mineral ingredients in the waters are sulphates of lime, magnesia, and soda, with very little iron and sulphur. The mud, however, which is deposited from the Archduchess Spring, is rich in filaments of sulphur, and in sulphuretted hydrogen, besides ochreous and saline matters. There is also a very drinkable cold chalybeate spring just below the old baths, not unlike that of St. Moritz, but less brisk with carbonic acid. It is much recommended for the weaker patients who are using the baths.

The establishment of the new baths is open from the middle of June to the end of September; but, if the advantages of the situation for purity and dryness of air—its sunny aspect, yet airiness—its coolness, without bleakness—were more known, its season would probably be lengthened, and part of the establishment kept open through the winter.

There are many delightful excursions in the neighbourhood deserving of notice; but the limits of this communication will allow me to mention only that to Santa Caterina, another hotel or health-establishment, with accommodation for fifty inmates. There are only two or three baths; but the attraction is a noted chalybeate spring. It seemed to me too strong to be taken without dilution; but it is bottled to a great extent, and is much used as an addition to wine or to other waters. The distance is about ten miles from Bormio, up the beautifully wooded glen, Val Furva. Although St. Caterina stands at a height of 6,000 feet—as high as St. Moritz—there is in this glen leading to it a much greater variety of trees than in the upper Engadine. But, as at St. Moritz, the mineral spring rises out of a bog; and, as you walk to it, the path yields with singular elasticity under your feet. This swampy ground forms the bottom of the valley, which is closely hemmed in by lofty mountains on all sides, except to the west, where it leads down the Val Furva towards Bormio; and to the north-east, where it is open to the ice-bound Val Forno, surrounded with the snow-peaks and glaciers of Monte Cevedale, Zufal-Spitz, Monte Tresero, and others. However advantageous this situation may be for scenery and mountain-climbing, it is obviously not a suitable residence for invalids, or for any persons likely to suffer from cold and damp.

Besides the route which we took to Bormio over the Bernina pass, there is another down the Engadine to Martinsbruck, and by the Etschthal over the Stelvio pass, the highest and grandest of all the carriage-passes over the Alps. Or the Stelvio may be reached from Innsbruck by the Brenner railway to Botzen, and up by Meran and the lower part of the picturesque Etschthal. From the Italian side, it is possible to go from Varenna or Bellagio on the Lake Como to Bormio, in a long summer's day; but the journey is generally divided by sleeping at Sondrio, which is the least unhealthy of the towns in the beautiful but dangerous lower Valtelline, in which it is not expedient to linger even for a day.

Although the new baths of Bormio appear to me to offer more advantages in point of dryness, shelter, and comfort, than any of the other high mountain resorts in the Alps; yet several of these deserve mention, as affording good accommodation, and being entitled at least to compete with the Engadine as summer-quarters.

The Hotel Rigi Kaltbad (4,727 feet) is on the south-west of the Rigi, and thus sheltered from the coldest winds. The Hotel Rigi Scheideck (5,406) is on the south-east of the mountain, less sheltered, but is quiet, with more scope for promenade, and well supplied with milk and whey. The great objection to the Rigi hotels are, the frequent occurrence of bad weather, and their inaccessibility by carriage. At Combazz (4,417), above Aigle, and in the same vicinity at Sepey and Ormont Dessus, under the Diablerets mountains, are several sanitary hotels, which are much frequented in the summer, for the sake of their pure air and fine wild scenery.

Leukerbad, under the Gemmi pass, stands at a height of 4,642 feet, with a southern aspect, and by its great mountain-screen to the north and east, is fairly protected from extreme cold. It is accessible by a good carriage-road from the Rhone Valley, and has good hotel accommodation.

Courmayeur, on the Italian side of Mont Blanc, stands at a height of about 4,000 feet, with two large hotels; but it is too close to the Brera glacier and the great snow-fields of the Géant to be safe from sudden chills.

At Gressoney St. John, in the Val de Lys, is Delapierre's very comfortable hotel, at a height of nearly 5,000 feet, in a beautiful Alpine valley, with the Lyskamm at its upper end; but the splendid snow-mountain which is its pride might send down its bleak blast at times, to the detriment of the delicate. The valley at present is not accessible to carriages.

There is a good hotel on Monte Generoso, between the lakes of Como and Lugano, which may prove a good summer residence. The summit is 5,561 feet. This also is accessible only on foot or on horseback.

There are also two good summer places in the Maritime Alps, mentioned by my son in his last edition,* well adapted for invalids. One is St. D'Almas de Tende, fifty miles from Nice, on the road to Turin. It stands at a height of 3,000 feet, and is well sheltered from the north. The other is Certosa di Pesio, two days' journey north of Oneglio, on the Riviera, at the altitude of 5,000 feet, with a hydropathic establishment, and accommodation for one hundred guests.

THE TREATMENT OF SYPHILIS BY THE HYPODERMIC INJECTION OF THE SALTS OF MERCURY.†

BY THOMAS JAMES WALKER, M.D. LOND.,
Surgeon to the Peterborough Infirmary, etc.

SINCE the publication of the first part of this paper in the JOURNAL for July 10th, M. Liégeois has brought before the French Société de Chirurgie the results of his experience of the treatment of syphilis by hypodermic injections. The strength of the solution employed by him is only 1 in 500; and, in consequence of his observations of the advantages which this weaker solution has over the stronger one, I have latterly injected one-thirtieth of a grain of the bichloride dissolved in ten drops of water and glycerine, instead of one-tenth of a grain, as recommended in the former part of this paper; and the weaker injection I use daily instead of every third day. The pain and inflammation at the seat of puncture are much less with the weaker solution; and, though I am not at present in a position to say whether the smaller dose is equally effectual, I should recommend its trial.

Of the various cases of secondary syphilis which came under my care during the last three months of the past year, thirteen were subjected to the treatment by the hypodermic injection of the bichloride of mercury; and, in order that a fair estimate of the value of the remedy may be arrived at, I do not pass over even those cases in which, from various circumstances, this treatment was not persevered with.

I now give abstracts of the records of the cases from my notes. The reports of most of the cases which have occurred in dispensary practice, are furnished by Mr. Lloyd, House-Surgeon to the Peterborough Infirmary.

CASE I.—A female, aged 30, wife of a hawker, of robust frame, but emaciated and cachectic looking, was admitted to the Peterborough Infirmary on September 1st, 1868. She stated that, seven months previously, she first noticed copper-coloured blotches over the body and the labia. She was at that time an out-patient of the Dispensary, and was treated with fifteen-grain doses of iodide of potassium; she continued under treatment for three months, and then ceased to attend. On admission, she presented large copper-coloured maculae over the legs, arms, and labia; there were also superficial ulcers on various parts of the body, general induration of the glands, and condylomata (mucous papules) about the pudenda. She had had ulcerated throat, but was not then suffering from it.

On September 3rd, one tenth of a grain of bichloride of mercury was injected under the skin of the anterior surface of the right thigh. Next day, she complained of aching at the seat of the injection, and said that she suffered pain in walking. There was neither swelling nor inflammatory redness. During the succeeding night, a slight blush appeared at the seat of injection, but was disappearing when she was seen on the 5th. The pain was then less. A tenth of a grain of bichloride was injected under the skin of the left thigh. This second injection caused the same local effects as the first. On the 8th, the rash had diminished considerably. A third injection, of the same quantity, was made under the skin of the fore-arm. Next day, there were pain, swelling, and slight redness at the seat of the last injection. On the 12th, a fourth injection was made, under the skin of the left buttock, close to a group of condylomata. This injection caused little discomfort. The blotches were disappearing from all parts with astonishing rapidity. Her health was much improved. On the 15th, she was so much improved that she wished to leave the hospital. Another injection was made over the right buttock. The injection was repeated on the 19th and 22nd. On the latter day, she was much better in all respects, the rash having almost entirely disappeared. She then neglected to attend for thirteen days, during which time she was not injected; and when she was seen on October 7th, a few fresh spots of eruption had come out, and the condylomata had not disappeared. An eighth injection was made. The patient now left the town; and the treatment was discontinued. About three months later, she shewed herself as she was passing through

* *The Climate of the South of France*, etc. By Charles Theodore Williams, M.D. 1869.

† Continued from page 31 of number for July 10th.

Peterborough; she was free from rash, but had syphilitic tubercles on the tongue.

Summary.—The patient, cachectic, and with advanced and extensive secondary syphilis, was under treatment three weeks regularly, and was once seen at the end of another fortnight; during which time, less than a grain of bichloride of mercury was administered in eight doses. When she ceased to attend, she was very greatly relieved, though still presenting symptoms of syphilis when seen three months later.

CASE II.—A male, aged 31, a shoemaker, of irregular habits, who had been under treatment for syphilis about three years since, was first seen, on this occasion, on 22nd September, 1868. He stated, that in July last, about a month after coitus, superficial sores appeared on the glans penis; that since that time, he had had sore-throat, and had been failing in health, and that, recently, the skin had become affected. The patient was pale and feeble looking, presented superficial ulcers on the glans penis, deep ulcers of the fauces, rupial ulcers on the chin, and swelling in front of the right leg, over the extensor muscles. One tenth of a grain of bichloride of mercury was injected. The patient turned faint from the puncture and the pain caused by the injection, was compelled to keep his bed for a day, and was unable to work for four days. On the 27th, a second injection was made on the outer side of the left thigh. On October 1st, a third injection was made on the right thigh. The patient's general health was much better; the sores on the glans were rapidly healing, and the ulcers in the throat were greatly improved. There was a superficial sore at the seat of the injection made on the 27th September, and some exudation and superficial redness at each of the points where the injection had been administered; but the latter punctures had caused less pain and discomfort than the first. On the 5th, a fourth injection was made on the left thigh. He said that he was much better, and his appetite was now very good. The rupial sores had almost entirely disappeared; but the swelling in front of the leg increased, and was the seat of much pain. The injection was repeated on the 8th. On the 11th, the abdomen was selected as the point of administration, as the tenderness of the thighs, caused by the injection, prevented the patient from being able to work. On October 14th, while all the other symptoms had improved, the pain and swelling in the leg had become so severe, that I did not consider it fair to the patient to withhold any longer the iodide of potassium, which would, I felt confident, relieve these tertiary symptoms. The subcutaneous injection was, therefore, discontinued, and five grains of the iodide were given every four hours. In a fortnight, the ulcer formed by the giving way of the skin over the shin, was healing rapidly; and the patient, considering himself cured, ceased to attend.

CASE III.—This case simply illustrates a difficulty which may occur to prevent the carrying out of the treatment. A female, aged 49, wife of the next patient, had been under irregular treatment for three months, for secondary syphilis. She was, when I saw her, weak and cachectic, covered with syphilitic maculae, and suffering from leucorrhœa and sore throat. On October 5th, one-tenth of a grain of bichloride was injected. The patient turned faint and sick the moment the needle touched her, and complained greatly of the subsequent pain. She refused to submit to the hypodermic treatment any further; and, having taken iodide of potassium for some weeks without improvement, she was ordered a mixture containing bichloride of mercury and sarsaparilla. She still continued to become worse; and, on the 28th October, I ordered mercurial inunction, with the usual precaution of the diligent use of alum to the mouth. This treatment I had abstained from previously, fearing that the patient might, if it were adopted, suspect the nature of her malady. Under the use of the mercurial ointment, the general health greatly improved, the rash disappeared, and, after a month's treatment, my attendance ceased, no symptom remaining but leucorrhœa.

CASE IV.—A male, aged 52, whip-maker, was first seen 5th October, 1868. He stated, that in June last, within a few days after impure coitus, a sore appeared by the side of the frænum; this reached the size of a pea, and was healed in about three weeks under treatment. At the end of about a month from the first appearance of the chancre, a rash broke out on the surface. When seen, his health was not much affected; he had copper-coloured papules and tubercles, with scaly surface, on the face and other parts of the body; and general induration of the lymphatic glands. Injections of one-tenth of a grain of bichloride of mercury were made on the 5th, 9th, 12th, 16th, and 19th, in the right arm, right and left legs, and abdomen. The rash was better on the 12th; on the 16th, there was great improvement; and, on the 19th, the stains had almost disappeared, and the elevations of the skin quite so, with the exception of one on the upper eyelid. The nail was separating from the middle finger of each hand, and there was slight ulceration round the matrix; the nail on the right hand was *stuffed*; that on the left, cut with a piece of brass. But little inconvenience had been experienced from any of the injections, except the second on the left thigh, which

excited inflammation, and had left a tender swelling. The injection was repeated on October 24th, 28th, and 31st. On November 3rd, a ninth injection was made. The rash had now disappeared, but the sores round the injured nails did not shew any tendency to heal. He was ordered to apply black wash to these. On the 11th, the tenth injection was made. The patient had been out of town, and had, consequently, not shewn himself for a week. There were flat ulcerated condylomata round the anus; to these he was to apply sulphate of copper lotion (three grains to the ounce). The injection was repeated on the 14th, 18th, 20th, and 22nd. The patient again went out of town; and, on his return, presented himself quite well, and he has remained so to the present time.

CASE V.—A male, aged 24, a sawyer, was first seen October 13th, 1868. He stated, that about two months previously, he wounded the middle finger with a splinter, near the nail; this did not pain him much at first, but, soon afterwards, a sore formed there. On being pressed, he acknowledged the possibility of his finger having become inoculated with syphilis. On the middle finger of the right hand, at the margin of the matrix of the nail, was a superficial sore, rather smaller than a threepenny piece, and presenting the characters of a true chancre; the right supracondyloid gland was much enlarged and hardened, the body was covered with syphilitic maculae, and, on the outside of the prepuce, were three small superficial ulcers, of the size of a pin's head. The patient was feverish, and was losing strength and appetite. On October 13th, a tenth of a grain of bichloride of mercury was injected. Black wash was ordered for the chancre. The injection was repeated on the 17th, 20th, and 24th. The chancre had now healed; the rash was worse; his general health fair. The injections were continued with regularity up to December 5th, when the sixteenth was administered. The patient was better, but had not lost the rash. On the 23rd, after the twentieth injection, that is, when two grains of bichloride had been injected in all, the gums became a little tender. The patient ceased to attend for three weeks; and, on the 11th January, there still being a few maculae, the bichloride was again injected. The treatment was repeated on the 15th, 19th, and 22nd, the last being the twenty-fourth injection of one-tenth of a grain. The patient, remaining free from any syphilitic symptoms, was discharged cured.

CASE VI.—A male, aged 33, a porter, was first seen November 9th, 1868. Thirteen months previously, he had a chancre, and had not been free from syphilitic symptoms from that time. There was now no rash, but the health was feeble, and the lymphatic glands were indurated and enlarged. Eight days before I saw him, he first noted the eye affected; there was low iritis, with contracted pupil, and discoloured iris, with exudation of lymph on its surface and into the anterior chambers. One-tenth of a grain of bichloride of mercury was injected, and solution of atropine was dropped into the eye. This treatment was repeated on the 12th and 14th. The discoloration of the iris was now much less; the lymph had been absorbed from the anterior chamber, and the pain was entirely relieved. The injection is only noted again on the 21st; and the patient ceased to attend, resuming his work.

In this case, I think it probable that the injection, which was prescribed every other day, was used more frequently than is noted; but the improvement after the third injection was so decided, that the patient possibly ceased to attend regularly.

CASE VII.—A male, aged 26, a labourer, was first seen on November 14th. Two months previously, the primary sore, which had now healed, appeared on the under surface of the penis; this was followed, at the end of a month, by constitutional symptoms. The present symptoms were: condylomata on the perineum and around the anus; a scaly papular rash over the head and scrotum; psoriasis plantaris; and condylomata between the toes. He was ordered a sulphate of copper lotion (five grains to the ounce) for the condylomata, and the injection, every third day, of one-tenth of a grain of the bichloride of mercury. On November 30th, under this treatment, the patient was improving; and the sixth injection was made. On December 18th, the fourteenth injection was made. The patient did not attend after this day; but applied for his discharge, as cured, on the 16th of January, 1869.

CASE VIII.—A male, aged 20, a sawyer, was first seen on October 27th, 1868. Six weeks previously, a week after coitus, a chancre appeared on the margin of the prepuce, speedily followed by suppurating bubo in the left groin, and, two weeks from its first appearance, by an eruption. When seen, he had a chancre of the size of a fourpenny piece, with a hardened base of the size of a hazel-nut, on the prepuce; the glans and prepuce were inflamed and desquamating; there was ulceration round the corona glandis. He had a small bubo containing fluid in the left groin, and syphilitic lepra thickly spread over the whole body. The supracondyloid and other lymphatic glands were hardened and infiltrated. He was ordered to apply black wash to the sores, and to have a hypodermic injection of one-tenth of a grain of bichloride of

mercury every third day. On November 11th, it is noticed that, during the fifteen days that the treatment had been pursued, the patient had greatly improved. The chancre had healed, and the hardened base almost entirely disappeared; the eruption had lost its scaly character, and the maculae were fading. The fluid in the bubo had been absorbed; and the swelling was almost entirely gone. A sixth injection was made this day. This patient, being very anxious, continued to come up at intervals up to March 16th, 1869. He was rarely seen by me; but my assistant, Mr. Noble, continued to inject the bichloride under the skin, until all the stains left by the eruption had disappeared. The intervals between the injections were long, and, at first, there was an evident aggravation of the symptoms when the injection was omitted. The operation was repeated thirty-two times; that is, three and one-fifth grains of the drug were administered.

CASE IX.—A female, aged 19, a servant out of place, was first seen November 14th, 1868. She stated, that primary sores appeared four months previously, four days after coitus, and that constitutional symptoms had existed three months. She was pallid, emaciated, and cachectic. There were several large chancres in the pudenda, with oedema of the labia; infiltration and hardening of all the lymphatic glands. She had patches of lepra, with an unusually deep copper coloured raised base, over the whole body, and ulceration of the fauces. She was ordered lotio nigra and hypodermic injection of the bichloride every third day; and was taken into the Infirmary. The patient began to improve rapidly under the above treatment. On January 8th, 1869, she had gained flesh, had a colour, and ate well. The rash had almost faded, and all the other symptoms were relieved. The eighteenth injection was made. On February 13th, the twenty-second injection was made. The injections were then discontinued for a week, to observe whether the symptoms continued to decrease equally without them. They were resumed on February 20th, as there was still a little rash which did not fade, about the inner side of the knees and thighs; and there were condylomata on the inner side of the lower lip. She was ordered to leave the hospital. The patient did not attend frequently enough to have the injection regularly; and the dose was administered only four times from February 13th to March 6th. On the last named day, she looked fat and well; the whole of the leprosy patches had disappeared, except one on the inner side of the knee; and the condylomata within the lips were better; there were two or three flattened discharging papules near the anus, and a small ulcer round the meatus urinarius. On March 20th, while improvement went on in all other respects, there was no change in the lepra on the inside of the knee. The thirtieth injection was, therefore, made to-day, in the immediate neighbourhood of this spot. On the 27th, the patch of lepra had almost disappeared since the last injection. The patient was dyspeptic, with confined bowels. She was ordered to take a stomachic mixture and aloetic pills. The injection was repeated. On April 5th, she was almost well, but had slight sponginess of the gums. The injection was again used. On the 10th, the lepra had absolutely disappeared; but the left eye was inflamed. There was slight ptialism; the injection was not, therefore, repeated; and alum was ordered for the mouth. On the 17th, the patient was re-admitted, with iritis; and, on May 11th, was so well that she again left the hospital. On May 18th, she was re-admitted, with a recurrence of the iritis in a severe form. The mouth being quite well, the hypodermic injection was renewed. On June 5th, the thirty-seventh injection was administered; and, the eye being quite well, the patient again left the hospital. Another injection was administered on the 12th. On the 19th, the patient appeared quite well; but was ordered to continue the use of atropine to the eyes.

CASE X.—A female, aged 28, a labourer's wife, hale and thin, was first seen December 1st, 1868. Six weeks previously, she first noticed sores on the labia. She had now a soft chancre at the fourchette, and syphilitic lepra over the whole body. She was ordered to apply black wash to the chancre, and to have one-tenth of a grain of bichloride of mercury injected every third day. On the 14th, the patient complained so much of the pain caused by the treatment by injection, that it was desisted from; and she was ordered to rub in mercurial ointment twice a day, and to use alum for the mouth. On the 22nd, there was a callus of inflammatory exudation beneath each clavicle where the injection was made, and a fluctuating swelling in front of the right arm, at the seat of the third injection. The lepra was almost well. The ointment was rubbed in twice a day, from December 4th to January 26th, 1869; there was no ptialism; all the syphilitic symptoms had disappeared; but the patient, though better in health, had not quite regained her strength. The patient has remained under treatment for anæmia and dyspepsia, up to the present time, but without any indication of syphilis.

CASE XI.—A male, aged 22, a carpenter, of robust frame, was first

seen December 25th, 1868. He would give no clear history of the origin of his malady; stating that it was four months since his last coitus, and only a month since the first appearance of the sore. He had a flattened ulcer surrounding the meatus; the frænum was eaten away, and there was a sore below the corona on each side of the penis. The lymphatic glands at the right side were enlarged. There were lepra and impetigo, of characteristic appearance, about the thighs and abdomen; the eruption having appeared within a few days. He was ordered black wash for the sores, and the hypodermic injection of the usual dose of bichloride every third day. The treatment was continued for exactly a month; in which period, one grain of the salt was administered in ten injections. All traces of syphilis disappeared, and the symptoms have not recurred.

CASE XII.—A male, aged 16, an errand boy, was first seen December 15th, 1868. A sore appeared three weeks previously, one week after the last coitus. There was a chancre on a hardened base, which had quite destroyed the frænum, and extended both into the glans and prepuce. The lymphatic glands of each groin were infiltrated, and there were syphilitic maculae over the whole body. He was ordered lotio nigra and the hypodermic injection. On January 12th, 1869, the patient had attended very irregularly, only five doses having been administered in the past month. He was, however, improving; although the throat was now inflamed. On February 26th, the patient applied for his discharge, stating that he was well. The last injection (the ninth) was administered on February 4th.

CASE XIII.—The patient was a male, aged 24, a butcher, of robust frame. The notes of this case are so scanty, that no more can be done than to record that the case was a very obstinate one of chancres and secondary syphilis, which had been under treatment previously to my seeing it. The hypodermic use of the bichloride was desisted from, because it seemed doing but little good, and caused considerable pain. The case passed out of my hands while still unrelieved.

Of the thirteen cases, No. 3 may be dismissed from consideration, as giving no indication of the value of the remedy, since but one injection was administered; it illustrates, however, a possible objection to the practicability of applying this plan in every case.

In like manner, Nos. 10 and 13 are of little value; for, although in each case the hypodermic injection appeared to be doing good, the patients objected to its continuance; one, the female (10), solely on account of the pain; the other, the male (13), because he found that he was unable to continue his work when suffering the inconvenience caused by the injection, in addition to the pain caused by the severe local affection of the penis.

In the remaining cases, there was immediate improvement after one or two injections. In the first case, after three weeks of treatment and the injection of only seven-tenths of a grain of bichloride of mercury, the change in the condition of the patient was surprising; and, although, unfortunately, the patient was prevented, by her leaving the neighbourhood, from following up the treatment, when last seen, though not perhaps truly cured, she was in a very much better state of health.

In Case II, those symptoms which were rather of the secondary type, were all relieved after six injections; and the tertiary symptoms yielded with unusual rapidity to the iodide of potassium when it was commenced. My further experience would lead me to the conclusion (which our knowledge of the action of mercury, administered in the ordinary way, would lead one to presuppose)—that, in tertiary syphilis, whether affecting the bones or the skin and cellular tissues, the hypodermic injection of the salts of mercury can in no degree take the place of the iodide of potassium.

In Cases IV and V, although neither patient attended so regularly as he ought to have done, the result was most satisfactory; both patients recovering under the use of a remarkably small quantity of the drug.

In Case VI, the very rapid and decided change in the appearance of the iris, after three doses of a tenth of a grain of the bichloride had been injected, was most remarkable; and, although the patient has since been lost sight of, I believe that there has been no relapse, or he would have again applied for relief.

Case VII was even more satisfactory in its results than IV and V.

Case VIII remained very long under treatment, and required three and one-fifth grains injected in thirty-two doses before the patient had lost every trace of syphilis; but improvement in all the symptoms followed the very commencement of the treatment, and it is probable that, had the patient attended regularly, the cure would have been completed much sooner.

Case IX was one of a severe character, and in it the treatment had been required for a lengthened period; but, in this case, as in all the

* The notes are not, I fear, accurate as to the number of doses administered but the whole quantity was certainly less than one grain.

others, improvement began as soon as the hypodermic injection was commenced; and it was the occurrence of iritis, when all the other symptoms of syphilis were disappearing, which necessitated the continuance of treatment. In this case, the gums were affected, and the first attack of iritis came on while the patient's mouth shewed the effects of mercury. This affection of the mouth I did not, however, regard as evidence that the system was more under the influence of mercury than the systems of those who did not show this symptom; but rather as an accidental complication, which occurred in consequence of the syphilitic affection of the mouth; and as soon as, under the use of alum, the gums had recovered, I resumed the hypodermic injection. It is noteworthy that, though this patient was undergoing mercurial treatment for so long a period, her general health, as well as the specific symptoms, continued uniformly to improve.

Case XI was treated with greater regularity than any of the others; and ten injections, administered regularly every third day, effected a cure.

In Case XII, although the patient attended very irregularly, a cure was effected with less than a grain of the bichloride, nine injections being made in the course of seven weeks.

As I stated at the commencement of this paper, the cases are not numerous enough for very positive conclusions; but certainly the result of the treatment in ten of these cases is sufficient to encourage a fair trial; and my further experience is at least as favourable to this plan, as that which I have here recorded. I have made no mention of cases which have come under my care since the commencement of the present year, reserving the records of these until sufficient time has elapsed to make the cases complete; and also trusting that the method will receive a fair trial in institutions which will furnish cases enough for accurate statistical deductions, and render further publication on my part unnecessary.

CASE OF BENDING OF THE RADIUS IN AN ADULT.

By ROBERT FARQUHARSON, M.D.,

Medical Officer to Rugby School; late Assistant-Surgeon Coldstream Guards.

ON the 15th of last October, I was watching a football match on Rugby School Close, when J. S., aged 18, asked me to look at his right arm, which had been injured during the game. On cursory inspection, I could detect nothing far wrong; and, considering his symptoms due to a severe bruise, merely recommended rest and fomentation. Next day, he again presented himself, stating his conviction that he had bent his forearm by the accident. Naturally rather incredulous, I made a careful examination, and found that he was quite right, and that a well marked distortion really existed. Both bones were affected in some degree; but the chief strain had been experienced by the radius, which described a considerable curve, with the convexity inwards. No feeling of crepitus could be detected, nor any trace of irregularity along the margin of the bone; and motion, although attended by slight pain, was altogether unaffected. The deformity readily yielded to firm manipulation over the knee; but, as it speedily returned on the withdrawal of the force, it was necessary to apply an anterior and posterior splint.

On October 20th, the splints were removed; but the bend of the radius, though decidedly less marked, could still be observed. Reduction, if I may so call it, being effected as before, the splints were re-adjusted. On October 26th, on uncovering the arm this morning, it was found to have entirely regained its normal shape; a slight degree of weakness and stiffness only remaining. Since that date, it has rapidly recovered strength, and has never given rise to uneasy sensations of any kind.

REMARKS.—Systematic writers on surgery insist on the great rarity of such an occurrence as the above after puberty, and even hint at its impossibility, save in connexion with degeneration of the osseous tissue. But, in my patient, no such predisposing cause could exist; for he was not only stout and well developed, but of special activity in those games which most severely test the frame. We must, therefore, look upon the case as one of an exceptional nature, in which rendering of a perfectly sound bone took place, irrespective of fracture; and the record of such an event may save others from the error, into which I so nearly fell, of overlooking the true nature of the injury; for, although the consequences of such an omission might not be very serious, the resulting deformity, however slight, would sooner or later have proved an annoyance, and brought discredit on the medical art. It is, therefore, fortunate that the marked way in which my attention was drawn by the lad to the nature of his lesion prevented my being led astray by the recollection of our ordinary surgical principles.

CLINICAL MEMORANDA.

[Under this head, we shall publish from time to time, as materials accumulate, short records of remarkable cases in practice which are sufficiently rare, interesting, or instructive, to deserve record, but do not call for lengthened statement or comment. Brevity and point should be the valuable characteristics of cases forwarded for this column.]

MULTIPLE VESICAL CALCULI.

By WILLIAM NEWMAN, M.D. Lond., F.R.C.S. Eng., Stamford.

J. B., aged 75, just came to me in May 1867, complaining of pain in passing urine. This was of some months' standing. He also passed some blood at times. He was relieved by medical treatment; the use of any instrument he strongly opposed.

Nearly a year afterwards, he again came with the same symptoms, and was again a little relieved. In December 1868, he had actual retention of urine; and I then passed a catheter and struck some calculi. They were easily moved by an instrument. Occasional attacks of retention happened afterwards, until his death in May 1869, from exhaustion.

I made a *post mortem* examination of the bladder, and found a hundred and five separate small calculi. Most, if not all, had an uric acid nucleus, and an outer coating of phosphatic material. Their total weight was over three ounces. The bladder, contrary to my expectation, was only slightly altered from the healthy condition; its interior towards the base only was somewhat reddened. The prostate was markedly enlarged.

OBSTINATE GASTRIC IRRITABILITY, TREATED BY HYPODERMIC INJECTIONS.

By JOHN HARRISSON, Esq., Congleton.

JAMES MITCHEL, aged 19, suffered during three years from severe attacks of vomiting, which were induced by all kinds of solid food, and by all liquids. Pure water was not always rejected. Sometimes, and sometimes only, a few spoonfuls of beef-tea, milk, or mutton-broth, would not cause sickness. He was obliged to leave the table several times during each meal, and lost many dinners daily in his attempts to retain one. Excessive weakness, depression of spirits, and pallor were the obvious results of this disease. He was treated by me, and by various other medical men, during his illness, without any benefit, and was for six weeks an in-patient of a large hospital, where great care was bestowed upon his diet and treatment, without avail. He was fed entirely upon milk, and milk with lime-water; a teaspoonful only was given each half-hour; but he did not improve.

The patient came under my notice again in June 1868. I had just then successfully treated a most obstinate case of vomiting consequent on pregnancy, by the hypodermic method, (*Vide BRITISH MEDICAL JOURNAL*, August 23rd, 1868) and resolved to try the same plan with this patient. At first, one-fifth of a grain of morphia was injected; afterwards, the dose was gradually increased to one grain. At the end of a fortnight the strength of the injection was gradually diminished, and was finally discontinued in six weeks from the date of the first injection. During the period of treatment, the patient steadily improved in every respect, the vomiting ceased, he gained flesh, and was soon able to work hard as a farm-labourer. Once or twice during the past year, nausea and slight sickness have been felt by him, but ordinary remedies have easily removed these threatening symptoms.

CASE OF HERPES CORNEA WITH HERPES ZOSTER, SUCCESSFULLY TREATED WITH ARSENIC.

By C. CURRIE RITCHIE, M.B., Manchester.

HENRY F., aged 9, was brought to me on April 7th, 1869, on account of a "breaking out" on his skin, which was said to have appeared about three weeks previously, after scarlet fever. He was small for his age, and somewhat strumous in appearance; he presented a well-marked example of herpes zoster, the eruption being rather plentifully diffused over the side of the nose, cheek, chin, neck, and trunk on the left side. I observed that he was also suffering from phlyctenular kerato-conjunctivitis of the same side, the vesicles surrounding the lower part of the cornea like a row of pearls: there was but little injection or haziness of the cornea. On inquiry, I found that the boy had complained of his eye being painful and "watering" about a fortnight before, but little attention had been paid to it. I prescribed two-drop doses of liquor arsenicalis with quinine and iron, three times a day, after regulating the