formed by nature, without the necessity of forming an artificial one, and the subsequent treatment is the same as in simple cases. There is this other advantage—besides the objection of the patient to the knife or leeches—that he is not required to remain in bed any time to the neglect of duty. The reduction of the tumour may be accomplished in the evening, and after a night's rest he may attend to business in the morning. There is also the advantage of applying the local remedies to an unbroken surface, thus avoiding the risks which sometimes follow.

I might here remark in passing, that some hours of an interval should be allowed to intervene between the injection of astringent lotions and the administration of aperient medicine. Time is thus allowed for the accumulation of the natural mucus of the rectum, which will facilitate the passage of the feces, and in this way prevent the straining which often develops these tumours.

In cases where it is thought advisable to operate on these tumours by the clamp, ligature, etc., by first applying the taxis you may remove the necessity for the operation; but where other circumstances determine the operation, such as a relaxed condition of the parts, you reduce the pain and uneasiness considerably.

In hæmorrhoids ending in suppuration, of course the taxis cannot be applied, as the pile has become an abscess, and must be then treated according to the principles of treatment laid down for suppurating tumours.

WOUND OF THE ELBOW-JOINT TREATED ACCORDING TO THE ANTISEPTIC SYSTEM.

By ANDREW MARSHALL, M.D., Preston.

THE following short report of a case which occurred in my practice some time ago seems to me sufficiently interesting to be recorded.

On the afternoon of August 12th, 1869, A. B., a boy, 13 years of age, was brought to my house in consequence of an injury which he had received in a cotton-mill. He stated that, when sweeping the floor behind some machinery, a revolving-wheel caught his right arm, inflicting a wound over the posterior aspect of the elbow-joint; and he was alarmed by seeing the end of the bone sticking out.

On examination, I found in the situation indicated a wound three and a-half inches long: the elbow-joint was freely opened, and the articular ends of the humerus and ulna exposed. So far as I had observed, no account of a wound of a joint treated by the antiseptic method had at that time been published. Believing, however, in the germ-theory propounded by Professor Lister, and having previously witnessed the beneficial results obtained by the antiseptic treatment of ordinary wounds, I resolved without hesitation to adopt that treatment in this severe, and, so far at least as the joint was concerned, dangerous injury. Accordingly, I freely and fearlessly injected the aqueous solution of carbolic acid (one part of the acid to twenty of water) into the joint, where it was retained by my assistant holding the edges of the wound together while I freely moved the articulation, so that the lotion might be insinuated into every part of it. The lotion was then squeezed out; and, in order to ensure the destruction of any septic germs which might still lurk in the recesses of the joint, this part of the process was repeated. The edges of the wound were well washed with the lotion, and brought into apposition by wire sutures previously steeped in the same antiseptic fluid. The point of the syringe was introduced between the stitches and the joint once more injected with the lotion as before. A small piece of lint soaked in the carbolised oil (one part of acid to forty of oil) was placed over the wound, and the whole joint was enveloped in a similar covering; a piece of sheet gutta-percha covered this, and then a bandage soaked in the same oily solution was applied from the fingers to above the elbow-joint. The boy was put to bed, his arm placed on a pillow in the extended position, and his mother ordered to keep the dressing constantly wet with the oil.

August 13th, 10 A.M.—The patient was slightly feverish, and complained of thirst. Pulse 100, tongue furred. He had no pain in the limb, and there seemed to be no swelling.

August 14th, 11 A.M.—The feverishness had entirely disappeared. The patient expressed himself as being quite well. He had no pain.

August 21st.—The patient had continued quite well since the 14th. He had no pain in the joint. This afternoon the dressings were taken off for the first time in the presence of a medical friend. The wound was found to have completely united by the first intention. Not a drop of pus was present. The joint was not swollen. The antiseptic dressings were reapplied in a similar manner, and the limb maintained at rest in the same position as before.

August 24th.—The dressings were removed to-day for the second

time. The joint was apparently quite well. The stitches were taken out and the dressings reapplied.

August 28th.—The dressings were removed to-day for the third time, and it was not considered necessary to reapply them. The movements of the joint were perfect. A little ointment was applied over the line of cicatrix. The boy was allowed to resume his work in the following week.

A result so satisfactory could not, I think, have been attained in so short a time by any other than the antiseptic system of treatment. I am quite aware that the details narrated above are not in accordance with the present mode of applying antiseptic dressings. I never dress wounds in the same manner now. A much less troublesome and much more elegant method is now adopted. I had not then heard of Lister's antiseptic sutures, with which I now always stitch wounds, and I had none of his antiseptic plaster at hand. But the treatment was in every particular strictly in harmony with the principles which Professor Lister has all along advocated. The result was everything that could have been desired, and everything that the antiseptic treatment promises to realise in such cases. There was a rapid recovery without putrefaction in the wound, and, after the first twenty-four hours, without any local or constitutional disturbance whatever.

From this and several other cases equally satisfactory I have been led to place implicit confidence in the antiseptic system, and I am persuaded that nothing is necessary to ensure success except a firm belief in the germ-theory and a careful application of the treatment founded upon it.

THE PHYSICAL NATURE OF VITAL ENERGY.

By LIONEL S. BEALE, M.B., F.R.S.,

Professor of Pathological Anatomy in King's College; Physician to King's College Hospital; etc.

THE conviction that it is "*only* by recognising the *physical nature of vital energy* that we can ever hope to establish therapeutics on a firm and sound basis" has, perhaps, led Dr. Ferrier* to express himself rather decidedly against some views which I ventured to put forward some years ago, but which I am ready to give up as soon as convincing evidence shall be adduced in favour of the physical doctrine of life.

If Dr. Ferrier will explain what is meant by "*molecular organisation*" and "*molecular machinery*", he will serve the cause he has at heart far better than by attacking me; for, as he must have gathered from many of my remarks, I am quite as anxious for light as anyone can be. What I desire is to learn in what particulars the "*living*" resembles and differs from the "*non-living*". I am quite ready to admit that one living thing is only some other living thing, or dead thing, or non-living thing, "*variously modified*" "*under sundry circumstances*", by "*subtle influences*"; but I should certainly like to have the meaning of these very comprehensive phrases explained. A man may be said to be but dust "*variously modified*"; but consider what is comprised in the "*variously modified*"! And perhaps I may be permitted to ask why, if it is right to attribute the marvellous phenomena of nutrition to "*subtle influences*", am I to be condemned because I prefer to employ provisionally the simple term "*life*" or "*vitality*" or "*vital power*"?

It is *possible* the "*molecular machinery*" may be discovered; but at present it is absolutely unknown. It has never been seen, and no one has yet told us what it looks like even in his imagination. But yet I must admit that it is *possible* such machinery may be beyond the microscopic limit. The imagination of *highly gifted persons* may be able to conceive the structure and mode of action of the molecular machinery of the existence of which they are perfectly certain, although it has not yet been rendered evident even to their senses. Nay, I will admit further, that a *sufficient* intelligence might be able to predict from the properties of its component parts the characters which the offspring of any given piece of "*molecular machinery*" will assume after it has continued to grow and multiply, say for a thousand years. But do such suggestions enable us to unravel the mystery of the life of even the simplest thing now alive, or to determine in what particulars a *living* particle differs from the same particle *dead*; or why a portion of a mass of living matter moves upwards as well as downwards, or in what manner it takes up non-living matter, and communicates to this its own properties, and divides into separate portions, every one of which possesses equal powers? It may be answered, "These phenomena are due to the properties of the molecular machinery which has long been known to exist in the imaginations of highly gifted persons; and, although as yet no one has succeeded in actually producing such machinery artificially, the efforts of philosophers tend towards such a con-

* Introductory Lecture on Life, etc. (BRITISH MEDICAL JOURNAL, Oct. 22nd).