in as much of the bladder wall as possible, without respect to the different layers. Considerable haemorrhage took place with the insertion of these last two stitches, on account of the needle having to pass through a plexus of veins near the neck of the bladder. The stitches were tied in the usual fashion from the middle towards either end, and then 4 oz. of boric lotion were introduced into the bladder without any leakage taking place. The abdominal wound was packed loosely with iodoform gauze, and a few stitches were inserted to hold the edges of the wound apposed to one another, but these were removed in a few days as they were useless. A large rubber catheter was fixed in the bladder by strapping it to the thigh. Two hours were occupied in this operation, and the patient was very collapsed when she was put to bed. Pulse 144, small, and thin. Hot-water bottles were placed all round her, and she was given $\frac{1}{2}$ gr. strychnine nitrate, hypodermically. During the night following she vomited slightly several times.

Further Progress.—April 17th, 9.30 a.m. About half a pint of urine had

collected in the vessel in bed, and there was no urine in the dressings. The abdominal wound was thoroughly irrigated with 1-6,000 perchloride solution, and strips of iodoform gauze were packed into it. The bladder was also irrigated with boric lotion. Her condition was favourable; temperature 98.4°, pulse 108. She complained of thirst. On April 24th a small fistula appeared between the two outer stitches at the left end of the rupture, and a condition of cystitis was also present. She was put upon urotropin and the bladder, in addition to the daily irrigation, had 4 oz. of a 4 gr. to the ounce solution of silver nitrate injected and held in for a minute or two. Two further sutures were easily inserted to close the fistula, and no further trouble from leakage took place. Some pus was still found to come from small pouches underlying the muscular walls of the abdomen, no doubt due to the agency of the decayed transversalis fascia, and these had to be kept clean and packed with iodoform or cyanide gauze until they healed from the bottom outwards. As these pouches were healing up the bladder wound also healed, and all the stitches that had been inserted in the bladder were removed. Granulations had formed rapidly, and considerable contraction of the abdominal wound had taken place. Micturition was re-established, the urine was clear, contained no albumen, and was faintly acid. Her appetite was good, and she was regaining flesh. Urotropin was not considered necessary.

Third Operation.—On May 25th I essayed to close the abdominal wound, and for this purpose she was anaesthetised, and several stitches were introduced after paring the edges. Two of these sutures of stout silk were passed through the whole thickness of the cut rectus ends, and fastened through the eyes of two buttons of solder prepared for the purpose. The buttons were each $1\frac{1}{2}$ in. long, $\frac{3}{4}$ in. broad, with $\frac{1}{2}$ in. between the eyes, and strong enough not to bend. Sickness and vomiting for twenty-four hours followed this attempt, and the result, which one might have expected, was vitiated by the vomiting, for it tore the rectus ends apart. The wound became septic again, and all the sutures were removed in a week. The urine became cloudy and alkaline, chiefly from phosphates and mucus, but contained no albumen. Salol in 10-gr. doses was administered every three hours until the urine was dark-coloured. On June 2nd the temperature shot up to 104.2°. On June 4th large quantities of albumen appeared in the urine, as well as proliferating epithelium from the bladder, ureter, and probably also from the pelvis of the kidney, but no tube casts were found. Urotropin was substituted for salol on June 6th, of which she took in two days 1 oz. Her usual quantity was 1 oz. in four days. The urine had a decided smell of formalin. On June 13th the urine contained albumen, but only a faint cloud; there was more on June 14th, and on the 15th there was a considerable quantity with tenderness all along the right ureter to the kidney, but no tenderness on the left side. These symptoms gradually subsided under the influence of urotropin, until at the end of the month there was only a faint cloud given with nitric acid (contact method). On June 26th I scraped the abdominal wound, pared the skin thoroughly off the edges, washed with oil of turpentine, and carbolic lotion and then inserted two strong steel skewers parallel to one another, one in the lower, the other in the upper lip of the wound $\frac{1}{2}$ in. from the edge and deep in the tissues (the original vertical incision was practically closed). With sutures I brought the edges of the wound into apposition, then bound the skewers together at their extremities firmly in order to secure a good broad union. There was no sickness afterwards, and the temperature and pulse in the evening were respectively 98° F. and 84, just as they had been for several days previously. Union took place rapidly and in a week I removed the skewers. The result is excellent, and so far as one can make out by palpation, the body wall is quite intact, there being at present no thinning of the tissue over the scar and no bulging. She went for a prolonged holiday on leaving the hospital, and when she returned she looked as well as ever she did in her life. I examined the urine on November 18th, and there was not a trace of albumen or anything to indicate that the urinary organs were not in perfect condition.

It is to be regretted that the rent in the bladder was not closed at the first operation, as this would in all probability have prevented the subsequent septic condition of the urinary tract. Still, it is difficult to see how this could have been done with the patient in such a collapsed state, for it would have entailed a prolonged anaesthesia, which she was too weak to undergo. The operation might have been done earlier, but this was a criminal case, and it took a long time to get through with the necessary legal proceedings, as well as to procure the consent of the patient and her parents to any operative interference. It is also to be regretted that the administration of urotropin was stopped when it was, for if it had been continued some time after it was thought to be unnecessary, it is just possible that the second incidence of sepsis of the urinary tract might not have occurred, and the first operation for closure of the abdominal wound might have been successful. However, it is fortunate that the patient could stand the urotropin in large doses so well; she took altogether of this substance 24 oz., and at no time was there any irritation caused by it. If haematuria had resulted upon taking urotropin, it would have been next to impossible to find another drug which would have had such a potent influence for good upon the septic condition of this system.

In conclusion, I would like to express my thanks to Drs. B. and C. Crawshaw—Dr. C. Crawshaw was the anaesthetist

on each occasion—and to Drs. William and H. Deans, who by their counsel and assistance rendered every aid in what was a most trying and wearying case; and in addition I would tender my thanks to Miss Horsfield (matron of the hospital), whose vigilance and unremitting care so materially added to the success of the case.

THE OPEN-AIR TREATMENT OF SYPHILIS.

By E. H. DOUTY, M.A., M.D.CANTAB., M.D.LAUSANNE,
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I CANNOT remember ever to have seen the open-air treatment of syphilis advocated in any of the many journals of our own country or of other countries; and yet there is, I venture to think, no argument brought forward in favour of the open-air treatment of tuberculosis that is not equally to the point with regard to early syphilis. I suppose that there are a great many, medical men and others, who because they have not thought about it have an idea that the open air has some direct influence on the lung tissue in consumptives, just as, I find, there are very many who believe that the cold of these Alpine heights has direct effect on the lung tissue, and on the bacilli in it.

But a little thought will show them that it is not the influence of open air on the lungs which brings about the cure of pulmonary tuberculosis, but that it is the influence of the pure air and sunlight on the blood, and through it on all the other tissues of the body, and chiefly the nervous tissues, that the good results are obtained. Fresh air heightens metabolism in every way, and raises all the tissues to their highest point of resistance, so that they do not succumb to the persistent attacks of the poisons constantly carried hither and thither by the circulating blood.

The nervous system responds the most readily to the purer and richer pabulum brought to its inmost recesses by the blood, and as its cells are better nourished, so its trophic influence is maintained, and the metabolism and growth of all tissues, including the all-important haemopoietic, is ensured and maintained at its highest, and they are thus enabled either actively to beat off, or passively to refuse to succumb to, the specific poisons of any disease. Open-air life improves the appetite, and, again, the additional food ingested improves the blood pabulum, with the results referred to above. Carefully graduated exercise, again, increases the appetite and stimulates the emunctories, and helps the elimination of their excreta. Rest—much rest—carefully prescribed at suitable times and under correct conditions, again helps much.

And if this can all be done away from home surroundings and worries, in a high, dry, bracing climate, with the purest possible air, with pleasant companions and environment, the greater will be the efficacy and permanency of the whole treatment.

Open air, then, rest, high feeding, graduated exercise, and, if possible, a bright, dry, bracing climate, are our means for enabling an individual to escape the eventual horrors of consumption. But all and each of these are, in my opinion, as important in enabling the individual to escape the eventual horrors of syphilis (with the help of small doses of mercury maintained for many years).

The parallel is strict. The poison—whether it be a bacillus, or a ferment, an enzyme, a toxic albumose, or we know not what—is there, in the individual. It is somewhere in the system. It may be weak, it may be strong. Or the resisting power of the individual's tissues may be weak, or may be strong, or the idiosyncrasy of the individual may be such as to render him well-nigh immune or particularly susceptible. The poison may be causing actual physical signs and symptoms, or it may be apparently latent but powerful for evil, and perhaps gaining strength wherewith to strike with Thug-like precision and force when long forgotten and least expected, and when inadvertently the unwary victim has laid himself open to attack by being run down through worry, overwork, or neglected ill-health.

It matters not whether the poison be the syphilitic or tuberculous; it may suddenly seize upon the lungs, larynx, nervous system, or connective tissues. Surely if the open-air treatment is called for at the beginning for the one it is equally so for the other to avert the staggering consequences of the original infection, and yet I have never seen it advocated equally for both.

In syphilis, mercury undoubtedly does good. Probably until the last thirty years it has, I think, done more harm