and of those disposed to acts of suicide. All such patients, as well as the epileptic patients, must be visited every hour during the watch.

"3.—The several wards shall be visited four times during the night, viz., at 10 p.m., midnight, 2 a.m., and 4 a.m. At each of these visits all the epileptic patients, and especially the paralytic, shall be examined as to the state of the sheets; if the sheets are soiled or wet, they must be changed at once.

"4.—*The night duty to wet and dirty patients.*—It is further the duty of the night attendants to become acquainted (as they will readily do) with the patients who habitually wet their beds, and all such patients must, at each of the prescribed visits, if necessary, be awoke and called upon to attend to the calls of nature. With some patients one such systematic call at midnight will suffice; with others it will be necessary to repeat the call at 2 a.m.; while others require to be called four times during the night.

"5.—*Its great importance.*—With the exception of an epileptic patient in a fit, these precautions should entirely obviate all wet beds in the ordinary cases of chronic mental disease. It will also be found that enforced habits of cleanliness at night result in cleanly habits by day.

"*Night report.*—The night attendants will be careful to record in their night reports, each morning before going off duty, the number of patients visited, and the number found wet and dirty."

HAYWARD'S HEATH, SUSSEX; September, 1861.

Vital Statistics and Observations on the Causes of Death amongst the Male Patients in the County of Somerset Pauper Lunatic Asylum, from an Analysis of 295 Post-mortem Examinations. By ROBERT BOYD, M.D., F.R.C.P.

SINCE the opening of this asylum on the 1st March, 1848, to the 1st December, 1860, one thousand male patients have been admitted, in which are included 130 readmissions, the actual net number of individuals admitted being 870.

The admissions were least in winter, viz., 23 per cent.; most in spring, 27·9 per cent.; in summer 25·5, and in autumn 23·6 per cent. The admissions were most numerous between the ages of 35 and 45,

amounting to $24\frac{1}{2}$ per cent. of the whole ; amongst the persons at that period of life, the married considerably exceeded the unmarried, being as $60\frac{1}{2}$ to 36 per cent., and the number of children dependent on these persons for support was upwards of two per case. This points out the necessity of early attention to the poor in the acute stage of the disease, and shows the propriety of sending cases of insanity at once to the asylum, as the recoveries, according to all reports, have been shown to depend so much upon early treatment and removal from home. Under 25 years the number of admissions was 12 per cent., only three of whom were married. From 25 to 35, 23 per cent. were admitted, of whom nearly one fourth were married. Above the age of 45 years the number of cases fell off materially, from 45 to 55 the per-centage of admissions was under 18 per cent., the number of married nearly 3 to 1 to the unmarried. From 55 to 65 the number of admissions was about 12 per cent., the number of married to unmarried as 6 to 1. After 65 the number of admissions was above 9 per cent. ; only six were single.

The number admitted under a first attack of insanity was nearly double those admitted under a second and third attack.

The bodily health on admission was good in 31 per cent., bad in 32 per cent., and indifferent in 37 per cent.

More than half the cases were brought to the asylum when the disorder was of more than three months' duration, and in 18 per cent. of the cases it was of ten years' duration and upwards.

Nearly two thirds were reported as belonging to the Established Church, and above that number had received some degree of education, had learned to read, and nearly one half could write also.

The numbers brought from their own homes amounted to 77 per cent., from workhouses nearly 11, from hospitals and infirmaries 1, from prisons and other lunatic asylums above 11 per cent.

The occupations of the majority were day labourers, principally engaged in agriculture, 38 per cent. ; next, shoemakers $6\frac{1}{2}$, servants 6, carpenters and coopers 6, masons, miners, pensioners, shopmen, and tailors, each about 3 per cent.

In some parishes the number of lunatics was much greater in proportion to the population than in others, and it has been ascertained that many parishes, amounting, it is supposed, to about one third of those in the county, have never had a lunatic pauper in the asylum. So that the proposed amendment in the Poor Law Bill, by which lunatic paupers are to be charged to the common fund of the union, and be no longer charged on the particular parish, will be a great relief to small parishes, where it unfortunately often happens that a hereditary predisposition exists amongst the labouring classes.

Of the forms of insanity in the males admitted the most common

was mania, of which, including some cases of monomania, there were 45·5 per cent., of melancholia 15·2, dementia and fatuity 10·7, general paralysis 8·4, epilepsy and idiocy 17·7, and delirium tremens 2·5 per cent.

The physical causes were much the most common, amounting to 50 per cent., the moral to 23·3, and in 26·7 per cent. no cause was assigned. Hereditary predisposition was the most frequent of the physical causes; 89 cases, or upwards of 10 per cent., were ascribed to intemperance in drinking, half that number were from infancy, and the remainder were principally ascribed to disease and injury. Of the moral causes, 41 were set down to religious excitement, domestic grief, losses in trade, disappointments, and 18 cases to fright.

In a large proportion the memory was not affected, it was bad in almost one seventh, and quite lost in nearly the same number. The state of the affections was reported as altered in more than two thirds; self esteem is so common that it has been remarked that it almost invariably accompanies the ordinary forms of insanity.

The conduct was disorderly in nearly two thirds when admitted, including the violent, dangerous, noisy, mischievous, and those of dirty habits.

The expression was characteristic of the mental state in the majority, and the conversation was irrational in a large number; about one in seven were silent. Most of them seemed occupied with their own ideas, and they were seldom inclined to associate amongst themselves.

The state of the pulse in many male patients on admission was unusually frequent; in 7 it exceeded 120, and in 1 case was stated to have been as high as 150 in the minute; in 29 it reached 108, and in 139 it ranged between that number and 100; in 217 the pulse varied from 90 to 98; in 208 it varied from 80 to 88; in 170 from 70 to 78; in 32 from 60 to 68; in 4 from 47 to 58; and in 64 no statement was given. The tongue was clean in 438, white in 318, creamy in 6, red in 25, raw in 1, loaded in 21, furred in 14, brown in 4, flaccid in 5, rugged in 1, paralysed in 7, not stated in 30. The skin was cool in 450 on admission, cold in 90, clammy in 2, warm in 184, hot in 130, natural in 14.

Of 130 readmissions, 67 were readmitted once, 15 twice, 4 three times, 4 four times, and 1 five times. Of the 67 only once readmitted, 30 were cases of mania, 13 of melancholia, 5 of monomania, 3 of moral insanity, 1 of dementia, 1 imbecility, 2 epilepsy, 5 of general paralysis, and 7 of delirium tremens. The assigned causes of the disorder in these cases were, intemperance in 23, poverty in 5, domestic grief in 2, disappointed affections in 2, ill-treatment in 3, remorse in 2, exposure to the sun in 1, injury to the head in 3, cere-

bral disease in 2, bite of a fox in 1, hereditary disease in 8, no cause assigned in 9. Of the 15 individuals twice admitted, there were 7 cases of mania, 5 of melancholia, 1 of moral insanity, and 2 of delirium tremens. The assigned causes were 4 from intemperance, 3 from pecuniary losses, 2 hereditary, 1 religious excitement, 2 illness, 3 no cause assigned. Of the 4 males admitted three times, 3 were cases of mania and 1 of melancholia. Of the 4 cases each admitted four times, mania hereditary in 1, monomania from anxiety in 1, delirium tremens in 2. One with hereditary mania was admitted five times since 1848; during the intervals he earned his living.

The results of one thousand male admissions have been, recoveries 35·76 per cent., relieved 7, not improved 5·23, escaped 4, died 32·4, remaining 19·21 per cent.

The cause of death in 295 cases of male patients subjected to post-mortem examinations since the opening of the asylum, a period of twelve years and ten months.—An analysis of these cases has been given yearly with the statistics of the institution. So many important facts are to be deduced from them that it is desirable to place them in a connected form, especially for comparison, with cases of the opposite sex labouring under the same malady, or with the sane, at the same period of life.

It has rightly been observed that the connexion between symptoms and organic lesions in cerebral diseases has ever been one of the utmost difficulty and obscurity. Organic disease in the cerebro-spinal organs is more frequently found in the insane than in the sane, at the same periods of life, although we may not be very successful in connecting them with the symptoms during life. Extensive disease of the respiratory and other organs may exist, and even proceed to a fatal termination in the insane, without the usual phenomena as evinced in the sane labouring under a similar disease; thus, we find in the insane tuberculous cavities in the lungs, without cough or expectoration. The mental affection, when acute or severe, appears to mask the usual symptoms of other diseases, although it may not impede or retard their progress, for we find the insane are subject to a variety of fatal diseases, as will presently be shown.

The Hunterian opinion,* “that but one diseased action can exist in the constitution at a time,” is only partially correct in cases of insanity.

On this point my friend Dr. Moss, F.R.S., has favoured me with the following observations and quotations:

“Shakespeare has promulgated a theory (*aliis verbis*) identical with John Hunter’s axiom:

* ‘Hunterian Reminiscences,’ p. 36, by Parkinson, Sherwood, Gilbert, and Piper, London, 1833.

“ ‘Take thou some *new infection* to thy eye,
And the rank poison of *the old will die.*’

“ ‘For after I saw him fumble with the sheets.’

Shakespeare, vol. viii, p. 395.

“ ‘*De signis mortis*.—Sapientis vero ægritudini fibriarum curam et stragulæ vestis plicaturas’—*Plinii*, ‘Hist. Nat.’ lib. vii, cap. li.

“ ‘Illa quoque mortis indicia sunt,—aut si manibus quis in febre et acuto morbo, vel insania, pulmonisve dolore, vel capitis, in veste floccos legit, fimbriasque dividit, vel in adjuncto pariete, si qua minuta eminent, carpit.’—*Celsi*, lib. ii, c. vi.

“ ‘Aut colligit festucas, aut de veste vellit pilos, aut de pariete stipulas carpit.’—*Hippocratis*, ‘Prædict.’

“That this symptom of approaching death was derived immediately from Hippocrates, Celsus, or Pliny, positive proof may be adduced from the fact that there was no English translation in existence at the period when this play was acted at the Globe Theatre, of which Shakespeare was a principal proprietor.*

“We may take this opportunity of introducing another medical remark. In ‘*Romeo and Juliet*’ we find—

“ ‘One fire burns out another’s burning;
One pain is lessened by another’s anguish;
Turn giddy, and be help by backward turning;
One desperate grief cures with another’s languish.’

Act i, sc. 2.

“To Shakespeare Dr. Kentish was indebted for his theory respecting the treatment of scalds and burns; although he has unfairly arrogated to himself all the credit which should accrue to the original promulgator. The supposed introduction of a new system of practice in the treatment of injuries of this description, respecting which little was known by the profession at that time, and by whom they were treated somewhat empirically, and not in accordance with any established principle, awakened a philosophic spirit of inquiry, and laid the foundation of a plan of treatment more consonant to common sense. Dr. Kentish’s theory is, ‘that any part of the system having its action increased to a very high degree must continue to be excited, though in a less degree, either by the stimulus which caused

* Our poet Shakespeare has been confounded by his biographers with the son of “*Johnes Shackspere* (qui) nihil habet unde distr. potest levare” (according to the register of the Bailiff’s Court at Stratford. 1585-6). We find that even so early as 1597 Shakespeare must have been in comfortable, if not in comparatively affluent circumstances. In that year he purchased New Place, in Stratford, of William Underhill; but at what price we are not informed. In the following year (1598) he lent £30 to a fellow-townsmen; and, at the same time, expressed his willingness to advance, upon adequate security, any sum of money the Corporation of Stratford might require. In 1602 he purchased 107 acres of land in the vicinity of New Place, for which he paid £320. In 1605 he gave £440 for a moiety of the great and small tithes of Stratford; and in 1613 he purchased a house in Blackfriars, London, for which he paid in part, the sum of £180, leaving a balance of £68, which was secured by a mortgage upon the property.

the increased action, or *some other having the nearest similarity to it*, until by degrees the extraordinary action subsides into the healthy action of the part.' With this view Dr. Kentish recommends the *burned parts to be held to the fire*, when practicable; but, when this is not available, he recommends the application of strong stimulants, such as turpentine, rectified spirits, and essential oils, increased in temperature. What can be more closely paraphrastic of Shakespeare than the foregoing hypothesis and the plan of treatment suggested by Dr. Kentish? We find a repetition of the theory again in Shakespeare:

" 'As fire cools fire
Within the scorched veins of one vein burned'

And again—

" 'One fire drives out one fire; one nail one nail.'

" 'Take thou some new infection to thy eye,
And the rank poison of the old will die.'

Romeo and Juliet, Act i, sc. 2.

"The application of blisters, issues, setons, and superficial irritants, with the view of relieving (by metastasis) deep-seated, acute, or chronic affections, was certainly known to Shakespeare, and the *ratio medendi* was fully appreciated and insisted upon by him. But, although the use of these remedies had been so long known to the profession and so generally adopted, it fell to the lot of my lamented friend, Mr. Abernethy (an ardent admirer of the works of Shakespeare) to carry out and fully develop the uses, objects, and results of COUNTER-IRRITATION, which, under the tutelar guidance of his masterhand, at once assumed a scientific character and received the formal recognition of the profession." (J. W. Moss, B.M. Oxon, 'Fraser's Magazine' for April, 1840, pp. 499-500.)

Instances have occurred of persons labouring under severe diseases suddenly becoming maniacal, and the symptoms of their disease suddenly disappearing. The most remarkable case of this kind that I recollect having met with was in a patient affected with chronic asthma; the dyspnoea and pulmonary affection seemed to have disappeared after mania had become established.

The insensibility of the insane to serious injuries is not less remarkable than the peculiarity just referred to, viz., their tolerance of disease. An illustration of this fact recently occurred here, in the case of a young man who for some time, from domestic affliction, had been in great mental agony; his case appears to have been sadly neglected, according to his mother's account of it. He attempted suicide, by jumping from the top of a three-storey house; when taken up, he was apparently unhurt; he was conveyed to the police station, and thence he was brought to the asylum in a most furious

state, having partly destroyed the cell in which he had been confined. Although of small stature, it required three men at the railway station to get him into a conveyance, and as many in the asylum to restrain him whilst being fed, as he refused all sustenance. He attempted to choke himself by pushing his hand into his mouth, and it was found necessary to secure his wrists behind his back with a handkerchief for several hours, to prevent him mutilating himself. Food and medicine were administered by a stomach tube, and it was not until the fourth day after his admission that he became tranquil, and would take food without being forced. For the first time he complained of pain in his left side, and pointed out the place, on which there was a circular contused mark, between three and four inches in diameter. He was treated in the infirmary, and appeared to be going on favorably until the eighth day, when he had a severe attack of hæmatemesis, which recurred three or four times for two consecutive nights; there was also a fetid effluvium from the breath, as in cases of gangrenous lung. Death took place on the eleventh day after his admission. When the post-mortem examination was made, it was found that the second to the sixth ribs, inclusive, on the left side were fractured, about the junction of the middle and the anterior third; the pleura and lung were uninjured, and the left lung was quite healthy; there were old pleuritic adhesions on the right side, and a small portion of the pleura on the upper lobe of the right lung was dark coloured and had an offensive odour, and the lower lobe was congested with blood, weight 23 oz., the left lung 9½ oz. A superficial laceration of the liver, about four inches long, extending from the upper part between the "lobulus quadratus" and left lobe to the neck of the gall-bladder, which was greatly distended with dark fluid; no clots of blood were found; the mucous membrane of the stomach was stained with blood, but the lining of the intestines was natural. The brain was firm; the cerebral ventricles were dilated, and contained about one ounce of clear fluid; weight of the encephalon 46½ oz. The spinal marrow was natural. The cause of death was ascribed to the condition of the right lung, laceration of the liver, and hæmatemesis.

The forms of mental disorder, the ages in decennial periods, and the numbers of each age in each form of the disease, in 295 male patients examined in the County of Somerset Lunatic Asylum, are shown in the following table:

Forms of the Mental Disorder.	Ages in Decennial Periods.							
	Under 30 Years.	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	Over 80	Total.
Mania	13	16	25	14	13	5	1	87
Monomania	1	3	2	4	0	3	0	13
Melancholia.....	2	6	4	9	7	4	0	32
Dementia.....	3	6	13	4	14	5	7	52
General Paralysis combined with								
Mania	0	8	10	3	0	2	0	23
Monomania	0	6	0	0	0	0	0	6
Melancholia.....	0	1	2	1	0	0	0	4
Dementia.....	1	6	12	3	2	0	0	24
Idiocy	4	0	0	1	0	0	0	5
Epilepsy, combined with								
Mania	9	3	6	2	2	1	0	23
Melancholia.....	1	1	1	0	0	0	0	3
Dementia.....	1	1	0	2	1	1	0	6
Idiocy	11	3	1	0	0	0	0	15
Delirium tremens	0	1	1	0	0	0	0	2
Total	46	61	77	43	39	21	8	295

From the foregoing table it appears that mania was the most common form of mental disorder; that there were 57 cases of general paralysis, and many of these were also combined with mania, as well as those of epilepsy, of which there were 47 fatal cases. Dementia was next after general paralysis, and prevailed most in advanced age; several cases of senile fatuity have, in fact, been placed under that head. The highest mortality occurred in persons from forty to fifty, and nearly one half the deaths took place between the ages of thirty and fifty years. There were twenty fatal cases of idiocy; three fourths of these were subject to epileptic fits, and have been placed under that head. There were two deaths from delirium tremens, which is not generally classed as a mental disorder.

The assigned causes of death at the foregoing ages were as follows :

Disenses.	Under 30 years.	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	Over 80	To al.
Abdominal organs	5	2	4	4	3	2	0	20
Respiratory organs	27	32	43	23	13	5	4	147
Vascular system	1	0	0	0	4	4	1	10
Nervous system	11	26	29	16	16	10	3	111
Erysipelas (3), Typhus (1)	1	1	1	0	1	0	0	4
Sudden deaths.....	1	0	0	0	2	0	0	3
Total ..	46	61	77	43	39	21	8	295

According to the above, it may be said that half the mortality was ascribed to diseases of the respiratory organs; these were principally pneumonia and pulmonary phthisis, 91 cases of the former and 44 of the latter. It may be well to remark, that most of these cases were complicated with diseases of other organs, and that it was often difficult to determine to which to ascribe the immediate cause of death. The ten cases of the vascular system were chiefly pericarditis, enlargement of the heart, and cardiac dropsy. From diseases of the cerebro-spinal or nervous system the mortality was nearly 38 per cent. In three cases sudden death had occurred, as is not unusual in epileptics, without any sufficient cause being disclosed by a post-mortem examination.

The diseases of the abdominal organs included 5 cases of peritonitis, and 5 of inflammation and ulceration of stomach and intestines, 1 of cancer, 2 of scrofula, and 4 of disease of the kidneys.

There were fifteen cases in which there was cerebral disease, although the immediate cause of death was ascribed to more severe disease in other organs.

The diseases of the nervous system occurred at the following periods of life:

Diseases.	Under 30 years.	30 to 40	40 to 50	50 to 60	60 to 70	70 to 80	Over 80	Total.
Apoplexy	1	2	0	3	2	0	1	9
Paralysis	0	1	0	0	0	1	0	2
Meningitis	2	3	4	2	7	4	0	22
Cerebritis, &c.	7	14	15	7	7	3	2	55
Myelitis	1	6	10	4	1	1	0	23
Total	11	26	29	16	17	9	3	111

Of the nine cases of apoplexy, 3 had mania, 2 dementia, 2 melancholia, and 2 epilepsy. There were 11 cases of congestion of blood in the brain and spinal cord, not enumerated in the above table, in cases of epilepsy and mania. One case of paralysis was in a male in a state of mania, the other in dementia. Of the 22 cases of meningitis, 10 had mania, 6 dementia, 3 melancholia, and 3 epilepsy. Of the 55 cases of cerebritis, there were tumours in 2, 1 case of epilepsy, and 1 of mania; softening of brain in 13 cases of mania, and 7 of dementia, and 20 of general paralysis; fluid in the ventricles in 6,—3 mania, 1 monomania, 2 dementia. Myelitis 23, all in cases of general paralysis. There was hypertrophy of the brain in 7, and atrophy remarkable in 4.

The average weight of the encephalon in 100 cases—87 of mania

and 13 of monomania—was 48·36 ounces avoirdupois, the maximum weight 58, the minimum 39½ ounces; in 32 cases of melancholia, 47·1, the maximum 56, the minimum weight 35½ ounces; in 52 cases of dementia, 46·44, the maximum weight was 53½, the minimum 35¾ ounces; in 57 cases of general paralysis, 44·3, the maximum was 57, the minimum weight 35½ ounces; in 54 cases of epilepsy, including 5 of idiocy, the average weight was 47·8, the maximum 57¾, and the minimum 30 ounces.

These averages agree generally with the statement of Dr. Sutherland in his Croonian Lectures, p. 10, 'Journal of Mental Science,' April, 1861, except that in the above cases the highest average was in cases of mania instead of epilepsy.

On the Subcutaneous Injection of Morphia in Insanity. By W. CARMICHAEL M'INTOSH, M.D., Certificated Student in Medical Psychology and Mental Diseases, University of Edinburgh, Assistant Physician and Superintendent, Murray's Royal Asylum, Perth.

THE cases which one generally meets in an asylum often differ in no small degree from those of ordinary practice. To ensure sleep in a patient under delirium tremens, or other such short-lived malady, is to establish cure at once, and the result melts into the satisfactory finish of "cured in a few days thereafter." Fortunately or unfortunately, such bright prospects are not often held out to asylum practitioners, but yet the efficient means for procuring sleep are frequently not less clamant. In many of our cases there is no hope of recovery, even although sleep of the soundest nature was obtained; nevertheless, it is no mean aim to command such for one who, during a paroxysm, passes night after night in a morbid condition, whether wildly shouting and beating at the walls and doors he disturb the rest of all, and prostrate himself, or with a quieter demeanour remain in bed with unclosed lids in melancholy whispering. The boon conferred on the household in the former, and on the patients in both cases, is sufficiently obvious; and it is for such chronic, not less than the acute cases, that I would recommend the subcutaneous injection. We cannot, indeed, say in such cases that the patient went out cured shortly after, for that they may never do; but the comfort and advantage resulting from their successful narcotism must be familiar to all in our