If the neck of the criminal be small and delicate, or in any case is equivalent to half the mass multiplied by the drop expresses in foot pounds the amount of work expended of the criminal and $S$ the length of the drop, then the formula will be $z = \frac{1}{2} M V^2 = \frac{1}{2} W G^2 + 2 G S = W S$.

Dislocation of the cervical vertebrae has ranged from two to ten months, having generally to rise three or four times at night. The squint has with the progress of time become more pronounced; the diplopia, however, passed off after a couple of months, but has frequently recurred since for a week or two together. Ptosis of the left side of the face, though at some points it reappeared in the most dependent parts. The right side of the hypostasis occurs quickly owing to the great fluidity of the blood, the tongue recedes within the mouth, and the general lividity on the upper surface of the body disappears, to reappear on the lower surface. The death of the heart soon becomes incapable of driving the oxinized blood through the lungs; the left ventricle at first readily propels the blood into the larynx arteries, but soon the supply is diminished and the contraction becomes feeble, and at the same time the blood is accumulating in the systemic capillaries, and its arrest is probably brought about by a process of asphyxia. The immediate cessation of all respiratory movements is generally lost, all action of the heart is arrested, and the general venous system; great lividity of the face, swelling, and perhaps protrusion, of the tongue. It should be remembered that these latter signs are best observed and the most apparent relief that the head off the culprit. The rope should be of the finest iron hooks and couplings to which the rope is attached should be inspected on each occasion. If those in authority would lay down a few simple rules as to the manner in which executions should be performed, then it would not require much science to carry them out. These rules might, perhaps, also have the effect of relieving the executioner more into obscurity, and dispel all illusionary ideas as to his being the possessor of a mystic craft, or one to be feted by the populace and interviewed by the press in order to satisfy a morbid public taste. Liverpool.

**CASE OF TRIGEMINAL NEURALGIA, WITH EKOPHTHALMOS, AND PARALYSIS OF SEVERAL CRANIAL NERVES.**

**BY H. FRENCH BANHAM, M.A., M.D. CANTAB, PHYSICIAN TO THE SHEFFIELD GENERAL INFIRMARY.**

MARY S—, aged fifty, was admitted into the Sheffield General Infirmary on Jan. 18th, 1884. For six or seven years past she has suffered from occasional attacks of facial neuralgia, which for the last two years have been much more frequent, and, indeed, she has rarely been a whole day free from pain. The pain has generally affected almost the whole of the left side of the face, but at times it seems to concentrate itself with special violence at the supra- and infraorbital regions and over the malar bone. Mr. Coombe, the assistant house-surgeon, who has seen the patient in many of these attacks of neuralgia, says that she has had a great tenderness over the affected parts. This tenderness entirely subsides during the intervals, but some dull pain in

The spinal cord was severed, and all the ligaments were torn across. The shock to the nervous system produces an immediate loss of consciousness, with complete paralysis of all the voluntary and muscular vesi- cles. It takes a body moving under the influence of gravity three-quarters of a second to fall through the space of nine feet; and, owing to the velocity acquired sufficiently so as to be considered stationary. The time occupied in the last seven inches—during which the stretching and tightening of the rope occurs—is only $0.225$ of a second. If to this we add, say, $0.275$ for the elasticity of the rope, the shock on the neck of the criminal and the noose being fastened securely should be felt only $0.5$, or $\frac{1}{2}$ of a second. Even from this we must deduct the time which it takes for the nervous impulse to travel to the sensorium and back, but, as the sensation of the shock on the neck of the criminal is so slight that, like the atmospheric resistance to the falling body, it may be left out of account. Although loss of consciousness, and it is with this that humanitarians are chiefly concerned, is instantaneous, yet death, as evidenced by the cessation of the heart's action, does not take place so rapidly. It is possible in some cases that the cardio-inhibitory centre may be stimulated, or the vagi compressed, so as to immediately arrest the beat of the heart, yet it is conceded that this is the exception, and not the rule. The respiratory and vaso-motor centres are at once paralysed. I have never seen even the faintest involuntary gasp, and the arteries feel at once to have lost tone. The excito-motor gush of the blood of the brain, and its action on the circulation, and prevents the lungs from becoming surcharged with blood, as in ordinary cases of asphyxia, but if the signs of death are usually present, such as turgescence of the right side of the heart and general venous system; great lividity of the face, swelling, and perhaps protrusion, of the tongue. It should be remembered that these latter signs are best observed and the most apparent relief that the head off the culprit. The rope should be of the finest iron hooks and couplings to which the rope is attached should be inspected on each occasion. If those in authority would lay down a few simple rules as to the manner in which executions should be performed, then it would not require much science to carry them out. These rules might, perhaps, also have the effect of relieving the executioner more into obscurity, and dispel all illusionary ideas as to his being the possessor of a mystic craft, or one to be feted by the populace and interviewed by the press in order to satisfy a morbid public taste. Liverpool.

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the head continues, and she complains also of a constant feeling of formication, especially in the skin about the chin. There is a pustule of the left eyelid, abscessation of the left pupil, and some amount of external strabismus, and the movements of the eye are exceedingly limited. There is marked protrusion of the left eyeball, which seems scarcely to be overcome by light pressure at all, and she says that the pressure causes no pain. There is some deafness of the left ear, which, as far as I can ascertain from an examination by the tuning-fork, seems to be of central origin. The patient, however, says of the different auditory phenomena, and I did conclude that my results by this test are conclusive. There is some redness and tenderness of the lining of the external auditory meatus, with a tendency to the formation of a large amount of purulent discharge, which is absent on the right side. Why the left meatus was well cleared previous to the examination. The tongue on protrusion deviates very slightly but constantly to the left. There is a suspicion of some amount of paralysis of the right side of the face, and very little of that side of the tongue on protrusion deviates very slightly but constantly to the left. There is a suspicion of some amount of paralysis of the right side of the face, but probably depends upon some direct implication of the auditory nerve. The pupils contract only feebly to light.

During the patient's stay in the infirmary no important changes took place in her symptoms. Antisyphilitic remedies among others were tried, but without producing any improvement. It is impossible to consider this case of the possibility of a tumour in the base of the brain, as the patient is now rapidly recovering. Dr. Broadbent's opinion is that a clot still exists in the middle fossa of the skull are those whose left side and the portio dura of the right side are also involved.

ON A CASE OF THROMBOSIS.

BY MILNER MOORE, M.D., M.R.C.S.,
SURGEON TO THE COVENTRY AND WARWICKSHIRE HOSPITAL.

At a time when a case of thrombosis has been recently brought for discussion before the Clinical Society, it may be interesting to place on record a somewhat similar case, more especially as medical literature is not particularly fruitful in the description of accidents of this sort.

Mr. H., forty-six years of age, had always been a robust and healthy man, but, owing to an accident during his youth, he had partial anchylosis of the right knee in a semiflexed position. While out walking, about two miles from home, on Dec. 6th, 1883, he slipped in the snow and fell, breaking the right femur at its lower third. Assistance was soon obtained, and he was wrapped warm with shawls and wraps, but fully two hours elapsed before he was conveyed home under Dr. Thompson's supervision. My assistance was then sought, and, seeing the difficulty of setting the fracture in the usual way, owing to the anchylosed knee, I applied bandages of plaster-of-Paris, while Dr. Thompson kept up extension until the plaster had set. The limb was then put at rest upon a McIntyre's splint. All appeared to progress satisfactorily, and the patient was discharged, attended by some amount of pain in the left thigh, which rapidly became enormously swollen and oedematous. Within three days the right extremity above and below the plaster case became oedematous also, and on both sides, as high as the umbilicus, the skin was boggy, and retained marks of the finger-nails for several minutes. With the aid of hot fomentations and bandages, combined with the administration of purgatives and diuretics, the oedema subsided to a certain extent, and it was considered advisable to remove the plaster-case, when the fracture was found to be fairly united. The case was reapproxied for the purpose of support, and the patient was advised to move about with the aid of crutches in the early days of February. Mr. H. then went to Bournemouth, but while there he did not improve, and was so unable to use his legs (the left especially) in walking, that he returned home about the 16th, with a summation of pain and prostration. Dr. Broadbent's opinion is that a clot still exists in the inferior vena cava. Since his return home the patient has much improved under the application of gentle shauing and rest in the recumbent position, with occasional gentle out-door exercise when the weather permits. The sequence of events—simple fracture of the femur, pneumonia, and thrombosis—renders this a very interesting and instructive case; and what makes it still more interesting, is the fact that the patient is now rapidly recovering.