ART. II.—*Report on Small-pox in 1871, '72, and '73, at the Workhouse Hospital, Mullingar; with some Remarks on Treatment.* By DILLON KELLY, M.R.C.S.E., Medical Officer to the Hospital.

THE appearance of small-pox was heralded here by the *empusa muscæ*. Scarcely a window but exhibited one or more specimens of "the magic circle in white" surrounding these exuviae.

In Church-lane, South, more especially, the windows were rich in such remains, and I possess some slides cut from them, in which they appear as granular gummatous-looking *debris*, and some of which still contain casts filled with a reddish fluid like blood.

The first case of variola occurred here in June, 1871. The patient, aged seventeen, was housemaid in a tavern frequented by cattle-dealers from every part of Ireland, and the house is a model of cleanliness, but unfortunately is situate on the lowest level of one of the drainage basins of the town, and within a few feet of its common sewer. The case was apparently sporadic, unless contagium was imported by some of the cattle-dealers, two of whom were from an infected district in Dublin, and remained some days. Here it may not be out of place to observe that the first case of cholera, in 1866, was that of the former mistress of that house, who died of it.

The second and third cases of variola were imported—the first by a gambling tramp, who came to the races; the second by a blind beggar, whose infant died of it in hospital here. He was decidedly poisoned by alcohol, his mother having dosed him from the period of his attack until his death, as she was taken into hospital with him, and concealed it when coming in.

His urine was transparent, a deep amber with reddish tint and purple periphery, and developed a vinous odour, remaining free from decomposition for two months, when fungi made their appearance for the first time—thus, to a great extent, proving the correctness of the alcoholic hypothesis.

The fourth case was due to sleeping on the straw on which the family of the gambling tramp had lain, and every succeeding case from that period to the early spring of the present year was evidently the result of contagion purely, and traceable from house to house through the media of wakes, intercourse, and card-playing.

There was one house more particularly a rendezvous for young card-players, and very dirty, from which two cases came into hospital in a dying state.

Yet it was not until the spring of the present year that variola visited Mullingar in its purely epidemic form—more than a dozen cases of a severe type occurring simultaneously in different quarters of the town, marking conclusively the date of its occurrence.

The first cases were purely variola, the eruption pustular, and some complicated with purpura. These were succeeded, as the epidemic progressed, by a varioloid complication, in which both pustules and vesicles were represented, or the eruption was of a composite character, and consisted of pustulo-vesicles, the pustules beneath, the vesicles above.

Then, as the epidemic advanced, its virulence became less, and gradually the pustules of variola disappeared—their places being occupied by the vesicles of varioloid, and these, in their turn, yielded to those of varicella, which wound up the epidemic here, and heralded its departure.

The urines of three of the patients, who succumbed within a few days of each other, whilst the epidemic influence was at its height, were so similar in their general characters and reactions that I trust a short description of their characters will not be deemed out of place.

Jane C., aged twenty-five. 18th day, urine albuminous, thick and creamy in appearance, pale and tawny in colour, odour fishy, periphery streaked and banded; the streak inferior, dirty white, and beaded, and underlying a pale band with reddish tint; re-action feebly acid, gravity 1030; assuming a pinkish tint, and developing the odour of putrescence when reacted on by sulphuric acid.

The urines of M'Loughlin, aged seventeen, and of Hayden, aged twenty-three, were similar in their fishy odour, their streaked and banded peripheries, and their putrescent odour under sulphuric acid reaction; but the colour of Hayden's urine was a pale amber, its deposit mucoid, and its periphery a pale orange.

All these urines were loaded with triple phosphate, and that of Hayden contained some uric acid in addition; in fact, in every case of variola in which I examined the urine I found more or less of triple phosphate, and the side of the urinal in Jane C.'s case was coated with a translucent, starchy, violet-tinted muffing.

In reference to the term periphery, it implies the outer circle of the surface of the fluid where it comes in contact with the glass

cylinder in which it is contained. In consequence of the interrupted pressure of the atmosphere the fluid ascends in that position on the surface of the glass urinal in the form of a triangle or prism.

By holding the glass urinal at right angles with the light, and just above the level of the eye, the natural prism thus formed will give a rough spectrum analysis of the colours, which give their tints to the urine in the ratio of the oxidation of the substances which produce them, and so will convey a pretty accurate idea of the nitrogenous tissue waste just then taking place in the system.

The colour of the urine, too, is also significant—thus, a light amber, either transparent or opalescent, with deep orange periphery, a light pinkish deposit, an acid reaction, a gravity of about 1024, with odour of weak broth, or odourless—the urine meanwhile assuming a light purple tint, and a sweet brine-like odour, when reacted on by sulphuric acid—is generally favourable.

The urines of Jane C, M'Loghlin, and Hayden are typical examples of the unfavourable specimens most frequently met with.

The purely epidemic appearance of variola here was accompanied by currents of air apparently deficient in oxygen, and similar in odour to that exhaled from the urines of Jane C., M'Loghlin, and Hayden.

Thus I perceived a similar odour on two occasions the same evening, quite close to a large open window looking into the street, in a large room thoroughly ventilated and scrupulously clean, as if passing from the window towards the open door. Three servants had been almost simultaneously sent to hospital from that house but a few days before. The odour was exactly similar to that exhaled from the banks of rivers in the early morning or in the evening, after a shower; but, as Dr. Aitkin described an odour, which I consider to be similar, under the term "fishy," I have adopted his nomenclature.

I had but two cases of varioloid—one pure, in which the malpighian layer of the skin solely was implicated, and in which the whole surface of the face, the upper portion of the chest, the backs of the forearms and hands, were densely covered with vesicles, which, on desiccation, left deposits of albuminoid secretion so indurated that the skin felt as rough as a nutmeg grater over these portions of it; yet there was not the slightest pitting on convalescence. The second case was complicated with a copious effusion of the deepest purple, in which the bulbs of the fingers and

toes, the whole of the great toes and a bunion, the matrices of all the nails, and the whole of the soles of both feet, were of a blue-black colour, from ink-like tint of the underlining serum; yet there were no petechiæ.

The vesicles over the whole surface were also filled with a similar coloured secretion, which gave it an appearance, when desiccation was complete, as if it had been sprinkled over with black varnish, which had been allowed to dry upon it.

Both these cases terminated most favourably, but their convalescence was protracted and tedious from previous debility.

The composite cases, or those of variola complicating varioloid, were most frequent just before the appearance of variola, or during the latter days of the epidemic, and heralded its departure.

In these the eruption was pustulo-vesicular; and in one case, in which the superimposed bullous or confluent vessels were transparent, the semi-transparent pustules, arranged like pseudo-loculi, were visible beneath them.

In such cases the malpighian secretion may be contained in dome-shaped vessels alone, when the consecutive purulent secretion will appear in small pustules beneath, or when from any cause the pustules beneath give way, then the purulent and albuminoid secretions combined will be both contained in one and the same pseudo-vesicle. Then the various tints of these purulent and albumino-purulent secretions possess their own peculiar significance.

Thus the golden yellow is the result of the presence of oil globules, and the index of a good constitution; whilst the dirty, tawny, semi-transparent, or white wax-like secretions of variola are all indices of danger.

The pasty and white wax-like, however, are the most dangerous, as they show a leucæmic state of system, a blood so poisoned and feeble as to be incapable of acting as a carrier of oxygen, and a constitution totally incapable of reaction.

In four cases of variola, complicating purpura, and menorrhagia, both inguinal regions, from the anterior superior spinous processes of the ilia to the bend of the trochanters, were throughout packed with petechiæ, and so densely in the case of Jane C., that they almost seemed black.

In one of these cases, a girl of twelve, the menses appeared for the first time, were very profuse, and continued almost up to the last moment of her existence.

In the year 1871 there was but one case of small-pox admitted

into hospital, there were seven in 1872, and thirty-seven in 1873—forty-five cases in all.

There was one death in 1871, two in 1872, and ten in 1873—thirteen deaths in all, four of whom were infants.

Two came into hospital, one dying on the second, the other on the fifth day; the remaining two came in with their mothers, and caught the disease in the house.

A male, aged seventeen (the son of an intemperate father), died on the seventh day; a female, aged seventeen, immediately after her confinement, died on the fifth day; another female, aged twelve, already alluded to, died on the fifth day; another, aged twenty, who was sent to her friends, a distance of eight miles, when she became ill, and sent back by them to hospital the day after, died on the seventh day—most likely from the shock of her expulsion from home and the fatigue of the double journey.

Two fatal cases—namely, Fox, a male, aged twenty-seven, and Simpson, a female, aged fifteen—pulled through the disease, Fox dying of pyæmia, productive of multiple abscesses, on the sixty-second day, one of which, seated in the bronchial glands, burst into the trachea; and Simpson, of phthisis, on the one hundred and fourth day—these, therefore, are not included in the deaths from variola.

Treatment.—The treatment in mild cases consisted of simple saline mixture or acetate of ammonia, nitrous ether, and camphor mixture, with beef-tea and diluents freely given, but guided by the previous habits of the patient—if alcoholic stimulation was habitual, alcohol was then administered.

In some severe cases the time-honoured remedy, dilute sulphuric acid in infusion of roses, was resorted to, and it proved not only grateful, but at the same time most effectual in removing both thirst and head-ache in several cases. Thus in the case of Grey, who had intense head-ache, intolerance of light, and thirst when she came in, a single dose at once checked the morbid action producing these symptoms, whether zymotic or specific, and they never returned.

It also acted decidedly like a specific in some purpuric and hæmorrhagic cases.

In variolo-mania, which was very prevalent, from three to four grains of tartarated antimony, with from thirty to forty minims of acetum opii, according to the strength and violence of the patient, quieted the excitement in every case; and although delusions and

hallucinations still continued in some cases, yet the active symptoms invariably yielded to a single dose.

There was one case more particularly in which the calmative power of the antimony was crucially tested. It was that of a married woman, aged thirty-two, and nursing, who came into hospital in the vesicular stage, and in a state of the greatest excitement. She kept roaming all night through the ward, had "runaway" action of her heart, with a pulse up to 180, and imagined that one of her acquaintances, then three months dead (to which she repeatedly alluded), was sitting just outside the door and watching her. As these symptoms were so serious, I had the advice of my son, who had considerable experience of such cases, and he fully concurred in the necessity for calming the excitement by the exhibition of antimony and opium—to be followed by camphor and hyoscyamus on succeeding nights if necessary; and half-drachm doses, three times a day, of tincture of digitalis, to restore the heart and bring down the pulse. Two grains of the antimony and forty minims of acetum opii gave her a quiet night; although she slept but little, her dead acquaintance had disappeared, and her pulse had fallen to 120. Under the camphor and hyoscyamus treatment at bedtime, and the digitalis during the day, her pulse steadily decreased in frequency, and her hallucinations disappeared. Having ascertained that she was accustomed to stimulants they were administered, and she made a most perfect recovery.

Here it may not be out of place to remark, that, with his full concurrence, I gave three grains of tartarated antimony and forty minims of acetum opii to a typhoid patient, a man aged thirty-five, with tympanitis, cæcal tenderness, and gurgling, but without diarrhoea, who kept roaming through the ward from the time of admission until the following evening, a period of about twenty-three hours. In this case it acted like magic, as shortly after taking it the patient became calm, went to bed, and made no further attempts at leaving it until convalescence was established. The cæcal tenderness and tympanitis also rapidly disappeared, but whether *post hoc* it is difficult to say; his convalescence, however, was tedious, but his recovery was perfect.

I was induced to give the antimony in these cases from the calmative power I have seen it exert on most maniacal patients when in states of noisy excitement; also on the authority of the late lamented Dr. Graves, whose opinion on that subject, already conclusively proved, is further strengthened by these cases.

In variola, complicated by purpura, and menorrhagia, I found the sulpho-chloride of iron most effectual.

The patient was an inmate of the house, squat, stout, and an epileptic, covered all over with petechiæ small as points of pins, and apparently beneath the malpighian layer, yet her recovery was complete, and her convalescence rapid in the extreme.

The sulpho-chloride mixture consisted of one drachm each of sulphate of iron and hydrochloric acid and twenty ounces of water, half a wineglassful every second, third, or fourth hour. It was most agreeable, and would be taken in mouthfuls if permitted.

As to stimulants, I found them positively injurious, two cases having succumbed under their use. I believe them to be applicable only when, unfortunately, the constitution has been accustomed to their abuse; in cities, however, they are unavoidable.

In reference to this subject it is a most extraordinary coincidence, if nothing more, that of the four malignant cases with purpuric condition of the inguinal regions, three were servants in public-houses, all of whom died; the fourth was the epileptic, who recovered. In fact, every adult servant from a public-house who came into hospital labouring under variola succumbed to the disease.

ART. III.—*Practical Observations.* By ROBERT FITZMAURICE, L.K.Q.C.P.I., L.R.C.S.I., &c.; Physician to the County of Kerry Fever Hospital.

I. REMARKS ON SMALL-POX.

II. NOTES OF A CASE OF EMPYEMA, IN WHICH SEVERAL ASPIRATIONS WERE PERFORMED—FATAL ISSUE.

Remarks on Small-pox.

AFTER the exhaustive discussions at the College of Physicians last winter, on the small-pox epidemic that recently appeared in Dublin, it would be superfluous on my part to enter into a detailed account of an epidemic that prevailed in this town and neighbourhood from November to May last, and which presented characters identical with those so ably described by the medical men attached to the Dublin and Bray hospitals, and which were made available for such cases. My remarks will be, therefore, brief, and confined to a few practical observations, having reference principally to treatment.