instrument of great power and value; and I should propose to apply it thus:—Our positive metal we may consider to be the lead in the nerves and muscles and tissues, and our negative metal, plates of copper, which we must attach to the limb itself; a weak solution of acetic acid may form the oxidating and connecting link. I choose acetic acid, because the acetate of lead is soluble, and there is every ground for reasoning that the chemical and galvanic actions set up will cause the lead to be withdrawn from the muscles.

It is usual to give tonics, and in a safe form there can be no doubt of their general efficacy, but of the class of alkaloids, such as strychnia, we must admit that the danger of their use hardly excuses such experimental treatment without the greatest caution. My own recollection of the reputed success of the use of strychnia many years ago in France, coupled with my knowledge at the same time that these reports were unsupported by real evidence, makes me very dubious of later statements on this subject.

If it were asked why not have experimented fully in after years, I should willingly reply, that I see no motive ever to justify the use of such remedies as we know to produce sinister consequences. Had the state of medical knowledge arrived at its highest degree of illumination, so that *Disease*, in its origin and nature, stood clearly revealed to our understanding, and it remained for us only to seek out yet unknown substances to perform the work which we fully comprehended, then might experiments of new compounds be a reasonable measure: but while we have so much yet to learn, and while the amount of our safe remedial substances exceeds our discernment as to their due application, it is surely a duty to extend our line of study in any direction rather than that which involves the possibility of injuring others while we gain our own experience. I venture on this remark, feeling that the fashion of the day is setting rather too boldly towards perilous experiments, both in medicine and in surgery. The strychnia which is given in this disease is almost uncontrollable as a remedy as well as a violent poison, and is one of those things which the wise globulists give in the ten-millionth of a drop; and perhaps so to give it is one of the wisest things they do. The endermic method, however, is less objectionable, with the additional advantage of applying the remedy to the part itself.

In concluding the subject of treatment, I may incidentally observe, that the early accession of lead disease is, like many other seemingly cruel visitations, often, in reality, a merciful arrangement, since the sufferer is rescued by it from severer evils, which would meet him in protracted exposure to the obnoxious cause. Removal to the hospital ensures the freedom from a poisoned atmosphere, whilst the system is by treatment once more purified from metallic saturation; and should the warning induce him to seek a different line of occupation, the acute attack would have proved a providential blessing.

Having considered the case of the manufacturers of lead, and of those who use it in large quantities, it remains to be stated that the list of sources whence lead colic and paralysis are derived is not yet complete, since various manufactures, involving the use of lead in a very limited extent, yet furnish their quota of sufferers from the labourers employed. Here, again, I must regret the want of statistics, which would be valuable to ascertain the relative proportion of the numbers attacked with those who are exposed. Nothing would be more easy than to institute the formation of such tables; in their absence we can merely state the fact, that frequent instances occur in those branches of industry which I shall enumerate.

The compositor, who, in addition to other hardships, has often to labour through the night, and seek what rest he may during the hours of sunshine, is a frequent subject of paralysis, but he is rarely attacked by colic. The types, which are composed of a metal having lead for its basis, are obliged to be frequently washed, to free them from the ink, and are sometimes placed before a fire to dry. The ink is composed of linseed-oil and lamp-black, thinned by turpentine. Lead is soluble in oil, and diffusible by turpentine, and heat assists the diffusion. The handling also favours the diffusion, and in a certain degree offers opportunity for absorption by contact with the sentient extremities of the fingers, a part which is perhaps as vulnerable as any external surface covered by epidermis. I am myself disposed to think that the reception of the poison is mainly attributable to respiration, else how can we account for the amaurosis which is not unfrequently found among compositors? It is obvious that portions may be inhaled in the process of cleaning just alluded to. The compositor is too often also of intemperate habits, and the vapour from the lungs, being charged with spirit, diffuses the lead more easily, and favours the absorption.

The plumber and the potter are both exposed to the influence of lead: the former, not only from handling the metal, but also from emanations during the process of soldering. The solder, composed of equal parts of tin and lead, is applied by heat, in combination with resin, which is the residue of the distillation of turpentine. This is another instance of the influence of turpentine assisting the action of lead on the human frame. Two processes involving lead are carried on by the potter: one consists in dipping the biscuitware into the glaze, which is a solution of litharge; and another is the burning in. They are performed by different workmen, and it is those who apply the heat who suffer.

The glass-maker may be classed with the potter: lead, in the form of silicate, passes off with the heat used to favour the manipulations.

The sealing-wax makers, who formerly suffered from mercurial tremblings only, from the use of cinnabar to colour the wax, now suffer, in addition, from the use of lead. The introduction of new colours, as white and yellow, has included the carbonate and the chromate of lead in the manufacture.

A size containing litharge is used in glazing visiting-cards, from which the workmen occasionally suffer. The invention, at best, is but a clumsy one, as the cards lose their whiteness on exposure to hydrosulphuric acid. For the same reason I should argue that cosmetics never could have been composed of lead, notwithstanding that the French insist upon the fact. It seems hardly likely that it should retain its colour in the vitiated atmosphere of crowded rooms, abounding in hydrosulphuric acid. The same observation does not apply to the hair-dye, which is perhaps included in what they call cosmetics; for the more hydrosulphuric acid, the deeper the tint, which is the desideratum.

ON THE TREATMENT OF POPLITEAL ANEURISM BY PRESSURE.

By W. K. SWETTENHAM, M.D., Surgeon 44th Regt.

I BEG to submit for insertion in *THE LANCET* the undermentioned case of popliteal aneurism, which has been successfully treated at Gibraltar Rock, under the pressure plan, affording an additional example of the triumph of art in surgery. The instruments employed were those invented by Mr. Read, of Dublin, and delineated in Dr. Ferrall's paper on Popliteal Aneurism, in the second volume of the *Dublin Quarterly Journal*, from which plates the pelvic instrument was constructed by a blacksmith on the station, for a case of the disease which occurred in a regiment some years previously. The *lower* instrument, or circular compressor, was made at the same time, consisting merely of a screw-shaft through the anterior ramus of the instrument, to which was attached a covered cork pad. My patient, Henry S—, aged thirty-two, able-bodied seaman of H.M. ship *Phaeton*, first applied, on the morning of the 10th of July, at sea, to Dr. White, surgeon of the ship. On examination he found a pulsating tumour in the left popliteal space, then about the size of a pigeon's egg, spheroidal in form; pulsation strong, and evident to the eye, having a distinct *soufflet* audible. He was sent to Gibraltar for treatment, from the squadron, in the *Fury*, with a tourniquet on, this being the only pressure attempted. He was admitted into the Naval Hospital at Gibraltar on the 12th of July, (the sick of the fleet being temporarily under my charge.) He is a fine, healthy-looking young man; states that he has served in several line-of-battle ships, and always enjoyed good health; was not aware of any swelling in the left ham until the forenoon of the 9th of July, but had aching pain in the left leg for four or five nights previously, which came on gradually when in his hammock, and which he attributed to rheumatism; is positive that he received no injury, and can assign no cause for the disease, except that the ship was exercised the two days previous. On admission, a tumour was visible in the left ham, about the size of a small orange, soft to the feel, and having a strong pulsation and loud bruit audible; the circulation through the sac was controlled by pressure of the finger on the artery in the upper third of the thigh.

On the 15th of July, the instruments at hand above alluded to were attempted to be adjusted; but being found in many respects objectionable, and requiring some alterations, were not re-applied until the 21st, when both the pelvic, or upper instrument, and the lower, or circular, were put on at the same time, with the thigh kept slightly bent on the pelvis, and the leg on the thigh, resting on a pillow. The pressure was first commenced on the pubis. He was duly instructed as to the *modus operandi* of the cure, and directed that when the pain became severe he was to relax the

upper, and screw on the lower instrument, which was left lax on the thigh at the upper third. During the first and following day, he was unable to bear the pressure of either instrument for a longer period than half an hour to an hour—sometimes less; and experienced considerable pain in the calf of the leg, as well as along the tibia. It was, however, remarked that he bore pain unusually long; and being an intelligent man, he controlled the circulation by the feeling of pulsation in the tumour, which he was sensible of, and which he was cautioned not to obstruct completely.

On the 22nd, he says he passed a restless night, from pain in the knee; but towards morning he relaxed the instruments, and slept; a slight turgescence of the veins around the knee being only perceptible when pressure was put on. The temperature of the limb is not much lower than the opposite; it has a flannel roller applied. The pressure throughout this day was kept up regularly and alternately with the two instruments, and at no period entirely obstructing the pulse in the tumour, or discontinuing pressure. He had each night, from the 15th, half a grain of acetate of morphia, and eight drops of tincture of digitalis, as a draught.

23rd.—The tumour is sensibly harder, and a few turns of the screw of the lower instrument easily controls the circulation through it. The pressure from the pad in Scarpa's angle has irritated the integuments, and the lower instrument was moved down, and pressed on the artery in the middle third of the thigh. This enabled him to bear the instrument on a much longer time; and being without sleep, he observed the pressure having regularly and completely controlled the pulse in the tumour during this night.

In examining the limb on the morning of the 24th, I relaxed both instruments, and found the pulsation of the tumour quite ceased; nothing more than a *fremitus* perceptible. The instruments were kept on the thigh, with but slight pressure, to ensure safety, for the two successive days. The tumour felt hard, and he complained only of stiffness in the knee-joint. The temperature of the limb was somewhat less, but no œdema whatever occurred, nor was there any lividity visible during the whole period of pressure.

26th.—The tumour is perfectly solid, and diminished in size; feels no inconvenience but rigidity of the limb, and his health has in no way suffered.

31st.—Is walking about the ward, able to extend the limb, and place his weight on it; surface of the tumour painted with iodine; and gentle friction is relieving the rigidity.

Aug. 13th.—Still in the hospital; the tumour in the ham is not larger than a Spanish filbert; has perfect good use of the leg; the pulsation of the femoral artery felt to the inferior third of the thigh, likewise in the collateral branches; is in very good health, but the heart's action has been feeble throughout; and upon minute examination of the aorta in the epigastric region, a *soufflet* is audible, distinct from the heart's action; from which fact it is my intention to invalid him from the service, the fleet at present lying in the Bay.

Naval Hospital, Gibraltar, August, 1852.

GOUT AND TRISMUS FOLLOWING INJURY OF THE FOOT.

By J. M. SALTER, Esq., Dorset.

MR. H.—, a respectable yeoman in the neighbourhood of Blandford, Dorset, met with a severe accident on the 23rd of December last. His left foot was caught in a thrashing-machine, by which the fore-part of his boot was torn away, together with the extremities of three of his toes as far as the first joints. Having removed the portions of crushed bone and lacerated integument, I formed a flap over the stump of the great toe, and dressed the parts in the usual way. There was scarcely any hæmorrhage; the foot was very pale and numbed. His age being more than seventy-three, I of course anticipated a troublesome case, and told him there was danger of tetanus or trismus, although from my past experience at home and abroad I felt sure of being able to bring him through safely, and preventing the trismus (should it occur) from being fatal; but a great deal would depend upon my directions being strictly adhered to. The accident occurred about four P.M. At six P.M. I gave acetate of morphia, a quarter of a grain; calomel, three grains; powder of rhubarb, three grains: divide into two pills, to be taken directly. About nine P.M. I gave the following mixture:—Epsom salts, one ounce; potassio-tartrate of antimony, two grains; infusion of senna, six ounces and a half; syrup, one ounce; aromatic spirits of ammonia, three drachms: to have three tablespoonfuls every four hours until the bowels are moved. That night the sleep was

excellent, a nice moisture on the skin, and the next day he could not feel that anything had occurred to the foot.

The next night I repeated the pills of morphia, which produced the same sleep and moisture as on the previous night; but the next morning tetanus made its appearance in the extremities, followed by symptoms of trismus. He complained of great lassitude, and considerable pain and difficulty in moving the jaws; the countenance assumed a cadaverous appearance. I gave him muriate of morphia, a quarter of a grain; powder of rhubarb, three grains, in form of a pill, to be taken directly. I then administered a good strong glass of brandy-and-water; an hour after, a dose of cordial mixture, with aromatic spirits of ammonia, and repeated the brandy and-water three or four times in the course of the day, with the mixture as above.

On the fifth day, gout made its appearance in the right foot, and trismus again set in. The morphia-and-rhubarb pills were repeated, with brandy-and-water, as before. The gout left the foot, and attacked the stomach, at the same time the patient complaining of great pain in the jaws. Nitrate of potash, a drachm and a half; wine of colchicum, three drachms; aromatic spirits of ammonia, three drachms; powder of rhubarb, ten grains; syrup, an ounce; add water to six ounces: two tablespoonfuls to be taken every two hours. By the third dose relief was procured, and he felt perfectly free from pain.

During the first three or four days there was a little hæmorrhage, but nothing of importance. There was considerable sloughing, and the fætor was intolerable. On the seventh day symptoms of gangrene, and a white line reaching from the toes to the ankle. Having cleansed it with warm water, I applied tincture of lytta to the sloughs, and poultices saturated with black-wash. At night repeated the calomel-and-morphia pill. Next day another severe attack of the jaws came on. Repeated the morphia-and-rhubarb pill, with brandy-and-water, and giving the aperient mixture. Slept well. On the ninth day all the symptoms of trismus had disappeared, and he felt his jaws as well as ever; the pulse soft, full, and regular; spirits cheerful; system quiet. Being excited by some unexpected visitors that day, considerable irritation followed, and the trismus appeared again the following day, but was subdued by the repetition of the former remedies, and he slept comfortably that night. On the tenth day he was composed, but had a little delirium, and while sleeping comfortably about two in the morning was seized with tetanus in his arms and legs, which awoke him; it then seized the jaws with greater violence than before. The morphia pills were repeated, with the aromatic spirits of ammonia, two drachms, in a mixture, at intervals, and during that day he took nearly a pint of brandy. The foot assumed a more unhealthy appearance, more gangrenous, and the line to the ankle more apparent; pulse small and feeble; tongue coated and feverish. Gout returned during the day; hiccup and delirium. The morphia pills were repeated three times that day, with the aperient mixture. His foot was held over a foot-pan with water nearly boiling; a large cloth five times doubled was dipped in the water, and applied to the foot; this caused much pain, but was continued for an hour. The patient was easier after, and the hot water was repeated in the evening; and at bed-time, calomel, three grains; powder of rhubarb, three grains; acetate of morphia, a quarter of a grain: make a pill, to be taken immediately. He had some sleep; hiccup diminished; delirium less; tongue and pulse the same as in the day.

January 3rd, 1852.—Was evidently better in every respect, but he complained occasionally of pain and inability to move his jaws, which he did for some time afterwards. Some days he felt as if he had never been affected; on others, very strong tendency to absolute trismus. I continued at intervals the pills, the gout mixture, and the brandy, regulating his bowels with the aperient mixture above. Living near him, I had every opportunity of watching him closely, and attending to every symptom as it occurred; and I had the satisfaction of seeing him walk half a mile by the latter end of the month with ease. Being fond of walking, he continued his exercise, and in March could travel four miles on foot without feeling any inconvenience, and now continues his usual exercise in good health.

Stourpaine, Dorset, August, 1852.

CASE OF PLACENTA PRÆVIA.

By GEORGE BENNETT, Esq., M.R.C.S. Eng., Sydney.

DURING the practice of my profession in Sydney, New South Wales, since 1836, and having during that period an extensive midwifery practice, I have only met with five cases of placenta prævia; in the whole of these cases I invariably detached the placenta previous to the delivery of the child, considering it con-