reports of the Medical Superintendents are made to the *Préfets* and, likewise, not printed.

As to the separation of the sexes, which I noted in two of these Breton Asylums, and have observed at Rouen, and in the older Parisian Asylums, and which I believe to be very common in France and almost peculiar to it, I was curious enough to ask some of the Superintendents of these Breton Asylums if they could assign any *raison d'etre* except custom for the common separation of the sexes as observed amongst the French insane. One of them said to me in regard to this point, "I think, in fact, with other alienists, that the collecting together of the two sexes in one asylum offers much inconvenience, and in spite of the most rigorous supervision it would expose us to certain unpleasantnesses; the cries of one sex might produce troublesome excitation '*excitation facheuse*' in the other." Another replied that (as is quite true) "the sexes are associated together in a good many asylums in France, and, as for me, I believe that such association of the sexes is to be preferred so long as the asylum is not thus rendered too large and crowded." Another informed me that it was only in France that this system was at all adopted, and there principally in the larger and more important Departments, where the association of the two sexes would render the population too bulky. This separation of the sexes and the opinions above quoted are, it appears to me, entirely at variance with our English notions as to the best and most economical way of treating the insane.

CLINICAL NOTES AND CASES.

A Chapter on Broken Bones. By T. L. ROGERS, M.D.

The subject of fractures, especially of fractured ribs, occurring in the inmates of asylums, is one on which many of the members of the Association may be of opinion that enough has already been written.

It must, however, be conceded that a narration of the experience of any medical officer of an asylum on this subject is better given to the world at the present time, even if it excites less interest, than at a time when public attention is excited by reckless denunciation of the treatment of lunatics in general, and when any statements are liable to be regarded in

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the light of an excuse or defence of the conduct of those unto whose care the insane are committed.

Moreover, in almost all cases, injuries to the insane (especially fractured ribs) have, to a certain extent, a medico-legal aspect; their mode of occurrence is rarely actually witnessed by a medical officer, they are often ascribed by patients, without any ground whatever, to violence employed by attendants; and the plea has been even put forward that any injury that a patient has sustained should, unless complete evidence to the contrary can be adduced, be attributed to negligence or misconduct on the part of attendants.

A similar plea was put forth some years ago with regard to the peculiar tumours of the ear to which the insane are liable, and it was asserted that by holding attendants responsible for these, their occurrence might be prevented. The researches of Dr. Brown-Séquard, and his observation that guinea-pigs, in whom epilepsy had been produced by experimental injury to the spinal cord, were liable to the same affection, have tended to correct erroneous conclusions on this point.

I propose to give an account of all the injuries to bones that have occurred to patients under my charge during the last three years.

I limit the retrospect to three years, because, in 1870, I published a paper on the same subject in the "Liverpool Medical and Surgical Reports," and it is unnecessary again to refer to the cases there detailed.

As a careful examination of the chest is made in all patients who appear to be ailing, whether symptoms indicate disease or injury, or not, and as a *post mortem* examination is made in all cases of death (unless strongly objected to by the friends), it may be assumed that no fractures of ribs have escaped notice.

Case I.—J. L., aged 24, a tall, muscular Irishman, whose previous occupation had been fireman on board an Atlantic steamer, was admitted August 20th, 1870, suffering from mania brought on by drinking to excess. On account of his great excitement and violent propensities, he was generally placed under the care of a special attendant, who, with the assistance of another patient, took him out walking in the grounds apart from other patients. On Sept. 28th he complained of pain in the chest, and being at the time in a quiet mood, I was able to examine him with the stethoscope, and found a fracture of the third rib on the right side. There was some swelling and slight discoloration of the skin over the spot.

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How the injury was produced I could not positively ascertain, but the man, when walking quietly along, would sometimes make a sudden "lunge" forwards, and on the previous day, in doing this, he was reported to have slipped from his attendants' hands, and to have gone down head foremost, bruising his face against the ground.

The upper portion of the chest, on the injured side, was strapped with roborans plaster spread on moleskin, which, however, was removed every night by the patient until it was protected by a closely fitting waistcoat, made of strong canvas, without sleeves, and fastened behind with leather thongs.

On October 20th a limited extent of pleurisy was discovered about the seat of fracture, for which a small blister was applied. About the same time he acquired a habit of hammering his head against the door of his room at night, and matter formed under the scalp, which was evacuated by the lancet, but the wound continued to discharge for some weeks; it had healed before his death, which occurred on November 14th, from an attack of pneumonia.

At the *post mortem* examination the 2nd and 3rd ribs, on the right side, were found to be fractured, and in place of bony union they were incased in a thick fibrous sheath which was adherent to the pleura and lung, the lung itself being sound on that spot, but the lower lobe and the whole of left lung were in a state of hepatization; a large portion of the frontal bone was denuded of its periosteum, but was not incased.

There was no apparent alteration in structure of the ribs, and the sound ones sustained a fair amount of pressure.

Case II.—T. L., aged 55, a tailor, admitted December 29th, 1868. A very tall, gaunt, attenuated, and wretched looking individual, suffering from melancholia, and believes himself to be dead, but does not wish to be buried. Lungs tuberculous, but no softening.

Very little improvement took place in this patient; he could with difficulty be persuaded to take any food; he suffered from repeated attacks of dysenteric diarrhœa, and the lung disease progressed, but he was up and dressed daily when not suffering from diarrhœa, till March 13th, 1871, when I directed him to be kept in bed on account of his weak state, and fearing that he might fall or be pushed down and sustain some injury—his great height (6ft. 3in.), and his extreme emaciation rendering such an accident imminent.

Previously to his being put to bed I examined his chest to assure myself that what I apprehended had not already occurred.

Two or three days afterwards the Assistant Medical Officer, on examining him, discovered a fracture of the 2nd rib—no external mark of injury was perceptible. The patient died on the 23rd March of tuberculous disease.

At the *post mortem* examination the 2nd rib was found to be broken through, and the 3rd had a "kink," resembling a so-called green-stick fracture.

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The ribs were so extremely thin and soft that they were easily cut through longitudinally with scissors, the external layer of osseous tissue being no thicker than a playing card—the interior being filled with a red semi-fluid matter.

Case III.—T. W., aged 59, a joiner, admitted May 16, 1870, with delusional insanity, with occasional excitement, and described as dangerous; his brother had previously been a patient in the asylum.

This patient soon improved, and six weeks after admission was working steadily at his trade; but a delusion that a conspiracy had been formed against him by the relieving officer still continued. He was steadily employed at his trade till November, when, having been able to suppress his delusion, if not actually convinced of its unreality, he was discharged on trial for a month.

He immediately obtained work, and was going on very satisfactorily, till a few days before the month expired, when he got drunk, and in presenting himself for his final discharge, he was in such an excited state, that I detained him in the asylum for a few days for observation, but not being under very close restriction, he went beyond bounds and had another drink, after which he became quite maniacal, and has continued so till the present time.

On July 26th, 1872, my attention was called to a slight swelling at the inner third of the left clavicle; this swelling (which had not existed on the previous day), was of somewhat doubtful character, but a careful examination enabled me to detect a division in the bone, though both ends were in perfect apposition, the swelling being confined to the skin and periosteum. The nature of the case was made clear on the following day, when the usual "riding" of the broken ends was apparent.

On asking the patient how it was done, he immediately accused the attendant of having struck him, and, being very excited, he hit out freely with his right at all comers.

I had no reason whatever for believing that his account was correct, and in the absence of any other explanation, I attributed the fracture to irregular muscular contraction. He would keep no bandage on, but the fracture united notwithstanding. Five weeks afterwards he was found to have sustained a fracture of a rib, and on two subsequent occasions, viz., Feb. 12th and April 1st of the present year, a similar injury was detected, without any satisfactory explanation of the mode of occurrence.

On one occasion he accused another attendant of striking him because he would not go into his bath, and his account of the occurrence (which had only just taken place) seemed to me so like the truth that I questioned all the other patients who were present, but they all contradicted his statement, one of them adding that it was he himself who objected to the bath.

At present this man is "master of the situation," he is destructive, dirty, and turbulent; if I send him into a ward among able-bodied

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patients, he invariably is returned to the infirmary with a broken rib or some other injury, whilst to keep him among the sick and feeble exposes them to violence from him, as he is not particular whom he strikes—patients, attendants, and even occasionally the medical officers sharing his attentions in this respect. Meanwhile all medicinal treatment has failed alike in improving him, with the single exception of the hypodermic employment of morphia, which he believes to be vaccination, and so submits to kindly ; indeed, but for the success of this remedy, I believe I should have made him an exception to the non-restraint system, and should have secured him to the bed to insure some repose in the horizontal position, for want of which (at the time that his clavicle was fractured) his legs were swelling nearly as high as the groin, and his strength was becoming exhausted.

This case is also interesting as a set off to what have been called " Asylum-made lunatics."

Here is a man who, whilst under the restraint of an Asylum, behaves in an entirely rational manner, and, doing a good day's work, may be regarded as a producer instead of a consumer. The stability of his condition is tested by a month's liberty, which allows opportunity for a debauch, the consequences of which are that all the benefits of seven months' treatment are dissipated, and, for the next two years or more, he becomes a consumer and destroyer instead of a producer. I could instance several cases where the mere leaving the Asylum, or even the apprehensions of it, have produced similar results, though in a less degree.

Case IV.—M. H., an Irish labourer, admitted April 9th, 1872. The history of this man was, that he had been in the army, and had been severely wounded at the Siege of Delhi; that he subsequently obtained regular employment in Liverpool, but having on one occasion had too much to drink, the " furor" for intoxicating liquor became so strong that he disposed of everything he possessed, and drank the proceeds, till, having nothing left, he sought refuge in the workhouse.

When admitted into the Asylum he was in a state of dementia, with great motor instability, his muscular condition resembling that of general paralysis ; he was dirty in his habits, and extremely prone to fighting. On the 18th August (Sunday) I observed that he had a bruise on his face, and his appearance generally indicated that he had been engaged in a skirmish during church service, and, on stripping him, I found that he shrank from my examination of the right side of the chest, but I could detect no fracture of ribs.

Subsequent examinations shewed dulness and absence of respiratory murmur over a portion of the right side. He was kept in bed (seclusion) for three months, and then, as he had improved much in bodily condition by this long rest, I ordered him to be dressed, although the lung was still deficient in resonance.

On the very first day he was dressed (November 20th) he had a

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passage of arms with an old antagonist (a case of advanced general paralysis), and, during three weeks that he remained up, he had repeated skirmishes with other patients, generally for possession of the fire-place, and on December 13th, having had his head cut with a slipper, he was remitted to bed. On the 18th I discovered that he had besides sustained a fracture of the 8th rib (right side) in two places, which, no doubt, had been done some time previously, but, owing to the condition of the lung, previous examination had failed in detecting it. All applications were torn off as soon as applied, and on the 25th December the patient became suddenly worse and died.

The *post mortem* examination showed that one end of the broken rib had penetrated the chest, and caused an abscess, which being restricted by old adhesions of the pleura, was limited in extent, and permitted the admission of air freely into the posterior portion of the lung, up till the day of his death.

The examination of the brain showed that a bullet had almost penetrated the skull immediately above the left orbit, forcing in a circular portion of the inner table, the size of a small gun wadding ; the outer table was absent, so that the thickness of the skull in this spot was reduced to the 16th of an inch.

Opposite this wound the brain presented a circumscribed patch of yellow softening or ulceration.

It is not probable that this ulceration had existed ever since the reception of the gunshot wound, and all through the years that the man had been steadily employed in Liverpool; the inference to my mind being that his recent debauchery had lit up new disease on the site of the old injury and originally damaged portion of the brain, at the same time that all his natural pugnacity had progressively increased with the advancing disease.

Anticipating the criticism which would ask how such accidents can happen, and such combats take place in the presence of attendants, I would merely observe that one must be acquainted with the character of the majority of my patients, and their innate love of fighting, generally exaggerated by disease, and unrestrained by any prudential considerations either for themselves or others, before anyone is competent to say that such cases can be entirely prevented, except, indeed, by materially diminishing the number of patients in a ward, and increasing the number of attendants. The exigency of the demand for accommodation prevents the former, and the consideration of cost sets a limit on the latter, whilst the bugbear of seclusion induces one to refrain from separate treatment except in cases where the patient's actual condition is considered to require it.

Case V.—R. W., an epileptic patient, of very violent character, who had been in the asylum several years, was observed to move his right arm with difficulty on Nov. 1872. On examination the shoulder was found much swollen and discoloured, and a fracture of the anatomical neck of the humerus was discovered.

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On questioning the patient, he at first said that the attendant had given him something in his food which had caused it, and afterwards that it was done by lying with his arm stretched out when asleep on a form.

There was little doubt that this occurred by falling in a fit, and this view was supported by his subsequently falling on the same side of the head when the arm was secured to the side.

Case VI.—J. T., a recent admission, was found to have sustained a fracture of a rib on June 20th, 1873.

He could give no account of how it occurred, but merely stated that he had one broken in another Asylum, where he had previously been confined. This patient has since been discharged recovered.

Case VII.—E. W., aged 33, a case of general paralysis; admitted in May, 1871; took some pieces of carpet into an airing court to shake with another patient, on June 11th, 1873.

Whilst she was in the act of shaking them an attendant saw her fall backwards on the grass, and on going to her to lift her up found her unable to walk, and, procuring assistance, she carried her into the ward, when it was found that her leg was fractured.

On my being sent for I found the tibia fractured obliquely close to the ankle joint, and protruding five inches through the skin.

I was puzzled by the appearance of the end of the bone, from which the periosteum had been stripped back, the bone itself being blackened; and, on examining the patient's dress, two triangular holes were seen, the edges of which were stained with blood and gas tar.

It was evident that she had attempted to walk on some newly laid asphalte which was close to where she fell, and traces of blood were found on this.

The fibula was broken at the upper third, and the lower portion protruded through the leg. As there was considerable venous hæmorrhage I at once amputated the leg, although the arteries were uninjured.

The case did well, and the patient seems to have taken a new lease (a short one) of life.

Unless this accident had been witnessed by competent witnesses, or the sufferer had been in a condition to give a faithful account of it, such a serious result from so slight a cause could scarcely have been credited.

Case VIII.—Mary W., an epileptic patient, was found on December 5th, 1873, to have sustained a fracture of the clavicle. It was not discovered till after union had commenced, and the manner in which it occurred is only conjectured.

During the last summer a woman died who had been the subject of millites ossium. After her death ununited fractures of one femur and one humerus were discovered. She had been confined to bed for upwards of ten years, and the fracture of the humerus occurred about

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four years before her death. Although her intellect was remarkably clear as to current events, she was quite unable to give any account of how the fracture occurred. (This case was mentioned in my paper before alluded to.) In connection with these fractures was a dislocation of the spinal column between the dorsal vertebræ, but as she had never suffered from paralysis this must have been a gradual process. Her death was at last occasioned by an acute attack of pleurisy, which, with her extremely limited breathing space, rapidly proved fatal.

In addition to these cases there have been three of fracture of the neck of the thigh bone in the three years, all occurring in old people, and produced by falls; and one case of Collis's fracture in a young German, caused by precipitating himself into an area. This patient was taken home by his brother two days afterwards.

My experience of spontaneous fractures occurring in sane persons is somewhat limited, but two cases which have come under my notice may fitly be recorded in connection with this subject.

An attendant, aged about 28, was practising cricket, and whilst in the act of throwing in the ball his arm dropped powerless by his side, and the ball went off at a tangent. I had just come on the ground, and as he complained of being hurt, I examined the arm, and found a fracture of the humerus. He had been invalided from India, and had complained of rheumatic pains in that arm. The bone united readily, and the man subsequently became a fair round hand bowler.

The other case was that of a sergeant in the Coldstream Guards, who fractured a rib (the 11th) in the act of coughing. I saw this man immediately afterwards, and he was also seen by the late Mr. Weeden Cooke, who was in attendance on the sergeant's wife, and who subsequently reported the case in the "Lancet."*

I am strongly inclined to believe that simple fractures of ribs are injuries of which little account is taken by working men in good health, and that probably a large proportion of them never come under the cognizance of the surgeon. Some cases which have come to my knowledge lately, seem to bear out this view. The Medical Director of a large asylum mentioned a case to me which occurred a few weeks ago, in which he found a patient with a fractured rib, which he said had been done by an attendant throwing him down. The attendant was out the next day, and on being brought up for judgment on the day following, he said that instead of his throwing the patient down the patient fell on him, and he believed that he was the most hurt of the two. On examining him my friend found three ribs broken, yet the man had taken his "day out" before complaining.

An old gentleman, who had also been connected with the same establishment, about the same time fell off his chair, and after his

* In a paper by W. Carran, Army Medical Department, published in the "Lancet," August 9th to 30th, 1873, is a record of several cases of spontaneous fracture of the clavicle as well as of the long bones.

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death it was found that he had fractured three ribs. I met a gentleman at dinner last week, who told me that his brother, whilst engaged in a field day during the autumn manœuvres, fell off his horse at 9 a.m., but remounted and continued his duties till 2 p.m., although, as ascertained afterwards, he had broken three ribs and a bone of one arm.

If this view be correct, the extravagant hypotheses that were lately put forth to explain the occurrence of fractured ribs in insane patients would seem to be more creditable to the imagination of their supporters than to their surgical knowledge or sagacity.

It will, perhaps, be urged that in the cases I have enumerated, only one or two ribs were found broken, whilst in previous cases the number has been much greater.

I think that this may be explained by the fact of the injury in my cases having been almost immediately detected, and further mischief being guarded against; for there can be no doubt that the mechanism of the thoracic frame being once damaged, a second fracture may be more easily produced than a first, just as may be observed in machinery, that when one cog of a wheel breaks, it is quickly followed by others, offering another illustration of the familiar axiom, "Ce n'est que le premier pas qui coûte."

Phosphorus in Melancholia. By S. W. D. Williams, M.D., Medical Superintendent of the Sussex Lunatic Asylum.

Phosphorus is rapidly becoming a favourite remedy in certain forms of disease of the nervous system, and has been strongly recommended in melancholia. I am not aware that there is any authentic record of its effect in this disease, and, therefore, think a brief *resumé* of half-a-dozen such cases, treated in this Asylum lately by phosphorus, may be acceptable to the readers of this Journal.

One great objection to the use of phosphorus is the difficulty of administering it pure. Solutions of the metalloid in oil or ether are extremely unpleasant and nauseous, and this is a very serious objection when dealing with the insane, who are so prone to refuse food and medicine. I have, therefore, used the pills prepared by Messrs. Kirby and Co., which are stated each to contain the thirtieth of a grain of pure phosphorus. Mr. Ashburton Thomson, in the "Practioner," doubts the efficacy of these pills, but I cannot say I agree with him. It cannot be doubted that they contain phosphorus, for if you cut a pill open in the dark the characteristic smell and luminosity are very marked.

A perusal of the cases recorded below will show that a certain amount of success has attended on the use of the

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