verse processes and the ribs, is a cause of the lateral flexures in early life, and of the bowed back of later years.

The following is a scheme of the dorsal muscles. With respect to it, however, it must be borne in mind that the members of the several groups are a good deal blended, or, as it would be more correctly expressed, are imperfectly segmented from one another. The names in ordinary use of the several muscles are given in italics.

OBLIQUI SUPERFICIALES VEL SPINO-TRANSVERSALES.				
Spino-transvers- ales	--	—	cervicis (<i>splenius colli</i>)	capitis (<i>splenius cap- itis</i>) (<i>obliquus capitis inferior</i>)
RECTI.				
Interspinales	lumborum	dorsi	cervicis	capitis (<i>rectus capitis posticus minor</i>)
Intertransversales	lumborum	dorsi	cervicis	capitis (<i>rectus capitis lateralis</i>)
Spinalis	—	dorsi	cervicis	capitis (<i>rectus capitis post. minor</i>)
Sacro-transvers- alis (<i>Longissimus dorsi</i>)	lumborum	dorsi	cervicis	capitis (<i>trachelo- mastoid</i>)
Ilio-costalis (<i>Sacro-lumbalis</i>)	lumborum	dorsi (<i>accesso- rius</i>)	cervicis (<i>cervicalis ascendens</i>)	—
OBLIQUI PROFUNDI VEL TRANSVERSO-SPINALES.				
Transverso-spin- ales	—	dorsi	cervicis (<i>semispin- alis dorsi</i>) (<i>multifidus spine</i>) (<i>rotatores spine</i>)	capitis (<i>semispin- alis colli</i>) (<i>biventer</i>) (<i>obliquus capitis su- perior</i>)

[To be continued.]

ABSTRACT OF LECTURES

ON THE

SURGICAL TREATMENT OF ANEURISM IN ITS VARIOUS FORMS.

Delivered before the Royal College of Surgeons of England.

By T. HOLMES, F.R.C.S.,

Professor of Pathology and Surgery.

LECTURE II.—June 6th, 1872.

SOME preparations and histories of cases were referred to, showing that in aortic as well as in innominate aneurism, the distal obliteration of one of the arteries leading out of the sac would be followed by the consolidation of that portion of the sac which used to be distended by the stream of blood passing up the occluded vessel. Reference was then made to Mr. Guthrie's objections to the distal operation. These were, first, that the distal operation, when it cures, does so by producing inflammation in the sac. It was shown that this rested only on the history of two cases in which suppuration in the sac had followed the operation. In one instance, however, there had been an interval of a year, and the suppuration evidently depended on accidental causes, and not upon the operation; and it was shown that, in the majority of successful cases of distal ligature, no inflammation has occurred. Mr. Guthrie's other objection rested upon an examination of some preparations in the Museum of the College; but it was shown that these preparations were not sufficient to support any definite conclusion.

The lecturer then proceeded to review the published cases of distal operation in thoracic aneurism, of which forty-three were tabulated. These were as follows. 1. Four cases of successive distal ligature of the carotid and third part of the subclavian. In one of these, Mr. Fearn's well-known case, the preparation and drawing of which were exhibited, a cure resulted—the aneurism becoming lined on all sides by firm coagulated laminæ, through the centre of which a channel remained for the circulation.

2. The second class consisted of eight cases, in which the carotid and subclavian artery were tied simultaneously. Two of these were strictly on Brasdor's method: the subclavian being tied in its first part as it leaves the sac. In one of these cases, Hobart's, the subclavian artery was said to have soundly united. The preparation was exhibited; but the subclavian had unfortunately been removed in making the *post mortem* examination. The history, however, seems to prove the possibility of tying this artery successfully. In the six other cases comprised in this class, the subclavian was tied in its third part. Mr. Heath's case was specially commented on, in which the patient derived

great benefit from the operation, and survived four years—the aneurism being aortic. Another case, under Mr. Holmes's own care, was related, in which the aneurism was innominate; but, the aorta being also affected, the operation failed. In this instance, the arteries were tied with carbolised catgut, and no ulceration had taken place, leading to the division of the arteries.

3. The third class of cases were those in which the carotid only was tied. In eleven of these, the aneurism was innominate. A drawing was exhibited from the case in which Dr. Wright of Montreal was the operator. Here the whole of the aneurism was consolidated, except a channel leading into the subclavian artery. The state of parts exactly resembled that of the spontaneous cure of an innominate aneurism exhibited in last lecture; and there could be little doubt that the patient would have been cured had he survived the operation. In seven other cases, either the carotid or the subclavian was implicated as well as the innominate. In two of these the patient was perfectly cured. Mr. Evans's survived the operation more than thirty years; and Mr. Morrison's died suddenly from disease of the heart, having been perfectly cured of the aneurism, as proved by *post mortem* examination. In four other cases the aneurism was aortic, mistaken for innominate; and in none of these did any benefit result.

CASE OF STRYCHNIA POISONING, SUCCESSFULLY TREATED BY NICOTINE.

By the REV. SAMUEL HAUGHTON, M.D. Dubl., D.C.L. Oxon.,
F.R.S., Trinity College, Dublin.

THE following case was communicated to me by Dr. McEvoy, of Balbriggan, county Dublin, and is written by his assistant, Dr. Johnston. It appears to me worthy of being published, in addition to other cases published by me in the *Dublin Quarterly Journal of Medicine*, some years since.

On Sunday, the 2nd April, 1871, at 11 A.M. (says Dr. Johnston), I was in Dr. McEvoy's house, when a messenger came requesting him to see a young man who was taken suddenly ill. Dr. McEvoy not being at home, I went and saw him. He was about 19 years of age; he complained of pains in the lumbar region, weakness in the legs, dry taste in his mouth, with stiffness about his throat; he also had spasmodic twitching of all the muscles and general tremors. His face was pale and anxious, contracted pupils, cold sweat, and irregular action of the heart. He attributed his illness to a fall he got the day before. I examined him, and could not find any injury to account for the symptoms. I made inquiries about what he had eaten, and stated that he had all the appearance of being poisoned. I then left the house to consult Dr. McEvoy, whom I met in the street. I told him the case, and said that, however improbable it appeared, it looked very like strychnine poisoning. When he saw him, he immediately pronounced him poisoned by strychnine. We gave him mustard emetics, four in succession, but they had not the slightest effect. At 12 o'clock he was much worse; the abdominal muscles and those of the back and neck were in a state of tetanic spasm. He now had violent convulsions and opisthotonos; during the paroxysms his pupils were dilated, and his arms and legs extended and rigid. We were in the act of preparing an enema of tobacco for him, when Dr. McEvoy remembered he had a bottle of nicotine in his dispensary, which he had been using in a case of puerperal tetanus. We immediately got it, and gave it in the way recommended by the Rev. Dr. Haughton of Trinity College, in drop doses with whisky punch, every half hour. After the second dose, the paroxysms were less violent, and the muscles of the abdomen became softer. When he had taken four doses, he was much better; the muscles were relaxed. We stopped the nicotine, and gave him half-drachm doses of spirit of chloroform every hour; we also told him to smoke tobacco constantly. At six o'clock, the paroxysms only came on every hour, and in a slight degree. He was unable to pass urine. We ordered him a warm hip-bath, and gave five grains of calomel and fifteen grains of jalap. When the bolus acted, he was able to pass his urine. On Monday, he had violent headache, jerkings of the limbs, and stiffness and soreness of the muscles of his back and legs. We gave an ounce of compound soap liniment and a drachm of chloroform, to be rubbed in. On Tuesday, he had bleeding from the nose, great prostration, also jerking of the limbs. His headache was better; he was able to be out of bed on Thursday, but continued very weak and tremulous for some months afterwards. He is comparatively well now; but has still slight twitchings in the muscles of the limbs and trunk.

Our diagnosis of this case was confirmed on the day of the poisoning, as it appeared that the boy was in the habit of getting up in the

mornings to pick up eggs that their ducks laid in a field at the back of their garden; and, seeing one in the adjoining garden, he crossed the fence and brought it home with the rest. In the afternoon, the owner of the garden came and said that he had made a hole in the top of an egg and put strychnine into it, and placed it in his garden to poison magpies; and this must have been the egg the boy had eaten, for the man who placed it there, when he got up, went out to take it away lest an accident might occur, but it was gone. Imagining that the magpies had taken it, he was quite contented, until he heard that a boy was poisoned by eating an egg, when he immediately came and informed us of what he had done.

ON

THE SCIENTIFIC VALUE OF THE LEGAL TESTS OF INSANITY.*

By J. RUSSELL REYNOLDS, M.D., F.R.S.,

Professor of the Principles and Practice of Medicine in University College, and Physician to University College Hospital; President of the Metropolitan Counties Branch of the British Medical Association; etc.

It is my object in this paper to examine the scientific value of the legal tests of insanity; and to show that the two professions, the legal and the medical, which frequently come into collision on this matter, approach it from points of view so widely separated, that their united action is at present almost impossible; further, that this is so, because the idea that is entertained by the lawyer as to what the word insanity means is so different from that which we hold to be true, that nothing less than hopeless confusion can often arise, when what we may term a not very friendly conversation occurs between the learned counsel and the scientific witness in a court of justice; and that it cannot be otherwise, if the present legal tests of insanity are maintained, in the present state of science. The unsatisfactory state of the law, in regard of this matter, is exhibited, and that with increasing frequency, year by year. We see prisoner after prisoner sentenced to be hanged—in conformity with legal dogmata, as they are pronounced by our learned judges, but in spite of scientific protest that such prisoners are insane—and we see the sentence subsequently revoked, by appeal to the Home Secretary, who acts upon the advice of scientific referees, and of the judge who presided on the trial: the former often only repeating what had been urged in the evidence for the defence; the latter agreeing in the judgment which he was bound, legally, to oppose. My wish, in bringing the matter under your notice, is to take the first step towards the holding of a conference, that shall be quite friendly, between some members of the two professions, with the purpose of devising means for bringing the legal criteria of insanity into harmony with the facts of science.

The end to be obtained by the lawyer is identical with that set before him by the physician; viz., the diagnosis, discrimination, or distinction of insanity from sanity, and from feigned disease. The object of the two professions, when they come into contact, is the same; it is not then to determine what insanity is—i.e., in what it consists, what is meant by the word; but what are the signs, criteria, or tests of its existence. The medical profession may engage itself upon this prior question, and it has done so, in its study of the nature or pathology of insanity, in all its forms, phases, and degrees; and it is by reason of its having done this that it is able to furnish an account of its signs or tests. The legal profession has scarcely directed its attention to this point; it has regarded only certain forms and degrees of insanity, and these from a particular position, and with a special object; and it is because it has occupied that position, has been thus limited, and been actuated by that special motive, that it has erected its distinctive marks of the condition. We of the medical profession regard insanity of mind as the outcome of a diseased state of the body, having a definite origin, causation, development, and history; the presence of which can, in a few cases, be at once recognised by some rough sign or coarse symptom, such as great disturbance in the thought, feeling, or conduct of an individual, but which often, and for a long time, presents no such obvious and wide departure from the state of mental health, and yet may be as surely present, and as familiar to the skilled observer of bodily as well as mental changes, as if there were raving frenzy, the most obvious delusions, or the wildest crime. The legal profession, on the other hand, regards insanity in its relation mainly to gross criminal acts or to capacity for the disposition of property; and it sees nothing, and avowedly knows nothing, of the disease except in this narrowed field—narrowed often not only in regard of place but of time—and it

has drawn sharp lines, and has insisted upon distinctions which it is comparatively easy to draw or make, but which, I humbly venture to say, are artificial lines, untrue to Nature, and the recognition of which is fraught with danger to humanity and justice.

In order to establish the position I have assumed, I propose to examine *seriatim* the scientific value of the legal doctrines with regard—1, to the tests of insanity generally—i.e., as to what is legally understood by the words “insane” or of “unsound mind”; 2, the legal test of insanity when this condition of mind is made the plea of innocence in criminal trials; and 3, the legal dogma in respect of mental capacity—testamentary and other—in cases of alleged mental weakness, or of “partial insanity”.

My object is, not to point out all the criteria of insanity that we, as medical practitioners, should employ—this would be a work far beyond the limits of my time and your patience—but simply to show that those which are now legally employed are unsatisfactory and untenable, because opposed to scientific knowledge.

1. As to the legal doctrine with regard to insanity generally, Shelford (Leonard Shelford, *Practical Treatise of the Law concerning Lunatics, Idiots, and Persons of Unsound Mind*, 2nd edition, 1847) gives this definition of sound and unsound mind. “A sound mind is one wholly free from delusion; an unsound mind, on the contrary, is marked by delusion” (p. 41). “The true criterion, the true test, of the absence or presence of insanity.....may be comprised in a single term, namely, delusion” (p. 42). Delusion is thus defined by Shelford: “A belief of facts which no rational person would have believed” (p. 42). It is, says he, “the true and only test. In the absence of any such delusion, with whatever extravagances a supposed lunatic may be justly chargeable, and how like soever to a real madman he may either speak or act on some subjects or on all subjects; still, in the absence of anything in the nature of delusion, so understood, the supposed lunatic is not properly or essentially insane”. (P. 42). The term “lunatic means every insane person, and every person being an idiot or lunatic or of unsound mind” (p. 6). (8 and 9 Vict., c. 100, s. 114; c. 126, s. 84.)

Regarded from a scientific point of view, this cannot be held to be a correct definition or safe criterion of insanity. It is incorrect, because many insane persons have no delusion; and it is unsafe, when delusion is said to be present, because the value of delusion varies between the widest ranges possible; and although sometimes recognisable as such with the greatest ease, it is, at other times, scarcely separable from the errors of judgment committed by those who are indisputably sane.

In the earlier stages of a well-known form of insanity, viz., melancholia—that kind of disease which has very frequently led to suicide—there is often nothing which could be called delusion. There is an overwhelming, crushing feeling of unrest, distress, fear, or actual terror. The patient cannot find comfort anywhere; he may be surrounded by friends and circumstances of the kindest and most favourable sort, but the past to him seems gloomy, or only a painfully bright contrast with the present shade, while the future, both in this world and the next, lies hidden in impenetrable and oppressive darkness—a darkness that may be felt, but cannot be expressed. In this state the patient often admits that he knows not what is troubling him; that there is no reason why he should not be happy; that there is nothing which he ought to fear; but yet, in spite of reason and assurance and fact, he is dejected, sleepless, hopeless; “man delights him not, nor woman neither”; life is a burden he would gladly cast aside, death is a horror he dare not face; and yet his torment becomes so great and so intolerable that the idea, or the impulse, which has perhaps often, for a moment, presented itself to him before, and has been shrunk from with alarm and loathing, becomes realised; an open window or a river furnishes the opportunity, and, so far as we can tell, the misery is over. The physician knows that this is a form of bodily disease, with a history as definite as that of measles; an inquest is held upon the body, and the verdict, returned without delay, is that of death in a condition of “temporary insanity.” Insane undoubtedly the patient was, but his condition was one in which there was no delusion, and, tried by that test, he should have been pronounced sane, and condemned to a felon’s grave. But common sense is sometimes found in a Coroner’s court, and it overrides legal definitions; and, moreover, common humanity is almost always there, and it deals tenderly with all those whose troubles have driven them to take refuge somewhere beyond the reach of our assistance, solace, praise, or blame. This action of the jury is an instructive comment upon the nature of the case I have attempted to describe. It shows the kinship of the jury, supposed to be sane, with the melancholiac, pronounced to be insane. The latter does that which is against his reason, against his conviction of right, to the urgent distress, as he well knows, of

* Read before the Metropolitan Counties Branch, June 5th.