THE
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PART I.
ORIGINAL COMMUNICATIONS.

ART. VI.—*Further Observations on the Chemical Constitution and Therapeutic Agency of the Liquor of Hydriodate of Arsenic and Mercury.* By M. DONOVAN, Esq., late Professor of Chemistry, Materia Medica, and Pharmacy at Apothecaries' Hall, Dublin.

IN a former Number of this Journal, I introduced to the notice of the Medical Profession, and gave a process for preparing, a liquid compound of iodine, arsenic, and mercury, and proposed it as a remedy in lupus, lepra, and the several forms of psoriasis. It has now come into general use for these and other diseases.

In the *Journal de Pharmaciè* for December, 1841, there is a notice of this preparation, by M. Soubeiran, containing observations on its chemical constitution and preparation. He states, that being instructed to prepare a quantity of this liquor for the use of the *Hôpital des Vénériens*, he repeated my process many times, but never with success, some arsenic always remaining undissolved.

In these trials, ~~he~~ followed the instructions given in the French translation of **my memoir**, which appears to be accurate in all respects but one. I directed a certain measure of alcohol; M. Soubeiran quotes "a little alcohol." Trivial as this difference appears to be, it may cause a failure; if too little be used, the mass, when it arrives at "a pale red colour," will not have suffered sufficient trituration to ensure union of the elements.

The elements ~~should be~~ presented to each other in a state of the most minute division; iodine cannot be powdered; it must therefore be dissolved; and as it is little soluble in water, alcohol ought to be used. This method brings the particles of all the elements into the contact necessary for the exertion of chemical affinity. But the alcohol must be in such quantity as will not too quickly evaporate and leave the mass dry before the elements have united perfectly. Any abridgment of the time during which the trituration ought to be continued, tends to leave undissolved arsenic; and if the alcohol be diminished, so also is the time of trituration. In this way, M. Soubeiran may have been misled by the French translation. After having manufactured several hundred pounds of the liquor of hydriodate of arsenic and mercury, I am prepared to affirm, that if my original instructions be exactly complied with, and with pure materials, the process will not fail, and the residuum left undissolved will not exceed $\frac{1}{35}$ th of the whole weight of ingredients employed.* Thus, when for the sake of exact observation, I prepared ten times the quantity described in my memoir (in all five wine-pints), the residuum, when perfectly dried, was but two grains; although previously to filtration, it was very voluminous. When those two grains of residuum were introduced into a sealed tube, and the sealed end was heated until the glass began to melt, not a particle of arsenic sublimed; and when the matter was withdrawn, mixed with black flux, and again heated until the glass began to melt, nothing sublimed that was easily disco-

* In my first memoir, I suggested the addition of a small quantity of hydriodic acid to hold dissolved a minute quantity of whitish powder, which passes the filter and remains long suspended.

verable by the unassisted eye ; but a magnifier showed a few exceedingly minute globules of mercury, along with a narrow band of a bright film, so thin, that I could not clearly determine whether or not it was metallic. Even if it were, the quantity of arsenic could not exceed one-tenth of a grain. To succeed so perfectly, long-continued incessant trituration of all the solid materials with the alcohol is required. It is no wonder then that two grains of residual impurities, or even more, should remain after the solution of so large a quantity as 713 grains of solids, even though these were in a state of what we call chemical purity ; for probably we never attain absolute purity by any of the processes resorted to for removing foreign matter.

I have certainly, in a few cases, had a much larger residuum than that above described. This I attributed sometimes to my not having removed the water sufficiently from the iodine, the ratio of the latter being thereby diminished ; sometimes to insufficient trituration ; and sometimes to the presence of impurities which my processes did not remove.

M. Soubeiran, finding that the whole of the arsenic did not dissolve, supposed that the ratio of iodine directed in my memoir is insufficient to form those iodides which are proper for entering into combination ; for he says, that the quantity of iodine "is nearly sufficient to form biniodide of mercury." I founded my estimate of the iodide of arsenic on the calculations and analysis of Plisson ; and of the biniodide of mercury on the analysis of Gay Lussac, adopted by Dr. Thompson. It will be found that the quantity of iodine directed in my original memoir corresponds with the estimates given by these chemists ; and experiment has convinced me, over and over, that it is sufficient for effecting a solution of the active ingredients, provided the proper precautions are taken. Thus the quantity of the respective articles employed by me were,

	Grains.		Grains.
Arsenic,	6.08	+ Iodine,	30.24 Plisson.
Mercury,	15.38	+ Iodine	19.38 Gay Lussac.
Total iodine			<hr/> 49.62

I employed 50 grains for the sake of round numbers. M. Soubeiran, in preference to my method, recommends iodide of arsenic and biniodide of mercury to be dissolved in boiling water; he finds that they dissolve perfectly. Yet between this method and mine there is no difference in the ratio of materials employed; for calculating from data contained in his memoir, the quantity of iodine necessary for the abovementioned quantities of arsenic and mercury would be as follows:

	Grains.		Grains.
Arsenic,	6.08	+	Iodine, 31.70
Mercury,	15.38	+	Iodine, 19.12
<hr/>			
Total iodine	.	.	50.82

which is within a grain and one-fifth the same as I employ; and the only difference is, that he uses the two iodides ready-formed, while I form the same substances extemporaneously. If his method succeed, so *must* mine, if the precautions suggested by me be adopted.

M. Soubeiran has been at some pains to reconcile the incongruity obvious throughout my original memoir, of representing the red biniodide of mercury by the name of iodide, and its corresponding peroxide as the protoxide, although the biniodide and peroxide were evidently intended, as appears by the ratio of iodine directed. He truly observes that none other than the biniodide will enter into the combination; and politely abstains from remarking on this singular inadvertence, further than was necessary to relieve himself from the embarrassment which it occasioned.

Making a trivial correction, the old formula and the corrected one will stand thus:

<i>Old Formula.</i>		<i>Corrected Formula.</i>	
	Grains.		Grains.
Arsenic, . . .	6.08	Arsenic, . . .	6.08
Mercury, . . .	15.38	Mercury, . . .	14.82
Iodine, . . .	49.62	Iodine, . . .	49.00
Water eight ounces.		Water eight ounces.	

Hence, one drachm measure of the liquor of hydriodate of arsenic and mercury will, according to the corrected formula, consist of,

Water one drachm.

Arsenious acid one-eighth of a grain.

Peroxide of mercury one-fourth of a grain.

Iodine in the state of hydriodic acid about three-quarters of a grain.

The medical effects, strength, and dose of this medicine remain just the same as they always were.

Dr. Kane, in his *Elements of Chemistry*, page 765, observing upon this liquor, affirms that its component parts are not in a state of chemical combination ; for “ the iodide of arsenic being decomposed by the water, the iodide of mercury is dissolved by the hydriodic acid formed, whilst arsenious acid exists free in the solution.”

This opinion appears to have been negatived by the researches of Plisson ; and to these I shall refer in preference to my own inquiries. It is a fact stated in chemical works, that iodide of arsenic, when acted on by water, affords an acid liquor consisting of hydriodic and arsenious acids. But that the arsenious acid should exist *free* in the solution, there is no warrant for admitting ; for although arsenious acid acts the part of an acid much more frequently than that of a base, yet it is still a metallic oxide, and in that capacity does sometimes enter into combination as a base, although with very feeble saturating powers.

That it is in a state of combination in the present instance, and not free, appears to be clearly proved by Plisson in the following statements.

“ In contact with water, the iodide of arsenic presents phenomena which vary with the ratio and temperature of the water employed. If cold water be used, in quantity incapable of dissolving all the iodide, the water is undoubtedly decomposed, since it forms a soluble acid-hydriodate, and an undissolved sub-hydriodate. But if the cold water be in quantity sufficient to

dissolve the iodide completely, a yellow solution results, which I consider rather as a *neutral hydriodate* than as an iodide in simple solution; although the liquor strongly reddens tincture of turnsol,—a fact which I explain by the weak saturating property of oxide of arsenic. This oxide being moderately soluble, some persons have thought that the above-mentioned solution was but a simple mixture of hydriodic acid and free oxide of arsenic not combined: here are the experiments which I have made to establish the contrary:

“ 1. This solution contained in a bottle exposed to air, and always maintained at the same degree of concentration, does not exhale the odour of iodine; it preserves its amber tint, and does not disengage any vapour capable of colouring the hydrate of starch.

“ 2. If the experiment be repeated, adding to the solution some hydrochloric acid; the yellow tint, after thirty-six hours, becomes deeper; and the starch, suspended at the mouth of the bottle, begins to become blue. After some days the iodine becomes sensible even to the smell.

“ 3. In fine, the solution is yellow, and not colourless, which it ought to be if it represented a mere simple mixture of acid and oxide.”—*Plisson. Annales de Chimie et de Physique*, xxxix. 265.

These facts seem sufficient to refute the opinion of Dr. Kane, that the iodide of arsenic is resolved into hydriodic acid and *free* arsenious acid. Even if the fact were as he represents it, I cannot perceive how it would sanction the application of it to the condition of a solution consisting of iodine, mercury, arsenic, oxygen, and hydrogen, all dissolved in water, and all acted on by a complex play of affinities: and I am not acquainted with facts on which we can ground a decided opinion on the state of combination in which so many and such peculiar elements exist in solution. The constitution best supported, most generally entertained, and most conformable to the theory of the hydracids seems to me to be that the com-

pound in question is what its name expresses,—a liquid hydriodate of arsenic and mercury,—a combination of two oxidated metallic bases with one acid. If iodide of arsenic be converted, by solution in water, into hydriodate of arsenic, the mercurial iodide should, by solution, be equally converted into hydriodate of mercury. That the two solid iodides combine there can be no doubt, for the reasons formerly assigned by me: and that such a combination exists is also the opinion of Soubeiran, who has given it the name of iodo-arsenite of mercury.

It is scarcely worth while to observe on the colour of the liquor of hydriodate of arsenic and mercury. I had described it as yellow. Dr. Kane says it is colourless, but that it soon becomes yellowish-brown by the decomposition of hydriodic acid. During an extensive manufacture of it, I have never procured it colourless, except when the process failed. With me it has always been of a light yellow hue from the first: and so far is it from *becoming* yellow, that, when its colour was purposely deepened by dissolving in it an excess of iodine, a short exposure to light was sufficient to restore its original pale yellow tint. The liquor is also yellow when made according to Soubeiran's process.

Having now concluded the observations I had to make on the chemical constitution of this salt, I subjoin some new evidences of its therapeutic agency, which I have received since my last publication of cases.

For the information of those who have not already seen the cases furnished to me by Mr. Carmichael, Mr. Colles, Dr. Croker, Dr. Graves, Dr. Irvine, Mr. Cusack, and Sir Henry Marsh, and published in the fifty-second number of this Journal, it may not be amiss to recapitulate the chief facts.

Extract from Mr. Carmichael's Cases.

“ In one case of lupus, of ten years' standing, in which great deformity had been occasioned by the disease on the features of

a young lady, on whom all the usual remedies had been tried, the liquor of hydriodate of arsenic and mercury produced most decided benefit, and seemed to put an immediate check to the progress of the malady. In one of my lectures, I stated the case of a man who had lost a great part of the vomer, and in whom much deformity had consequently ensued from an obstinate attack of lupus, who in the course of a few weeks so far recovered, as to be discharged from the hospital apparently well. I perceive there has been no relapse of the disease, as he was told to return to the hospital should any suspicious symptoms make their appearance.

“ In another case in which the nose was affected, and not only the turbinated bones but the vomer had exfoliated, a perfect recovery took place after a three months' perseverance in the remedy.”

Dr. Croker's Case.

“ Bernard Delany (about 8 years old) was affected with psoriasis guttata, particularly of the upper extremities. He got ʒii. of the liquor, in an eight ounce mixture, and took ʒiss. of that mixture night and morning. I tried the use of a lotion (equal parts of the liquor and water) on *one arm* for experiment, and the more rapid improvement of that arm was quite apparent. Soon after, the treatment was discontinued; yet the previous use of the remedy had been so efficacious, that when we last saw him we pronounced him cured.”

Dr. Graves's Case.

“ Mary Cullen, aged 60, had been affected with psoriasis for fifteen years; the disease, at first mild and confined to a few parts of her body, gradually extended over almost the whole surface of her skin; and when she was admitted into Sir Patrick Dun's Hospital, it presented all the marks of a most inveterate affection. On the 10th of November she commenced the liquor of hydriodate of arsenic and mercury, taking daily three draughts, each containing half a drachm of the liquor. After

some days the medicine was discontinued, as it disagreed with both the stomach and head, but it was shortly afterwards resumed in smaller doses; and when the patient's constitution had become accustomed to it, the dose was gradually augmented, and finally she took half a drachm of the liquor four times a day for about two months. The effects of the remedy exceeded my most sanguine expectations, for it caused an almost total disappearance of the cutaneous eruption."

Dr. Irvine's Case.

"It would be tedious to relate the entire history of this case, it is sufficient to say, that he took various remedies, Dulcamara and Plummer's pill among the number, without any benefit, unless temporary relief from itching.

"From the experience of many cases which I had treated without permanent benefit at the *Maison de Santé*, with Fowler's solution of arsenic, iodine, and mercury, separately administered, I was inclined to doubt their efficacy; I therefore determined to try the compound of these three. My patient had now been upwards of three months under treatment, and to say the truth was little the better of all the medicine he had taken.

"He took a draught containing ʒss. of liquor hydriodatis arsenici et hygrargyri three times a day from the 11th of February to the 28th of April. On the 28th of April the disease was quite cured."

Mr. Cusack's Cases.

"I have used the liquor of hydriodate of arsenic and mercury freely in secondary venereal eruptions, both papular and scaly. I found the eruptions yield rapidly to its administration in the dose of one scruple to two, three times each day. In two instances the mouth became tender, and a slight salivation followed; but in no case have I observed any unpleasant consequences."

Sir Henry Marsh's Case, reported by Dr. Burton at Steevens' Hospital.

"James O'Brien, æt. 12, labouring under a disease having the character of impetigo figurata of strumous origin, covering the face, chest, arms, and thighs; but particularly well marked at the flexures of all the joints. Has been subject for many years to chronic bronchitis, with severe paroxysms of asthma. Curative means were employed, attended with more or less success; but whenever a mitigation of the cutaneous affection occurred; the cough and asthma returned with violence. Means having been employed to alleviate the bronchitic affection, Sir H. Marsh considered this to be a suitable case for an impartial trial of the solution of arsenic, mercury, and iodine (brought before the Profession and prepared by Mr. Donovan), with a view to the removal of the skin affection. The dose administered was fifteen minims twice a day, increased gradually to one scruple, and finally given in half drachms. This mode of treatment was cautiously pursued for somewhat less than a month, with a gradual amendment of the cutaneous disease, which entirely disappeared, without aggravation but rather amendment of the bronchial irritation."

Since the foregoing cases were published in full, I have received various communications which I insert in the order of their dates.

Dr. Charles O'Reilly's Case.

"DEAR SIR,—In the September Number of the Dublin Journal, you invite such members of the Profession as have employed the liquor hydriodatis arsenici et hydrargyri, to acquaint you with the result. In accordance with that request I forward three cases, in two of which the success was complete. The third is considerably improved. Other remedies were employed in all the cases, both by myself and others, such as Plummer's

pil, muriate of mercury, iodine, Fowler's solution of arsenic, vegetable infusions and decoctions, such as sarsaparilla, elm bark, dulcamara and arctium lappa, with local applications in the form of solutions and unguents, without success. The first was a case of psoriasis diffusa, occupying principally the lower extremities. She was a married woman, and in the fourth month of pregnancy. Aware of the peculiar susceptibility of constitution during that period to salivation, &c. as well as the irritability of stomach that usually prevails during the early months of gestation, I hesitated to employ the liquor of hydriodate of arsenic and mercury at first, but finding the disease becoming more troublesome and rapidly extending, I commenced with fifteen drops twice a day in a glass of barley water; the dose being gradually increased to thirty. When she arrived at twenty, which was in about ten days, she was compelled to desist from its use, owing to the sickness it occasioned: but not until the disease had completely disappeared, leaving nothing but a slight tinge on the skin. Three drachms only of the solution were administered.

My second case was one of tinea capitis, of two years' standing, in a boy of eight years old. I caused him to commence the solution as a last resource, having employed in vain the means suggested by Bateman, Planche, and Bret, and the parents using the empirical remedies, such as pitch-caps, ointments, &c. so frequently vaunted. The dose I commenced with was six drops three times a day, which I gradually increased to twelve, the largest given. In the space of one month, and before half an ounce had been administered, the disease had totally disappeared. In the cases related, I also applied the following ointment to the diseased surfaces: equal parts of iodine and citrine ointments, as an adjunct to the remedy, although conscious from past experience of its inefficacy by itself. The last case was one of syphilitic lepra, rapidly improving under half drachm doses three times a day. I have also witnessed its good effects in a case of psoriasis labialis. From my expe-

rience of its good effects in the above-mentioned cases, I have no hesitation in expressing my opinion, that the Profession should feel deeply your debtor for the introduction of so potent a therapeutic agent into the list of remedies.

“ I remain, dear Sir, yours, &c.

“ CHARLES O'REILLY, M. D.,

“ 25, Lower Dominick-street.

“ *To Michael Donovan, Esq.*

“ 11, *Clare-street.*”

From the Case Book of the City of Dublin Hospital.

“ George M'Gee, æt. 29, under the care of Professor Williams, was admitted July 14. On both lower extremities and the arms there are several large patches of eruption, covered with a scale of silvery whiteness, elevated above the surrounding cuticle ; but the scale is not so thick as in common lepra, and more resembles lepra papyracea. They are not painful, but exceedingly itchy. New ones, scarcely the size of the head of a pin, but covered with a scale like the larger ones, are scattered over various parts of the trunk and limbs. They spread circularly ; the scale falling off leaves the cuticle below red and tender, and is succeeded by a larger one which goes through the same process. The head, when shaved, disclosed the crown covered with yellow crusts, thicker and harder than those on the extremities.

“ Fowler's arsenical solution was prescribed for this man, and after continuing its use for a fortnight, and taking a warm bath twice a week, the eruption is nearly in the same condition as on his admission. The hydriodate of potash was then tried with him, but the lepra resists the hydriodate with the same obstinacy as the arsenic.

The patient was then put on the liquor of hydriodate of arsenic and mercury, five drops three times a day. After *one week's use* the lepra is beginning to yield to this remedy, which has been increased to ten drops thrice a day, and then to fifteen

and twenty drops. Under the use of this preparation the lepra yielded slowly but steadily.

“ Nov. 10. The lepra has disappeared, except three or four half-formed scales on the legs. He now returned to his duty as a sergeant of police.”

Case from Sir Henry Marsh, reported by Dr. Burton.

“ James Landrican, æt. 12 years, admitted into Dr. Stevens' Hospital, December 16th, 1840, under the care of Sir H. Marsh, labouring under a severe form of psoriasis guttata, manifestly of strumous origin; the eruption being most abundant upon the legs from knee to ankle, and upon the arms from elbow to wrist. States that he has been subject to this disease for two years; that it disappears at intervals from some parts of the body, while it shows itself on others; that since its first appearance he has not been entirely free from it; that none of his family labour under any similar affection; his general health is good; bowels rather inclined to be constipated; skin rough and anserine; perspiration very scanty; no internal organic disease can be detected. Sir H. Marsh considered this a suitable case for the exhibition of the liquor hydriodatis arsenici et hydrargyri, prepared by Mr. Donovan.

“ The patient took fifteen minims three times a day. This was continued during thirty-nine days from date of admission, without producing much apparent effect. The dose was then augmented by fifteen minims per day, and he was directed to apply a lotion two or three times a day to the eruption, consisting of equal parts of the liquor of hydriodate of arsenic and mercury and distilled water. He was also placed in the vapour bath every second day. This treatment was continued until the sixty-fourth day from admission, at which time the eruption had gradually but wholly disappeared: the gums showed traces of the mildest insalivation; the general health was much improved; appetite good; skin softer; perspiration more free. He was

discharged February 27th, and when last seen, three months from that date, he had experienced no return of the disease."

Dr. Robert J. Hickson's Case.

Dingle, December 5th, 1840.

" I feel great pleasure in bearing testimony to the happy results which followed the administration of the liquor of hydriodate of arsenic and mercury in the cases which came under my observation. In an indolent ulcer on the temple of ten years' standing, in which the granulations were almost gristly, I tried various stimulants and escharotics, without the least benefit, and at the same time having recourse to constitutional remedies; I then administered Mr. Donovan's liquor, in the manner prescribed by himself, as an internal medicine and as an external lotion, which completely changed the character of the ulcer, it assuming a more healthy appearance, and secreting kind pus. In less than three weeks there was a perfect cure effected. In another ulcer on the instep, in which there was great irritation, I applied the lotion, and in two or three applications the irritability was effectually destroyed, and the ulcer healed by mild dressings. I have also tried its efficacy in a case of sibbens, in which there were high fungous excrescences from the ulcers, as an external application, and at the same time gave it internally. In this case, I have also witnessed the same beneficial results, cutting down the excrescences, and completely eradicating the affection from the system.

Dr. White's first Case.

" Rostrevor, Jan. 26.

" MY DEAR SIR,—Mary Aylmer had been afflicted with that form of disease, called psoriasis diffusa, from the period of puberty, her age being now 18, a comely, well grown girl, but of strongly marked strumous diathesis. The entire of the body, with the exception of the face and hands, covered with

the scaly patches, rough, chappy ; the cuticle dry, red, and here and there deeply furrowed ; the abdomen and thighs completely covered. She described her sufferings at night as intense, the greater part of which time she spent in scratching the inflamed skin. She had consulted many doctors with occasional, temporary (only) benefit. I commenced the treatment by opening the bowels, a full bleeding from the arm, and the warm bath, which last remedy was occasionally used during the course of treatment : she then commenced the use of your solution. She consulted me on the 18th of April, and continued the solution without any other remedial treatment than that above-mentioned, and on the last week of June she presented herself perfectly cured, and in the possession of excellent health and spirits.

“ Most faithfully yours,

“ JOSEPH D. WHITE.”

Dr. White's second Case.

“ A woman, aged 50, five years ago struck her face against a swinging scale in a dark pantry. The pain was not of long duration ; but some weeks after the injury, the part became acutely painful, interfering much with her sleep and general health. A hard rugosity was now felt about half an inch from the ala nasi of the right side, or midway between the angle of the mouth and nose. The progress of the ulceration was slow, the scab occasionally falling off ; the edges of the skin being of a violet colour, with a doughy feel. At the time of using your preparation, the disease extended from the spot mentioned to the angle of the eye and nose of the opposited side, and presented the true characters of *lupus* with *hypertrophy*. Her general health good ; but wasted with fretting and nocturnal pain ; countenance pale, sallow, and cadaverous. I prescribed for her twenty minims of the liquor of hydriodate of arsenic and mercury, to be taken three times a day, with the application of a lotion consisting of equal parts of the liquor and distilled water. She continued

taking her medicine until May 17, when five minims were added to each draught. On the 27th, in consequence of sickness and headach, they were discontinued for a week, and resumed and continued until the 20th of June, when they were discontinued, all traces of the disease having disappeared, nor has it returned. Her general health is much improved, as much from the joy and happiness she experiences at the removal of so unsightly a disease. The rapidity with which the cure was performed is truly surprising. The lotion was applied frequently with a camel-hair brush; the application was followed by a little smarting.

“ Ever yours, faithfully,

“ JOSEPH D. WHITE.”

Mr. Jones's Case.

“ *Woodbridge, Suffolk,*

“ *June 28th, 1841.*

“ DEAR SIR,—I have great pleasure in being able to speak very favourably of the action of the liquor of hydriodate of arsenic and mercury. One case of lupus in an early stage came under my notice some time since; conium, and every means that could be suggested to allay the pain, had been tried by two or three medical men, and no relief being obtained, the poor woman was for trying every thing she heard of. I was asked to see her in consultation with her usual attendant. I found the nose covered with a dark, hard scab, having a tuberculated feeling, indeed as if there were some split peas under the skin; it was very hot; and the poor creature was quite desponding. It immediately occurred to me that it was a good case to try your remedy, and most gratifying was the result. I ordered $\mathfrak{m}\mathfrak{x}$. to be taken night and morning; and a lotion composed of one part of the solution with three parts water. The scab soon came off; the pain subsided; and the nose is now quite well. The scab came off almost in one piece, like the peel off an orange, leaving a healthy, granulating surface underneath. I

have also under my care a case of tuberculated disease of the skin of the whole face.

“Yours faithfully,

“RICHARD JONES.”

Mr. Jones's second Case.

“Woodbridge, Sept. 14th, 1841.

“DEAR SIR,—On the 4th of April I was requested to see the case in question, and found the whole of the bridge and alæ nasi covered with a dense, horny crust, of a brown colour, having elevations about the size of a pearl-barley, or a little larger, distributed about it; very hot and painful to the touch. The disease had been of several months' standing, and was slowly, but gradually, increasing. Various remedies had been tried; cooling applications; stimulants; sedative poultices; but all to no effect, the disease was increasing. She had consulted a physician in the neighbourhood, who ordered the conium poultice; no good, however, resulted; and looking upon the case as one of tubercular disease, I thought it a very good one for trying your solution; and the best results ensued. I directed ten minims to be given night and morning, and a lotion composed of one part solution, with three of distilled water, to be kept constantly applied. In about a fortnight, improvement was very evident; the crust afterwards came off quite whole; healthy granulations appeared, and by the middle of June it was quite healed, and the nose is now looking healthy and natural.

“I am, dear Sir, yours faithfully,

“RICHARD JONES.”

Dr. Bigger's Cases.

“25, York-street, April 22, 1842.

“DEAR MR. DONOVAN,—I feel happy in being able to testify to the utility of the liquor hydriod. arsenici et hydrarg. first introduced to the public by you. I have found it useful in

cases which had resisted the medicinal powers of the component elements separately. It was in cases of psoriasis that I have have principally employed it.

“John Gorman, about whom you spoke to me lately, had been afflicted with sycosis in the lower parts of the face, and upper part of the neck ; he had been treated by various medical gentlemen without success, and had been twice salivated before applying to me. Mercury having failed, I tried arsenic in the form of Fowler's solution, which he took for a long period without the slightest benefit. I then caused him to poultice his face regularly, and I applied a solution of nitrate of silver every second day to the surface whilst soft from the poultice, giving him at the same time half a drachm of your solution three times a day. There was manifest improvement before this plan had been pursued a fortnight; he was able to shave himself, and became more humanized in appearance. At the end of two months I ceased using the nitrate of silver, and your solution was alone employed. In four months from the commencement of treatment he was quite well. I saw this man yesterday, more than a year and a half since he was pronounced well, and he has had no return of the complaint. I should mention, that during the entire treatment he was exposed to the wintry weather, being a car-driver ; this may in some degree have retarded the operation of the medicine, but it did not cause it to produce any bad effects on the patient.

“I feel very grateful to you for your kindness in giving this medicine to many of my poor patients who could not afford to purchase it ; and I think the Profession are your debtors for the handsome manner in which you put forward your discovery in the *Dublin Journal of Medical Science*, as such a medicine, if kept secret, would have made the fortune of half a dozen empirics.

“Believe me your's very sincerely,

“S. LENOX L. BIGGER.”

Mr. O'Ferrall's Cases.

" 35, Rutland-square, May 7th, 1842.

" DEAR SIR,—In reply to your note requesting to know the result of my experience in the use of the hydriodate of arsenic and mercury, I am happy to be able to say, that you are rightly informed as to the favorable action of that medicine in many cases in St. Vincent's Hospital. I am bound, however, to add, that in lupus I have not been able to accomplish a cure independent of local means. In certain forms of cutaneous affections the efficacy of the salt is very obvious, although it *has* happened in several instances that the benefit was exactly coincident with the action of its mercurial element on the mouth. Altogether, I consider it a valuable addition to the *Materia Medica*.

" Your's, very truly,

" J. M. O'FERRALL."

Dr. Ferguson's Cases.

" North Frederick-street,

" June 9, 1842.

" DEAR SIR,—Since the conversation we had some months since on the subject of your 'liquor hydriodat. arsenici et hydrarg.' but three cases of any importance, to which I deemed it peculiarly applicable, presented themselves to my notice, the results of which it affords me peculiar pleasure to communicate to you.

" Mrs. Dooley, the mother of five children, and nursing one four months old, was admitted in Sir Patrick Dun's Hospital, March 23rd, presenting on different parts of her body, particularly the neck and scalp, well marked specimens of *rupia*. No syphilitic taint was suspected. Her constitution seemed much impaired; the disease showed itself on the fauces and palate; the conjunctiva and palpebræ were much inflamed. After preparatory purgation, this woman was ordered a six ounce mix-

ture, with forty drops of the 'liquor,' to be taken in three doses during the day. This dose was at intervals raised to sixty drops in the day, on the 6th April. On the 19th this dose was reduced one-third, in consequence of the appearance of some symptoms attributable to the arsenic. The reduced dose, however, was well borne until the 27th of April, on which day she left the hospital in greatly improved, indeed excellent general health, without any remains of the eruption, save tender eyelids. The only other remedial agents employed in this case were occasional aperients, collyria, and *one* warm bath.

" Miss —, æt. 35, of strumous diathesis, and subject to menorrhagia; for the past two years has laboured under *lepra*, in a rather aggravated form, the eruption being most excessive at the elbows, forearms, thighs, and legs. Had been for the greater part of that time under the care of two most eminent London practitioners, experiencing occasional relief, never entire removal of the eruption. In two months' use of the liquor, beginning with fifteen drops *ter in die*, and never exceeding twenty, the disease has entirely disappeared, and left an apparently healthy condition of the skin. Her general health is decidedly greatly improved.

Woulfe, æt. 50, an old soldier, admitted into Sir P. Dun's Hospital, May 19th, 1842, covered from head to foot with patches of *lepra*, most copious on the legs and back; of some months' standing. After brisk purgation, I ordered him a ʒvj. mixture with liquoris ʒiss. ʒi. *ter in die*. 23rd May. I raised the dose to ʒij. to the ʒvj. mixture, ʒi. *ter in die*. 27th. ʒiiss. June 1st. ʒiiij. 7th. ʒiiiss. In this case the medicine has never induced a single unpleasant symptom, but been perfectly tolerated. I have superadded occasional purgatives, with the hot bath about six times, and the beneficial effects already produced by it, I must say, have been quite satisfactory to me; the disease most markedly disappearing. This man's general health is greatly improved since his admission into hospital, and I have

little doubt but a very short time will enable me to report his skin *natural*.

“ Believe me, with the greatest respect, &c. yours,

“ J. C. FERGUSON.”

The following cases are abridged from a letter from Dr. Osbrey to Mr. Donovan, published in the *Dublin Journal of Medical Science*, vol. xxi. p. 402.

Susan Atkins, æt. 9, was affected with diffuse psoriasis which engaged almost her entire body, the scales on the extremities being continuous and remarkably thick. During two years she had been under the care of several practitioners in London, but had received no relief. Dr. Osbrey having received her into St. Mary's Dispensary, Dublin, tried various remedies without making any impression on the disease. He then directed ten drops of the liquor hydriodatis arsenici et hydrargyri to be taken every third hour. At first the medicine caused slight sickness of the stomach, but it soon ceased to produce this effect on its being discontinued for a few days. Ten days after its commencement the eruption began rapidly to decline on the trunk, and the thick scales to loosen on the extremities. In five weeks, during which she improved in health, her appetite declined, she fell away in flesh, and became pale; but almost all traces of the eruption had disappeared. After some discontinuance she resumed the medicine; and after three weeks' use of it she was completely cured, and was perfectly well in eight months after when Dr. Osbrey accidentally saw her.

“ This case (says Dr. Osbrey) I considered as one of particular interest, from the circumstance of the disease being of so aggravated a nature, of a duration so considerable, and from its having resisted every other remedy which had been used. I tried previously to using the liquor of hydriodate of arsenic and mercury, the iodide of potassium, Fowler's arsenical solution, mercurial alteratives, sarsaparilla, guaiacum, carbonate of soda,

and other remedies, without making the slightest impression on the complaint."

A young woman affected during a few weeks with a diffuse scaly eruption, was put under the same medicine, and in the same doses. In ten days the disease disappeared.

Another woman during twelve months troubled with thick scaly patches on the extremities, used this medicine with equal success. She did not complain of any sickness of the stomach, although she took twenty-five drops three times a day. In three weeks she was well. After six months she had suffered no return.

In a case of button-scurvy, iodide of potassium and mercury failed, as well as other medicines, exhibited by different practitioners. The liquor hydriodatis arsenici et hydrargyri cured the patient in a month, without producing any derangement of health.

Dr. Osbrey relates other cases successfully treated, and also adduces several diseases of the skin, as ephelis, pityriasis, &c. which yielded to the power of this medicine.

It should be particularly remarked, that in the case of Susan Atkins, the patient had used iodine, arsenic, and mercury separately without the least benefit, but the combination of the three cured her.

Dr. Hamilton's Case.

" Birkenhead, May 3rd.

" DEAR SIR,—I should feel very happy to furnish you with a short abstract of the case I spoke of, but I fear there would be a very great difficulty in ascertaining what were the exact remedies which had been tried beforehand, as the patient belongs to the lower class; suffice it to say, however, that she had been under treatment from various talented professional men for the last eight years, without any apparent benefit, and that under the use of your valuable medicine, during a period of four months (with a few interruptions) she has steadily improved, and has now been much longer free from the disease

than she ever recollects, so much so that I consider the cure both perfect and permanent.

“ I remain, dear Sir, your’s sincerely,

“ WM. THOS. HAMILTON.”

Dr. Graves’s Case of Superficial Lupus.

“ Patrick M’Guire, æt. 60, a servant, of temperate habits and healthy constitution, was admitted into the Meath Hospital, under the care of Doctor Graves, on the 13th of June, 1842, being affected with common itch of long standing; besides a peculiar eruption of the skin, which had continued four years. Although he had been treated several times in various hospitals, he had resisted all the remedies employed, both internal and external, among the rest, hydriodate of potash.

“ This obstinate form of cutaneous disease occurred on four parts of his trunk; it commenced by a sensation of itching and tingling, attended by a few red pimples, which were very slow in their maturation, and did not form matter towards the apex for several weeks. Soon after the accumulated pustules were ripe they burst and scabbed; and then a few others began to appear in their immediate vicinity, which ran the same course; while the ulcers arising from the former slowly healed. The cicatrized surface left was covered by a very smooth epidermis, evidently much thinner and much finer in its texture than natural. The corion corresponding to the disease was mottled; the colouring matter of its external surface having been absorbed in spots, which consequently were morbidly white. There was no puckering in the cicatrization; it felt every where smooth and soft. The most curious character of this eruption, which I called superficial lupus, was the very great slowness with which it spread, so that from the time of its first appearance on a part, it occupied four years before it had extended over a surface the size of a man’s hand. At the end of that time, it exhibited no tendency either to proceed more rapidly or become more virulent. Neither, on the other hand, did it manifest the least ap-

pearance of ceasing, but continued its slow, monotonous course, always throwing out five or six new tubercular pustules, to replace those which were in the act of being healed.

"M'Guire's itch soon yielded to sulphuret of potash baths, which had no effect on the lupus; and on the 13th of July, he commenced taking fifteen drops of Mr. Donovan's solution every day. The dose was gradually increased to forty drops, and under its influence improvement soon became evident. No new pustules were formed; and on the 1st of September, when he had taken two ounces and a half of the solution, equivalent to two grains and a half of arsenious acid, each of the four batches of eruption had been healed; the mottled surface is of course permanent. The remedy produced no unpleasant symptoms."

Dr. Kirby's Cases.

Harcourt-street.

DEAR SIR,—Having prescribed the liquor hydriodatis arsenici et hydrargyri in some cases with advantage, I feel much pleasure in communicating to you the result of my experience. As the use of it was spread over long periods, and nothing particular occurred deserving an entry in my note book, you must not expect to be furnished with minute details. Whatever observations I have to make as to the effect of the solution, I reserve for the conclusion of this brief notice.

Its power to arrest certain forms of uterine disease I conceive to be declared by the following facts. A lady, in whom about six years ago the speculum displayed much patency of the os uteri, with firm and considerable vascular turgescence, and in whom exploration by the rectum discovered enlargement, weight, and hardness of the uterus, left town before I adopted any treatment, and put herself in the care of competent advisers, whose opinions fully coincided with my diagnosis. In June, 1841, she applied for my advice; her health was now truly impaired. The uterine disease had greatly advanced, accompanied by lumbar, pelvic, and inguinal persisting pains, with much

tenderness in the left supra-pubic region, where uterine fulness was perceptible, and a seton was some months previously introduced without any perceptible advantage. I now directed liq. hydriod. arsen. et hyd. which was steadily persevered in for a year, under my guidance, yet with short interruptions suggested by its effects and the arrival of menstrual periodicity. At the expiration of twelve months, I again had an opportunity of full examination. On this occasion I found the cervix uteri much less tumid, the os uteri much contracted, and the size of the uterus considerably diminished. Her general health was so signally improved, that the lady had grown not only unbecomingly, but almost inconveniently, corpulent. In this condition I ordered her to the coast for the purpose of bathing, and I directed the solution to be discontinued,—a command to which she submitted with an avowed hesitation and reluctance, but to which I effectually opposed the promise that she might resume the medicine as soon as she returned to her winter residence.

“In the case of a lady forty years of age, in whom examination *per vaginam* displayed the same state of the os et cervix uteri as in the former one, the rest of the vagina being in a healthy state, the effects of the solution were rapidly and strikingly exhibited. In six weeks the parts resumed a natural condition, at the same time the pelvic, lumbar, and perineal pain disappeared, and the patient wore all the appearance of comparative health, which I am informed she still enjoys, it being now six months since she left my care.

“As these cases appeared to show that the solution acted energetically on the uterine system, I was induced to test its virtue in two cases in which cancer had advanced to a formidable amount. I am of opinion that in both it evinced an anodyne power, as the pains were much alleviated during the continuance of its use. I could not perceive any other effect.

“I feel fully authorized to vouch for the efficacy of the solution in obstinate pityriasis, in psoriasis diffusa of an aggravated form, and in scaly tetter of many years’ continuance. Although

the virtues of this remedy were speedily shown in some cases, yet in the greater number they were not perceptible until it was persevered in for some time, when a slowly progressive amendment followed a rigid perseverance in its use.

“The case of pityriasis resisted every variety of both general and local treatment under the care of many practitioners, and yielded only after a six months' course. The psoriasis required a longer period, and in some of the cases of scaly tetter the medicine was not laid aside for a year.

“I have seldom been able to continue the doses marked in your original communication. The medicine is one of unquestionably accumulative tendency, and when it acts with collective power it affects the gums, confines the bowels, deranges the stomach, and produces headach, uncomfortable giddiness, and confusion of mind. These unpleasant effects are relieved by purging, but do not disappear even by that treatment and suspension of the remedy for a period varying from ten days to three weeks. On resuming the solution, I have found it necessary to make a considerable reduction of the dose, for few have been able to bear the original quantity. On such occasions I prescribe it in minims from eight to twenty, a number quite sufficient to secure its curative efficacy. Even these cautious doses I have been sometimes obliged to discontinue, in consequence of the specific symptoms already noticed.

“The salutary action of the medicine seems to me to be much promoted by a moderate diet, and a steady avoidance of all stimulant fluids, and by an occasional tepid bath. As far as my experience allows me to speak, I do not think I have observed any injurious consequences to remain even in those cases in which the remedy was continued for several months without any interruption.

“Your's, dear Sir, very truly,

“J. KIRBY.”

Mr. Gabriel Stokes's Cases.

" Mullingar, Sept. 29th.

" DEAR SIR,—Understanding that you are writing on the therapeutic effects of liquor of hydriodate of arsenic and mercury, I wish to state to you, that I have treated, within the last two months, five cases of obstinate psoriasis most successfully with that remedy; three of these cases were boys about the age of from twelve to thirteen, inmates of Wilson's Hospital, in this county. The disease had been contracted by sleeping with infected persons, was in all from two to three years' standing, and had resisted a variety of treatment. About six weeks since, these boys were put upon five drops of your solution three times a day, which has since been increased to ten; they may be all now considered as nearly cured, nothing remaining but a slight staining of the skin. Since the adoption of this treatment no other remedy has been used, and it has in no instance produced the slightest derangement of the alimentary canal; the other two cases were in adults, and of many years' standing, one is now quite cured, and the other rapidly progressing to recovery.

" Believe me, dear Sir,

" Your's very truly,

" GABRIEL STOKES."

Dr. Croker's second Case.

Merrion-square, Sept. 29.

" DEAR SIR,—The case to which I lately alluded was this: A woman, aged 68, was admitted into Dr. Steevens's Hospital, under my care, labouring under a severe form of psoriasis, which affected the face, backs of the hands and fingers. The eruption had made its appearance a fortnight before her admission; and was attended with much irritation and itching. She commenced taking dilute sulphuric acid, and continued it for some time without any visible improvement. On the 20th of August, she was ordered 15 minims of the liquor of hydriodate of arsenic and mercury, and after persevering in it for some

time, the dose was increased to 25 minims, beyond which it could not be exhibited without sickening her. On the 20th of Sept. she was discharged quite free from the least appearance of eruption, with the exception of a small spot on the back of the right hand. At the time of her discharge, her general health was excellent ; and she appeared stouter than on admission.

“ Your's dear Sir, very truly,
“ C. P. CROKER.”

Sir Henry Marsh's third Case, reported by Dr. Burton.

A girl of strumous appearance, aged 5, affected with tinea of the scalp, and some patches on the neck and shoulders, had been treated with various remedies, during several months, but unsuccessfully. The liquor of hydriodate of arsenic and mercury was prescribed for her by Sir Henry Marsh, in doses of two minims twice a day ; and externally, diluted with seven parts of water, as a lotion. This treatment was pursued with occasional interruptions for about three months, during which, two drachms of the liquor were taken, equal to $\frac{1}{4}$ grain of arsenic. The result was a perfect removal of the eruption ; the child's health was much improved, and she appeared to have acquired considerable increase of flesh. She has continued free from any eruptive disease up to the present date.

CONCLUDING OBSERVATIONS.

The foregoing cases have been selected from many in which cures were effected without any peculiarity worthy of observation ; and it is by no means to be understood, that the experience of the practitioners who have obligingly furnished them, has been confined to that number.

In concluding, I may be permitted to make a few general observations on the preceding cases. It may be collected that the elements, of which the liquor of hydriodate of arsenic and mercury is composed, do really acquire an increase of efficacy by combination ; for we find, that diseases in which arsenic, mer-

cury, and iodine had been separately tried without any good effect, were finally cured by the same agents when they were in a state of chemical union. Amongst the changes of properties induced on these substances by chemical affinity, an increase of medical efficacy seems to be one.

Thus, in Professor Williams's case, Fowler's arsenical liquor had been given for a fortnight without the least effect; and hydriodate of potash had no better success. But after one week's use of liquor of hydriodate of arsenic and mercury, in very small doses, the lepra began to yield, and soon after disappeared.

In Dr. Osbrey's case of psoriasis, the patient had been for two years under trial of various remedies without relief. When placed under Dr. Osbrey's care, Fowler's solution, mercury, hydriodate of potash, sarsaparilla, guaiacum, and soda, were used without making the slightest impression. Within ten days after the patient commenced taking the liquor of hydriodate of arsenic and mercury, the eruption began to decline rapidly; and in two months, the woman was perfectly well.

In Dr. Charles O'Reilly's cases, Fowler's arsenical solution, iodine, calomel, corrosive sublimate, sarsaparilla, and the whole tribe of alteratives had been ineffectually employed; yet the liquor of hydriodate of arsenic and mercury succeeded; in one instance three drachms were sufficient, equal to three-eighths of a grain of arsenious acid; in the other four drachms.

Dr. Bigger's patient had used mercury largely, as also Fowler's solution, without the slightest benefit; but under the use of the liquor he speedily got well. Dr. Irvine frequently failed with iodine, arsenic, and mercury, separately employed, but with the combination he succeeded.

There is abundant evidence that this medicine succeeds in the worst forms of disease, and sometimes in a very short period, when all the usual modes of cure had failed. Dr. Ferguson's patient had been for nearly two years under treatment, but unsuccessfully; yet in two months, the liquor of hydriodate of arsenic and mercury succeeded, when no more than two and a half grains of arsenious acid had been administered. Dr. Ha-

milton's patient had been under treatment for eight years, without any apparent benefit ; but when put on the use of the liquor, she recovered in a few months. Dr. White's patient, for years under the use of various remedies for an excruciating psoriasis, was cured by the liquor in seven weeks. On Mr. Jones's case nearly the same observation may be made. Dr. Hickson's patient had laboured under a disease for ten years which was cured in less than three weeks by the liquor. Dr. Graves's patient suffered from what he denominates superficial lupus, for four years, and had been treated in various hospitals with the usual remedies, both internal and external, and with sulphur baths ; but all failed. The liquor of hydriodate of arsenic and mercury cured him within seven weeks, when he had taken but two and a half grains of arsenious acid. Dr. Kirby's case of pityriasis had been treated by various practitioners, and resisted every variety of treatment, general and local ; after six months' perseverance in the use of the liquor, the disease gave way. The child treated by Sir Henry Marsh for tinea capitis had resisted various remedies during several months, but recovered perfectly under a three months' course of the liquor used internally and externally. Some of Mr. Stokes's patients had also resisted various modes of treatment.

The power of this medicine over lupus is evinced by the cases of Mr. Carmichael, Mr. O'Ferrall, Mr. Jones, and Dr. White. In Mr. O'Ferrall's case, local means were also necessary. Dr. White found the liquor itself adequate as a local application.

That the external application of this medicine, in the form of lotion, is useful, there is sufficient evidence ; and this is a property of importance to those whose irritability of stomach and bowels will not permit its internal exhibition. The case of Dr. Croker clearly proves its power as an external agent. The same seems to be evinced by Sir Henry Marsh's second case, in which perseverance in small doses during thirty-nine days did no service, although when the internal use of it was assisted by the

external application, the patient speedily began to get well. Mr. Jones's and Dr. Hickson's cases seem also to have received benefit from the local application. I have known several instances in which the external use of the liquor alone was successful, but they were slight affections.

From the various statements it appears, that slight ptyalism sometimes supervenes on the use of the liquor of hydriodate of arsenic and mercury. This might be expected, inasmuch as each of the three elements of which it is composed, is separately capable of producing this result. Arsenic is not so generally known to possess this power; but that it does was proved by Girtanner of Gottingen, who exhibited arsenious acid largely in syphilis. More lately the fact has been again observed. That iodine possesses the same power is now almost as well known as that mercury does. I have observed, however, that when the liquor of hydriodate of arsenic and mercury produces ptyalism, it does so with less previous soreness of the gums, than any other mercurial preparation, and often with none.

Mr. O'Ferrall found the effects of this medicine to be coincident with its mercurial action on the gums. Mr. Cusack observed the mouth to become tender in two instances only. And more generally a cure has been effected without soreness of the gums, or ptyalism, as appears by the silence on this symptom, of those practitioners who have furnished the preceding reports.

The dose has been variously represented. Dr. Kirby is disinclined to doses exceeding 20 minims, and this quantity he conceives sufficient to secure its curative effects. Sir Henry Marsh, in the case of a boy, twelve years old, began with 15 minims twice a day; and gradually pushed it to half a drachm; and at length the patient got half an ounce in divided doses during twenty-four hours, which only produced "very mild insalivation." In venereal eruptions, Mr. Cusack found one or two scruples three times a day sufficient; but even when larger doses were given, he did not observe any unpleasant consequences. Dr. Irvine's patient took 3ss. three times a day, for seventy-

six days, and was only twice obliged to discontinue it for two or three days, owing to headach and sickness of the stomach. Dr. Graves's patient, a woman 60 years old, took 3ss. four times a day, for two months, with only two interruptions owing to disagreement. These instances show how differently the medicine can be endured by different constitutions. It is certainly prudent to begin with Dr. Kirby's doses ; but after a while, as in the case of tartar emetic, a state of tolerance is induced, and then the medicine may be gradually increased at discretion.

The smallness of the quantity of arsenic and of the other elements, that sometimes effects a cure is striking, and affords an additional proof of the energy which they acquire by combining chemically. In one of Dr. O'Reilly's cases, three drachms of the liquor were successful, containing $\frac{5}{8}$ grain of arsenious acid, $\frac{3}{4}$ grain of peroxide of mercury, and about $2\frac{1}{2}$ grains of acidified iodine ; in another, $\frac{1}{3}$ more of these elements was required. One of Dr. Ferguson's patients was cured by $2\frac{1}{2}$ grains of arsenious acid. Dr. Osbrey succeeded with about a grain of arsenious acid, Dr. Graves with $2\frac{1}{2}$ grains, and Sir Henry Marsh in an obstinate case of tinea capitis with $\frac{1}{4}$ grain. Cases, however, occasionally prove of a very obstinate and tedious nature ; and, generally speaking, skin diseases offer lengthened resistance to curative measures ; thus Dr. Irvine's patient was under treatment 76 days, and required seven ounces of the liquor, equivalent to seven grains of arsenious acid ; Dr. Graves's patient, of 60 years old, required $10\frac{1}{2}$ grains ; Sir Henry Marsh's, a child of 12 years, required a far greater quantity ; some of Dr. Kirby's patients were a year under cure ; and I know a lady, who being troubled with psoriasis almost all her life, is now after a year's treatment only beginning to improve.

The diseases in which practitioners have hitherto found the liquor of hydriodate of arsenic and mercury to be useful, as appears by the foregoing testimonies, are the various forms of psoriasis, impetigo, porrigo, lepra, venereal eruptions, both papular and scaly, pityriasis, sycosis, ephelis, lupus, sibbens, and some uterine diseases.

Those who have continued to take this medicine during a long period, often lose flesh ; but this is by no means a constant effect. In Dr. Croker's second case, the condition of the patient was much improved ; and the lady mentioned by Dr. Kirby had become inconveniently corpulent. Dr. White's first patient was left "in excellent health and spirits," and his second was "much improved in general health." Dr. Ferguson reports his first case as having "left the hospital in greatly improved, indeed excellent health," and his second as "improved" in general health. In Sir H. Marsh's third case the girl's "health was much improved, and she appeared to have acquired considerable increase of flesh."

Sometimes the liquor occasions disturbance of the stomach and bowels. This occurs during the first two or three days of its exhibition ; and also when by continuance of its use its effects are accumulated ; and then it often affects the head. But these disagreeable results are far from being constant ; in none of Mr. Stokes's many cases was there "the slightest derangement of the alimentary canal;" and the same is observable in Dr. Graves's, and several other of the foregoing reports. Future experience will, perhaps, show, that long continued treatment with small doses answers better than urging with large ones ; the beneficial effects of arsenic are rarely in a direct ratio to the magnitude of the dose.

We have evidence that this medicine may be administered to patients of almost all ages. Thus one of Sir Henry Marsh's patients was but five years old, while both of Dr. Graves's had attained their sixtieth year, and Dr. Croker's her sixty-eighth.

It cannot be too much impressed on prescribers of this medicine, that they incur great risk of destroying its powers by mixing it with other articles intended to modify its effects. It ought not to be conjoined with opium, nor with acetate, muriate, or sulphate of morphia. When opiates are necessary they should not be administered at the same time with the arsenico-mercurial liquor. In general the best mode of exhibition is simply to pre-

scribe it with *distilled* water. And I take this opportunity of once more suggesting to the Profession, that the doses of this medicine should be ascertained by the minim measure, and not by the very variable standard of drops, no two of which are alike.

My objects, in publishing this memoir, have been to prove, that the liquor of hydriodate of arsenic and mercury is, in constitution, what I originally represented it to be—a true chemical compound; to show that the process, which I gave for its preparation, is adequate; to collect in one view a statement of its medicinal effects, as ascertained by the practitioners who have employed it; to draw attention to its agency on different constitutions; and to make known the precautions which have been found necessary in its administration. I imagine that the extent of its control over various diseases, is far from being ascertained; and I venture to express a hope, that practitioners will make further researches on this subject.

In bringing this remedy before the profession, I have done nothing more than to combine three energetic agents, the qualities of which were already well known; and thus to form a *tertium quid*, possessed of new and increased powers, in a form convenient for exhibition, of unvarying strength, and unchangeable nature. I have done my best in giving ample and accurate directions for its preparation; yet I frequently receive letters from persons anxious to be put in possession of tests for discovering when it has been rightly prepared; some declaring that they have had it colourless, and others complaining of its being brown. I can only say, once for all, that the instructions contained in my former memoir, and in this, if rigidly complied with, will never fail; that a very small amount of negligence will partially defeat the intention; that a rigid analysis is the only mode of discovering when the proper quantities of the elements are present, that the colour of the liquor ought to be pale yellow, and its s. g. 1.02; but above all, that the whole of

the solid materials to the $\frac{1}{32}$ th part, or less, should be held in solution in the liquor.

This medicine is now used on the Continent, and in the United States. That its employment is rapidly extending is shown by the fact, that within the last two years and a half, about 300 pints of it have been sent out of my establishment alone, which is a vast quantity of an article prescribed in minim doses.

I shall feel obliged for such further communications as practitioners may choose to favour me with. It is by the plan of publishing such documents, that the real powers of this useful medicine will be ultimately developed and determined.

11, *Clare-street, Dublin.*

ART. VII.—*On Chronic Inflammation of the Uterine Appendages, occurring after Parturition.* By RICHARD DOHERTY, M. D., Honorary Member and Secretary of the Dublin Obstetrical Society, &c.

[Read before that Society, 5th May, 1842.]

THE disease, I propose to myself the honour of bringing under your notice this evening, is one, which, in my opinion, has not received from obstetrical writers the distinct consideration it deserves; although from the obscurity of its early symptoms, the insidiousness of its progress, and the organic changes to which it may give rise, it behoves the midwifery practitioner to make himself well acquainted with its characteristics.

It is a fact universally recognized, that after parturition the uterus and its appendages are liable to inflammations of an acute and dangerous character. The symptoms of hysteritis, as it presents itself after delivery, are too obvious in the generality of cases to escape notice, and it is of course well known to every one, whom I have the pleasure of addressing, that the diseased action frequently extends to the ligamentous tissues and the ovaries. Thus if we see a patient, shortly after labour, seized with febrile symptoms, and complaining of pain in the hypogas-