5. The existence of a poison in the water drunk may be inferred from the following considerations.

There must be in many cases something more than an emanation or miasma to explain the recurrence of some epidemics. The mere stench or overcrowding of a locality will not always account for the spread of disease. Take the cholera epidemic at Berlin in 1853. "In Prenzlau Street and Gollnow Street, in Berlin, there are a great many overcrowded cottages, and yet the number of cases here was small. The solution of the puzzle is all the more difficult when it is considered that the houses in Büsching Street, Wine Street, and in front of the new King's Gate, stand much more open than the rest of the houses of the whole of the (ninth) medical district. There can be no question here of confined space and want of fresh air—circumstances which are usually supposed to favour the origination of cholera; and yet there were four to five times more cases in proportion to the number of the inhabitants than in the narrow Gollnow Street, in which the circulation of air is much impeded. . . . It certainly seems extremely surprising that, of the forty streets which compose the medical district, precisely the most openly situated of them were those which were most visited" (*Journal of Public Health*, vol. i, p. 280). Now, this something more is often, without doubt, bad water. Thus Scilla, a small village about fifteen minutes distance by sea from Valetta, in Malta, has always escaped cholera, while it has prevailed extensively in every other part of the island. All Malta (except this little village, which is supplied by tanks) is supplied by an aqueduct. And similar cases abound.

The *Board of Health Reports* show that the air was, during these cholera epidemics, in a weak positive electrical state. This, as before said, is precisely that state which attracts oxygen, and, as such, is most favourable to decomposition. It is to be regretted that the condition of the water was not also given. There is room in this direction for much inquiry. A blast of air, a direction of the wind, may determine the poisonous change in water: north and east winds bring usually positive, south and west bring negative electricity. Indeed, Dr. Bressler, in reference to the Berlin epidemic of cholera before referred to, proposes the question, whether, under certain circumstances, the admission of fresh air may not be prejudicial, as actually being the bearer of the miasma. The meeting of an epidemic may thus be synonymous with the meeting of a pernicious current—say a positive electricity, which develops the latent poison; and explains in this manner the healthiness of one place to-day and its unhealthiness to-morrow. Certain atmospheres, as well as waters or subsoils, in themselves harmless at one time, may, by virtue of their being the fittest nidi for the development of ferments, very rapidly multiply these, the moment they come into juxtaposition. This opinion is well set down by Surgeon J. H. Kerr Jones, of the 56th Regiment, in his evidence on the Bermuda fever (p. 62):—"When fever prevailed to a frightful extent among the troops in Upper Scindh, I have often at night been exposed with impunity for hours whilst wild fowl shooting, at what we considered the most concentrated sources of the poison, whose effects, even when infinitely diffused, were supposed to be deadly. The neighbourhood of such situations remained free from any disease. The troops who marched over them, and daily encamped there, continued in the enjoyment of health: it was only when the epidemic influence prevailing on the rock of Jukhur was encountered, that every drain and cesspool, or room abounding in exhalations from the human body, became impregnated with its poisonous property."

6. It is probable that the chemical rays of light may in some way be concerned in the development of oxygen. According to recent experiments, these chemical rays vary much in quantity. A solution of quinine (the photographic test) becomes quite bluish and milky looking when these abound, and quite transparent when they are few in number; and hence the reason that photographs are so easy of execution at one time, and so difficult, if not im-

possible, at another. The effect of chemical rays on putrefaction has not, so far as I know, been studied; still, some facts may exemplify how an effect may be produced on them. A solution of chlorine in water, if exposed to light, will decompose the water, and liberate the oxygen. Some chlorides have an opposite effect. Thus, freshly precipitated chloride of silver will also, if exposed to light, decompose water; but the oxygen set free unites with the silver, forming oxide of silver; and thus the liquor assumes a black colour. Of the several rays of the spectrum, the violet produce this change more rapidly than the red on the moist chloride of silver. "Their characteristic effect is to promote those chemical decompositions in which oxygen is withdrawn from water and other oxides; and hence they are sometimes called *deoxidising rays*." (Graham's *Chemistry*, 1st. ed., p. 93.)

Recent inquiries, at any rate, prove that there is a connexion between these chemical rays and the electrical currents induced. How far, then, the two causes are co-operative, remains to be shown; but that they are often concurrently present, and in their effects materially influence decomposition, cannot be denied.

The six conditions enumerated above all produce decomposition; and we may thence, I think, infer that, although their coexistence may not always be necessary for the development of every epidemic, their coexistence may materially increase the power of its action, as their disunion may diminish its intensity.

[To be continued.]

PLACENTA PRÆVIA.

By T. O'CONNOR, Esq., Surgeon, March, Cambridgeshire.

I BELIEVE that placenta prævia is not an uncommon occurrence this year. Within the last six weeks I have had two cases; both have done well.

CASE I was that of a woman, aged 35 years, in her seventh pregnancy; her previous labours had been without complications of any kind. I was called to her a fortnight previously to her labour having come on; and a more frightful case of syncope I have no recollection of witnessing. The bed and clothes were saturated with blood; the woman's face was pale as death; she was lying across the bed apparently lifeless. Having learned from the attendant that she expected to be confined in a month, I made an examination, and found the os uteri undilated; there were no labour pains. Although the hæmorrhage had ceased, I thought it advisable to plug the vagina, feeling that further discharge, in any quantity, must be fatal. As soon as she was able to swallow, I gave a drachm of Hoffmann's anodyne in a little water, and repeated it every fifteen minutes for four or five times. She then became for a moment conscious, then incoherent, and immediately the fainting returned in an appalling degree. This condition, alternated with momentary conscious intervals, lasted two hours, every moment of which I expected to see her expire. By this time, I contrived to administer with a spoon two ounces of compound sulphuric ether. A tranquil sleep ensued; and I left her with injunctions that I should be sent for when she awoke, or if flooding or any untoward symptom occurred. The sleep lasted two hours, when, agreeably to my instructions, I was again summoned, and found her refreshed and doing well. I then withdrew the plug, as there had been no return of flooding; and as it had been now four hours in the vagina, I enjoined, for the present, the recumbent position. After two days attendance I discontinued my visits, as there was no appearance of labour, and as the woman was verging towards convalescence, having taken care that the bowels were relieved by castor oil.

In a fortnight afterwards, I was again called to the same person early in the morning, in a great hurry. I learned from the messenger that, while turning in bed, she had been seized with flooding to an alarming extent, and had

fainted. On arriving at the house, I found on the boards, under the bed, a pool of blood, which must have amounted to two or three pints, having filtered through the bed after inundating the clothes. The woman was faint, and gasping for breath; the hæmorrhage had ceased. On examination, I found the os uteri patulous and dilatable, capable of admitting my middle finger, which I passed up, and then discovered the cause of the hæmorrhage. From the first, indeed, I had suspected, but could not before satisfy myself by touch, as the dilating process had not then commenced, that the placenta was adherent to half the circumference of the os tincæ. The head was presenting. As the woman still continued alarmingly faint, I administered two drachms of compound spirits of sulphuric ether in a little water. I separated the placenta from its attachment to the os uteri, punctured the membranes with a long probe, and, having infused a couple of drachms of ergot in half a pint of boiling water, gave a fourth part of this every twenty minutes. This brought on active labour after the third dose; and in two hours the woman was delivered of a child of more than average size, which gasped two or three times, and expired. My patient recovered from this fearful state in an incredibly short time, and is now in robust health. Not the least remarkable point about those cases generally is the rapidity with which the women recover.

CASE II. I was hurriedly summoned to a woman, aged 28 years, in her third pregnancy, and whose previous labours had been natural. Her husband, who was the messenger, in great excitement said his wife must be either dying or dead, as he thought no person could survive such a loss of blood; and truly, on arriving at the house, which is three miles from my residence, a spectacle presented itself calculated to appal any one who was not totally indifferent to human life. The chamber utensil (which was a large one) was filled with blood; the floor in several places was covered; the bed and clothes were soaked; the woman was passing rapidly from one faint to another. I immediately gave her two drachms of Hoffmann's anodyne in water, and proceeded to examine her. I found the os uteri so dilated as easily to admit two fingers; the placenta was adherent all round, with a rent in its centre, from which gushed the torrent of blood which had well nigh swept off my patient, and from which oozed still blood in small quantity. As the woman had not yet recovered from the syncope sufficiently to justify me in proceeding to deliver, and as there was still hæmorrhage—small in quantity, it is true, but liable to be increased to a gush by the first pain or the first rally from the faintness—and as she was at this time in the worst possible condition to bear any further loss of blood, I decided on firmly plugging the vagina, so as to place a pad against the rent in the placenta, and on assisting her out of the syncope, before attempting delivery, I therefore repeated the ether at intervals of ten or fifteen minutes during an hour, to the amount of a drachm at each dose. I then withdrew the plug, and administered the ergot, as in Case I. Having introduced my hand, and separated the placenta from its attachment to the os tincæ, after a most painful and bloody process, I succeeded in seizing one of the legs of the child. As the os was dilatable, I had little difficulty after this in completing the delivery, having saved the lives of mother and child.

REMARKS. I attribute the safety of both these women to the use of Hoffmann's anodyne. In Case I, the hæmorrhage was very profuse, and its effects were terrible for the first few minutes; indeed, there was a fearful struggle between life and death, in which the latter would, I have little doubt, have obtained the victory, had he not been combated by the ether. What occasioned the hæmorrhage? The placenta is adherent to half the circumference of the os uteri; the latter, in its progress towards development, or in other words, during the increase of its surface, being elastic or extensible, moves away from part of the placenta which is not endowed with elasticity, and lacerates some of the vessels of the latter: hence the gush of blood, which may then and there be fatal by syncope, if the nervous energy is not excited by some agent capable of producing

a powerful though not prolonged stimulus. That agent is, without doubt, Hoffmann's liquor. If we drag our patient through the first shock, we have routed the enemy for the present; the system will have righted itself before there is a return of the hæmorrhage, when a new mode of proceeding may announce itself. The plug in the vagina performs no mean part in arresting the danger; for, a firm pad being placed in close contact with the lower walls of the uterus, these in turn press the open mouths of the vessels, and secure the formation of a clot. The ether must be administered freely and fearlessly. In support of this opinion, I may here mention a case of unavoidable hæmorrhage, which I had the management of in the autumn of last year, and in the latter stages of which I had the valuable assistance of a highly intelligent physician and esteemed friend from a neighbouring town. In this case, one fit of fainting followed another in such rapid succession, with jactitation of arms and legs, relaxation of sphincters, and that utter state of prostration which too frequently is the immediate herald of death, that we did not hesitate to carry the use of this drug to the extent of between four and five ounces in three hours, with the happiest result. I mention this by the way, to fortify the opinion that this drug ought to and must be administered freely, in unavoidable hæmorrhage, threatening by its extent the immediate death of the patient. Astringents are useless in this class of cases; if the loss of blood is profuse, the patient will die before they produce any effect, if effect is expected from them; and if the hæmorrhage is not profuse, the patient will do equally well without them.

CASE OF ACUTE IDIOPATHIC GANGRENE OF THE LEG.

By JOHN DAN BROWN, M.D., Strood, near Rochester.

SELINA A., aged 24 years, strong, stout, and of a ruddy complexion, was seized with severe pain in the left leg, suddenly, on the 24th June, 1852. She was a servant at a low public house in Rochester, and her habits were dissipated. She had suffered from gonorrhœa, but it was not ascertained whether she had ever been affected by syphilis. For seven or eight years she had been subject to chronic inflammation of the skin and cellular tissue of both legs, with occasional aggravation of symptoms. She had one such inflammatory attack a few weeks previously to the seizure for which I saw her. The lower extremities were habitually thickened, red, and scabrous.

June 24th. On visiting her, I found nothing unusual in the appearance of the leg, excepting coldness. There was agonising pain, with quick pulse and furred tongue.

The next report is for June 27th. No relief had been experienced. The leg was violet-coloured, and perfectly cold. There were no phlyctænæ, but there was a thin black-coloured scab over the tibia, similar to what is seen on a surface that has been abraded. Tongue and pulse as before described.

June 28th (fifth day). Pulse quiet; skin cool; tongue white, dry, and scraped in appearance. Bowels confined, with urgent desire to evacuate.

June 29th (sixth day). Pulse weak; tongue thickly furred; bowels twice open. The pain in the leg continued intense.

June 30th (seventh day). Blackness of the great toe. Redness and swelling of the upper part of the leg. The patient slept a little this day for the first time since the seizure. The sleep was the effect of two grains of opium.

July 1st (eighth day). Numerous phlyctænæ on the leg and ankle. The tongue is cleaning. The pulse continues quiet. A considerable amount of relief is afforded by the opium.

July 2nd (ninth day). Two large phlyctænæ, one on the outer and anterior surface of the leg, the other posteriorly. Reddish-black fœtid discharge from phlyctænæ that have burst. Tongue nearly clean. Bowels not open for three days. I was informed that at 4 A.M. the patient