the difficulty appears to be that the Government should hand over a special grant to the county councils of the crofting counties, out of which lime and wood might be placed at the disposal of the crofter, upon the condition that within six months he provide a habitation for himself to the satisfaction of the county sanitary officials.

A PERPLEXED SANITARY AUTHORITY.

THE report of a meeting of the Brechin district committee of the Forfarshire County Council reveals the extreme crudity of opinion in public health matters which prevails in some districts. A blacksmith, suffering from scarlet fever, who had been warned not to mix with other people, was found pursuing his avocations as usual. When remonstrated with, he asked who was to keep him and his family if he desisted from work. "A very fair question," the medical officer remarked. A prolonged discussion arose upon the question, and the committee finally arrived at the lame and impotent conclusion that the man should be warned not to do it again! Now, considering that the district has access for fever cases to the Brechin Infirmary, it naturally occurs to one that the man should have been removed to the hospital at first; if he refused, then for the later exposure of himself he ought to have been prosecuted. Even at the date of the committee meeting this alternative might have been offered him.

IRELAND.

OPPOSITION TO CLINICAL TEACHING IN BELFAST WORKHOUSE.

At a meeting of the Belfast United Trades Council on January 20th, the following motion was proposed: "That this Trades Council, representing from 10,000 to 12,000 working men, respectfully request the Local Government Board to refuse their consent to the proposal for allowing clinical instruction to be given in the Belfast Workhouse." A long discussion followed. The principal objection urged was the exposure of the patient to the students and the teachings given at the bedside. Ultimately the motion was carried by 45 votes to 1.

THE DUBLIN BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

At the annual meeting of the Dublin Branch which is to be held on February 2nd in the Royal College of Physicians, the chair will be taken by Mr. Thornley Stoker, Vice-President of the Royal College of Surgeons. The business of the meeting will include a discussion of the grievances of the Irish Poor-law medical officers. Though amid the alarms and excursions of the coming session there is little prospect of this matter being dealt with by Parliament, it is important that the case should be ready for submission to the House of Commons whenever an opportunity is offered. In his address Mr. Thornley Stoker will deal with the subject of experiments on living animals, and we have no doubt that the views that have recently been expressed by us on this subject will find in the distinguished Dublin surgeon a powerful advocate.

SIMULTANEOUS LIGATURE OF INNOMINATE AND CAROTID.

THE innominate and carotid arteries have recently been simultaneously ligatured in a man suffering from subclavian aneurysm at the Mater Misericordiae Hospital, Dublin. The operation was performed by Mr. Coppinger, on January 9th, and the patient's progress has been up to the present very favourable. On January 25th, the seventeenth after operation, the report is briefly as follows:—The wound has run a perfectly aseptic course, and is closed, the aneurysm is pulseless and much diminished in size, the patient's right arm is normal as regards temperature and sensation, he suffers from slight cough, but his condition is in all other respects most satisfactory.

III.—NOTES ON THE NEW MESMERISM.¹

Influence of Drugs in Tubes applied to the Neck.—Drunkenness without Drink.—A Human Cat.—Dr. Luys's Demonstration.

It would occupy too much space to give even a summarised version of the extraordinary performances shown in the wards of the Charité as evidences of the existence of phenomena illustrating the transfer of sensations by mere contact, the influence of medicines placed within a sealed tube and brought in contact with the skin. I shall, therefore, only briefly describe a few of the things which passed under my eyes and those of the friends who accompanied me, and will confine myself especially to those of which I was able subsequently to seek the verification or refutation by experiment conducted under somewhat stricter conditions of control than those which Dr. Luys seemed to think necessary. This physician obtains highly picturesque and truly remarkable results from the mere introduction of substances such as alcohol, pilocarpin, sparteine, pepper, valerian in sealed tubes, which he brings into contact with the skin of the neck, placing them inside the collar of the dress.

Operating upon Marguerite, a patient in the wards, on whom I subsequently had the opportunity afforded to me of repeating a controlled experiment, he took from his pocket a tube containing alcohol. Marguerite had already been placed in the required condition of hypnotic sleep, and at the given stage at which these phenomena are supposed to be most readily producible. "I will now," he said, "place this tube of alcohol in contact with her neck, and you will see the result." I ventured at this point to take M. Luys aside, and suggest to him that, as he had said that he was going to use alcohol, and that as, although he believed the patient could not hear him, that might be in some minds an open question, he should insert another tube of a different kind from that which he had mentioned, to which, however, he objected, and insisted on performing his own experiments in his own way. Dr. Luys attaches great importance to the place in which this tube is brought in contact with the skin, and considers that this region of the neck, which is the seat of great nervous plexuses, freely connecting the cerebro-spinal with the sympathetic system, is an especial point of sensibility. The tube contained about ten drachms of cognac; the effect on Marguerite was very rapid and marked; she began to move her lips and to swallow; the expression of her face changed, and she asked, "What have you been giving me to drink? I am quite giddy." At first she had a stupid and troubled look, then she began to get gay. "I am ashamed of myself," she said; "I feel quite tipsy;" and after passing through some of the phases of lively inebriety she began to fall from the chair, and was with difficulty prevented from sprawling on the floor. She was uncomfortable, and seemed on the point of vomiting, but this was stopped, and she was calmed.

Clarice, another hypnotic, a former patient and what is called a highly-trained subject, who is now pursuing a career outside of the hospital, and who had looked in on a visit, was hypnotised, and placed in a chair alongside of Marguerite. Her hand and that of Marguerite were clasped together. "Now," said Dr. Luys, "we will see if the vibrations characteristic of this nervous condition will be transferred by contact from one to the other." Very shortly Clarice went through the same stages; she, too, presently became giddy, disturbed in face, disordered in gesture. She passed through the stage of drunken gaiety and then of profound inebriety, with muscular resolution. The performance was complete, after waiting a few minutes in order that the effect which, as Dr. Luys observes, had been produced by the cognac on the nervous system of the subject might be dissipated.

As another order of phenomena were to be demonstrated that day according to the programme no other tubes were then introduced, but on another visit we had another similar and even yet more dramatic incident of the same kind. This was the influence of valerian in a sealed tube upon the organism. The subject on whom this phenomenon was intended to be exhibited was a certain Jeanne, of whom I have already spoken, and who is a favourite subject of Dr. Luys's demonstrations, and of whose sincerity and remarkable en-

¹ The previous articles of this series appeared in the BRITISH MEDICAL JOURNAL of January 14th and 21st.

dowments he speaks in various places of his lectures with much enthusiasm. For reasons, however, of a very prosaic order, which Jeanne subsequently explained to me, she did not think it worth while to appear at the thinly attended clinic of the holiday season, the time of my visit. The ever-faithful Mervel was therefore utilised for the valerian performance, although, as Dr. Luys explained, he was not sure it would succeed. Mervel's accomplishments, however, were undervalued. He did succeed, and the event came off to perfection. When the valerian tube was placed in contact with his sterno-mastoid his face expressed first great amazement, then total change of expression, with singular muscular contortions; presently he began to twist about strangely in his chair, clawing the air. As I was not prepared for the sequel, I spoke to him and asked him what was the matter. In many previous experiments he had answered quite intelligently the questions which I had put to him in his hypnotic state which a little surprised me, for I was supposed not to be *en rapport* with him, and it is often stated that hypnotised patients can only answer questions put by the actual operator. This, however, did not appear to be the case with any of the subjects at the Charité, and, in fact, I have often observed that this is a matter of training, and that in point of fact, such patients can or cannot answer bystanders according as he thinks he may or can. In this case, however, he was mute. "He cannot answer you," explained Dr. Luys. "He is being transformed into a cat, and cats cannot speak; and therefore he cannot speak." Presently the unhappy being threw himself on to the floor, sprawling on all fours, and began clawing, scratching the boards, making little leaps and springs of an awkwardly feline character, then spitting like a tom cat, and mewing. He followed us across the room with the simulated actions of a highly-excited human cat, scratching at our clothes, mewing, and becoming very much excited, with a livid and congested face. For pity's sake I begged that the performance might be ended, and he was put back in his chair, quieted, and presently brought to himself. He professed to have no recollection of anything that had happened. These were the only two experiments of the kind which I saw in Dr. Luys's wards, but I will quote from one of his lectures his own account of similar experiments on other subjects, illustrated by drawings from his own photographs:

"Here is, in fact, a second tube containing 10 grammes of distilled water. I place the tube in the same place as before, and you will see the specific character of the phenomena which are about to be displayed. In this case the subject does not quite reach the stage of somnambulism, he does not speak, the phenomena start from the great apparatus of respiration; it is the laryngeal nerves that are put inaction. You hear a noise of whistling inspiration, then a true stridor from development of spasm of the glottis. At the same time the thyroid region swells, the face becomes congested, and the masseter muscles are in a condition of trismus. It is impossible to open the mouth; it is a real stage of artificial hydrophobia which is thus induced by the action of water; and if the process is allowed to go on, you see that this tetanic state of the muscles of the jaws spreads to the back and the limbs, and we see pass rapidly before us a true generalised tetanus. In order to bring all this series of symptoms to an end—since if they were prolonged by guilty hands they might evidently bring about grave complications in connection with the thoracic viscera—I quickly remove the tube, and you see that on this occasion as on the former *sublatâ causâ tollitur effectus*. The respiratory movements become regular, relaxation of the muscles insensibly takes place, and Gabrielle returns to a stage of normal lethargy.

"After having at the end of some minutes ascertained that the subject has got rid (by the return of neuro-muscular contractility) of the last traces of shock which she has previously undergone, I present to her this tube containing a 1 in 10 solution of sulphate of sparteine. The reaction will here be as significant as possible, and altogether different from those which you have hitherto seen. Take note of them as they pass, because I am unable to prolong these experiments, so great, in my opinion, is the risk of causing unforeseen accidents in connection with the thoracic viscera. You see that I place the tube in the same place, and I consequently provoke a reaction by means of the same underlying nervous plexuses.

It is evident that the laryngeal, pneumogastric, and sympathetic nerves are sharply stimulated. See, indeed, what passes with increasing rapidity. The subject at first exhibits some contractions of the face; then instantaneously the respiratory movements become accelerated and are repeated in an anxious manner; then they stop, and with astonishment you behold that they cease completely. At the same time note how the thyroid body swells, how the face becomes turgid and purple, and how the beatings of the arteries show themselves in the neck with excessive fullness; the sight of this enormous distension of the capillary system in the face makes one think of a possible rupture of the arterial walls, which, however little brittle they may be, might set up instantaneous hæmorrhages to a more or less serious extent. I do not insist, gentlemen, on this experiment, which I never repeat without a certain dread. You see the powerful action which bodies at a distance produce on a subject in a state of hypnotism. These are new conditions of receptivity which are thus created in the human organism, and I believe it to be my duty from the medico-legal point of view to give you a sample of these complex phenomena which open up new vistas in the domain of crime. I will in your presence awaken Gabrielle in the usual way, and you will not be surprised if you see, on her awakening, how unconscious she is of all the disturbances which she has undergone in her inner being, and at the same time that she retains no recollection of the previous experiments.

"I now present to you, as a second subject, Esther, who has already appeared before you. I put her to sleep in the usual way, and as soon as she is in a state of lethargy I place at the side of her neck this same tube filled with cognac. Wait some seconds and see what is about to take place. At first some grimaces, followed by movements of the tongue and lips, as when one tastes a liquid; next, passing like Gabrielle into the stage of somnambulism, she utters broken sentences: 'I am thirsty—I want a drink—give me a drink.' The speech is that of a drunken person; the voice is thick and the tongue sluggish. She says: 'I am drunk without drinking.' She tries to get up from the armchair and falls back heavily, doubled up on herself. I remove the tube and you then see the same symptoms

Fig. 1.—Esther under the influence of a tube containing a small quantity of essence of thyme; this tube is applied to the nape of the neck on the right side at the back. She is a prey to terrible hallucinations.

which you have before seen take place, occur in reverse order—namely, the movements of tasting and the grimaces at the beginning. Esther ends by falling back into lethargy. I wait some minutes for the shock which has gone through her nervous system to disappear, and after having recognised, by means of the return of normal muscular hyperexcitability in the forearms, that this effect is exhausted, I apply to the neck the tube previously used, but now containing water. Almost immediately you see strange phenomena occur, which develop in the stage of catalepsy without somnambulism. Instantaneously Esther's face assumes an expression of terror,

her eyes are widely open, haggard, and fixed; the features of the countenance are motionless, the masseters rigid, which makes it impossible to open the mouth. In a few cases I have even seen saliva flow from the mouth like froth, at the same time the muscles of the tongue become rigid, and a generalised tetanic condition develops. If you examine these symptoms as a whole, are you not led to see in the general expression of the subject the experimental symptomatology of hydrophobia? And the tube which provokes all these disturbances only contains 10 grammes of water. I do not insist on this, and I content myself for the moment with calling your attention to this effect—namely, that the reaction which has just taken place in Esther before you is entirely different from that produced by the previous tube containing cognac. I take away the tube, and you see that the ascending march of the phenomena observed is interrupted, and that little by little the subject, deprived of the incitatory stimuli supplied by the external agent, instantaneously falls back into the stage of lethargy from which she had been roused by means of it. I wait a few minutes before applying the third tube, in order that the muscular excitability may return. This is, I repeat, of the greatest importance in order to avoid the risk of the successive reactions of the nervous system being influenced or even entirely modified one by the other.

"I now place the third tube, containing the spartein solution, close to the neck. Hardly has it been placed there before reaction begins, as you see. The nerves of the neck, in a condition of hyperexcitability, instantaneously transmit to the centres the new incitations which act upon them. The respiratory movements are quickened, as you may see; respira-

Fig. 2.—Esther under the influence of hydrochlorate of morphine. The tube has been placed in front of the left eye, and the face expresses very clearly a state of beatitude.

tion becomes embarrassed; you even hear stridor now and then; at the same time redness and cyanosis of the face and a characteristic turgescence of the eyes announce to you that a profound disturbance has taken place in the circulatory apparatus. The veins of the neck are swollen, there is an expression of terror in the face, the movements of respiration stop and, if I keep the tube in position any longer, you would see the breathing cease altogether. In presence of phenomena so characteristic, of disturbances so great, re-echoing through all the main parts of the human machine, is it possible, I ask you, gentlemen, to believe that these things are simulated, as a certain number of people who have never made the smallest experiment themselves are so ready to repeat? Whatever desire hysterical subjects may have to make themselves interesting (a desire in which I myself have only a very limited belief), it is unquestionable that this desire can in no sort of way lead them thus madly to jeopardise their existence.

"The interests of science make it necessary that these delicate experiments should be studied and followed up. I never practise them without the greatest precautions, taking care to employ only minimal doses of active medicinal substances, and to produce in the subjects only fugitive effects which are

not dangerous for them. Nevertheless, from the medico-legal point of view, penetrate yourselves thoroughly with the consequences which may follow from all that you have just seen. Who, in fact, shall tell us that these symptoms of impending asphyxia and of obstruction of the great vessels, if produced by criminal hands, might not cause pulmonary congestion with hæmoptysis, ruptures of the vessels or an aneurysm, perhaps stoppage of the heart, and then murder having been committed under such circumstances, how shall the cause of death be recognised, and how shall the guilty person be discovered? I have now taken away the tube containing

Fig. 3.—The same tube has been placed in front of the right eye of the same subject. Inverse phenomena. The face expresses profound terror.

spartein, and you see that a general reaction takes place. Esther begins to breathe regularly, the circulatory apparatus recovered its equilibrium, quiet is insensibly re-established, and we arrive, as you see, at the stage of lethargy. I now awaken the subject in the usual way; Esther, passing suc-

Fig. 4.—Esther is influenced by a tube containing sulphate of strychnine. The tube is presented at the right side. She seems to be listening to something droll, which makes her laugh.

cessively through the stages of catalepsy and somnambulism, reaches the stage of waking, and opens her eyes naturally. She has, as you see, no recollection of what has passed, but, if her memory is dumb, yet a vague sense of fatigue of muscular sensibility persists, and after these disturbing experiments she usually feels out of sorts and slightly depressed during the day."

ERNEST HART