

relieved for from twenty-four to forty-eight hours. Between the sloughs formed at the positive and negative poles no difference whatever was observable; the action appeared to be exactly the same at each. My conclusions were:

1. That the continuous current has a marked influence upon sensory nerve function, but that its beneficial effects are far from commensurate to the time and trouble expended.

2. That, so far as tumour growth is concerned, the action of both poles is, for all practical purposes, identical.

3. That the electric current has no effect whatever upon the tissues, normal or morbid, except by means of, and in proportion to, the chemical action exerted.

#### ANKLE CLONUS, AND ITS PRODUCTION UNDER NITROUS OXIDE.

DR. W. A. HUNT (Yeovil) writes: Dr. Buxton's notes, read in the Section of Medicine at the late meeting of the British Medical Association, at Dublin, are of great interest to those who study the physiological action of  $\text{NO}_2$ ; and without here reviewing the various opinions of neurologists (one cannot help agreeing with Dr. Buxton, "that the results of his observations throw light upon the difficult problem of the pathogenesis of ankle clonus"; and certainly may have "practical bearings on the value of  $\text{NO}_2$  as an anaesthetic in neuro-pathological patients.") During the early years of the use of  $\text{NO}_2$ , I think most administrators of the gas were unwilling to use it for patients the subjects of epilepsy, from some undefined dread which I have not seen formulated; nevertheless further experience has removed this fear, and it is abundantly shown in practice that  $\text{NO}_2$  can be given in these cases. Cerebral anaemia seems if not the cause, at least the constant precedent of the epileptic fit, this anaemia being of vaso-motor origin. Now, do not Dr. Buxton's experiments show that  $\text{NO}_2$  produces also, by vaso-motor action, a result the reverse of cerebral anaemia, namely, cerebral congestion; a state antagonistic to the constant precedent of the epileptic fit; and may not this be fairly assigned as the reason that patients the subject of epilepsy take the gas well and recover without mishap?

His experiments in trephining the skull, and removing some of the vertebral laminae so as to expose the cord were very interesting, giving ample visible proof of the increase in bulk both of the brain and the cord during the exhibition of  $\text{NO}_2$ . In early days I watched and recorded more carefully than I do now all the phenomena that I observed during the administration of  $\text{NO}_2$ , and I here copy verbatim from my notebook, a case occurring to me so long ago as November, 1868. "A gentleman, aged 34, operation, tooth extraction. At the end of fifty seconds the patient jumped up and complained of great pain in the right foot; on inquiry it was found that a week previously he had badly sprained his ankle, and only the day before had been using a crutch in walking. The leg and foot were rested on cushions on a chair, and the gas again given; the same result occurred, and the pain in the ankle was so great that he declined a further trial of the gas, and the tooth was extracted without. The pain of extraction he said was very much less than the pain in the ankle. This case is specially interesting as displaying the physiological action of the gas on the muscular system, the tendons around the sprained joint being evidently put strongly in action. This would suggest the value of gas in tenotomy, etc." November, 1868.

This is the earliest case recorded of ankle clonus under  $\text{NO}_2$ , so far as I know; and like Dr. Buxton, to-day, I shadowed out nearly nineteen years ago another use for the gas beyond that of anaesthesia.

#### DEATH UNDER CHLOROFORM.

DR. F. A. FLOYER (Kensington) writes: In the report of a death under chloroform in the JOURNAL of October 22nd, you say, "It is surmised that death was due to syncope, possibly induced by the violent efforts of the patient under ether." This I think is very possible, and I would venture to call attention to a very simple precaution which is frequently omitted, that of placing the reservoir of the inhaler (presumably Clover's) in hot water before putting in the ether. If this be done, and the administration commenced by allowing the patient to inhale his own breath, no struggling takes place. I am aware that there is nothing new in these precautions, but they are often omitted, to the discomfort and danger of the patient.

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#### BOOKS, ETC., RECEIVED.

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