origin of our passions in our abdominal organs. Still universal consent shows how strongly they are acted on by emotion—that, in fact, in the viscera are the reflex centres of emotion that stimulate the nervous system to emotional acts.

If I have, therefore, been correct in ascribing hysteria to undue action of the brain as an organ of emotion, a potent cause of hysteria must be found in undue action of one or other of our viscera. It is, no doubt, wonderful that bodies shared by us with the lower animals should not only support the bodily structure, but, by their healthy action on the brain, give lucidity to the mind and warmth to the feelings, making genius more admirable and charity more godlike. This sounds like poetry, but becomes plain matter of fact when we remember how often anger has caused jaundice, and how frequently a host of distressing mental and emotional sensations are due to that state of liver and stomach derangement that we call biliousness, and which doubtless acts by deranging the functions of the neighbouring great ganglia. I have likewise seen repeated attacks of hysteria brought on by biliousness, and their recurrence prevented by such measures as are best calculated to prevent biliary derangement. Such cases are, however, very rare, when compared with those in which the determining cause of hysteria is an ovarian or uterine ailment. The statistics of Landouzy, Brierre de Boismont, and Dubois d'Amiens, as well as the recent assertions of Dr. Crichton Browne, show this to be the case; and those who deny it must bring forward similar masses of equally well digested facts.

What, then, are the diseases of the sexual system that cause hysteria? Not those in which the structure of the ovary and womb are almost destroyed—acutely, as in abscess of the ovary, slowly, as in ovarian tumours and uterine cancer—but, as a rule, the mildest forms of anæmic ovarian uterine disease; showing that it is not the intensity of the disease that causes hysteria, but the fact of its coincidence with a nervous system prone to become hysterical. Thus hysteria is most frequently caused by those limited ovarian lesions that I have described as sub-acute ovariitis, lesions depending on morbid ovulation, and that frequently pass unrecognised under the disguise of diseases of menstruation. Of uterine affections, it is chiefly the milder sort—that are mucous membrane deep—which cause hysteria; and sometimes, by applying nitrate of silver to an ulcerated cervix, we most unwittingly bring on an attack of hysteria, in patients who presented no signs of its being likely to come on, and thus experimentally prove that the two complaints may stand in relation as cause and effect. On one occasion, I thus brought on an attack in a lady, who had never before had one.

How is the brain, laden with emotion, to be brought into contact with the viscera, the reflex centres of our emotions? The late Dr. Todd thought that hysterical delirium and other hysterical phenomena might be explained by toxæmia resulting from retained menstrual blood; but hysterical phenomena frequently arise before there is any menstrual blood to be retained; and Dr. Handfield Jones agrees with me, that with hysteria, as with other neuroses, there is no blood-poisoning. The distance between the brain and the viscera, between mind and appetite, is bridged by the ganglionic nervous system, which unites the viscera by a federal bond of union, and places this federation in intimate connection with the cerebro-spinal system. When the ganglionic nerves transmit healthy impressions to the brain, they pass unnoticed; but a hysterical fit shows how differently nerves and ganglia act when visceral action is more or less diseased.

In many hysterical fits, after a period of incubation, in which the system seems to become more and more charged with excitement, the attack begins by pain in the womb and ovaries. Soon the hysterical aura passes to the epigastric ganglia, and, concentrating there, gives rise to the suffocation and distress characteristic of the disease. Ascending still higher, the hysterical aura reaches the cervical ganglia, producing the sense of strangulation; it then attacks the brain, deranging its functions in ways too numerous to be mentioned, and, at the same time, deranging more or less the functions of the spinal cord, according to the degree of tension of the hysterical aura. For a time pain will thus concentrate—sometimes in the brain, sometimes in the visceral ganglia—and the patient collapses into prostration when the system has been sufficiently relieved by convulsions and by critical discharges. It has been possible, in cases published by Romberg and Schulzenberger, to produce the succession of phenomena just described by simply pressing on the ovaries; and I have repeatedly brought on unconsciousness in a nervous patient of mine by pressing the left ovary.

It seems to me I have shown the following points in this paper. 1. To be efficient leaders of the profession and lecturers in our public schools, our hospital men should be thoroughly acquainted with diseases of women. 2. Whenever a patient is hysterical, the state of menstruation should be carefully ascertained, and the sexual organs should be

accurately examined if they present signs of disease. 3. The best way for neurologists to disperse the clouds that still overhang our knowledge of hysteria and its allies, catalepsy and epilepsy, is for them to study the diseases of the ganglionic nervous system.

ON A NEW FORM OF ELEVATOR FOR DEPRESSED CRANIUM IN CHILDHOOD.

By FREDERICK WATERHOUSE, L.R.C.P. Lond., and
M.R.C.S. Eng., Bolton.

IT is a fact well known to us all that, in childhood, irritation of the nerve-centres, proceeding merely from the periphery, often incites severe functional disturbance, whereas direct traumatic violence to the brain may be sustained without much perceptible derangement. To this pathological paradox our treatment of cranial injuries by non-interference is chiefly owing. Except in punctured fractures, we seldom proceed to operative measures, unless the most urgent symptoms demand them; and although there seems to be a gradual reaction setting in, after the period of non-intervention, brought about by the vigorous opposition of John Bell, Abernethy, Liston, and others, to the absurd system of perpetual trepanning, the injury which we inflict by the use of our present instruments often renders our interference unjustifiable.

In reference to the effects of injuries of the head, one fact seems to thrust itself prominently forward, as claiming more consideration from us, as surgeons, than it appears to have hitherto received. We cannot look over a work on psychological medicine without being struck with the number of cases, where the cause of various cerebral disorders, from epilepsy to insanity, is referred to cranial injury received at a period often long antecedent. Mr. Solly, twenty years ago, delivered a very instructive lecture on this subject at St. Thomas's Hospital. An interesting paper, read by Mr. Anthony Bell at the meeting of the Association in Newcastle, bears upon this point. Bucknill and Tuke, and Forbes Winslow, all recognise the gravity of these injuries in their ultimate effects. Indeed the latter, at page 563 of his work on *Obscure Diseases of the Brain and Mind*, says:—"Do we estimate in a manner commensurate with its grave and vital importance, the necessity of watching, with the most scrupulous care, the cerebral symptoms that follow all mechanical injuries of the head? I am satisfied that a vast amount of organic, chronic, incurable disease of the brain and disorder of the mind, can be directly traced to this cause." And again, he says that, after an injury to the head, "the patient recovers without any apparent inconveniences from the injury; but subsequently, head-symptoms exhibit themselves, clearly the consequence of the injury which the brain has sustained many years previously. I am satisfied that the importance of this subject cannot be exaggerated. Repeatedly have I had under my care, cases of epilepsy bidding defiance to all treatment, tumours, abscesses, cancer, softening of the brain, as well as insanity in its most formidable types, whose origin could unquestionably be traced back for varying periods of one, two, five, eight, ten, fifteen, and even twenty years, to damage done to the delicate structure of the brain by injuries inflicted mechanically upon the head."

The character of these injuries, then, being much more grave than we as surgeons are led to suppose, their method of treatment claims proportionate consideration at our hands. Let us briefly take in review—

1. The various forms of depression to which the cranium is liable; and
2. The different instruments which we possess for their remedy.

Depression of any part of the vault of the skull may occur at all ages, but there are peculiar features or conditions which can be presented only at certain periods. 1. In early childhood we often meet with depression without fracture, or the skull is simply bent in. 2. As age proceeds, the bending in cannot occur without fracture; the bone is not detached, but fissured or fractured, depressed or curved in. 3. At maturity there can be no bending; but, if there be depression, there is detachment of fractured bone.

It is to the character of the depression of the second period in particular that I wish now to draw your attention, as being the period during which injuries of the head are, I believe, not only most common, but during which the class of cases mostly occur to which this instrument is best adapted. It extends from the fourth to the fifteenth year, varying of course in different parts of the skull. The variety of fracture accompanying the depression may range from a mere straight fissure to a stellate fracture, in which each triangular piece of bone is depressed at its apex, and still undetached from the sound bone at its base. Splintering of the inner table, which would doubtless be the re-

sult of such an injury in adult life, seldom happens at this period, on account of the toughness of the osseous structure which also allows of its curving in. The immediate effects are usually overcome without operative measures, and the expectant method of treatment is therefore that generally adopted.*

With respect to the second point—viz., the instruments we have for the treatment of cranial injuries, I may mention that Dr. W. Newman (BRITISH MEDICAL JOURNAL, 1868, vol. i., p. 23), describes those used during the time of the Roman empire; and we do not seem to have much improved upon them. The “modioli” of Celsus and the “cyclici” of Galen were different kinds of trephine. The ancient “terebrae” have representatives in our modern necrosis-case, which is doubtless the best place for them. “Lenticulares” for smoothing the rough border left by the trephine, and “raspatories” for scraping off the pericranium, are still to be met with. In Rees’s *Cyclopædia*,† published fifty years ago, you will find drawings of many surgical instruments; and the great importance which was then attached to the operation of trepanning is shown by the great number devoted to this subject. Trepan and elevators with tripod stands are not the least formidable-looking weapons.

The power of the screw and the lever are both called into requisition, for the purpose of raising the depressed bone. Paré describes saws like the one introduced by the first Hey of Leeds, which is the most valuable addition we have had for some time to this department. These, I believe, are the principal instruments which have been invented. Elevators on the suction principle have been suggested, but would, I think, be ill-adapted, and unwieldy.

The Elevator, half size; Blade and Cranium, full size.

a. The blade serrated on its upper border. b b. Sound cranium.
c c. Depressed cranium. d d. Dura mater.

The instrument† here shown is not intended to supersede the ordinary elevator, but to be used in cases where that instrument is inapplicable. For instance, in the second form of depression which I have described, only one side could be raised, unless an amount of calvarium be sawn away, which would doubtless never be replaced. The trephine is of course sometimes necessary in desperate cases; but, like amputation, it is a *dernier ressort*. I do not know what effect on the equilibrium of vital power the shock of removing a circular piece of sound cranium may have: it cannot be *nil*, nor can you consider the operation conservative surgery.

This elevator may be in several forms: one can enter the diploë (if there be any), and thus draw up the bone without entering the cranial cavity at all; the others are inserted between the bone and the dura mater, but do not press upon the brain, if properly made, any more than the ordinary instrument.

When it is to be used, the end is inserted in the fracture (Hey’s saw may sometimes be wanted); by half a turn it is brought at right angles

with the fissure. The bones on each side are drawn up at the same time; the elevator is brought to its original position and withdrawn. Should the edges of the fractured bone tightly embrace the neck of the instrument, it can saw its way out by means of the serrated edge on the shoulders of the blade. This leaves a small aperture, which will afterwards be replaced by bone, whence pus, blood, etc., may issue.

The advantages of this instrument are: 1. Its simplicity of management; 2. It elevates the bone on each side at once; 3. It requires no fulcrum; 4. It can injure no vessels or other structure; 5, and lastly, whilst allowing a sufficient aperture for the escape of fluids which might compress the brain, it takes away none of the natural protecting case of that organ, so that hernia cerebri becomes an impossibility.

In conclusion, if I have succeeded in establishing for the instrument I have designed all the advantages I claim for it, and thereby lessened the risks of operative interference in cranial depression of childhood, I may venture to predict a treatment of these cases, more philosophical and consistent with the dignity of surgery as a science, than that of leaving their cure to Nature alone, with the danger of the future development of many mental and physical disorders, to which so delicate an organism as the brain must ever be liable, when called upon to perform its functions under adverse and abnormal conditions, however much it may have accommodated itself to them. Nature herself, whilst re-establishing continuity in skull-fracture, throws out no provisional callus; but, rather than press upon the brain, leaves it unprotected until the slower process of union by definitive callus can be accomplished. Ought we not, therefore, to take a lesson from her, and use every means in our power, consistent with discretion, to restore the structures to their normal position, and thus hasten repair?

THE USE OF SETONS IN THE TREATMENT OF STRUMOUS DISEASES.*

By EDWARD CROSSMAN, L.R.C.P., Hambrook.

I HOPE I shall not unprofitably occupy a few minutes this evening in directing the attention of this meeting to a class of therapeutic agents which may well claim consideration in virtue of its antiquity. I can probably add nothing to what is well known by all here present, but may hope to stimulate some to place more reliance on a remedy which, though well known, is, according to my observation, but seldom used in the treatment of disease.

I shall not trouble you with the pathology of scrofula, or *struma* (the more euphonious word). It will be sufficient for my purpose to say that *struma* is a state of constitution characterised by the formation and deposit of a peculiar solid material in various organs and structures of the body; that this material is an excretion from the blood, and is the result of defective or perverted elaboration.

In simple inflammation we use sinapisms, or dry cupping glasses, to draw the accumulated blood from the congested part towards the skin. If depletion be necessary, we raise a blister, by which not only is the blood drawn towards the skin, but a quantity of its serum is evacuated. In these instances a temporary derivation only is required; but in *struma* a morbid material is slowly and continuously formed in, and deposited from, the blood; and, while we endeavour by remedial measures to check the tendency to reproduction, it is necessary to provide an outlet by which the system may be freed from the excrementitious matter. Such I take to be the simple explanation of the action of setons and issues. They do not belong to the class of counterirritants, but to that of evacuants; and, regarding them in this light, I have used them in a large number of cases with the happiest results.

Few writers on strumous diseases fail to mention setons or issues among the various remedial measures; but mention is made of them in a cursory manner, and without that stress being laid upon their employment which, in my experience, it deserves. Moreover, they are generally described as applicable only to the early stage of these diseases, while in my opinion they are equally serviceable in the climax.

The wife of a farmer—one of an eminently strumous family—had during two years consulted various medical men, and, immediately before consulting me, had received her death-warrant from a leading physician. Her left lung contained a large cavity; the right was universally crepitant; and she had had several attacks of hæmoptysis. I was not consulted with any hope of cure; but, as she had come home to die, I was called in to watch her end. In this case, from the time when I put a seton in her chest, she began to mend. One set of silks having cut their way out, I put in another; and for six months a continuous

* Read before the Bath and Bristol Branch, October 1871.

* In looking over the cases recorded during the last twenty years, to which I have been able to get access, the greater fatality following injury over the left parietal region, as compared with other parts of the skull, has struck me as being remarkable, especially when remembering the pathology of aphasia.

† In the technical department, it is still the most complete work ever published.

‡ Maw, Son, and Thompson, Aldersgate Street, make these instruments.